

COMPLETE AVIATION DICTIONARY - 650 TERMS - *in this Issue*

MAY

Flying STORIES

A MACFADDEN
PUBLICATION
PRICE
UNITED STATES
25¢
CANADA
30¢



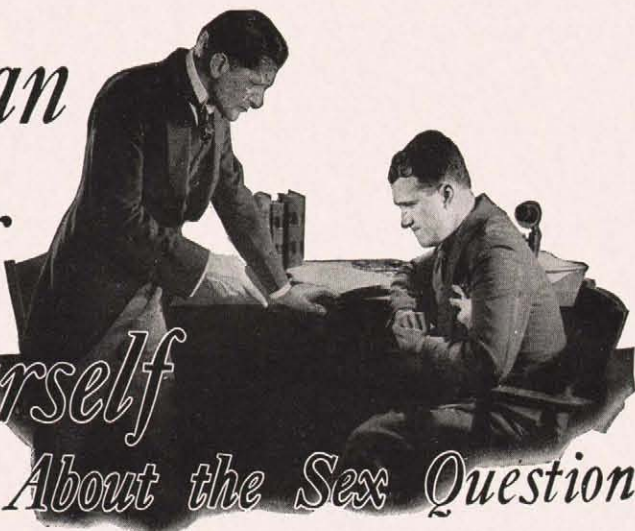
THRILLS I HAVE HAD IN THE AIR - *by* LADY MARY HEATH

WINGS OF PERIL

THE MYSTERY OF THE HIDDEN PILOT

Young Man Play Fair With Yourself

Learn the Truth About the Sex Question



At last the truth is written. The great mysteries of sexology torn aside. And now for the first time you can get the real truth about the sex question.

This is an age of plain thinking and frank speech. No longer can a big, vital question like the sex question be hidden away as a thing to be ashamed of. People are demanding the truth about these things.

And so Bernarr Macfadden has lifted the veil. He has told the truth about mankind's most vital problem in a frank, straight-from-the-shoulder style that will appeal to every man who reads his remarkable book.

Manhood and Marriage

is a fearless, ringing challenge to prudery and ignorance. It contains the fruits of Bernarr Macfadden's lifelong study of one of the biggest problems confronting the young manhood of the world.

He has had to surmount extraordinary difficulties in the preparation of the book. But the truth is mighty! It can neither be ignored nor suppressed. There was overwhelming need and demand for a fearless, plain-speaking book on sexology. The wall of ignorance that was wrecking millions of lives must be broken down.

The book was written, published and placed on sale. Today in tens of thousands of homes this great work is one of the chief factors in promoting health, strength and happiness.

Life's Handbook

Manhood and Marriage enters the sanctuary of the most secret phases of your inner life. It grips you with suggestions

that are personal and confidential. It furnishes definite and practical information on vital subjects, pure in themselves, which are frequently surrounded with vulgar mystery.

The problems of man frequently assume tremendous importance. They thus become a source of worries that ultimately assume a tragical nature. And the need for the answer to the query "What shall I do?" often grasps the victim with terrifying intensity.

It is well, therefore, that conditions and problems of this sort should be clearly and emphatically presented. For the outcome may mean success or failure, health or disease, or even life or death. Both single and married men needed to know the facts, so Bernarr Macfadden spent more than a quarter century compiling the authentic information given you in this book.

Send No Money

This big book is so powerful, so crammed full of facts hitherto neglected by old-fashioned sex hygiene that we sincerely believe it should be in the hands of every man. Therefore, we do not hesitate to send it to you upon approval. Yet you need send no money now—just fill out the coupon and mail it today. When the postman delivers the book to you, pay him the regular price, \$3.00 plus the few cents delivery charges. Take five days to examine it thoroughly. If, at the end of that time, you do not agree that Manhood and Marriage is worth much more than its cost, return it to us and your \$3.00 will be refunded.

READ

these Chapter Headings

- The Importance of Virility
- Am I a Complete Man?
- Is Marriage a Necessity?
- The Age to Marry
- Selecting a Wife
- Love Making and its Dangers
- Establishing the Intimate Relations of Marriage
- Marital Mistakes and Excesses
- Regulating Marital Intimacies
- Should Husband and Wife Occupy Separate Beds?
- Conserving Love—The Basis of Marital Happiness
- A Man's Duty toward a Pregnant Wife
- Should Husbands be Present at Childbirth?
- Are Children Always Desirable?
- The Crime of Abortion
- Divorce Physiologically Considered
- Can a Wrecked Marriage Be Reclaimed?
- The Erring Wife
- Jealousy—the Green-Eyed Monster
- Quarreling and Making Up
- Sewing Wild Oats
- How Virility Is Destroyed
- The Truth About Masturbation
- Seminal Losses
- The Plain Facts About Varicocele
- The Troublesome Prostate Gland
- Impotence and Allied Sexual Weaknesses
- Sterility
- How to Build Virility
- Exercises for Building Virility
- Foods that Help to Build Virile Stamina
- Diseases of Men—Their Home Treatment
- The Prevention of Venereal Disease
- Various Problems of Young Men

Macfadden Publications, Inc., Desk N. G. R.-5.
Macfadden Building, 1926 Broadway, New York City.

You may send me a copy of Manhood and Marriage plainly wrapped and I will pay the postman \$3.00 plus delivery charges when the book is delivered. It is understood that if I am not entirely satisfied with this book I will return it in perfect condition within five days and my \$3.00 will be refunded without question.

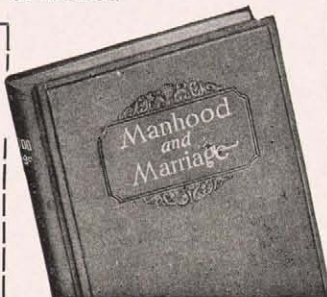
If you care to send cash with order your money will of course be immediately refunded should the book not meet with your full approval. We pay postage on all cash orders.

Name.....
(Print name and address)

Street.....

City..... State.....

Canadian and foreign orders cash in advance.



Missing Page: Page 1

If you own this magazine, and would like to contribute, please email us the image (in .JPEG format at 300 dpi) to:

info@pulpmags.org

Missing Page: Page 2

If you own this magazine, and would like to contribute, please email us the image (in .JPEG format at 300 dpi) to:

info@pulpmags.org

Make Sure of the

FUTURE!

a \$10 BILL

will protect you for a whole year
against

ACCIDENT

and

SICKNESS

No Medical Examination

Men and Women 16 to 70 Accepted

No Dues or Assessments

\$10,000 Principal Sum

\$10,000 Loss of Hands, Feet or Eyesight

\$25 Weekly Benefit for Stated Accidents and Sicknesses, Doctor's Bills, Hospital Benefit, Emergency Benefit and other new and liberal features to help in time of need — all clearly shown in policy.

This is a simple and understandable policy — without complicated or misleading clauses. You know exactly what every word means — and every word means exactly what it says.

THINK OF IT! Less than 3c a day and you are protected against the financial worries and disappointments that always follow any serious accident or sickness.

THINK WHAT MIGHT HAPPEN!

Suppose you meet with a serious accident tonight—will your income continue? Remember, few escape; and none of us can tell what tomorrow holds in store. At this very moment, while you are reading this, apparently safe from harm, somewhere some ghastly tragedy is taking its toll of human life or limb—some flood or fire, some automobile or train disaster. Suppose you became suddenly ill—could you continue in your job? What if you had lobar pneumonia, appendicitis operation or any of the many common ills covered in this policy—wouldn't you rest easier, convalesce more quickly if you knew that this Company stood ready to help lift from your shoulders the distressing financial burden in case of a personal tragedy?

DON'T WAIT FOR MISFORTUNE TO OVERTAKE YOU!

Mail Coupon Now

Commonwealth Casualty Co. [of Phila.]
198F Market St., Newark, New Jersey

Gentlemen:
At no cost to me, send details of the NEW \$10 Peerless Policy.

Name.....

Address.....

City.....

Agents Wanted For Local Territory

Other "MACFADDEN" Magazines That Will Thrill and Interest You

Could You Prove That You Are Alive?

A strange question? Not at all.

In Germany there is a man who for years has vainly tried to prove that he isn't dead. He eats, breathes, and talks; in short, he lives, yet no one believes it.

His absorbing story appears in the May issue of **TRUE STRANGE STORIES**. Besides, there will be these gripping strange stories among others:

"I am Called a Witch," the strange story of a college girl who fell victim to the curious beliefs of settlers in a Pennsylvania village.

"A Wolf Was His Foster-Mother." You will be thrilled by the astonishing revelations of how a modern child was stolen and reared by a she-wolf.

You will find all these and many other curious, fascinating stories in the May issue of the Macfadden publication, **TRUE STRANGE STORIES**.

On the news stands April 23rd. Twenty-five cents a copy; thirty cents in Canada.

This Girl's Awful Fate

should be a lesson to all young girls! The mysterious murder of pretty Barbara Mauger, 19-year-old department store cashier will appear, *with the actual photographs*, exclusively in

May **TRUE DETECTIVE MYSTERIES**

Also the following great crime and detective thrillers of fact:

"How the Crime of the Century Was Solved"; "The Famous Doctor Cronin Case"; "The Indelible Clue on the Twenty-Dollar Bill"; "Closing the Net on 'Texas Slim'"; "Convicted by His Victim's Skull"; "Who Killed Elsie Sigel?"—New York Chinatown's Most Fiendish Murder; "Inside on the Becker Case"; "Bottled Madness!"; "The Phantom Killer" and others. This May number is a thriller! Don't miss it! It went on sale at all news stands April 15th, for twenty-five cents per copy; thirty cents in Canada.

TRUE DETECTIVE MYSTERIES—The Magazine of fact—A Macfadden publication.

Fists, Feet and Axes

Of all the thrilling romances of love and wild adventure written about the great Northwest where lumberjacks still fight with feet and axes, perhaps none is more powerfully alluring than "Hammered," James Stevens' magnificent story of the big woods appearing in the May issue of **TALES OF DANGER AND DARING**. In the same issue are "Orchids of Death," a complete novelette of tropical adventure by Nels Leroy Jorgensen; "The Bread Sergeant," a remarkable story of the War by Harold Bradley Say, and many other articles, stories and features, including sixteen pages of rotogravure. **TALES OF DANGER AND DARING**, a Macfadden publication, goes on sale at all news stands on the fifteenth of each month. Price twenty-five cents in the United States; thirty cents in Canada.

"The Watchful Eyes of the Dead"

The moonlight—and Gerald Blaine's kisses—swept Evelyn Bentley off her feet. She was willing to risk everything for the sake of love! Then—did her dead mother come back to save her from tragedy? Read Evelyn's own story, told with all the poignancy and drama of real life, in the May **GHOST STORIES**; it is entitled "Unseen Eyes."

Other sensational features of this same issue include:

"Haunted Hollywood," a tale of spirits in the studios; "What Was In the Submarine?" a deep-sea diver's story; "Ghosts I Have Loved," by Virginia Terhune Van de Water.

GHOST STORIES is packed with the thrilling, uncanny experiences of real people. There is no other magazine like it. Buy your copy now. On the news stands since April 23rd!

A Macfadden publication; twenty-five cents a copy; thirty cents in Canada.

What is the Greatest Rôle an Actor Can Play?

Ben Ames Williams answers this question with all the magic at his command, with all the power and realism of which he is capable in the May issue of **THE WORLD'S GREATEST STORIES** in

"A Needful Fitness"

A story of the stage, it is the transformation of a thief, a coward—a man who is the butt of ridicule and scorn in the troupe—a story that will move you as you have seldom been moved.

The May issue of **THE WORLD'S GREATEST STORIES** contains such dazzling literary names as Arnold Bennett, Robert W. Chambers, Mary Roberts Rinehart, Ellis Parker Butler, Michael Arlen, and many others.

Don't miss the May issue of this Macfadden publication which went on the news stands April 15th for twenty-five cents the copy; thirty cents in Canada.

Enjoy Perfect Vision

...without these eye crutches

Thousands Are Throwing Their Glasses Away

Why Don't You-



You Can

GLASSES are only eye crutches. They simply bolster up the eyes—they cannot cure or eliminate the conditions responsible for the trouble. They are useful just as crutches are useful for an injured leg, but they can no more restore your eyes to their former strength than crutches can mend a broken limb. The real help must come from other sources. In the case of the eyes it is exercise.

Over 20 years ago Bernarr Macfadden, father of Physical Culture, had a most trying experience with his eyes. Due to many nights of hard literary work under poor artificial light, they became terribly strained. The idea of wearing glasses was intolerable, so always willing to back up his theories by experimenting upon himself, he immediately started in upon a course of natural treatment that he fully believed would help him.

The results were so entirely satisfactory that he associated himself with one of the few really great eye specialists and together they entered upon a period of research and experiment covering many years.

A Startling Revolutionary System of Eye Training

Upon their findings has been based a remarkable new scientific system of eye-training which quickly enables you to train these muscles of the eye so that you can make them work properly at all times, and without effort or strain. This new system has been prepared by Bernarr Macfadden, in collaboration with the eminent ophthalmologist who discovered the real truth about eyes.



Although this remarkable system has only recently been introduced to the public, it has been in use for more than twenty years, and it has been conclusively proven of inestimable value.

If you already wear glasses, find out how you can discard your glasses—and see better without them. If you do not wear glasses, but feel that your sight is failing, then find out how a few minutes each day assures you perfect sight without the use of

Another grateful reader of this helpful book writes: "I had been wearing glasses since I was eight years of age and could not go a day without them. I am now twenty-four and with just a little effort in practicing the Eye Exercises each day for a period of two months, I have been able to stop wearing glasses entirely."

These inspiring results bring a message of hope to everyone who is troubled with weak eyes or poor sight. There is hardly any condition that is beyond the reach of Bernarr Macfadden's revolutionizing method of eye training. Even the hopeless cases, as shown in the letter reproduced here, respond with almost unbelievable results to the treatment outlined by the noted physical culturist.

You Can Try This Course At Our Risk

We want every reader of this publication afflicted with eye-trouble to examine Mr. Macfadden's wonderful course and try the eye exercises that it prescribes. In order to bring this about we are willing to send the entire course on approval, giving you the privilege of returning it within five days after receipt if not satisfactory. The price of the course has been placed within the means of everyone—only \$3.00, plus delivery charges. It is less than you would pay for a single pair of glasses. Can you afford not to take advantage of this offer and all it may mean to you? Not if you value strong eyes. So mail the coupon now, before it slips your mind, and you will never have to wear glasses again.

Macfadden Publications, Inc.,
Dept. F. S.-5, Macfadden Building,
1926 Broadway, New York City.

Entirely at your risk, you may send me your course of Eye Exercises. Upon receipt I will pay the postman \$3.00, plus delivery charges. It is understood if after trying the course for five days I decide not to keep it you will immediately refund my money upon return of the course.

(We pay postage on all cash orders)

Name

Street

City State

Canadian and foreign orders—cash in advance.



Make This Test of Your Eyesight

Do you know that there is a spot in your eye where you are totally blind? Prove it now. Hold this diagram about 10 inches directly before you. Close the left eye, and fix the right eye on the cross. Then bring the diagram gradually closer and about 7 inches the black spot will suddenly disappear. This is but one of the important points of information about your eyes which you should know, particularly if you have any eye trouble.

glasses. If you are a parent send at once for this method, and learn how to save your children from the scourge of near-sightedness, how you can save them from the slavery of eye-glasses, and how you can train their eyes so they will always have perfect, normal vision.

For What Price Would You Sell Your Eyes?

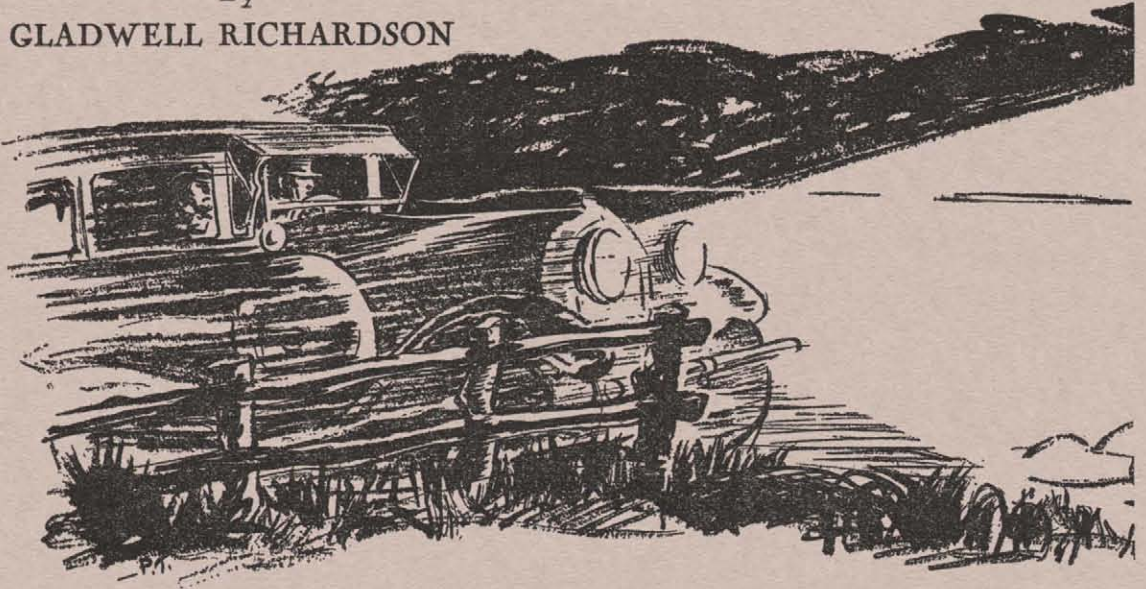
The benefits which you can derive from this new method of eye training may seem too surprising to be true. Yet you cannot doubt its efficacy when you read the letters from the people who have found it of immeasurable value, when you know that it has helped over 2,000 children to regain normal vision in a short time. Your eyesight is your most important possession. It can never be replaced if it is lost. And since no amount of money could make you sacrifice your eyes, you owe it to yourself at least to investigate what this new scientific method can do for you.

Here is a man who writes: "Strengthening the Eyes has enabled me to completely forget the optician. It has practically cured a bad case of astigmatism."

And here is another who says: "By faithfully following the directions given in your Eye Course I have discarded glasses worn for years, and have had absolutely no trouble for the past two years."

When answering advertisements please mention this magazine

By
GLADWELL RICHARDSON



Above the Rainbow

War Sky-Buddies Carry on in Times of Peace

OBEYING one of those strange whims to which he was often subject since the Big War, Brock Jims left the Continental Limited at Flagstaff instead of continuing on to St. Louis, the destination written on his ticket. Jims changed his mind because of an ad of a Flagstaff company which he saw in an Arizona paper. It announced an air-transportation service to the Great Rainbow Natural Bridge in southern Utah. Jims left the train during the night and went to a hotel. His two best buddies in the war had come from Arizona and had never tired of telling him of the wonders of that state. But Jims' acquaintance with Arizona had been from the car windows of the Transcontinental Limited. The fact that those two buddies were from Flagstaff might subconsciously have had something to do with Jims' sudden whim to stop off, but he did not realize it.

He arose early the following morning with a strange nervous eagerness. While breakfasting, he decided to scout around to see if he could locate those former buddies. They might have continued to drift about the country as he had, since returning from the war. The war had done strange things to Jims. He was nearly always broke, drifting about from job to job with the various air-transportation companies. For a year following the war he had piloted mail-planes.

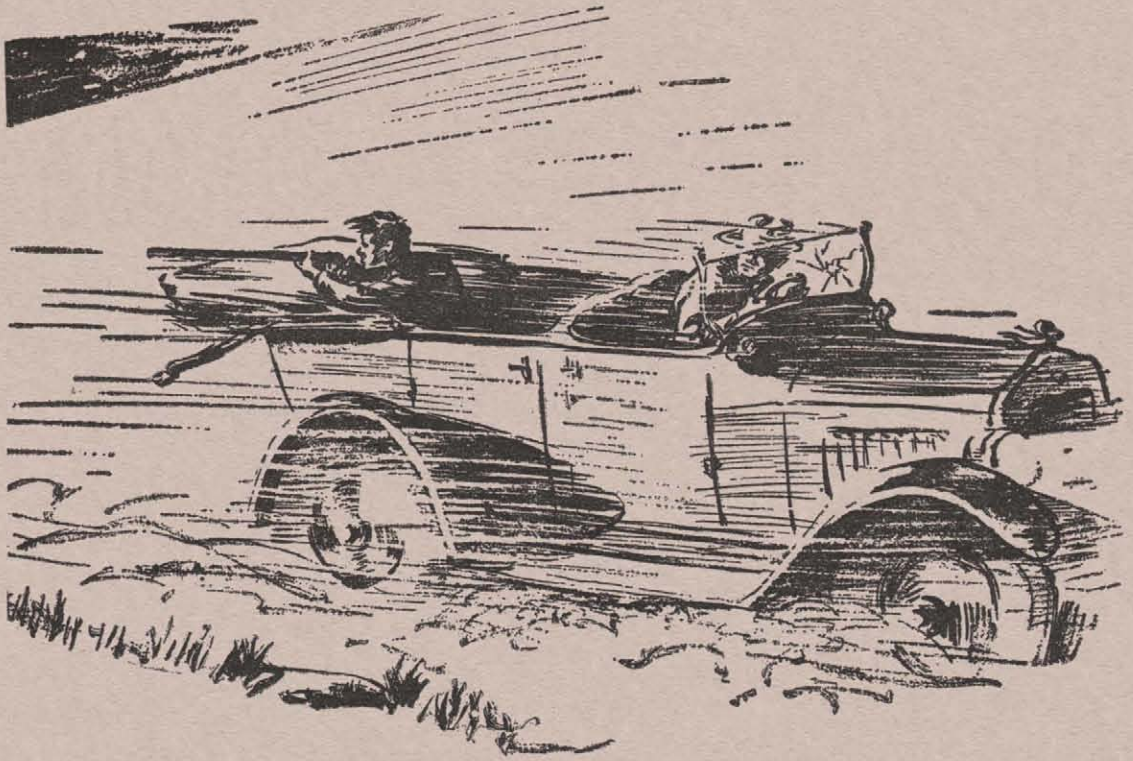
Jims discovered that Flagstaff was not very large; a village, he thought, after a survey of the few narrow streets. Coke Airfield was out by the park. Jims soon came to the conclusion that he had made a bad bet in stopping off, for the air company whose ad he had read and with whom he

had hoped to get a job, probably did not have more than one or two planes. At the worst, he might be able to get a job as grease monkey.

Jims went back to the lobby of the hotel to wait until business hours began. He took a seat near the window and had been there but a few minutes when he saw a tall, lanky, youngish-oldish looking man coming down the street and recognized him as his former buddy, Fred Murphy. Fred Murphy's daring in smashing balloons, ringed about with the famous nests of German Archies had won for him the title of "Balloon Buster." Murphy had been an ace among the best of them.

BROCK JIMS rushed out to the street and up to Murphy with outstretched hand. Murphy stopped in surprise. A smile broke his features as he recognized his former pal. Jims noticed right away that Murphy had changed much. But in his blue eyes and about his lips was that same expression that almost all flyers had worn during those red days when men were coming down like flies; when a man's life in the air was measured in minutes. Brock Jims, Fred Murphy, Tom Whitlock and Ared Jones, all in the same squadron, had been unusually lucky. The Armistice had found all four still able to take the air. Ared Jones had been cashiered from the Army following the cessation of the war. There was a rather bad story behind him. All four had flown together, but Jones had never been accepted by the others as a friend.

"Hello! Brock," said Murphy. "Lord! I'm glad to see you. What are you doing?"



*An Adventure-Seeking Pilot Gets
More Thrills Than He Was Looking For
When He Drops Into the Nest
of a Treacherous Skyman*

"I have a job in St. Louis, but I read an ad in an Arizona paper and on the spur of the moment dropped off here. Say, Fred, how big a concern is the Rainbow Bridge Transportation Company? Think I could get a job?"

Murphy started suddenly, and then to Jims' surprise, looked up and down the street furtively. "It is a large outfit," Murphy said, speaking hurriedly. "I'm working there, Brock. And say, if you want a job go up there right away and apply. I happen to know they want another flyer. The tourist business to Rainbow Natural Bridge is picking up. And listen, Brock, don't tell them, any one, that you and I are former buddies. Don't ask me to explain now. I can't. Go up and get that job, and don't even act like you ever heard of me. God! I'm glad you showed up. I'll explain all this the first chance I get you alone." Murphy turned to go, but paused and flung from the corner of his mouth: "Tom Whitlock is chief deputy sheriff here in Flagstaff."

Jims hurried into the hotel. Murphy went on down the street. Jims was puzzled but he knew Murphy had some good reason. His manner had been one of worry and grave thought. "There's something up all right," muttered Jims. "Dang glad I stopped over. And so Tom is chief deputy sheriff? Hmmm, I wonder what connection he has with all Murphy's mystery?"

Jims found Coke Airport nestling among the tall pines, with the towering, white-capped San Francisco peaks above. The field was rather large and in much better condition than

he expected to find in such a small place as Flagstaff. On the west side were a number of small hangars and two planes, on the east were long hangars and other buildings above which hung a sign announcing that this was The Rainbow Bridge Transportation Company. Beneath this in small lettering was the name of Dick Richards, prop. To Jims' further surprise, in front of the hangars at the proper distance, a long white line ran the length of the field. That one thing brought back with a jolt the war days. Three huge planes were on this dead-line, mechanics working on them busily.

AFTER a few minutes of conversation with a man who stood by looking on, Jims learned that this was a live wire company. They owned seven planes now and contemplated adding five more, if the tourist business continued picking up. Sightseers who wished to visit the Bridge were not at all lacking. The Rainbow Bridge Transportation Company had made a landing field close to the Natural Bridge in Utah at considerable expense; and the trip could now be made comfortable by air. It cost a figure less than when the natural wonder could be visited only by pack train, and in far less time, as the trip by air required but a few hours. If they so desired, tourists could go and return in the same day. Most of them, however, stayed several days.

A grease monkey pointed out the superintendent's office to Jims. In a few minutes he was facing Charlie Kruger across a polished desk. The blond giant, blue-eyed, weighing

over two hundred pounds, looked Jims over coolly and nodded at his question.

"We need another flyer now. Flew in the war didn't you?" Kruger asked.

"Yes," returned Jims. "Flew mail for a year and have just been knocking about the country since. Think I'd like to stick here a while. Here are any discharge papers you want to see."

"Any special reason why you'd like a job here?" Kruger shot at him.

"No," said Jims, and was on the point of saying he had a job waiting in St. Louis, but thought better of it.

Kruger turned away and Jims rather thought the man was smiling to himself. Still no definite expression appeared on his face.

From outside came the roar of a plane. Kruger had been shuffling some papers on the desk. Now he turned to Jims, and the smile which Jims had merely suspected was on his lips. Deep in Kruger's blue eyes Jims saw much. In those eyes lurked the spirit of a man who went through life with one fixed purpose. And in the pools of those eyes lay something sinister, deep. Kruger would be a hard, merciless enemy, a dangerous man in a fight. For Jims knew that Kruger would use every means that came to his hands to gain his end.

"YES," Kruger was saying, "You are hired now. I'm more than glad to get you. Now there is much you must know about these trips to the Rainbow Natural Bridge and the tourist business. It's more than a business, it's an art. I'll send you to Utah on the next ship taking off so that you may learn the landmarks and the way."

When Kruger paused, the office door was opened and in hurried a tall, well-built, curly-headed man. Jims stiffened at sight of him, for it was Tom Whitlock. There was no deputy sheriff's star in evidence. He looked at Jims and straight through him without a sign of recognition. Jims took his cue immediately and acted likewise.

Whitlock went to the railing before Kruger's desk. "Hello Charlie, how's the dude business?" was his greeting.

Kruger's movements when he turned to face Whitlock were like those of a big cat about to leap on its prey. He merely nodded in salutation. Whitlock turned abruptly to Jims.

"What are you doing in Flagstaff?" he asked.

Jims looked at Whitlock for a moment. In the latter's eyes, he read a message that Tom was trying to get over.

"I don't know that that's any of your business!" snapped Jims with some heat.

Whitlock laughed. "I'm the deputy sheriff."

"Well, what the hell do I care who you are?" said Jims rudely.

Kruger was watching this byplay with a half smile.

"Maybe I didn't show my meaning plain enough," said Whitlock. "It's like this, I wasn't asking you officially, exactly. You see, the hotel clerk where you stayed last night is a friend of mine. He knew we were looking for a pilot. The county officials are taking to the air after cattle rustlers and other crooks now. We've bought a plane. All we need is a pilot. You told the hotel clerk you were a flyer and asked the location of Coke field. Well, I rushed right up here in case Kruger here didn't hire you, so you wouldn't get away. How about it, want a job?" Then turning to Kruger, "I'm not butting in, you understand, Charlie. If you have already hired this man I'm withdrawing my offer."

Again Kruger turned with the movements of a big cat, his smile was questioning. "I've already hired this man. Why don't you fly the plane yourself, Whitlock?"

Jims saw that Whitlock was startled for the moment but he covered it up quickly.

"Well, Charlie, I could but I am going to be mighty busy keeping up the chief deputy's end of the job. You see, Sheriff Bradburn is going to retire some day. And who knows, I might want to be the sheriff of Coconino County."

Kruger laughed easily. "I might fire a man for you," he said. "If I do I'll send him over to see you."

"That will be kind of you, Charlie. Well, I must be going on. If a stray pilot does show up send him over to the sheriff's office, will you?"

Kruger watched Whitlock, catlike, until he had closed the door behind him. He was explaining further the duties which would be required of Jims, when Murphy came in. He hardly noticed Jims, threw no more than a casual glance his way.

"McMullen said you wanted to see me," he said to Kruger.

"I did, yes," said Kruger. "You're fired!"

A moment of silence in the office. Then Murphy smiled. Jims knew that smile of old. He has seen Murphy smile in exactly that manner when once he climbed out of the wreckage of his smashed plane in Flanders. He smiled in just that same way when he rushed into fight against overwhelming odds in the air.

"You can't fire me," he told Kruger.

"Oh, I can't, can't I?" said Kruger. "Hike right over to the quarters and start packing up."

"I said you can't fire me." Murphy was still smiling. "And you can't. Just call up Dick Richards and you'll find out why. He told me to tell you that in case you ever did try it. Besides that, I don't like you, Kruger. For seven dollars and a half I'd punch your nose right here!"

Kruger went red with rage. He jerked the phone toward him, held it a moment in doubt and then flung it from him. He stood up and wheeled toward Murphy. Such rage as purpled Kruger's face Jims had never seen before! The man in his anger was drawing himself up with squared shoulders. His eyes flashed hate. It struck Jims that Kruger was certainly a man of military experience. Neither of the other two saw Jims rise quietly and approach.

Just when they were upon the point of flying at each other's throats, Kruger abruptly resumed control of himself. "Forget it, Murphy," he said shortly. "Get into flying togs and take out that party of three at nine o'clock."

Murphy laughed harshly. Jims wondered what kept Murphy from tearing into Kruger. He knew the fighting Irishman of old. But both men seemed to be drawing away warily; keeping an armed truce.

"Some of these days, Kruger, I'm going to take you apart and see what makes your face get so red when you are mad," said Murphy turning on his heel.

Kruger stared at the floor a minute after Murphy left. When he spoke again his voice was brisk and sharp, the manner of an officer of the old school giving orders. "Don't get the idea that I'm not the boss around here," he said. "I am. Richards is rather too sentimental toward his flyers. Because Murphy was the first pilot here, we must let him have his own way. But one of these days soon Murphy is going to get his, or else Richards will find himself without a superintendent!"

KRUGER went to the door and opened it, pointing to the back of a man in flying togs standing near the plane warming up on the line. "That is McMullen. Go out and introduce yourself. Tell him I said to show you the corner room in the quarters next to the hangars."

Jims went out to the line and paused beside the pilot.

"You are McMullen?"

"I am. What do you want?" said the pilot turning.

Jims looked squarely into the pilot's face then. He got himself in hand with an effort, for this man who called himself McMullen now, was the pilot, Ared Jones, who had been cashiered from the service almost ten years before.

Jims saw immediately that Jones knew him, and that he was waiting to see if Jims had recognized him. The years had done much to change Jones. Where once his hair had been a deep brown, it was now red. The odd-looking red that henna gives to the hair. In a moment Jones looked relieved, for Jims gave no sign he had recognized the disgraced former pilot.

"Kruger said you'd show me the corner room next to the hangars in the quarters," said Jims evenly. "I'm a new pilot who just got on this morning."

Wondering greatly at the swift succession of surprises, Jims followed McMullen to the pilot's quarters, close to the main hangar. McMullen showed him the room, which was large, airy and well-furnished. He excused himself on the plea of business and left Jims alone.

JIMS phoned for his bag and trunk. He spent the rest of the morning overhauling his flying gear and settling his room. At noon he went to the mess hall which adjoined the cook shack. All the pilots and mechanics ate at the same mess. Both Murphy and McMullen were absent and Jims learned from the others that they probably would not get in until after nightfall, as they had taken out parties of tourists to the Rainbow Bridge.

Kruger sent for Jims during the afternoon and took him around the hangars. He was assigned a big H. V. ship and given a grease monkey and a mechanic. In five minutes alone with his ground crew, Jims ascertained that the men at the Transportation Company hangars were equally divided in likes and dislikes for Kruger. McMullen appeared to be Kruger's only close friend.

"Dat McMullen and de Proosian are jist like two peas,"

He came to the vacant lot, and in the shadows of a sign board at the curb stood a small, fast roadster. He got in the car and sat down. Presently from a side street came Whitlock walking fast. He climbed in, started the motor and the little car went hurrying down a darkened street and into the open country.

"By gawd, Jims, talk about being glad to see somebody! Put her there, old kid!" exclaimed Whitlock.

They shook hands. "Say, why all the mystery?" demanded Jims. "Murphy and you have about finished me off. Honest, I'm beginning to think this town is full of crazy people!"

"Whew," said Whitlock, "believe me, Murphy and I are having the time of our lives! Maybe he put it on a little bit too strong with you. You see, it's this way. This town is being overrun with bootleg whisky. Not only that, but somebody up this way is flooding the whole state! Murphy is working for us, the sheriff's office, under cover. But it seems to be common knowledge, for they have tried to kill him twice. One dark night they slugged him on a side street. And just a week ago another plane tried to run him down one night when he was coming home from Utah. We've worked it from every angle and there's just one thing. This whisky is coming here in planes, and then, in some manner, being distributed to various points by trucks. There's precious few planes in this country yet. And we

Jims was hanging low over the canyon country again when the roar of another ship came to him. He cut the motor and then opened the gun wide, zooming. The other ship was close and coming out of the south.

A moment later, a strange singing went across the wings of his plane. Jims saw the stabbing flame from a machine-gun as he nosed down with a power dive. He darted the H.V. up under the other ship and hung there for a moment. So this pilot was gunning for him! Jims felt the old war-time thrill which was quickly dispelled. Here he was badly handicapped.

Weaponless!

opened the friendly greasehound. "Bot' bad, what I mean!"

"You mean to say Kruger is a Prussian?" asked Jims quickly. All at once it struck him that Kruger was a Teutonic name. Was that why Murphy hated Kruger?

"Naw, I don't know exactly he is," admitted the grease monkey. "Some say he talks about fighting wit de Americans in France. But we calls him de Proosian because he gives orders like one, if you get wot I means?"

Jims was with the group that gathered about McMullen's plane as it taxied up to the line at sunset. Some of the pilots inquired about Murphy and McMullen reported that he had stayed over to bring back a party of tourists about noon the following day. Jims had hung around after supper in hope of getting to talk to Murphy, but now that he would have to wait a while longer he decided to go into town and see a show. A block from the theater he stopped at a tobacco shop. When he left the lighted lobby he ran into Whitlock.

Whitlock paused momentarily. "Go down this street to a vacant lot. Get in the car at the curb." Whitlock kept moving on as he spoke. Jims said not a word but continued on down the street.

"By golly," he said to himself, "If this keeps up much longer, I'm going to get the creeps and get 'em bad."

know that there are just two ways the bootleg ring is transporting their stuff here. Either they have their own plane hidden away somewhere, which seems more likely since a ship tried to get Murphy in the air; or else they are using a ship from the Rainbow Transportation Company. In the latter case Kruger would have to be in with the bootleggers, and at least three other men at the field.

"Murphy believes this. He hates Kruger like the devil. Says he believes Kruger is a German and that he fought against us in the late lamented war. In some way we are close to this bootleg ring, without knowing it, and they are getting desperate. Else why two attempts to get Murphy? And, once, another car crashed into me. If I hadn't had a piece of good luck, they'd have got me right." Whitlock drove on in silence for a few minutes, then continued:

"Murphy was tickled pink you came to Flagstaff, and on the spur of the moment he conceived a plan. He hurried to me and that's why I went to Kruger while you were there this morning. We want you to help us out. You must work under cover. You must not be known to Murphy and me. That's the why-for of all the mystery and strange acting! What do you say?"

"Sure I'm with you and Murphy," said Jims. "You knew I'd help out my old pals. So some bird tried to wash Mur-

phy out of the air? Say, Tom, do you know that bird McMullen at the field is none other than Ared Jones?"

"We sure do! And we wonder at the change in name plus a weak attempt at disguise. Say, you didn't let on you knew who he was?"

"No. I took the hint from all this atmosphere of mystery and didn't let a peep out of me."

"That's fine. We had better be turning around here. I have some official business to attend to tonight. I've given you a rough story of the case. You and Murphy find out all you can. Richards is working with us too. He doesn't believe that a ship from his hangars is doing the dirty work. I'm not inclined to think so myself, but Murphy does."

Whitlock slowed down, stopped and backed into a road turning off. Another car came roaring down the main highway and swerved past them at furious speed.

"**B**OY, howdy! Those birds must be in an awful hurry!" said Whitlock, slipping his car into high. He went into more details of the run running then. When two miles had slipped by, the red rear-light of a car showed up ahead. As they drew closer, they recognized the big touring-car that had roared past them a few minutes before. The machine was drawing over to the side, to allow them to pass.

Jims and Tom saw the shapes of several men as they drove past. Whitlock pulled down the gas lever and they raced for town for he did not wish Jims to be recognized while with him. The touring-car behind them suddenly came roaring toward them at full speed. A bullet sang into the roadster, crashed through the windshield with a splintering of glass, followed immediately by the sound of a high-powered rifle behind them. Whitlock reached forward, shut off the lights and gave the little car more gas at the same time. The rifle roared again.

"There's a rifle in a scabbard beneath your feet, Brock," said Whitlock.

Jims hurriedly got out the rifle and turned backwards in the seat. The lights of the other car were shining full upon them. As he drew aim with the rifle the touring-car lights went out. Jims fired at that moment. The two cars were now rushing along the highway toward Flagstaff at a furious speed. Both were unlighted. Whitlock was too good a driver, however, to crack up unless the unforeseen occurred. Red flame stabbed the night from the touring-car. Instantly Jims fired again. A hail of lead spattered about the roadster in answer. The lights of the town appeared abruptly around a bend. The lights of the touring-car shot on and it swerved from the highway into a side road and went roaring on, quickly disappearing over a small hill. Whitlock slowed the roadster down and turned on the lights. The dash board light showed his face grim and tight-lipped.

"Well, how's that for your initiation into the game, eh, Brock?"

"If they had used a Lewis gun, I'd have to pinch myself to see if we weren't back in Flanders!"

"Let's get to that plane of yours, Tom, and see what we can discover about that murderous car, from the air."

"Exactly my idea, Brock. But you don't go. I'm going to let you off here on this dark street. I'll hurry to the hangar and get into the air. Chances are, though, that car will be in hiding some place."

Jims protested, but got off obediently on a side street. Whitlock went speeding toward Coke field and the county hangar. Jims decided to walk back out to the field. He chuckled to himself as he went; that hunch of his to stop over in Flagstaff was bearing good fruit. This bootlegging business with Murphy and Whitlock was going to settle his nerves for a while. Nothing like a little excitement to spice the joy of living!

He was still musing over matters when he entered the quarters. He opened the door of his room, only to experience the sudden feeling that he had been abruptly dumped into a lake of cold water. Something was wrong and he knew it the moment he had the door open. He closed it

behind him and moved quickly to one side, halting, waiting. Call it a sixth sense or what you will, Jims knew that danger lurked in that darkened room. Minutes ticked away like hours. The very atmosphere tensed to bursting. Some one was hiding in his room; some one who had no honest business being there. A man was in that room with designs on his well-being. Jims could feel it and wished he had a revolver. He decided that hereafter he would never be caught without one. He changed his position carefully and waited. It seemed hours as eyes strained to pierce the heavy blanket of darkness, ears listened to catch the slightest sound.

The pupils of his eyes became accustomed to the darkness of the room. Objects were showing a shade darker than the blackness. Finally, there came distinctly the sound of indrawn breath. Jims felt, rather than saw a large, indistinct blurr moving toward him in the dark. For a moment, he debated whether to fling himself onto the other in a wild rush, or await a decisive movement of the man closing in on him. He was weaponless and had nothing near his hand which he could use to defend himself. In all likelihood the other was armed with a gun.

Jims' clenched hand in his pocket came in contact with a metal cigarette lighter. He brought it out, held it at arm's length and pressed the catch. The lighter burst into flames. Jims found himself staring into the malevolent features of Kruger, and almost touching the hand which held the cigarette lighter, was a leveled Colt forty-five!

For one fleeting moment Jims and Kruger eyed each other. Then Kruger with a weak smile slipped the gun into his pocket. Jims snapped on the light switch near the door. He faced Kruger ready to demand a full explanation. Kruger saw this coming and was wise enough to take the initiative.

"Sorry to scare you like I did, Jims. You see I was after a suspicious character I saw looking in at the office windows a few minutes ago. He was a seedy-looking individual, quite possibly a tramp. It just happened that I saw him and my suspicions were aroused. He moved around the office building, trying each window. I hurried to my quarters for my gun. When I came back the tramp was approaching the pilots' quarters, walking in the shadows. I saw him slip into the hallway, that was but a moment ago. When he got inside the building I lost sight of him. Then I heard a faint noise in your room and came to investigate. I had hardly got in here when you came. Naturally I thought you were the tramp, and so I waited. Sorry if I gave you a scare," Kruger laughed easily, as though dismissing the matter as of small importance. But Jims knew the eyes of the superintendent were watching him closely, to catch the first faint sign of suspicion. Jims kept his feelings hidden and answered Kruger with a dry chuckle.

"**I**ll admit I was rather worried for a moment, finding some one inside my room in the dark. Who wouldn't be? Here, I bought some good cigars up town; have one?" Jims handed Kruger a cigar with docile innocence. Kruger took it with thanks and Jims almost laughed outright at the smug smile on Kruger's face. The man believed his explanation had gone over. He even arose and took himself away without further mention of the tramp. Jims took quick stock of his room, but could see nothing disturbed. He went to bed wondering why Kruger had been there.

The next morning he knew. Jims had a peculiar way all his own in folding his clothes, in placing his letters and personal papers in his bag. Those papers and his clothes had been disturbed. It had been a master hand which had searched his effects. Everything was placed just as Jim had left it. Only one man out of a dozen would have noticed a single detail lacking. But Jims did. He sat down on his bed thoughtfully and tried to arrive at some reason why Kruger should go through his belongings. Had the man's suspicions been aroused in some quarter? Did he believe that Jims had come to the company seeking work as

an under cover man sent on detail from the sheriff's office?

At breakfast, O'Neal, a short, heavy-set pilot, told Jims he was to take out his H. V. ship and follow him to Rainbow Bridge. O'Neal had a full party of Eastern tourists going up. Jims routed out his ground crew and trundled his ship out to the line. The motor was warmed up while he went over controls. Jims had never flown an H. V., but after examination he discovered it was on the same principle as the war-time De Havillands. The other flyers had described much of the country to Jims and he was eager to view it from the air.

He took off close on O'Neal's tail and the two planes circled east over the village, passing between the peaks and Sunset Mountain. The Frisco Peaks glistened with snow, and the scenic beauty of the tall stately pines thrilled Jims. They crossed over Dead Man's Flat. Jims recognized it from the sage and the low stunted growth of trees. After that came black and red malapi country, then grass lands with grazing herds. Far to the left the huge bulk of Gray Mountain and White Horse Mesa showed. A meager ribbon of silver, a bridge and an Indian Trading post shot by. That was the Little Colorado River. All these things were beautiful, but Jims now crossed a country quite beyond imagination. The Painted Desert! The colored sands, distant mirages, now and then Indian children herding mixed bands of sheep and goats. And over all this a feeling of immeasurable spaces.

THE planes now verged a little to the east, passed over canyons, mesas, more waste-lands, red, rocky country and flats, with Navajo Mountain showing purple in the distance.

Another ship appeared out of the north. When it met Jims' H. V. the pilot dipped a wing. It was Murphy bound for Flagstaff with his passengers. Jims flew in close to O'Neal's ship and the two planes crossed around Navajo Mountain to the north and east. A wild country through which man and beast passed with great difficulty appeared below. And in a canyon, red sandstone showing on all sides, O'Neal dipped his wings and circled. Jims looked down and was for a moment speechless with wonder. A great rainbow, carved by nature from stone, reached out from one red wall across a small stream. Its splendor, its glorious beauty were beyond description.

Jims followed O'Neal as his ship turned east and crossed to a long, red, flat-topped mesa. A landing field and buildings appeared below. O'Neal circled and went down. Jims followed.

The tourists were turned over to guides and Jims was shown around the landing field.

There was a small machine shop for repairing the planes, a store and a two-story hotel at Rainbow Field. On all sides Jims was surprised at the expense Richards had gone to, in order to build up his tourist business. O'Neal assured him it was a paying proposition; rumor had it that Richards had turned down a cold million for his property.

After lunch O'Neal took off for the return trip. Jims' H. V. developed motor trouble. He and a mechanic worked on the motor until nightfall before it would take off. The superintendent at the Lodge tried to get Jims to wait until the following morning, but as the night was bright, Jims decided he would be able to locate landmarks easily. Besides he wanted to see Murphy as soon as possible.

He had covered about half the distance to Coke Field when he distinctly heard another plane coming toward him from the north. Jims banked and reconnoitered. Sure enough there it was, a ship with high altitude, coming fast. Red showed from the exhausts. There was no ship left at Rainbow Field. Jims zoomed for altitude, and the next moment he was surprised to see the other ship zoom also. It was close now. Jims cut his motor and leveled out. The other ship came on, passed over the H. V. Jims nosed upward. A dark, helmeted head showed over the cowling. Jims waved. The pilot did not return the greeting. Jims zoomed the H. V. to higher level. The other ship turned west and

hurried away. In a few moments it was rapidly disappearing.

Jims turned to his original course thoughtfully. The strange plane was fast, much faster than the H. V. he was piloting. And Jims had seen distinctly in the bright moonlight, a canvas covered object bracketed to the cowling. That barreled object was undoubtedly a machine-gun.

At eleven o'clock Jims reached Coke Field. Not knowing just where Murphy's room was, he decided to wait until morning. To ask about Murphy might arouse suspicion. He was awakened in the cold dawn by the roar of a ship on the field. He went to the window and stuck his head out. A ship was warming up on the dead-line. Tourists in heavy coats were being seated aboard the plane. A man in leather flying togs looked towards the barracks building, at the corner room which was visible through the alley running between the hangars. It was Murphy. Jims waved his hand and Murphy replied likewise. Jims watched until Murphy climbed into the cockpit and the chocks were pulled. The plane went roaring down the field. Up went the tail and the big passenger ship sailed away over the pines and the city, to disappear in the morning mists.

Jims had just settled himself in bed again when there came a knock on his door. At his answer a mechanic in greasy overalls came in. He gave Jims a folded piece of paper. When he had gone Jims unfolded the note. It was brief and from Murphy.

"Watch out for Kruger. He is wise to all three of us."

Now what did Murphy mean by that? It was a warning of some kind which Murphy expected Jims to see. "He is wise to all three of us." That might mean Kruger was aware that Jims was working with Whitlock and Murphy. But confound it, Jims had an odd feeling that Murphy had written another meaning in his words.

Jims was still attempting to solve Murphy's queer message that morning while he worked on his plane. A mechanic came out to the hangar where he was and told him there was a telephone call for him in the office. Only Kruger was in the office. He gave Jims a smiling good morning, a smile that Jims was always interpreting as meaning something else. He picked up the telephone receiver and answered.

"This is the hospital," came a feminine voice briskly over the wire. "Is this Mr. Jims speaking? You are wanted here immediately. Can you come at once?"

"Yes," replied Jims hurriedly. As he went through the door he looked back, Kruger was looking at him. Unsmiling, but in his eyes was a hidden meaning which he veiled quickly as Jims faced him. At that moment an odd thought struck the new pilot.

"Kruger," he said, "I don't know why, but I've a queer idea you and I have met before? Do you know what friend of mine could be in the hospital?"

THIS time Kruger did not smile his oily grin. He merely shook his head as he said: "I can't recall ever seeing your face before. And, I've an idea your friend Whitlock is in the hospital."

Jims walked over to Kruger's desk. "How do you know Whitlock is a friend of mine?"

"Who wouldn't know, living in this town? I know that you, Murphy, and Whitlock were aviators together in France and made rather a reputation for yourselves. You and Whitlock were decorated twice. Murphy holds five different medals and has the palm to his Croix de Guerre. Murphy and Whitlock have many friends here. Every small boy in this place knows just what I have told you."

"I see," said Jims slowly. "I'm going to tell you something, Kruger. When I first saw you, I took an instant dislike to you. You know how hate is sometimes instinctive. A lot of suspicious things have happened since. But right now, I don't exactly dislike you. Pity, maybe you'd call it." And Jims did feel just that. "You'd be a hard man to cross. I'm going to tell you something else. Both Murphy and Whitlock saved my life in France. Murphy several times,

Those two are my buddies. I'd go through hell for them. Whitlock is in the hospital, probably through dirty work. If anything should happen to Murphy or Whitlock, I'd kill the man who was responsible, just as quick as I would kill a mad dog. I don't know just what kind of a game Murphy and Whitlock have a hand in. I do know that the man who downs them is going to get his, mighty damned quick! If your hands are clean, you needn't worry about what I'm saying. But if you have a hand in anything concerning them, you'd better take a one, two look see!"

Kruger looked into Jims' eyes without flinching. Suddenly his face fell. Unmasked, he looked years older. More like a tired old man who has seen too much of life. Then, with a slight cough, he turned to his desk and began sorting letters and bills.

Jims walked two blocks, caught a cruising taxi and was whisked to the hospital. The nurse in the office was waiting for him and without a word led him to a private room. Whitlock sat up in bed propped there by pillows. One arm was in a sling and bandages showed through pajamas on his left side and shoulder.

"HELLO, Jims," said Whitlock, as his former army pal took a chair close to the bed. "They got me right this time. Won't be able to stir for some time. Got me while I was closing the doors of my garage last night. Broke my arm, and put two more bullets in my shoulder and side. Doctor says he doesn't quite see why I am alive today."

"Know who it was?" Jims asked quietly.

Whitlock nodded. "I wasted all morning deciding whether I should call you or not. It was one man with a high-powered rifle standing across the street. I did not see him well enough to be sure, but just the same I know now. Murphy has had a wild theory all along which I didn't believe. Now I know he is right. Here Jims, take a look at this, it's a clue."

Whitlock brought out a narrow piece of paper from under his pillow. Jims unfolded it and stared perplexed. The paper was about as big as a postcard and had been slipped into an envelope. There was no writing on it, only a black Maltese cross, exactly the same size as the German Iron Cross. The background around the cross was a brilliant red. Jims looked up at Whitlock inquiringly.

"Don't you recognize it? Think back to the war, Brock!"

A great light of understanding broke on Jims. During the last days of the war their squadron had been at deadly grips with a squadron of Fokkers who had painted a brilliant scarlet background around the black crosses on their planes.

"Good night! What has the war got to do with all this?"

Whitlock smiled grimly. "Murphy came to me with a wild story that there was a German ace from that old enemy squadron here in Flagstaff, seeking revenge. If you will remember closely, you'll recollect that you, Murphy and I got more ships of their Red Squadron than any other men. Now, here we are, all together! At one time a story circulated from the enemy that one of us, supposed to be Murphy, had shot down a young lieutenant who was a brother of the Red Squadron's commander."

"This thing is utterly preposterous!" broke out Jims. "Why, it is absolutely crazy! Impossible—"

"The very words I used when Murphy first told it to me," said Whitlock. "But now I'm ready to believe 'most anything. I received that piece of paper through the mail yesterday morning. Murphy got one at the same time. I'd not be at all surprised if you got one of the black crosses with the red background soon."

"Why—I thought it was the bootleggers who were trying to get you and Murphy? I can't figure this out, it's too complicated."

"You said it!" avered Whitlock. "And when it is figured out, we'll find it so simple, we'll wonder how we could be so dense. Yet figure it out we must."

Jims was looking at Whitlock incredulously, but he knew

that Whitlock and Murphy would be the last men on earth to be taken in by a wild, fanciful theory. "Who shot you? Who does Murphy think this German ace is?" Yet as he asked he knew he could answer his own questions.

"The answer to both is the same," said Whitlock slowly; "Kruger."

When Jims got back to the airport office, only the stenographer was there. On inquiry, he was informed that Kruger had left nearly an hour before without saying where he was going. In the hangar the ground crews told him that Kruger had taken out a ship and gone up alone. Murphy was due back at eleven o'clock from Rainbow Field.

With time to kill, Jims walked across the field to the county sheriff's hangar. Whitlock had told him about the plane; that it was equipped with a synchronized machine-gun. Jims found the mechanic putting in time doing odd jobs. The plane was in tip-top condition, oiled and fueled to take the air after rum runners or others, at a moment's notice.

Murphy did not come in at eleven o'clock. Twelve and one o'clock came without Murphy or Kruger. Jims went to the office and called Rainbow Field on the phone. Murphy had started back at nine. Kruger had just left. The trip should consume about three hours, unless trouble developed. Murphy should have been in long ago. Jims continued to loaf nervously about the hangars.

The afternoon mail brought Jims a thin envelope and when he opened it he was not at all surprised to find an exact replica of the Maltese cross Whitlock had shown him. Jims went to the office, took Kruger's swivel chair and placed his feet on top of the desk. The stenographer eyed him disdainfully until he removed them some time later. At four o'clock a ship landed on the field. When it taxied up to the line, Kruger descended from the cockpit.

If he was surprised to see Jims sitting in his chair he did not evidence it as he pulled off his flying coat and helmet.

"Where's Murphy?" said Jims shortly.

"Isn't he here now?" said Kruger.

"No. He should have been back about noon."

"He started back alone without any passengers," said Kruger. "I didn't see him as I came south. Maybe he was forced down somewhere. Any phone messages come in?" he asked the stenographer, and received a negative reply.

"Maybe we had better send out a couple of ships to search," said Kruger.

"That wouldn't be a bad idea," returned Jims coldly, without removing himself from Kruger's chair. One hand was in his pocket, fingering a Colt automatic forty-five which Whitlock had given him.

Kruger went to the door to call for O'Neal and McMullen. Only O'Neal appeared in answer.

"Where is McMullen?"

"HE left early this morning, said you'd told him he could have the day off," replied O'Neal.

Kruger frowned. "I told him he could have the morning off. Murphy is missing. Probably forced down somewhere. You take off, and tell—" Kruger broke off and looked at Jims. "Want to go?" he finished.

Jims nodded his head. O'Neal hurried to the hangars to get his ship ready. Jims stood up and, with his left hand, spread out a slip of paper on the desk.

"Take a look at that, Kruger," he said.

Kruger went to the desk and looked down. But so well was he in control of himself, only the barest start of surprise showed. He picked it up, turned it over in his hand and laid it back down. When he faced Jims he was smiling.

"Turned artist since the war, Jims?"

Kruger was so sure, so certain. Jims went cold all over. There mounted in him a desire to kill. How he overcame the impulse to jerk out his gun and shoot, he did not know. With a bitter laugh he turned on his heel and slammed the office door behind him. O'Neal was ready to take off. He hailed Jims.

"You take the route east of Moencopi Wash that we followed yesterday. There's two ways to go. I'll take the other, west of the Wash and Tuba City."

O'Neal climbed into the cockpit and his ship went roaring into the air. Jims went to the hangar and ordered his plane trundled out to the line. He went over it carefully while the mechanic and greasehound started the motor. Thirty minutes after O'Neal left, Jims was in the air. He felt no eagerness to hurry. A cold dread was holding him back. Kruger and the strange plane with the mounted machine-gun filled his mind. That machine-gun was not there for ornamentation. The man who flew that ship expected to use it. Jims could not, however, connect that ship and gun plausibly with the Rainbow Transportation ships. It fitted in with a desperate rum-running gang. If the plane was from the Rainbow Transportation hangars, the machine-gun would have to be unmounted before it landed on the Rainbow Fields. This was not likely, unless there were a hidden field somewhere which the strange pilot used. This too, was not likely. It was more reasonable to think that the strange plane had a hangar hidden somewhere in the mountains or desert. It was easier to believe that the pilot came from the Rainbow Fields than the ship.

JIMS thundered the H. V. high over Sunset Mountain, sped swiftly over Dead Man's Flat and headed directly into the north. Over there, north of the Painted Desert, he had felt bad air currents the day before. This was a likely spot in which a ship would encounter difficulties. When the Little Colorado River and Moencopi Wash had passed below, he descended to lower levels. The Painted Desert was a gyrating mass of heat waves in the evening sun. No life stirred on the sands. A lone black eagle circling low over a ridge was the only living thing in that desolate, beautiful land.

The Painted Desert ended. Jims banked and returned to search again in the vacant spaces. Circling, flying low, he came again to the edge of the desert where the canyons and red, treeless mesas began. Over a red gash the H. V. struck a bad air pocket and nosed down suddenly. With difficulty, Jims stopped the plunge just before hitting a sky-rearing crag, and zoomed upward. Here in this broken country with the sky full of pockets, close search would be difficult. Circling low, he came to a salt-brush flat. In wide spots the brush had died out and the salty, hard-crust earth glistened upward in the sun. In such a spot a landing could be made. Neither would a take-off be difficult.

Steadily Jims drifted into the north, flying low, always searching. He came to a wide valley. Grama-grass covered the floor like a velvet carpet. In this valley, natural monuments reared upward in all manner of fantastic shapes. Jims was far off his course now. He had heard the other flyers talk of Monument Valley and so was able to recognize it. There, he changed his course west, toward the north end of Navajo Mountain. It was sunset when he dropped down on the field at Rainbow Lodge.

He found the superintendent worried. No word had yet been received of Murphy. O'Neal had been at the field, reported no luck and, after a hasty meal, had taken off again. Telephone communication had been kept up with Coke Field. The superintendent said Murphy had probably been forced down somewhere. He'd walk to an Indian hogan, get a horse and ride into the nearest trading post. He told Jims of one other flyer who had been forced down in the Painted Desert. That pilot had walked two days and two nights before finding a hogan and getting a horse.

Jims listened soberly while he ate. It was dark when he had finished, had his ship refueled and was in the air again. The moon came up. He followed his old course towards the south, always circling as low as he dared, hoping, if

Murphy were able, he would build a signal fire. Surely he would know that Jims would be worried and out searching.

Jims was hanging low over the canyon country again when the roar of another ship came to him. He cut the motor, and then opened the gun wide, zooming. The other ship was close and coming out of the south. He thought the other might be O'Neal, yet another look showed the plane was without running lights. O'Neal would have his wing lights on. Warily Jims went for altitude. The other ship did likewise, coming fast at the H. V.

A moment later, a strange singing went across the wings of the H. V. Jims saw the stabbing flame from a machine-gun as he nosed down with a power dive. He darted the H. V. up under the other ship and hung there for a moment. So this pilot was gunning for him! Jim felt the old wartime thrill which was quickly dispelled. Here he was badly handicapped. Weaponless! The pilot of the other ship was not an experienced dog-fighter. Had the situation been reversed, Jims could have brought the unarmed ship down quickly. That the pilot did have some fighting experience however, was soon evident. He dropped with an Immelmann roll and shot back at the H. V. in a twinkling. Jims' blood went cold. Bullets flayed the wings. The cowl splintered just as Jims dove out of range. From the earlier night's experience he knew the stranger had the faster ship. Dark blotches of clouds were drifting across the bright moonlight sky. Jims maneuvered higher and toward those clouds, drawing the other ship after him. His only hope was to reach the clouds and slip in.

The other ship hung on tenaciously. Fighting the weaponless ship, it was not necessary to "cover up." But he was after a man who had outwitted, out-maneuvered and out-fought the best German aces. Jims drew on all his knowledge of air fighting to save his life now. He soon discovered that the other pilot was afraid the two ships would crash together when they were close, and he quickly took advantage of it. He was on the other's tail, over him, under him, in rapid maneuvering. Jims made the other pilot believe he was deliberately setting about to crash and take his enemy to death with him. The man was nervous in the air, too nervous to make a good fighter. Jims also knew that a single burst at the right moment from the other ship would send him down. He took desperate chances in attempting to get close enough to see the other pilot. All he could see was the helmeted head of the other above the cowl.

All the time the planes were reaching the ceiling. The heavy cloud now was close. A moment came when the moving mass was between them and the moon. And in the shadows Jims swung into the cloud with all possible speed. Bullets swept into the crate of the H. V. as it disappeared.

WHEN he came through the feathery mists, he banked north instead of south; cut his motor and listened. The roar of the other ship was flung back by the wind. He banked south then and passed again into the cloud. In the clear air once more, he cut the motor, listened and searched the sky for red exhaust. The other ship was gone.

He dropped low over the earth, hoping that if Murphy were down in that wild, unbroken country, he would have set a signal fire. To that one hope he clung. The canyon country was now nothing but black precipices and deep-shadowed labyrinths.

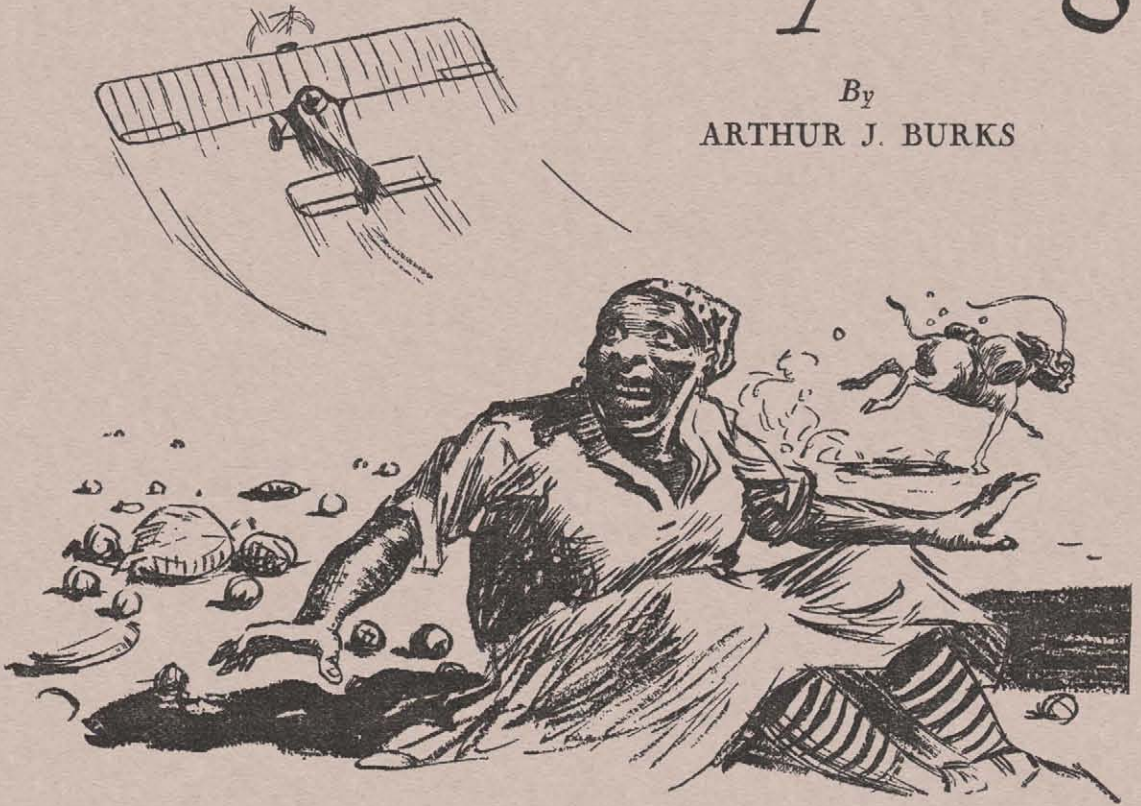
Jims came to the salt-brush flat and recognized it because the moonlight glistened and gleamed on the open salt lands as it did during the day. He passed over it in circles and, where the painted desert began, banked and returned. That salt-brush flat drew him like a lodestone.

He caught his breath suddenly. Ahead, just at the edge of the piñon trees where the canyon country began, a red tongue of flame leaped into the sky.

In the June issue of FLYING STORIES, this baffling mystery continues with added thrills and suspense until, with a stirring climax, the tangled threads of intrigue are unraveled. Don't miss the second and last instalment of this gripping tale.

Flying

By
ARTHUR J. BURKS



She Couldn't Decide Which of the Love-mad Pilots to Marry Until They Raced into the Jungle to Rescue Her

"GOOD Lord, Shep! Tex!"

We'd all been sitting there, and I for one, and Sis, Tex and Shep for the other three, had been looking into the east, toward the landing field of Parris Island, above which one of the battiest fliers I had ever seen was doing his stuff.

Loops, spins, nose dives, falling leafs, Immelmans, wing-overs, and—well, I don't begin to know 'em all, and maybe there weren't any names for most of the things "Bugs" Snelling was doing. I knew, as did the other three, that the flyer over that field was Bugs Snelling. No one else ever did the stunts he did.

"That," said Shep Duncan, "is what I call flying. That's the sort of thing I want to do."

"Wait," I cautioned, "for that bird to land. Ever watched him? He always lands the same way, ending his flying day by giving the neighbors a treat. See! There he comes!"

Bugs was flying a monoplane, a light pursuit, that was faster than I am when I'm scared. Every afternoon I had watched him land, and he had a habit of coming into the field lightning-fast, diving under the telephone line which paralleled one side of the field. I'd watched him every

evening, as aforesaid, and whether I was hoping he'd break his neck is nobody's business. Anyway, I'd always watched him—and wondered how long he would last.

Well, he banked away around and came in as usual, flying like a bat out of Dante's masterpiece, diving down to swoop under those wires and over the concrete road into the huge field.

Gosh, those wires looked low! Not much clearance, and a barbed wire fence still lower down. Close flying. But Bugs Snelling had made it a hundred times or more to my knowledge.

But somehow, this time, maybe because both Shep Duncan and Tex McCullough were going to take up this sport, I watched with new interest, and all of us fell silent as Snelling came in.

Closer and closer he came to the telephone line, lower and lower dropped his trucks. Nothing much, after all. He'd make it this time, as he'd made it a hundred times before. We all got the idea at the same time and relaxed our tension, sitting back again in our chairs.

Then a gust of wind did something to Bugs. Just as he would have zipped under the wires as usual, he was shot up into the air as though he had hit a dip in a toboggan slide. His trucks, traveling at a hundred and forty

Suitors



miles an hour, hooked onto the wires and Bugs turned over on his nose in the batting of an eyelash. He dived right into that concrete road on the other side of the line!

Now, I maintain that when an airplane dives into a concrete road at that many miles per hour, and from a height of thirty feet or so, it hits like the devil and then some. At least Bugs did.

Well, believe it or not, Bugs' ship was a wreck. The biggest piece left of it could have been used handily for a toothpick. And as for Bugs. . . .

Well, Bugs had made his last dive under telephone wires, unless they have telephones and airplanes in heaven—and was gathered in on the Marine Corps' Parris Island supply of blotters.

Shep looked at Tex. I looked at Shep and Tex. Shep and Tex looked at me. This was their out. They'd put in for aviation, and their papers probably hadn't left their respective offices yet. All they had to do to renege was to get their papers and heave 'em into the waste-basket, after the safety-first precaution of tearing them to bits.

But next day those two saps left for wherever they were going, to get their wings. Four months later I was ordered to Santo Domingo, and took Sis with me.

We had a nice house in Gascue, with nigger servants and such, plenty of good drinks—all soft drinks of course!—and had grown to like it. Breakfast at nine o'clock.

Out of the west there suddenly came the blasting roar of a low-flying ship. I dashed out. I knew already what was what, though, for Shep had preceded me to Santo Domingo, and I'd heard enough about his stunting

to know it probably was he. Besides, this low flying over the city was against orders, which was why Shep, being that sort of a buzzard, was doing just that.

Sis and I ran out.

Shep was certainly putting on a show. A burro, hazed along by a native woman, and piled high with market stuff, was trudging down the road toward us. She looked back as the motor blasted in her ears, then started to run. But too late, as the titles say. The burro only wagged his ears, unconcerned like, not knowing what was coming. Not all the burros in Santo Domingo had as yet been trained by Shep Duncan.

SHEP tilted his De Haviland up in the air and gave her the gun right over the old woman and her burro. The old woman's clothes flew up over her head, and she squatted in the road as though an armored tank had run over her, covered by her clothes like a tent. The burro took to his heels and *jobos*, *melones*, *mamey apples*, *patatas*, *chicharrones*, every marketable thing the burro bore, was scattered from here to there as though a hurricane had done it.

But Shep wasn't worried. By the time the woman had decided that the Judgment Day hadn't arrived after all, Shep had touched his wheels to the flat roof of our house and had ducked on over the city, his wheels spinning madly. His ship was careening from side to side. He—well—he flew like a crazy man.

We got to the roof by a ladder and watched Shep go winging his way thence. We stood upright on the roof,

in the dust of which we had caught a glimpse of the trace of his wheels, and watched him go. Over the Ozama he had banked left, flying close to the water, as we knew because we couldn't see him, for a moment.

Then he came into sight, climbing straight up, grabbing for altitude with his prop—and we knew, and gasped as the knowledge came home to us, that he'd flown under the bridge which spanned the river, where he had something like three feet of clearance for his wings!

Just before we went down from the roof, we saw another ship which was so far away, almost straight over us, that we could scarcely hear the engine. That flyer had so much altitude that he could have been married and divorced before his ship could have struck the ground in a tight spin.

"That, Sis," I said, "is Tex McCullough, safe and sane flyer. Always believes in having gliding radius, down here where fields are few and far between."

Sis was a bit thoughtful as we climbed down the ladder and went into the house. Then Sis delivered her bombshell.

"LOOK, Bud," she told me. "I love both of those boobies, so help me; but I'm not sure I like a 'fraid cat as a husband. Same time, early widowhood doesn't appeal to me. I want you to take rides with each of those fellows, and let me know what you think about it."

"But, Sis," I said, suddenly having visions of ships falling ten miles in flames, or crashing into the steel trusses of bridges, "I thought you told me once you preferred to manage your own affairs."

"I do," says the kid sister. "I'm doing it. You're one of my means to an end!"

The way she said "end" somehow stuck in my craw. But, well, did you ever have a persistent kid sister?

Next day I hopped to Macoris with Shep Duncan on trumped up official business, while Sis waited at the field for me to come back, which I had doubts about doing. I'll pass over that ride speedily.

We took the hats off seven natives riding burros; spun our trucks on four *subanas*, each the size of a handkerchief, with trees a hundred feet high walling them all around; flew along the road with altitude of something under three feet; blew smoke back down the huge chimneys of three sugar refineries; dropped into the Macoris field over telephone wires, so close to 'em that they hummed like jews-harps after we had passed—'sfact, I heard 'em above the roaring of the motor!—did our business; took off for the return, *under* those wires, climbing straight up right alongside the poles; replaced the hats on the heads of six out of seven of the natives on the way back—the seventh saw us coming and ducked!—sucked the smoke back up the chimneys of the three sugar refineries, flew along the road upside down, touched those four fields still upside down, while Shep kicked up dirt by hitting the ground with his helmet as we passed over, and—well, isn't that long enough for one sentence?

When I stepped out of the De Haviland—think of it, a De Haviland!—at the home field, I had lost exactly fifty pounds, was perspiring like a black man in a Dominican election campaign and my knees were knocking together so badly that the mechanic kept the motor of the ship revved up to kill the sound and save me embarrassment.

"Sis," I choked. "Sis! If you feel yourself slipping where this bird Shep is concerned, shoot him before it gets too serious and save us both a lot of worry and trouble."

But Sis only looked enigmatical, and informed me that she had it all arranged for me to fly to Azua with Tex McCullough; that the other ship on the field, idling at the blocks, had simply been waiting for me to arrive.

Well, I refused pointblank. . . .

Of course I went! A kid sister, you know!

In wide spirals Tex lifted that old De Haviland. Honest, I never realized that riding in an airplane could be so comfortable, like riding on granddaddy's rocking-chair at home. The field below kept getting smaller and smaller, further and further away, but Tex, watching his instruments, looking over first one side and then the other, kept climbing, until I thought we'd starve to death before he pointed her nose at Azua. When he did do so, the altimeter said twelve thousand, which was eleven thousand, eight hundred feet higher than I'd ever been before.

But I loved it. We sailed along like love's young dream. Piles of clouds were everywhere, as soon as we got into the Cordilleras. Holes in the clouds down to earth looked like wells a hundred miles deep, with little cigar-box houses at the bottoms of 'em. The sun was shining and those clouds sure looked pretty.

Then the bottom fell out of the atmosphere. We must have dropped five hundred feet, while my safety belt almost cut my legs in two and I pinched two huge hunks out of the cowl of my pit. But Tex, unbothered, examining his instruments like an automaton, caught her up again and flew on.

I was thinking. With Shep, flying at an elevation of something under ten feet, a sudden drop of five hundred feet might have spelled disaster. But, well, Shep hadn't dropped.

Then we hit another bump, or kiss-me-quick, or hole in the road or something, and the right wing fell plumb square off! At least for a minute I thought it had. Only it hadn't. It was pointing at the earth, but wasn't going there. Rather, the whole plane was, but it was still intact.

We must have flown on the edge of that hole for a quarter of a mile, with our right wing pointing at the ground, nine or ten miles, more or less, down there at the bottom of those wells somebody had dug in the clouds.

And all the time, Tex sat there like a dummy, manipulated this and manipulated that, until he finally straightened her out and got going again.

Then we reached Azua. Still the dummy in the pit, Tex dropped his left wing and started down in a screaming side slip which had me glued to the upper side of my pit with mucilage which was the stickiest I had ever experienced—probably much of it compounded of my own perspiration.

He leveled, nosed over, went into a power dive, leveled, side slipped again, while the houses in Azua got so big with such suddenness that they looked as though somebody was blowing them up, like kids blow up those toy balloons you buy at county fairs. Any moment, I looked for 'em to burst with a loud report.

Then I saw the cemetery, right under our feet, after a manner of speaking, and was just thinking how handy we would be for planting, if anything went wrong, when Tex dropped the De Haviland's wheels over the top of the cemetery wall and set the ship down.

I SHUDDER to think how *Shep* would have come into this field, if Tex was a safe and sane flyer.

"Listen, Bud," said Tex, just before I pulled the prop for the return, "air's kind of light here. Worst field in the republic, you know. But if we go clear to the end of the field, I figure we'll clear the cemetery wall by exactly six inches. Let's go!"

Well, the dummy flyer had it guessed about right. When we were within forty feet of that wall—which was two feet thick and made of bricks or stones, I didn't get out to ascertain which—our trucks were still glued to the ground.

I swear that at the last moment Tex raised up in the pit and gave a sort of upward heave with his whole body in order for us to clear that wall, which we did by just those six inches he had guessed at, if not less; blew the fur the wrong way on the backs. (Continued on page 86)

By
LADY S. MARY
HEATH



*In this Issue
Lady S. Mary Heath, the World's
Foremost, Feminine Flying Figure,
Becomes Contributing Editor to This
Magazine. You Will Enjoy Her
Entertaining and Informative Articles
About Her Experiences and Aviation
In General*

Here Is Her First Story

Lady Heath, helmeted for the air. The visor of the headgear and the collar of her coat are from the head of a zebra which she brought down with a well-placed shot

THRILLS

I Have Had in the Air

“**W**HAT was your most exciting experience in the air?” I was asked the other day. I have had my share of the adventures that go to make flying the spice of life. But just as we can never forget the joy of our first speeding train or automobile or motor-boat, so I can safely say that getting lost on my first license-test flight gave me my greatest thrill.

Oddly enough, I not only had a glorious time that day, some three and a half years ago, but I found that feminine pilots with long hair are better prepared for some emergencies of flying than are short-haired pilots of either sex. I resolved, after that high adventure, never again to fly without a hairpin!

It was all due to the very well-known London fog. Between August 8, 1925, when we organized the first London

Light Airplane Club, and the following October, I had had ten hours of instruction. I could perform various stunts and had the necessary amount of flying (one and one-half hours) to apply for my "A" License. I was the first member of the club to try for it, and on October 30th, I went up for my test flight. If I succeeded, I would be the first woman to hold an "A" license.

In my little De Havilland "Moth" I speedily went through the first test, cutting five figures-of-eight at 600 feet elevation. Other tests followed. Then I was to go up to 6,000 feet and glide down to a landing within fifty feet of a mark. All was going well—I could just see that license with my name written on it.

It was a little misty when I started up, but that gave me little concern. But by the time I was a mile high, the ground was quite invisible. Still I went on, for all was clear above, after I had gone through a bank of clouds. Reaching the required "ceiling," I decided to come down the quickest way — by stalling my plane and dropping.

I went into a spin and came swiftly down, like an eagle dropping on its prey. But when I could finally see the ground, a few hundred feet beneath my straining eyes, I realized that I was over strange territory.

With map or compass I could have been home in five minutes. But I had neither, for I was supposed to keep within three miles of the airdrome. So all I could do was to cruise around—at about 1,000 feet, hoping to catch a glimpse of the field. Unfortunately my one hope of getting back quickly—the sun—had by now gone behind a thick bank of clouds.

I was still looking anxiously over the side for my lost airdrome, when suddenly one of the four cylinders stopped firing. The small engine's power was so much reduced that I knew I must land at once and fix it.

My little plane would land in a tennis court, if necessary, so I did not worry about landing. Soon I was gliding safely to earth on an open plot. I was not overjoyed to find that I was miles from home.

I had to make a connection in the ignition system. Here is where long hair would have been a decided asset. But

I was able to borrow a crinkly hairpin from a country girl who was deeply interested in my plane and its lost pilot. Soon I had the engine going again. I hopped off easily, feeling greatly delighted with my first mechanical efforts strictly on my own.

But hardly more than a hundred feet in the air the engine cut out completely. I had started off before it had warmed up. Silently I glided down and landed once more in a field only sixty feet wide. Once more I got my engine purring. Then I discovered that there was no room to take off. (Motorists in a narrow lane have been in as bad a fix.)

But just the other side of a fence, I noted, was a much larger field. So I adopted an expedient which the unlucky motorist cannot. Getting up just enough speed, I did a hop, skip and jump over the fence, into more commodious pastures. Having obtained some rather vague directions, such as country people sometimes offer the stranded airman, I took the air once more, serenely headed for home, as I supposed.

Very soon I saw my mistake. I was hopelessly lost in a strange land. Or if I was not lost, the landing field certainly was. Worst of all, it was beginning to get dark. There was nothing for me to worry about, I reassured myself. But I knew the instructor would be getting very much disturbed. Perhaps not so much on my account, but because I was flying just one half of the club's entire equipment of machines!

Two planes are not any too many for a hundred people who are eager and even anxious to learn flying. I began to vision the consternation of

my friends as they discussed my certain crash and their hopes thereby sadly delayed.

As I flew across the country, gazing over the side at intervals, I reflected that the club's rules especially prohibited cross-country flights. But I really did not mean to break that sensible rule on my very first solo. Yet I did want to fly back home in triumph!

Eventually, which was very soon, as more unfamiliar country fell away into the dusk, I decided that discretion was very much the better part of piloting. So I chose a

The Sky-Line of Lady Heath's Career

SHE was the first woman to reach the altitude of 19,300 feet, a record for light planes. Later, accompanied by a passenger, she set a new altitude record for British seaplanes, July 10, 1928, reaching the altitude of 13,400 feet.

She was the first woman to gain a license to carry passengers, and the first to carry passengers on a regular air route. She was second pilot with the Royal Dutch Air Service, operating an air line between Amsterdam and Paris.

Lady Heath has carried about 10,000 passengers without an accident. She was the first pilot to fly across Africa, covering over 11,000 miles, from Capetown to London, without an accident, and with the same plane. On one day during this flight she flew for ten and a half hours, covering 750 miles. At another time she flew 1300 miles between 3:15 A.M. one day and 9:45 P.M. the next day.

She was the first woman to be a commercial pilot, and is not only a licensed pilot but a licensed mechanic as well.

A few months after she became the first woman member of the London Light Airplane Club, Lady Heath traveled with a stunt circus, giving daring exhibitions of aerobatics. She has engaged in numerous air races and has done every sort of aerial stunt from barrel rolling, looping, nose diving, spinning and parachute jumping.

nice hospitable-looking country home, and glided for an open field nearby.

As soon as I had landed I made haste to call up the flying field. I asked my flying instructor if he would be so good and kind and helpful as to light flares on the field. Thereby, I assured him, I could make a night flight straight to the home nest.

BUT he promptly declined my request, and I could hardly blame him for deciding that I had had enough excitement and experience for one day. I'm sure I heard a long sigh of relief when I reported that my little "Moth" was all in one piece. And I know he did me the honor of assuming that I was likewise. But I was quite ready to fly home!

The people at my personally selected "airstrip" were perfectly charming. Leaving my machine in their care for the night, I took the train for home. When we got the plane back next day—I had landed just eighteen miles from the flying field—it showed not the slightest damage. But I had to make another try for my "A" license.

My disappointment in that was more than made up by the confidence I had gained in myself, in my machine, and in the knowledge that the instruction I had received would equip me for any emergency. It had been a delightful experience.

There was nothing to be afraid of, as I had perfect confidence in my little plane. I decided then that there should be room in the commercial world for at least one woman who flew because she loved to fly. I thought it did not take half so much nerve as driving a motor-car in crowded streets.

I determined to become an aerial taxi driver. And because there was no woman then licensed to do that, my task proved more difficult than I had dreamed.

A few weeks after my solo adventure, I obtained my "A" license, having performed all the required aviation and

aerobatic tests. I now had my official certificate of competence to fly any type of machine. I was now free to take any trusting friend "upstairs"—my license guaranteed that he or she was reasonably safe in so doing.

Next I resolved to go after a "B" license, which no woman then held. This would entitle me to carry passengers for hire—be a regular buswoman of the skyways. Alas for my fond hopes!

I was amazed to learn, for the first time, that the International Air Navigation Commission, which controlled the issuing of licenses for inter-country passenger and freight pilots, had laid a heavy ban on women pilots. Even Mlle. Adrienne Bolland, famous French pilot, who had been carrying passengers for two years in her own commercial plane, was compelled to cease flying people for hire.

Even if I succeeded in becoming the first woman to obtain the "B" license, I learned, I could not accept pay for carrying a single passenger. But I was then so much in love with aerial transport that I decided to become an "air-taxi" pilot at any cost. I could always carry my friends for fun—and I knew there were jobs to be obtained in stunting, or on the experimental and administrative side.

IHOPED to prove that a healthy woman, properly trained, is as reliable in the air as a man. I determined to open the doors of civil aviation to women. I would prove that women could drive planes, just as they had made good at driving motor-cars, after the men had scoffed.

It was a bumpy course I had set for myself. But we can go a long way when we have the will. My first solo adventure had proved that there was nothing but flying for me. I have climbed mountains and scaled cliffs, hunted the most savage wild beasts of Africa, chased whales in cold northern seas. I have had the honor of taking part in Olympic and other international games, and I know the joys of scurrying after the hounds. During the War I was



Lady Heath beside the plane in which she flew about 11,000 miles across Africa from Capetown to London. In a later issue she will tell you all about that trip

motor dispatch rider for the Royal Air Corps.

But no sport nor profession compares for delightful thrills with flying. No other pursuit is so constantly giving you something new to think about. No man or woman can possibly be bored with traveling in the air—if he or she is piloting his own ship!

Experienced pilots know that when you have had from ten to twenty hours of flying, you begin to think you know all about the air world and its ways. Your machine responds to your slightest wish. Automatically you balance yourself on the air waves. You take off and land like a veteran. And this is about the time, when you have the world at your feet, that you are due for something to happen.

What you need is a little shock to jar your idle sense of caution into action. And you're quite sure to have an experience which will be exceedingly useful to your future career in the air. Perhaps you would like to hear about my little episode, after about twenty hours of varied flying.

I was giving an exhibition of stunt-flying at Winchester. Talking on the field with an Army pilot, we got into an argument as to the best thing to do when the engine cuts out immediately after or during the take-off. I maintained that instead of going back you should go straight on, heedless of the risk of a spin. Suddenly I said:

"I'll show you!"

I whirled my propeller, the engine then fired, I hopped into the cockpit, and up I went to show him how safely I could do a low flat turn.

Instead, I succeeded in getting into a beautiful flat tail spin only eighty feet above the ground. There is no more likely maneuver from which to originate a crash.

I had then no instinctive knowledge as to what I should do in such a case. But something told me to open the throttle wide and work my controls correctly.

My machine responded nobly. We dived out of the spin—but so close to earth was the bottom of my dive that I neatly clipped off the top of a rose-bush in a private garden!

Once we were on a level keel, I had to fly around for about

a quarter of an hour, before I could pluck up enough courage to land and face those white-faced pilots. Poor dears, they were a great deal more scared than I was, as they stood and watched my weird demonstration. Of course, I never had that happen again. It should never occur to a properly broken-in pilot.

SAFETY has come so swiftly and silently to aviation that many do not realize how really free from hazards aerial travel has become. Beginners are taught to make automatic and subconscious movements for every possible condition encountered in the air. I recall an amusing experience with Lady Bailey with all the thrills one could desire. It serves to illustrate this point.

I was giving flying lessons to Lady Bailey, the brave little pilot, you remember, who recently made the long and arduous circuit of aerial Africa. Her husband disapproved of her flying. So each morning I used to call for her dressed in white and carrying a tennis racket. The family thought we were practising to beat Helen Wills and Mlle. Lenglen, instead of Colonel Lindbergh and his comrades of the air. Lady Bailey decided not to tell them about her higher aims until she knew how to pilot a ship. It saved so much debating!

After I had given her about five hours of instruction, I thought she should learn how to get out of a tail spin. I took her up to 3,000 feet and then explained to her what it meant to get into a spin and how easily she could come out of it. Through the speaking-tube I instructed:

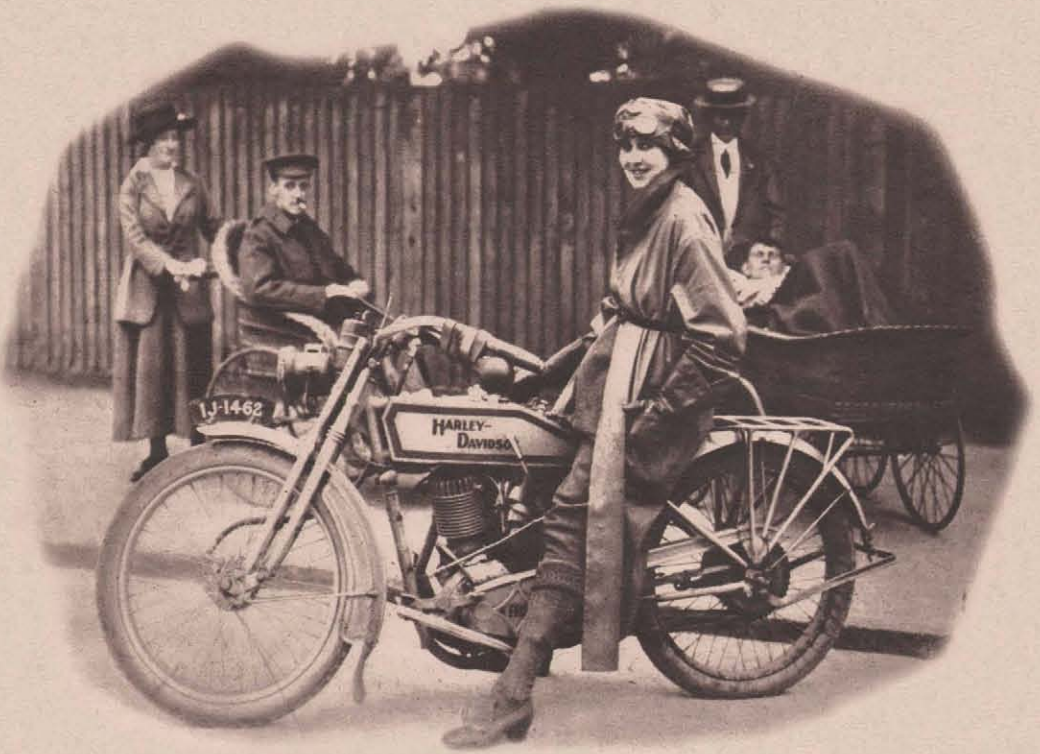
"Throttle right back. Then when the machine is going as slowly as possible, pull the stick hard back and give full left rudder." She nodded and proceeded to follow orders. Thereupon, it being a cold day, and the pilot jet too finely set, the engine stopped completely! It was a dual-control plane, of course.

I took the stick and dived at 100 miles an hour, to restart the engine. It was no use. I dived again at 150. No use. I dived at 180—and still no kick from that cold-hearted engine!

By that time we were about 150 feet above the ground. It was time to pick out the best place for a forced landing. The only field within reach was down wind, and was well sprinkled with cattle and other obstacles. However, I



Being dressed up in a Sidcot suit for her first parachute descent—a clumsy but essential outfit



During the War Lady Heath was a despatch rider for the Royal Flying Corps

I was fortunate enough to effect a really "happy landing."

But by the grace of God we came to earth safely, missing by inches or feet some thirty cows, twenty sheep, three trees, a drain and a sheep-fold.

As we clambered out of the machine, charming Lady Bailey turned to me and said innocently:

"But why did you stop, dear?"

LESS than two years later she was so expert that she flew over 18,000 miles of African jungles with but two forced landings and no damage to her own fair person.

But the rest of the story is the best. I was dumfounded to discover that the machine had been newly fitted with a self-starter! I could easily have used it in mid-air. Even the cows blushed at my remarks when I saw that wretched starter glinting at me in the sunlight.

Forced landings are rarely hazardous to the careful pilot. You are taught, urged, reminded and ordered, from the very beginning, to keep a landing ground within gliding distance, even if you have to go somewhat out of your course to keep near one. This is no more unreasonable than for a distance-swimmer to keep within easy distance of a buoy or boat. Or for a motorist to keep a weather eye on gas stations, tire-repair shops, garages and hot-dog stands.

At the start of my flying life I found that men were discouraging women from learning how to fly. There are some today—happily only a few—who think women cannot make good, safe pilots. Remember the uproar only a few years ago about women driving automobiles and motorcycles? "Those days are gone forever," and that applies to aviation too.

Perhaps this attitude of conservative man is due to his inherited habit of protecting the sex which once was con-

sidered the weaker. But the final test of safety is in the insurance which the pilot can obtain. And there are a number of women pilots who rank quite as high as the best men in freedom from accidents—which means insurability.

But when I started for my commercial license, insurance for women pilots was quite unheard of. I shall never forget my difficulty in getting insured for the first time, or what followed. The tragi-comic experience served to further reduce my bump of overestimation.

As soon as I had finally decided to become an aerial taxi-driver, three weeks after receiving my "A" license, I resigned as secretary of the Ladies' Athenaeum, a society club in London. Then I enrolled at the De Havilland Air School for a three months' course. To qualify as a passenger-carrying pilot I had to learn all about navigation, the motor and the machine, so that I could make long and wearying trips over land and water.

IHAD to study meteorology, to know whether my ship was likely to run into a storm and cause discomfort to the passengers. There were the flying rules of various countries to learn (I had already passed an oral examination in lights and signals and traffic regulations). It doesn't take long to cross a European state in a 100-mile-an-hour ship, and each nation has its own traffic rules of the air.

Then I had to know all about fixing my own engine, which means a great deal more than cleaning spark-plugs and using a hairpin for a connector. I also had to get into the best possible physical condition, for on this depends the lives of passengers and safety of the ship.

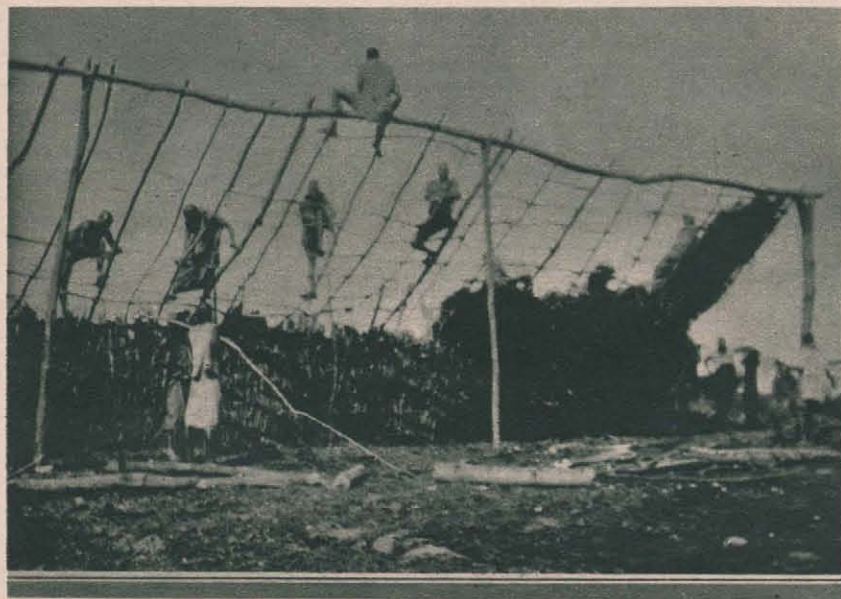
I received ground lectures and flying instruction in everything a pilot should know, from astronomy and instruments to engines and rigging. After all these tests had been passed,

I had to make a night flight of thirty minutes or more at 1,500 feet, as well as a cross-country flight of 200 miles.

The latter test I made in April, 1926, being in the air about five hours altogether and breaking my journey twice for meals. It was a thoroughly nice trip and I did not hurry, enjoying myself every minute.

I passed the physical examination with forty-four marks out of a maximum of fifty. Most male pilots pass at about forty-five. My years of athletics of course had helped me to maintain the high standards required. In one test I had to stand on one foot for a long time, and also hold my breath as long as I could—no doubt in anticipation of a transatlantic plunge!

The physical tests were really not difficult, being designed merely to insure that those flying above cities and towns



Natives in East Africa putting up an impromptu hangar for Lady Heath's plane during one of her few brief visits on the trip

should not throw a fit or collapse from heart failure, and thus endanger those below as well as in the plane. In May, 1926, the International Air Navigation Commission in effect lifted the ban on women pilots, arranging to qualify all who passed the medical tests to pilot passengers for hire, to fly taxiplanes and commercial air expresses.

I was now ready to apply for insurance, so essential for moral effect and for actual protection of passengers and property. But the companies were very loath to insure a woman. My many hours in the air without accident did not impress them a bit, apparently.

But at last, after much persuasion, they granted me a *three months' policy!* Even then they were taking no more chances than necessary, for the rate was made very high. However, to encourage me in playing safe, they promised to rebate one-half the premium if I had no crash within the three months.

Meanwhile I had joined an aviation company, and had an interesting job doing stunts at various provincial centers. I looped the loop, did various spins, rolled, banked and nose-dived, also made parachute drops. I had a glorious time for three months, and did a tremendous amount of flying the day before my probation period was up.

I was still safe and sound, my plane was undamaged, and I felt very much pleased with myself. What could possibly

happen now—to me? So I wired the hard-hearted insurance people: "Now what about it? Hurry up with that refund."

Next day, the last day of grace, which I must safely pass before I would get one-half of my heavy premium back, I had to take my little machine out of a grassy meadow. My engine was only twenty-seven horsepower.

The English rain—only Englishmen can fully appreciate it—had been falling for four days. The machine, from wings to wheels, was waterlogged. The long grass was a swamp.

However, I decided to go up—alone. I declined to take any chances with a passenger. I have never deviated from this rule, and as a result, have never had an accident, not even punctured a tire, with any of the thousands I have carried aloft. How many auto-drivers can duplicate this?

I had then about 100 hours of air experience behind me, having flown steadily, almost every day, for some six months. I started my engine, warmed it up, and finally was tearing down the meadow's slippery slopes at sixty miles an hour.

There was no room in the small field to stop or to turn, and too late I realized that I would never get off. The long wet grass was wrapping itself around the axle, greatly slowing up my speed as well as dragging my machine down.

I made straight for the fence across the end of the meadow, and hit it head on, or as we used to say—"for-six." The machine turned completely over on her back.

As I hung suspended from my safety-belt, before I even thought of getting myself out, I composed a short

but stirring ode to the insurance company—the lucky dogs! Hanging head downward in my crashed machine, I had a television picture of them in London as they got my second message of the day, so different from my cocksure one.

I WAS not even scratched, but there was some damage to the plane, and I was considerably hurt in feelings and bank account. Those early crashes taught me to avoid risks, and showed me how to make flying safe for those who fly with me, either as pupils or as passengers. I have always carried insurance on myself and machine since then, for I eventually convinced the companies that I was as good a risk as other pilots.

I had many ideas to correct, as we all do when we enter the air world. Slow speeds in motoring, for instance, almost always make for safety—except perhaps in a fast stream of traffic. But in the air, the faster one goes the greater the support to the wings. I had to learn by experience that speed and control fly wing-to-wing. Especially is this true in the take-off, when accidents are most likely to occur to the green pilot.

It was while I was taking a plane to an International Light Plane competition in Belgium, in 1926, that I had one of my most thrilling demonstrations of the relation of



Examining the barograph before going up for her first attempt at the altitude record in May, 1927. The barograph is an altitude recorder

speed to control in a take-off. I was hopping off from a field well known for its peculiar wind currents close to the hangars.

I had only just left the ground and was skimming along hardly two or three feet above it, much too soon to have lateral control, when I was caught by a freak wind from one side. It threw the machine completely out of my hands.

We headed at full speed straight for a gasoline dump on the field. I had only a fraction of a second to decide what to do. But I managed in that time to switch off both

ignition and gas. So when we did hit there was no danger of fire. It wasn't a bad crash, and it taught me the necessity of quick pick-up at the very start, to guard against the vagaries of playful breezes.

The biggest thrill in flying, of course, is in racing. Skimming along in a powerful machine some twenty feet off the ground, well out of the winds, hopping over hedges and turning and banking around the trees, is the greatest sport mankind has yet discovered. One such race I shall never forget, though I have flown in (Continued on page 93)

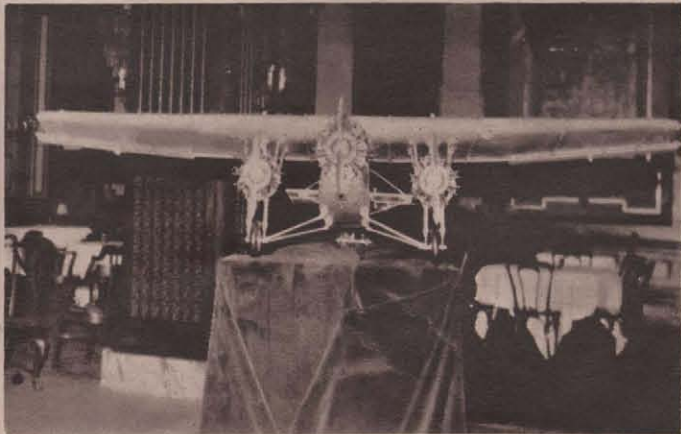
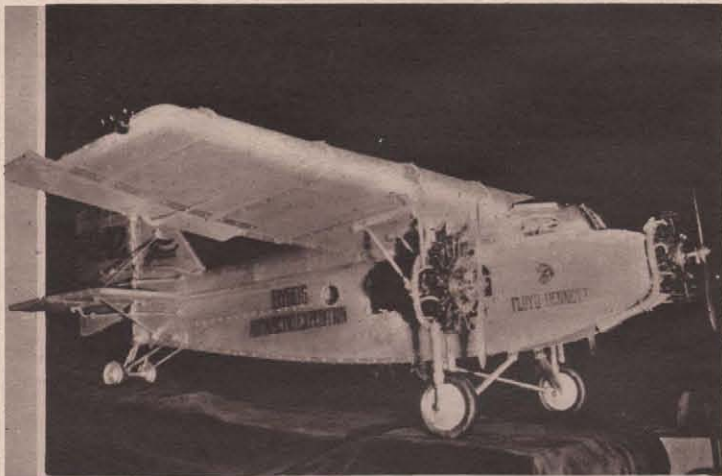


**Largest
Airplane Model
Ever Built**

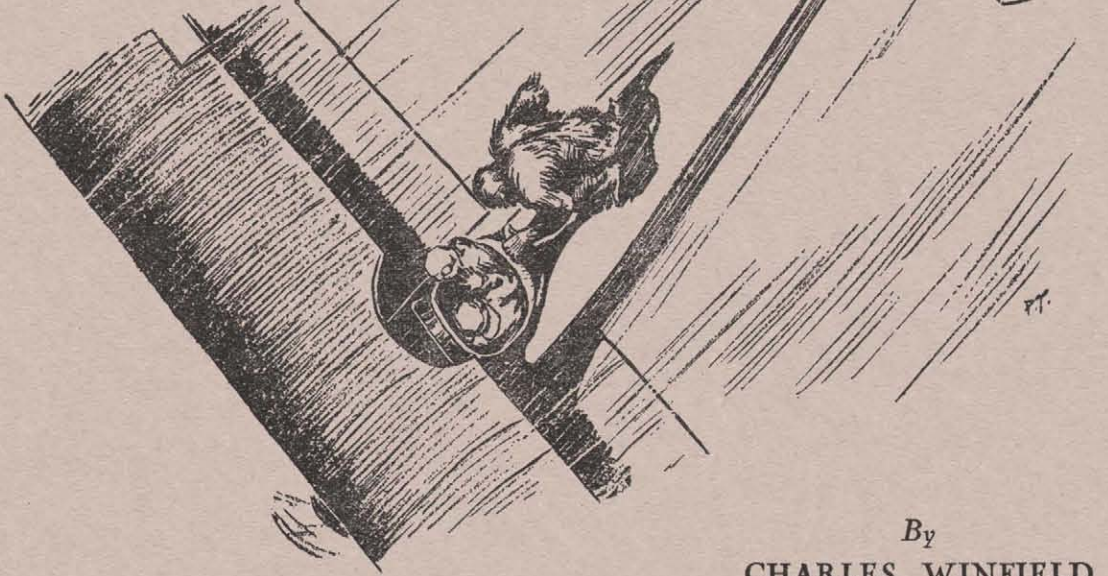
UNTIL Lindbergh's Paris flight William Klassen, maitre d' hotel of a large New York hotel never gave a thought to aviation. Inspired and enthused by that flight he painstakingly built a Curtiss biplane model. The *Floyd Bennett* followed. Mr. Klassen said he had only pictures to guide him, working out a scale of one inch to the foot. The wing spread is eight feet, the total weight 102 pounds. Electric motors whirl the propellers at 1500 revolutions per minute.

The frame is of duralumin rod, 3-8 inch in diameter, costing \$1.10 a foot, and the wings of aluminum, ribbed, which cost forty cents a square foot.

The plane is complete from landing lights, shock absorbers, ailerons, elevators, etc., to instrument board and controls, with a little doll-figure of a commander who carries a pistol and binoculars. It took a year to build.



The MYSTERY of the Hidden Pilot



By
CHARLES WINFIELD
FESSIER

*Nobody Suspected the Identity of the
Strange Passenger Concealed in the Plane Until—*

SOMETIMES it takes a properly directed kick to make a fellow enjoy a soft seat. Yours truly got such a boot and, as a result, directed the world's most thrilling airplane mystery, animal picture. "The Mystery of the Hidden Pilot," as you will find, is the most hair-raising movie marvel ever sold to the public at fifty cents and up per portion. And it was all an accident.

You see I got into the news reel business and considerable trouble, after having been sacked as a director for the Glimmer Films Corporation. It seems that I lost my temper and did serious things to a third cousin of J. Jason Jessup, the producer. This cousin, an oaf who had been inflicted upon the world with the title of Hymie Garfinkle, thought he was an actor, whereas I couldn't give him credit even for thinking. Such a situation was bound to result in trouble sooner or later and the sooner the better for me.

When Jessup unloaded the cluck on me he gave me instructions to do something with him. At first sight of the offensive beak and the shiny, black, petroleum-plastered hair, I knew that if I did what I wanted to do with him, I'd never get anywhere in life. They hang men for that, even in California.

At first, I used him as background in scenes where he had only to stand around and look stupid. He was a success at that because he stayed in character. This perfect arrangement didn't last long before the blow-up came. The lad came to me one day and said he had been crying on his

cousin's shoulder, and that Mr. Jessup didn't think his family was being done right by. After that time, he said, he was going to take leading rôles in plays which I was going to direct. Furthermore, he said that the pictures were going to be those he would write himself. Besides that, he informed me I'd better not argue because he'd get his cousin to fire me on account of I wasn't much good anyway.

Holding my temper and wishing to know how near Hymie had approximated the process of thinking, I invited him to explain what type of pictures he was going to make.

THE idea that was rattling around in the vacant spaces of the lad's scone was worthy of the peanut brain that had evolved it. In brief, Hymie was going to impersonate animals. He had gone into a huddle with himself and decided that the world was waiting for a man who could portray the emotions and inner thoughts of dogs, tigers, elk, polecats and other dumb beasts. If all the ideas that boy had nursed were placed end to end they would have reached deep into the pit of inanity, but this one took the prize.

"My uncle is behind me in this," he asserted.

"He couldn't be," I said. "You're at the end of the parade now. Perhaps you could make a fairly decent double for Old Joe, our trained ape."

"That's just it," he came back enthusiastically. "I'll take the part of an ape and make a human being out of him."

What's the use in trying to insult a baby like that? However, I tried once more.

"Nature," I said, "has already taken a human being and made a monkey out of him. The best you could do is try and imitate a man."

"Fine," he said. "I will imitate a monkey trying to imitate a man."

Then I socked him. I'm telling you I socked him seriously and scientifically. If I had known then what part that oaf and his addle-pated ideas were going to play in my life, it would have been murder instead of mayhem I committed.

Anyway, Jessup gave me the gate. The old man was decent, but he was deluded into the idea that he owed his cousin some sort of a debt on account of family affairs sometime in the past. I couldn't land as director anywhere else, what with the industry going screwy over the talkies and me being known as being too ready to make anatomical alterations in higher officials who made me angry.

AS a result I got into the news reel business. I hocked the automobile and the cocktail shaker, drew the reserve from the bank and bought a plane. Then I hired Joboneau Webster, one of California's best pilots and nature's masterpiece in the way of white men. He wasn't so big nor good-looking, but he was real people. When I was broke and couldn't pay his wages he stuck through friendship. Together we filmed cataclysms, disasters, parades and other things inflicted upon the fair state of California.

We got the first shot of the wreck of the *Parrot* off the coast of Mexico and did some good work on the Santa Fé Springs oil-well fire. The Webster boy was a valuable asset to my business. I was free-lancing, selling my stuff to the regular news reel companies. To do that, I had to get my stuff in ahead of the others or get exclusive shots. That's where Webster came in. He'd take more chances than the other pilots. He darned near singed the wings off the plane on the oil-fire shot and he bucked a god-awful gale to get the shipwreck film.

It was a tough battle and I always had a sneaking desire to go back into the directing business, but there was cash on hand most of the time. Jessup met me on the street once and offered to take me back, if I'd direct that family affliction of his in a picture. I turned it down. What the movies lost, the news reel business gained. Life is that way.

However, when things are rolling along fairly smoothly, Fate usually punctures a tire by way of letting a fellow know life isn't all banana sherbet. That's what the lady did to my news reel business. Just when business started to get good and Nature had allowed us a couple of forest fires with another shipwreck thrown in as a bonus, Webster, my pilot, goes and gets afflicted with love.

I noticed the symptoms in Webster while we were flying over a football game at the Pasadena Bowl. The plane was riding smoothly and I was cranking away at my camera. The boys below got all tangled up with themselves and I had the whole business in focus. Then the ship went crazy. It first went into a tail spin and then nosed upward again. After that, it flopped over on its back.

I wondered if they'd spell my name right in the death notice, and tried to figure things out. At first, I thought a wing had been washed out but I soon knew that that was not the case on account of we were still up in the air. There seemed to be no immediate danger of falling, but I wasn't enjoying myself to any great degree. I never did trust a life-belt.

Finally, I put my hand on the stick in front of me. It moved freely. Deciding that Webster had fainted or something, I realized that it was up to me to do something. I'm not so good as a pilot, having had only a hasty course at Kelly Field before the War ended. We had dual control on the plane, so that I could spell Webster on long trips in good weather; but the weather wasn't so good now.

A higher power took the stick and some lesser divinities managed the rudder bar, because the plane got right side up again. I may have done it, but I don't remember how.

I turned to see what manner of death had taken Webster from our midst. He was apparently conscious. He sat in the cockpit like a sack of meal but his eyes were open, even if they didn't look intelligent. I throttled the motor.

"What's the idea?" I howled. "Trying to give the boys a thrill? This crate wasn't made for stunting."

He sort of aroused himself.

"Were we upside down?" he shouted back. "I didn't notice."

I flew the ship back and wondered whether they'd take my pilot to the Stockton or the Norwalk home for persons who have lost their marbles.

On the ground I asked him what was the big idea, all the time watching for him to get violent and bite me in the leg. He had forgotten all about the little episode in the air.

"Know what she's gone and done?" he asked with a silly expression.

"Know what who's done?" I demanded.

"She's gone and started chasing around with that Hymie Garfinkle," he answered.

"Well, whoever she is she's screwy too," I said. "Anyone who'd look twice at Hymie isn't worth doing tail spins for. Snap out of it. What's eating you?"

"Helene," he said, real mournful. "Helene's gone and ditched me for that Hymie, on account of Hymie being artistic and having an expressive soul and I'm just a cloud-hopper and I don't know anything about a lot of things I never even heard of."

"Where does Helene sell fish and why don't you hit her on the head with a hard object? That sometimes cures insanity," I said.

"She doesn't sell fish," Webster asserted. "She writes plays and poems and things. She's going to write a play for Hymie. She thinks that nut idea of his about being an animal is good. You couldn't hit her on the head with a hard object. You'd want to kiss her. She's as pretty as—as—aw, hell, fella, she's as pretty as that new monoplane job they got over at Long Beach."

"Just how did you come to have a head-on collision with Helene?" I asked.

"I took her for an airplane ride a couple of times. She wanted to catch the voice of the upper regions. I couldn't hear a thing. Then I hung around her place and we went places. Sometimes she liked me. Once she kissed me and said maybe she'd marry me. Then she'd get sore about me not having any definite ideas of the relation of pink lilies to a sunset over a purple mountain at half-past six on a Friday in February."

"JUSTICE isn't blind," I groaned. "They got her mixed up with Cupid. Lord, he doesn't care who the hell he shoots nor what different brands of half-wits he drags together."

This remark was lost on Webster. The lad was punch-goofy. Cupid had him on the ropes and the first round was in its infancy.

Following days and events showed me that my news reel business was in for hard times. I couldn't depend upon Webster at all. Some days he'd be cheerful because Helene had smiled at him and then he would fly through hell. Then things would go wrong and I couldn't even find him. We missed a good train wreck that way. I couldn't get another pilot. In the first place, it wouldn't be fair to Webster and in the second place no good pilot would take the job. The pay wasn't sure enough.

I felt sorry for Webster, too. He was a darned good kid and it didn't seem right that some crack-brained fluff should give him the run-around because he neither knew nor cared anything about Hymie's brand of bilge. Love had become a boil on Webster's nose and every other day

Helene would paste him on it or relieve it with a smiling poultice.

Things went along like that for a while. Then I got wind of something that was brewing on my old lot that would make a darned good news-reel shot. The idiotic Hymie had promoted a publicity stunt that might click, in spite of the fact that he had thought of it.

THE plan had to do with the credulity of the newspapers and, that far, was safe. They were going to announce that a trained ape, (Old Joe, of whom I have spoken) had gone haywire, and that they were going to deport him to a private zoo on Alazar Island, about twenty miles off the coast. The trip was to be made in an airplane and they were going to take Helene Mayfare, the little lady who had placed my pilot in a state of comma, along with them. The first story released to the newspapers would say that they had to take Helene because the ape loved her and would not behave for any one else. They did not state why it was necessary to take an airplane, but neither the public nor the newspapers thought to ask about that. Publicity

siderable, and I knew that the proposed trip to the island would hurt him plenty.

However, when the day for the flight came, I managed to drag him out to the strip of beach where the take-off was to be made. I figured I'd have to take a chance of Webster being able to do the job because other pilots wanted too much money, cash down, and I'm a business man when I have to be.

Helene was there. My first glimpse of her explained why Webster acted that way. You may take my word for it, she was one neat little package. Two seconds after she had smiled at me and confessed that she was glad to have me meet her, I would have mortgaged my brilliant future for the privilege of paying her bills the rest of my life.

I judged that the kid was real people, down deep in her heart, and that her artistic ideas were akin to a dose of smallpox. Either she would get over it and be normal, or she'd get worse and be a nut the rest of her days.

Her eyes rested on Webster and she favored the lad with a smile that made the one I got seem like a frown. I was surprised to see that she actually liked my pilot. Her blue

Old Joe got into action just then. He moved closer to the pilot, braced his feet in a half sitting position and swayed over the cockpit for an instant. Suddenly he leaned forward and grasped the pilot around the shoulders in his hairy arms. There was a brief struggle and then something shot downward from the plane.

Old Joe swayed over the open cockpit for a moment and then crawled within.

I looked at the twisting body of the falling pilot and half shut my eyes in horror. The ocean was below but the fall would kill him anyway. Just as it all seemed over—

stunts are always that way. Most unexpected happenings occur.

After the preliminary publicity, the trip was to be made. But the ape wouldn't go. Instead, Hymie Garfinkle was going to don the habiliments of his not far removed ancestors and take the place of Old Joe. Then, later, there would be released a story that Hymie had taken the place of the ape to prove his ability as an actor—that he had imitated an ape so cleverly that he had fooled the boys. Helene would get her slice of publicity, also. It would be announced that she was going to write a play, in which Hymie was going to be starred.

I decided that, despite my dislike for Hymie, business was business. I figured I could either sell some footage on the thing to news-reel companies, or that I could blackjack Jessup out of a few nickels with it. I needed the money, so I planned to cover the thing.

When Webster heard about the scheme, a look came into his eyes which promised poison, hanging, guns and other forms of suicide. He figured that if she took that trip with Hymie it would be all off for him. I did my best to cheer him up but it didn't do much good. The lad was seriously silly about the Helene person.

A few days of grief passed. We didn't have anything to do in the way of filming catastrophies and Webster wouldn't have been of much use anyway. He worried con-

eyes danced with a warm glow, but her cherry lips were wrinkled in a pout. She surely did think a lot of him.

Webster promptly blushed like an Italian sunset and swallowed his tongue.

"I'm so glad to see you," she trilled. "Don't you think this is a wonderful day? Isn't the water gorgeous? Isn't the sky nice? Isn't the beach wonderful? Isn't this airplane trip going to be perfectly ducky?"

She went on approving of this and that for some time. You'd a thought Webster didn't agree with her. He didn't utter a word. I could see why the little lady got angered at my cloud-hopper. Lord, a man ought to say something to a woman, even if he is in love with her.

"I SHALL call my play 'Souls of the Ether,'" she continued. "What do you think of it?"

Her eyes twinkled invitingly and the lips still pouted as Webster remained dumb.

I nudged him viciously with my elbow.

"Say 'exquisite,'" I whispered.

"Exquisite," Webster gasped, and then looked frightened.

"O—oooo," she squealed, "that's s-o-o-o nice of you."

I've never heard maple sugar trickling over a bed of rock candy, but that's what her voice sounded like to me. Webster was a lucky dog.

"If I could only think of more words to say like that,

maybe I'd have a chance," Webster told me later. "She seemed to like that one."

"I'll write you a list," I promised.

Soon the truck drove up with Old Joe. I placed my camera nearby and was ready for some good preliminary shots. Then the boy who seemed to be in charge of the affair booted me farther back and made every one else follow. He said that Old Joe was in a bad mood and was liable to eat innocent bystanders. I whispered to the boy that he was carrying the deception too far, but he ignored me. Maybe he hadn't been let in on the idea that Hymie was in the cage and not Old Joe.

Finally, a chute like they use for animals in a circus was placed against the specially built cage that was lashed behind the second cockpit near the tail. Helene posed for a moment, smiled and then climbed into the front cockpit. A second later the pilot entered the second cockpit and the gate of the chute was opened. There was a sullen roar that was pretty good for Hymie and a dark object lumbered into the cage on the plane. The prop was spun and the plane took off, circling for altitude above the beach.

I CLIMBED into my plane, which was ready, and Webster had soon gained altitude and was following close behind the movie ship. I trained my camera on the plane and wondered, for an instant, if perhaps I could have been mistaken in Hymie. He had certainly looked the part, the brief instant I had seen him. Old Joe, himself, couldn't have done much better. I dismissed this generous thought and laid the success of the ruse to the fact that a super-make-up man had done the job.

Helene looked up at us and waved a dainty hand. Webster almost threw the ship into a tail spin he was so tickled.

Suddenly the idea hit me that as a business proposition, this flight of mine wasn't going to turn out so good. They hadn't let me get any decent ground shots and I wasn't getting anything exciting up in the air. I had just about decided to turn back when strange things began to happen, and I changed my mind. The plane ahead of us bobbed and wavered. For a moment, it looked like something had gone wrong with the controls.

Then I figured that Hymie had changed position in his cage and had thrown the plane off balance. It was a silly stunt anyway. The plane hadn't been made to carry such a load and I began to worry.

Then the front of the cage crashed open and a hairy arm was extended. Soon a huge form crept out onto the fuselage, balancing precariously.

"What has gone wrong with the idiot?" I asked myself. "Has he suddenly gone insane and got the notion that he is a wing-walker?"

The answer to my question froze the blood in my veins and almost knocked me out of the cockpit. Webster ducked closer to the movie plane and the thing on the fuselage turned its face toward me. I knew that it wasn't Hymie Garfinkle. Neither was it any man dressed like an ape.

The creature crouching against the force of the wind and baring ugly teeth in a snarl was *Old Joe himself*.

I could see by Old Joe's snarl and the way he shook his head that he was sore as a boil at what had been done to him. I knew that Old Joe was hell incarnate when he felt that way, and now he was afraid and that made it worse. No telling what he would do now. I hoped every minute that he'd fall off and thus prevent what was certain to happen in a minute, if he kept his footing.

Old Joe stood still a second, shaking his head from side to side in anger and then he started to inch his way to the cockpit in which sat the pilot, unconscious of his danger. The ship ducked again and I could see the pilot working at the controls. He knew something was wrong but not just what. The girl hadn't looked back either.

Just then Webster saw what was going on and he went crazy. He dived low over the movie plane, as if to brush

Old Joe off. That made the ape angrier than ever and the ensuing roar caused the pilot to look backward.

I was close enough to catch the expression on the man's face. I've never seen such fear written on human flesh. He stared, fascinated, at Old Joe's snarling face and then sagged forward in the cockpit as his plane banked steeply.

I saw that it wouldn't be but a second before the plane would crash. I cursed Hymie Garfinkle and the crazy scheme which was about to cause the death of a pretty woman and a more or less efficient pilot. Even the ape was worth more than Hymie, I told myself, as I watched the thing beneath me and tried to figure out how the ape had got into the cage.

Then I breathed easier for a moment. The pilot snapped out of it and pulled the stick back, in time to avoid a spin. He ducked forward in the cockpit as if to avoid the thing in back of him.

"For God's sake! Spin, loop, anything to shake him off!" I howled, but of course no one heard me.

Old Joe got into action just then. He moved closer to the pilot, braced his feet in a half sitting position and swayed over the cockpit for an instant. Suddenly, he leaned forward and grasped the pilot around the shoulders in his hairy arms. There was a brief struggle and then something shot downward from the plane.

Old Joe swayed over the open cockpit for a moment and then crawled within.

I looked at the twisting body of the falling pilot and half shut my eyes in horror. The ocean was below but the fall would kill him anyway. Just as it all seemed over, something white shot upward and blossomed into a parachute. The pilot was safe, anyway. I thanked providence that there were still a few sensible fliers left. Webster also always wore a parachute. They come in handy in cases like that.

I turned my attention to the other plane. Old Joe had climbed into the cockpit and had hold of the stick.

Then I understood what was making the ape's brain click. We had made a comedy with him and had used him in the cockpit of a dummy plane. He had been taught to jiggle the stick and kick the rudder bars. The thing had come back to him and he was doing what he had been taught.

The plane was turning in crazy circles now. It couldn't be long before the crash. Old Joe was bouncing up and down in high glee. He was no longer afraid and his anger was gone. He had always liked the movie plane and he was happy now. His hairy arms jerked the stick from the left to the right and then he shoved it forward. The tail whipped from side to side and then the nose snapped downward, turning swiftly. The propeller was sucking it oceanward with terrifying speed.

I SAW Helene's yellow hair streaming backward. She had turned and seen what had taken place—that the pilot was gone; that Hymie wasn't in the plane and that a real ape was her sole companion. She had fainted with a shriek I could almost hear and I was relieved a little to know that her troubles were over. She wouldn't feel the terrifying fear of the sudden plunge downward.

I shut my eyes as the plane neared the water and then opened them in amazement as the plane leveled off. Old Joe had done the right thing by some miracle. He had shoved forward on the stick and then eased it gently back. Of course he didn't know what he was doing but anyway, he had done it.

The ship pancaked upon the surface of the water and plowed forward through the swells. It stopped undamaged. Apparently the girl was safe, unless Old Joe became angered again. I was debating whether or not it would do any good if we made a landing on the surface and sacrificed my ship to the ocean, when my plane dipped forward and something began falling away from it. In a second,

something white billowed upward and Webster was dangling on the end of the thing.

The lad had hopped overboard with a parachute and left me alone with the plane. I figured he could, at least, have warned me of his plan and tried to get my ship under control again. It was all I could do to get the thing on the horizon again, but I finally did it. I had to. By the time I had the crate in hand, Webster had landed in the water near the stranded plane. He cut the 'chute belt and swam to the movie ship.

I looked for trouble from Old Joe, but the ape seemed to be perfectly satisfied to fuss with the controls and hop up and down in the cockpit. I knew there'd be no trouble from him, from then on.

I BANKED and started back toward shore. To my surprise, I learned that everything had taken place in darned short time. We had not flown far from the beach. Those on shore had seen what happened and had sent out a power-boat already. The pilot of the movie plane and the other two would be picked up soon.

In landing my plane, I plowed up half an acre of the beach and came to a stop when I washed out my undercarriage. It was far from a three-point.

As I walked toward the group on the beach, the first face I saw was Jessup's. He was white as milk and his face streamed sweat.

"What the hell's the idea?" I asked, "sending a woman up with that ape? I'm gonna sock you plenty. Next time, figure some other way of making money than by risking other persons' lives."

He grew whiter and started to talk. I was going to paste him anyway just for the ducks of the thing, when I understood what he was saying.

He claimed that he hadn't known anything about the deal. He said that Hymie had doublecrossed him and that the thing was done without his consent. I believed him. Jessup isn't that kind of a man, but I would believe anything of Hymie. He's the kind of a lad who'd throw rocks into an orphan asylum.

Just then Hymie's ugly mug showed at the edge of the crowd and I saw red. I got him by the collar and dragged him out in the clear.

"Well?" I asked.

"I tried to make up like an ape but I couldn't," he whimpered. "I figured it would be just as good publicity to let them take Old Joe. Then I was going over to the Island by boat and have Old Joe taken back secretly. After that I was going to claim that it was me all the time. I didn't think—"

I figured that right there was the proper place to end

that sentence. I punctuated it with a straight right that was my masterpiece. Hymie sprawled like a sack of old bottles.

Just then Jessup caught my arm and I whirled on him. "Next time—" he began.

"Shut up or you'll get the same," I said. "Keep your mouth shut and listen. I've got you over a barrel and I'm sure going to use the paddle. In spite of the fact that I was scared stiff up there, I shot every foot of what happened. Do you realize what that means? Lord! You've got the makings of the world's best thriller there. It can't be duplicated. I own that film. You can have it. But you'll pay, old-timer. You'll put me back as director and we'll cook up a plot to go with the action I've got. You'll increase my salary and you'll pay for the damage I did to my plane. Besides that, it will be understood that every time this half-wit inflicts his presence on the lot I'm going to knock him bow-legged. Otherwise, you don't get the film and the chance to make a million-dollar picture."

When I got out of breath I quit talking.

"I'll take the proposition," he said. "What I was going to say when you interrupted me was, 'next time you hit that Hymie use both hands.' I'm sick of his looks."

He shook my hand.

"Now," he said, "I'd better get him out of here before that other pilot comes back. There will be murder."

He dragged Hymie to a car and started off just as the boat came back with the three wet victims of the lad's scheme. They were in good shape, except for being soaked to the ribs.

In the distance I could see Old Joe still hopping about on the sinking plane as a boat neared him.

Helene was even more beautiful with her clothes plastered to her dainty figure. She had got over her fright by now and was smiling again. She snuggled close to Webster and looked up into his eyes.

"YOU have asked me to marry you," she said. "My answer is yes. We do not follow the same trend of thought but you are brave and noble and handsome and—and—nice. (Webster's blushes were sending the water off him in clouds of steam.) My idea is that conflict in ego is conducive to happy mating. What do you think of it?"

She snuggled closer to him and smiled. Then a hurt look came into her eyes.

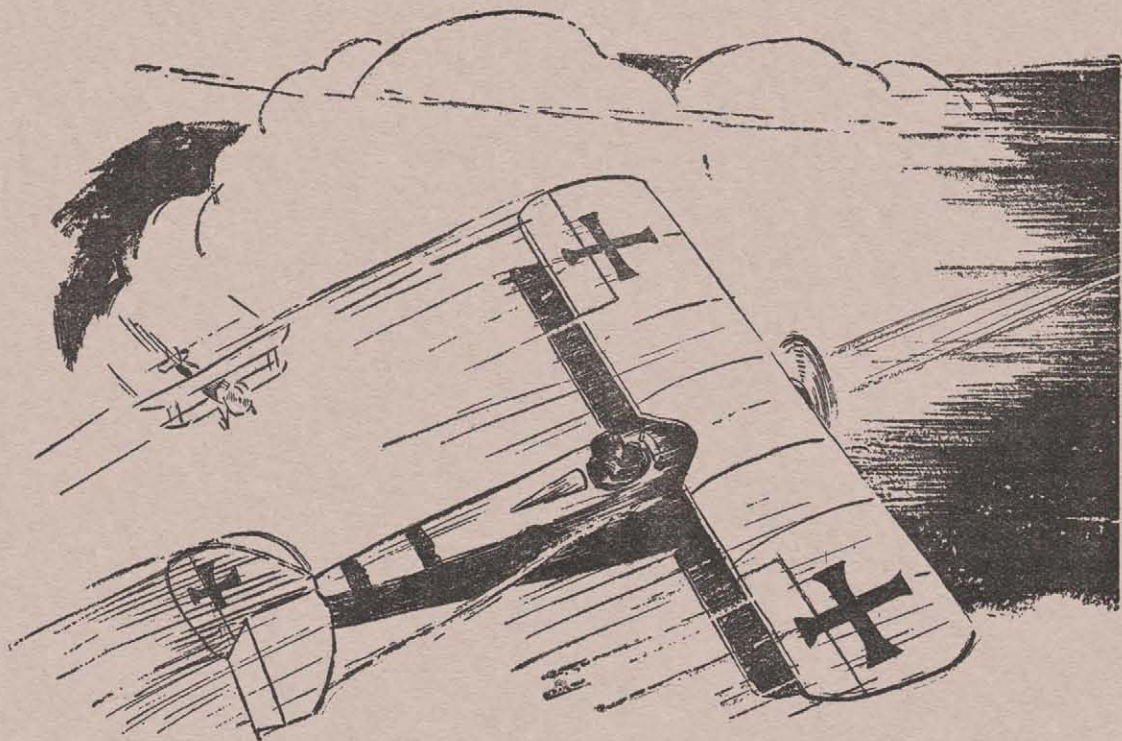
Webster was struggling desperately for just one word. If he could have thought of even one of the many cuss words he knew, he would have used that.

The situation was tense.

I delivered a lusty kick to the lad's shin.

"Exquisite," he gasped.





WINGS *of* PERIL

A TALL, lean man stood on the rutted tarmac of the Ninth Aero Squadron of the Fourth Pursuit Group of the American Air Forces in war-weary France. His slitted eyes were glued to the blazing skies above him. His face was prematurely lined with deep gashes, cut there by the grim hand of searing, soul-sickening war; his black hair was streaked with grey over his temples. Major Cox was a young man grown old early. He had gazed into many bleeding skies such as he was peering thoughtfully into now; and had seen many battle-marked ships come limping in from dangerous patrols over enemy territory, such as the swooping, wavering, crippled crate which lashed down wildly now for a landing.

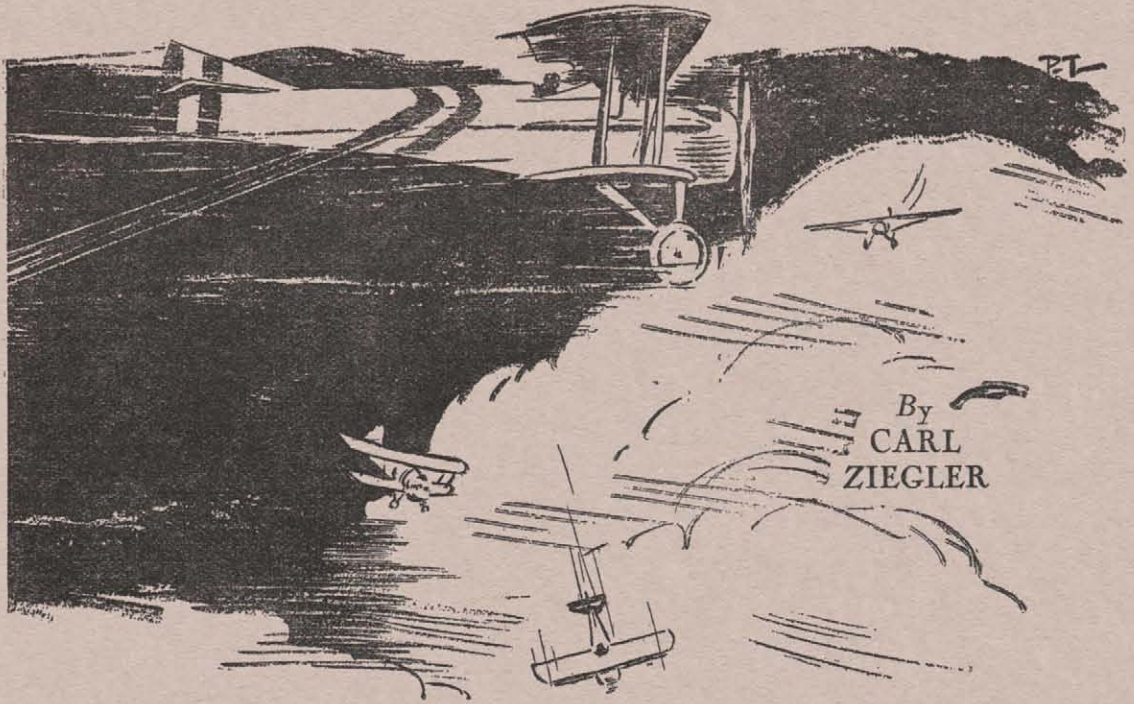
But also, the weary, cold-eyed S. C. of the fighting, fearless Ninth Pursuit Squadron had waited times without number for certain of his pilots to wing down out of the blue—times when the red-white-and-blue circle-marked wings that had borne some laughing, mocking youngster aloft did not return. Major Cox would finally go slowly back to the operations tent and place a gold star after the name of another pilot who had lofted buoyantly upon his last flight—a patrol into the West, from which none ever returned. Then, late into the night, the major would sit hunched over his littered desk in operations tent and write a letter to another gold-star mother back in the States. Tears from the major's tired eyes always were sealed in the envelopes, along with his penned condolences. He knew that he

would never grow hardened to losing his nerry, fearless war-birds. He knew that every time one of them fell before the belching Spandaus of an enemy pilot he would feel the agony of the loss as poignantly as though it were his first experience of the kind.

The major's joy was correspondingly great when he saw familiar silver wings pointing out of the ether over no-man's land, and come slithering down to the Ninth's tarmac. Then his heart would leap and his thin lips would twist in a silent prayer of thanks to the gods of the dangerous airways. He would return to operations tent and smile contentedly as he plunged into the mass of work that was always piled up for him there.

THE pilots of the Ninth Squadron often laughed among themselves about the squadron commander's solicitude about them, but deep in their hearts they appreciated it. One day patrol leader "Cliff" Andreas put into words all of their thoughts about Major Cox. He was sitting in his "roost," talking and drinking with the steel-muscled, hard-eyed members of his flight. The S. C. had stuck his head inside the flap of the tent, and, seeing that they were all enjoying themselves and relaxing properly from their last patrol over the lines—a hot one—Major Cox had waved them a greeting and then withdrawn his head quickly and gone on about his many duties. Cliff Andreas roared in his rumbling throaty voice:

"Gosh-all-fish-hooks!" he said. "Cox sure gives me the



By
CARL
ZIEGLER

*A Thrilling Sky Fight of a Commander Who Met the Enemy
Single-handed to Save His Boys*

weary-willies at times. I'm gettin' so that I see those burning eyes of his in my sleep. Yeah," he went on in a strained tone of voice, "I even see them when I'm aloft. When things get the hottest up there, I seem to see those eyes of his'n, and they always put new heart into me, for some reason. But, Gawd, how it's gettin' on my nerves!"

The leader of "D" flight picked up a large brown bottle and filled his glass anew with stinging cognac. He drained it at a gulp. The silence that ensued was finally broken by "Red" Falkner. Falkner had been with the Ninth only a little over a week. He came up from the pool at Issoudun fresh from his training at Kelly Field. The war was new to him and so he saw everything about him with a fresher vision than did the veterans of the outfit.

"SAY," he spoke softly. "The Skipper reminds me of something that I have often seen back home. You guys know I'm a westerner. Well, I've ridden through the hills of my Dad's ranch many a day and come across an old eagle teaching its young brood to rustle for itself. I used to get quite a kick out of watching them. The old eagle would push the young ones out of its nest and, you know, they nest way up on some craggy height. Then it would circle about in the blue and watch the youngsters flop, spin and tumble. The old one wouldn't help the young ones a bit, but would just fly around and watch them, kind of proudlike. It seemed to know that they would make out all right. Well," Red glanced about the circle of interested faces and then went on quietly, "Major Cox reminds me of that eagle. He watches us guys as we test our wings; and I think he, too, like that old bird, is proud of the record of the Ninth—mighty proud."

"Well," chimed in "Prof" Martin at this point, "you



have hit it pretty well, Red. Cox is proud of the record the Ninth is hanging up for itself, but I don't think that is the entire reason he takes such an interest in us fellows." Martin had been an under-professor of psychology in a western college before the war. He prided himself upon the fact that he could read the motives of men. He looked quickly about the group of pilots and then went on with his diagnosis of the motives of their leader: "Since Cox had his foot put out of commission, and he had to take a kiwi's berth, he has been eating his heart out here on the ground. He wants to fly; but is ordered not to. Consequently, he is flying in spirit with every one of us. He crashes when we crash; or comes through when we come through."

A long silence ensued when Prof. Martin had finished talking. The brown bottle had gone the rounds time after time. Eyes were bleary. Speech was becoming thick and guttural. Then Cliff Andreas spoke again:

"Well," he muttered thickly, "I'm for him. He was an ace before us guys knew there was such a thing as a war going on. He came over and signed up with the French right soon after the Boche started their first move on Paris. He has more

victories to his credit than all of us combined. I say, it's a damn shame that he had to be grounded. Once a fellow gets the tang of the air in his blood, it's just plain hell to stay on the ground and see other guys go up."

The leader of "D" flight arose to his feet upon airing his views of Major Cox. He motioned with a sweep of his arm for the rest to fill up their glasses again. When he had done so, he raised his glass aloft and spoke again. His voice was soft with feeling as he continued:

"Let's drink," he said, "to the best old S. C. in France. May he fork a joy-stick again!"

"May Cox fly again!" the others echoed in chorus. Then they lifted the full tumblers to their thin lips and a deep sigh swept through the group as they dropped their glasses back onto the table.

THE leader of "D" flight was thinking about that scene as he fought with the refractory controls of his Spad and tried desperately to land his crippled crate on the Ninth tarmac. He could barely see the ground through his blearing eyes. His breath was coming in sickening wheezes through his tight-stretched lips. His hands were shaking on the joy-stick. His face was a death-mask of oil and blood. He was almost out, yet he knew he had to land the Spad. He knew that Major Cox would be waiting down there on the tarmac—waiting for the only surviving member of "D" flight.

Andreas felt the wheels of his thundering crate kiss the turf, at last. He straightened it out and taxied toward the hangars. A group of mechanics rushed forward at the command of Major Cox and hauled the sleek, but machine-gunned plane to a halt. The S. C. made his way to the cockpit of the Spad and gently lifted the broken form of Cliff Andreas to the ground.

As Major Cox stretched the wounded patrol leader on the turf of the tarmac, the latter looked up into his S. C.'s drawn face and muttered through cut, bleeding lips:

"They got 'em all but me," he whispered. "I came back to report to you—I just was able—to make it." Cliff's head fell back upon Cox's arm. He conked out!

The commander of the Ninth gave the wounded pilot over to the care of the doctor who had rushed up with the ambulance which was always ready on the field. These "bone-scramblers" always seemed to sense when something was wrong, long before the ships landed. It had been so in this case. They had been prepared for the worst when they saw Andreas' crate come wobbling down out of the blue. They lifted the broken form of the sky-rider and placed him tenderly upon a stretcher, and then shoved it gently into the back of the ambulance.

Major Cox turned away with bowed head and limped slowly toward the operations tent.

Dusk fell over the Ninth's tarmac and numerous candles were lighted in the hangars and "roosts." Still Major Cox was hunched over his littered table in the operations tent. A candle had been lighted by his "dog-robber" as darkness fell. Its wavering light played upon the white, lined face of the S. C. A tear-stained sheaf of papers was before him. Far into the night he labored over those missives that would bear terrible news to waiting parents far across the seas.

Major Cox composed the following missive and then copied it six times, changing only the heading of each one and the name of the crashed pilot:

*Ninth Aero Squadron, Fourth Pursuit Group
A. E. F.
July 18, 1918.*

*Mr. and Mrs. W. P. Martin
Grand Junction, Tenn.*

Dear Friends,

It is my grievous duty to inform you of the death of your son, Harold F. Martin. He was brought down today by the enemy. He fought bravely and well, but his time had come. He gave his life for our great cause and,

I know, went down as a brave man loses—with a smile upon his lips.

Harold (we called him "Prof" here) was respected and loved by every man in this outfit. We will feel his loss as poignantly as you will, and we will never forget him. Every man in the Ninth Squadron sends you his deepest, most heartfelt sympathy. Prof often spoke of you, so we feel that we know you. We know what you have lost in your son, for we have had the honor of knowing him.

However, we understand that mere words are futile at a time like this. Kindly accept our kindest respects, and sympathy.

*Very sincerely,
MAJOR JOHN F. COX
Commanding, Ninth Pursuit Squadron.*

The squadron commander finally finished the letters of condolence. He folded them with shaking fingers and inserted them in their envelopes. He placed them on the top of a pile of mail that would go out by special carrier in the morning. Then he got wearily up from his chair, stretched his tall figure and hobbled over to a list of names on a board hung to the canvas of one wall of the tent. He placed six new gold stars beside six names. He bowed his head as he stood before the list of men who were, and who had been pilots of the Ninth. It seemed to him that the list was becoming fearsomely studded with gold stars! After a long moment he turned away and went out of the tent.

He breathed a weary sigh as he felt the soft turf of the field beneath his feet. His eyes were blood-shot. His face was twitching with the effort he had expended in writing those letters. His feet faltered heavily as he tottered toward the line.

Ships were warming up there; great, ghostly, winged creatures that hovered strangely, like huge birds of prey. Ships that would streak down the runway soon upon the usual nightly patrols. Ships that would carry other youngsters into those glowering skies over the front lines and, perhaps, would not bring them back again. Ships of doom! Ships that reminded the commander of the Ninth Squadron of eerie barks that sailed filthy seas of treachery and death. Ships that carried his young pilots like crusaders of old into unknown climes, ethereal, uncharted places of horror where Fate played with them and sometimes betrayed them.

Major Cox threw back his shoulders to free himself of these ominous thoughts and limped quickly up to the line of warming planes. Another officer was standing by the first ship on the line. He glanced up inquiringly as he saw the major approaching.

CAPTAIN Stan Lewdrop, leader of "A" flight, was waiting to go up on a solo mission at midnight. He was a broad-shouldered, thick-barreled man of medium height. His face was heavy-jowled and glowering; his eyes pools of ice. Full red lips were set in an unsmiling, straight line through his dark face. His arms were heavy and well muscled, and his hairy hands short-fingered and powerful. Stan Lewdrop had flown with the Ninth Squadron since America had entered the War. Before that he had been with a squadron of Canadians. More victories were listed to his credit than to any in the Ninth, except Major Cox. He was a nerveless fighting machine of the greatest efficiency and, many of the other pilots of the Ninth often whispered in his absence, one without heart or soul.

His eyes snapped and questioned as he focused them upon the squadron commander. Then he spoke in a rumbling voice that seemed to come from a deep region way down in his thick chest:

"Tough about 'D' flight, eh, Major?" he growled. "I hear they were wiped out except for Andreas. It sure is a hell of a shame. They were all good kids."

"Yeah," answered the major in a soft voice, "they were a good gang. It seems that they flew into that jagdstaffel of

von Platen, were outnumbered and cut down. Andreas managed to limp in, but the others were brought down in flames. God! I wish I could get that von Platen bird. He always goes up with such a big circus that our boys haven't a chance when they meet up with him. But—our youngsters always give him a real scrap. I understand that "D" flight fought brilliantly today, but were beaten by numbers."

"Well," grumbled Stan Lewdrop, "I know one thing. This von Platen guy is getting the goat of our pilots. It seems to me that the Jerry High Command is sending up big circuses for a purpose. That purpose, to my way of thinkin', is to sap the morale of our men. They are doing it. Our guys are gettin' mighty shaky. Have you noticed that?"

Major Cox dropped his head upon his chest and studied the ground for a long moment before he answered. When he again raised his head, his eyes were shining like polished rapiers in the gloom.

"I have noticed it," he admitted. "I have known for some time that something had to be done to buck up our men. In fact, if something isn't done soon, we'll be out on our feet. God! I sure hate to see the look in our boys' eyes when they come in from meeting von Platen. Then, too, these messages that German drops after every big victory isn't helping things any. It has to be stopped!"

"Yeah," snorted Lewdrop throatily, "but how?"

"WELL," answered Cox, "I'll tell you how! See that crate of Andreas' next to yours?" He pointed a tense arm toward the second panting ship on the line.

"Uh huh," grunted Lewdrop as he cast a quick look behind him.

"That crate is the answer as to how I am planning to stop von Platen," growled Major Cox. "I look for that guy to come over with his circus some time tonight. When he comes, he's going to get the surprise of his life. Up until now we've been trying to stop him with Archies. That doesn't work. He comes swooping down from a high ceiling, and goes back the same way. In that manner he escapes the ring of shrapnel we throw about the tarmac. He drops his message and then beats it. He has been thumbing his nose at us in this way for a long time. Tonight he's due for a little surprise party."

"Wha'd'ye mean?" inquired the interested leader of "A" flight. He searched the white face of the squadron commander intently. It told him little in the gloom that shrouded the tarmac like a pall.

"This," snapped the S. C. "I'm going up in that Spad of Andreas'. I'm going to lay way up in the ceiling until von Platen flies his circus over this tarmac. He usually comes over just before dawn. When he comes I'm going to slash down into him. In the darkness, I should be able to do a lot of damage to the Jerry circus before they get me. Then, too, I have a bunch of hand grenades in that Spad's cockpit. With them, and the Vickers gun it is equipped with, I should be able to bring down a goodly number of the Boche."

"What!" growled the leader of "A" flight. "I thought you were ordered not to fly. What about that bad foot of yours? Do you think you can handle a plane that way? Better wait until I come back from this damn mission I am to make, and I'll give you a hand."

"Orders must be broken at times," said Cox. "This is one of the times that I'm going to break one. I am not going to stay grounded and see my boys hacked to pieces. I know I can still handle a crate, by strapping my good foot to the rudder bar. If I am shot down I won't be missed much any way. There are a lot of squadron commanders, but mighty few good pilots. I'm going up just before dawn!"

Another long silence ensued between the two taut men. Then Captain Lewdrop stuck out his hand and roared:

"Well, if you must go up, good luck to you, old-timer!"

"Thanks," answered Cox, quietly. He shook Lewdrop's hand warmly.

Then the leader of "A" flight jumped toward his Spad. He revved up the Hisso for a moment, while his hawk eyes

watched the instrument board. He grunted in satisfaction as he saw that everything was in good order. Then he motioned toward his waiting mechanic to pull the chocks. They were whisked from beneath the jumping wheels of the panting Spad. Lewdrop fed the crate the gun and thundered down the dark runway. He zoomed wildly into the funereal void of the night.

Major Cox watched him out of sight. Then he hobbled slowly over to the ship he was to fly in a few short hours. His face was grim as he inspected the Spad, peering into its narrow cockpit to see if it was equipped with its load of death-dealing grenades. Two grease and oil-smeared mechanics were reconditioning the crate. Major Cox spoke to them for a moment, and then went back toward the shadowy row of bunk-tents. He needed a few hours sleep before he took off on his dangerous mission—before he met the devilish von Platen.

It was in those eerie hours preceding dawn that the Ninth's S. C. again made his way across the tarmac toward the line. He saw immediately that his Spad was warming up, preparatory to his lofting into the dark skies. Cox's eyes were heavy and red-rimmed, his mouth was tight and strained. He felt a tingle in his blood as he contemplated again a joy-stick and feeling another slipstream whip about his ears.

The major gnawed a beef sandwich and sipped a tin of scalding coffee. He was dressed in the flying clothes that he had discarded a few short months ago at the order of his superior officers. His goggles felt good as they rested on his leather-helmeted forehead. His shoulders were braced contentedly back in his leather, fleece-lined coat.

As Major Cox limped up to the line he met the startled look in the eyes of the mechanics there with a smile. He nodded toward the Spad on the line and spoke to a sergeant who was in command of the troop of mechanics on duty:

"Everything in shape, Sergeant?" he asked softly. "Think that old crate will be safe for a cripple like me?"

"Yes, sir," the sergeant answered as he raised a grimy paw in salute. "The major would be safe in anything. We all know that there is none better at handlin' a joy-stick than the major, sir."

Cox laughed metallically. Then he dropped his coffee tin and crammed the remainder of his sandwiches into his mouth. He stepped up to the side of the gray fuselage of the Spad. He stroked it with his gauntleted hand as he listened keenly to the rhythmic drone of its motor. A quiet smile hovered about his thin lips as he watched the final inspection by the mechanics.

Expert fingers snapped the wires between the Spad's wings, playing a weird tune upon them. Knowing hands tested struts and wings, and keen eyes swept undercarriage and tail assembly. All was in order. The Spad was in readiness to go aloft to meet von Platen and his circus of enemy war-birds.

MAJOR COX squeezed his lanky figure into the narrow cockpit of the Spad, and strapped his foot to the bar. He grinned happily over the side of the battle-marked fuselage at the waiting mechanics.

"Pull the chocks!" he roared over the staccato thunder of the motor.

"Right!" answered the sergeant.

The blocks were whisked from under the straining wheels of the plane. Cox then fed it the gun. The Spad moved slowly away from the line. As the S. C. poured the gun to the willing crate it picked up speed and thundered down the runway. Then, with his blood leaping in his veins, the commander of the Ninth Squadron hauled back lustily upon the stick and thundered into the funereal void of the heavens.

As Cox felt the Spad lift him to the heights he laughed unrestrainedly into the pitchy blackness about him. His fiery eyes glanced keenly about him in the pitchy blackness, and he gazed unafraid into the ominous pall of night which blanketed the Ninth's tarmac and blotted the lofting plane

from the view of the men on the shrouded ground. He wrestled with the controls of the plunging plane and climbed for the pitchy ceiling. Every nerve in his tense body seemed to cry with the exultation of being in flight once more. His face twitched with the feeling seething in his soul and the thoughts that raced through his brain made his eyes feel red-rimmed and cold. He heaved a deep sigh of contentment. He was satisfied now, for he was streaking toward the bloody stamping-ground of the heights. He was to meet von Platen in one last grim battle. If he lost, he would have fought again, at least. If he won, well, he would have saved the morale of those sleeping boys in their quiet "roosts" on the ground.

Cox climbed the Spad until he had reached an altitude of about 15,000 feet. Then he swept the crate into wide circles about the heavens. He lurked beneath the stars, a demon of doom. To any watching eyes beneath him he was cutting wide swaths in the diamond fields of the higher regions. He glanced about him into the ghostly ether. Strange phantoms materialized weirdly to his right and to his left, only to dissipate into the darkness as he swept upon them with his thundering, roaring, wire-shrieking Spad. The hurtling slipstream screamed and groaned about him. The cherry-red exhaust below him made a staccato cacophony of fury as he split through the blackness. He swept the inky horizon for a view of the expected Jerry *jagdstaffel* of von Platen.

THEN he saw them, myriads of little fireflies coming out of the north. The Jerries were flying at about 10,000 feet. The lights of the enemy exhausts grew larger and closer with the speed of light. Cox hunched over his controls and gunned his streaking crate. The phantom enemy flight was now circling high over the Ninth's tarmac.

The squadron commander pushed forward on his joy-stick. He nosed his Spad down for the back of the Boche *jagdstaffel*. Cox's eyes were mere slits in his face; his mouth a straight red line. His right hand was a ball of bone and muscle on the stick. The Yankee crate came out of the ceiling propelled by a thundering, roaring motor. Wires shrieked, struts moaned as the major struck the circling *jagdstaffel* of the enemy.

The Jerries were sweeping down over the Yankee tarmac under throttled power. A faint drum of motors, the swish of batlike wings, the whine of strained struts were the only things that disturbed the quiet of the night. The leader of the enemy flight must soon have realized the strangeness of this night's reception. Unlike other nights, there were no anti-aircraft guns barking into the heights or powerful searchlights piercing the gloom of the heavens. Von Platen must have realized this and have swept the inky ground with feverish, questioning eyes. He must have shuddered with premonition as he thundered down closer over the ground. Then, no doubt, his eyes were drawn abruptly to the heights, for Cox was coming down under full power on the back of his *jagdstaffel*. The American had thrown his crate into the very midst of the enemy circus. The night was lighted with crimson, licking flames and shattered with the furious snarl of machine-guns; made hideous with the growl of bursting grenades.

The high-flying, death-defying commander of the Ninth Squadron went utterly berserk as he dug his fangs into the nearest Jerry crate. His mind was a blank except for one thing. He saw the face of Chris Andreas as he lay in his arms and whispered up at him; "They got them all but me. I came back—to report—to you." Then with a shudder Cox remembered how the youngster had fallen back into his arms, unconscious. The broken body of Andreas seemed to epitomize to Cox all those other youngsters who had lofted into dangerous skies, to come back crushed and bloody or not at all. Remembering all this, the grim pilot hurtled his Spad into the enemy with all the fury at his command. He did not look through his gun-sights; it would be useless to do so. In the blackness of the night, those dead sights would

be but empty round holes. The S. C. pointed the nose of his crate straight at the first shadowy, sweeping form below him and pressed down hard on his gun trips and kept them there. With the first furious blast from his heating Vickers the Jerry went down in flames.

"Ah," he breathed into the stench of his cockpit, "I wish those officious Brass Hats could see me now! God, it's good to be up here—a real man again!"

Men poured from the hangars and bunk-tents upon the Yankee tarmac, and ran furiously toward the far end of the field where the Jerry was burning. They lifted their eyes toward the shooting Spad. It was milling frenziedly among black wings of wavering Hun planes. They lifted their fists into the heavens. Their throats stretched to emit scorching blasphemy. They moaned and cursed at the strange yet subtly heartening fight against terrific odds in the skies.

One of the mechanics who had come from the hangar began to jibber and cry insanely. His nerve had broken. He moaned over and over again above the roar of motors in the skies, and the hiss of leaping flames on the ground. "He's up there—the major's up there. He's up there alone."

Then other pilots and grease monkeys turned and looked at him. They shuddered. They glanced quickly from one to another. All their faces turned white, drained of all color. It was the first intimation they had had that Major Cox had gone up alone to meet von Platen.

Then their heads were jerked back upon their shoulders. There now mingled with the whine of Spandaus and the snarl of Vickers guns the harsher reports of bursting grenades.

As Cox had zoomed toward his second ship he had reached into his cockpit and drawn out a hand grenade. He primed it with his teeth. As he came up underneath the black belly of the second enemy crate he pressed down hard on his gun trips for a series of short bursts, then releasing them, he had thrown a grenade with all his might into the whirling prop of the black-winged plane as he swept by and up and beyond it. It shot down, immediately. Then he twisted in a tight bank—a dizzy, head-twirling bank—dropped the nose of his Spad and shot toward another enemy, spraying it with his death-dealing guns. Again his right hand went into the depths of his cockpit. Again it flashed forth with death in its sweaty palm and his teeth primed another grenade. His arm shot over the side of his cutting fuselage and another Jerry crate was shattered by the concussion of the fatal grenade as it struck and exploded.

THE major was grinning fiercely into the ripped indigo skies as he swept his eyes to the right and the left of his thrashing crate. The slipstream whipped the blood to his lined face. Every nerve in his body was tense to the breaking point. His vision was filled with whirling black wings. His brain was a seething Hades where death hatched in ugly ghastliness. He thrashed his crate about recklessly, dived into the bottom of his cockpit and snapped erect again with another grenade. His shoulders snapped back determinedly as he whirled to meet another enemy crate.

The circus of von Platen had been utterly disorganized. The enemy crates were swirling about the blasted ether like demented beings in a black hell. In crazy zooms, banks, and crazier reverses they were desperately trying to reach the heights again, and to streak back to the north from which they had come; but, due to the fact that they did not know where the enemy lurked or when he would strike, they could not adequately maneuver their plunging ships and put their plan into effect. They did not dare blaze away with their Spandau guns as recklessly as as they would have liked for fear of striking down a friend.

Major Cox was here, there and everywhere. Until he struck, the enemy did not know whether he was a friend or foe. Undisturbed, he got in his death-dealing blows efficiently and quickly. Ship after ship left the air over the Ninth's tarmac to crash to the hard ground. The Jerry pilots were becoming desperate, crazy with fear. They whirled and swooped and twisted and turned, crazily and

dizzily, trying to escape the seering death in their midst. Still Cox held on, blazing away with his Vickers gun and hurling grenades.

Then the men on the ground were struck speechless with terror. Von Platen, leader of the night-raiding Jerry flight, had singled out Cox in his Spad. He swooped for the American's tail. Both ships whirled toward the ground. Now they were away from the rest of the milling crates. They were illuminated by the light cast by the crates burning on the ground. Startled men, standing with uplifted white faces on the tarmac of the Ninth Squadron, saw that Cox and von Platen were in a last, terrific death-grapple. One or the other of them must kiss the dust—one or the other of them must go down!

"NOW," he snarled harshly into the blasting slipstream, "we'll see if a crippled kiwi can whip a lousy square-head." He laughed. "I'll be grounded for a million lifetimes for flying tonight, but von Platen is going to ground for eternity!"

Major Cox's face was a white death-mask. Every nerve in his lean body was torn by the battle. He hauled back on his stick, hauled the Spad up on its tail, held it there quivering for a long moment, then dropped onto his back. Then he poured full gun to the old crate and went at the enemy ship on his tail, on his own back. He pressed down on his gun trips and held them down. Hot steel pierced the flame-lit sky. Hot steel found the enemy's cockpit! Von Platen had been taken by surprise. He cut his throttle and dropped his crate away from the onrushing Yankee. Then Cox winged over, straightened out and came back on von Platen's tail.

Both crates circled about in battle formation, in a wide, sweeping turn, creeping up expertly onto each other's tail. The two warbirds swooped and twirled. The other German crates had turned tail and flown north, afraid to attack for fear of doing harm to their leader. The air was free now for the greatest battle ever witnessed by the weary, tense men on the ground, who had seen many encounters in their eventful days at the front.

Major Cox soon learned that he was at a disadvantage in this fight with the efficient German, because of his bad foot, but then as he crept closer and closer to the crate ahead of him, he reached forward and grasped his gun trips. He thumbed them. Burst after burst streaked through the skies toward the Jerry crate. Yet they fell short. Von Platen, grinning back through the murk, lit with crimson flames, grinned mockingly at the desperately fighting American behind him. Yet there was more than mockery in the Boche's eyes—respect and fear mingled in their depths.

Then the Jerry leader hauled his crate back into a dizzy, crazy Immelmann. Straight for the spinning prop on the nose of the Spad he flew. Spandaus were spitting in a frenzy. The enemy's steel reached the American ship. Von Platen raked the Spad from stem to stern as he whirled by. Cox's stricken plane wavered and then slipped off crazily and sickeningly upon its left wing. Von Platen came thundering back, snapping and snarling on the tail of the Yankee ship!

White-faced men on the ground dared not look into that blazing, fearsome ether, for they knew that they would see their beloved S. C. coming down to a crash landing. A shout made them look again and a cheer arose, for another plane had thundered down into the dog-fight between Cox and von Platen. With shouts of glee the men on the ground shook their hands vehemently toward that new diving crate.

Lewdrop, who had been delayed longer than he had expected on his midnight patrol, zoomed down out of the heights just as von Platen found Cox's ship with one last destroying blast from his hot Spandaus. Lewdrop saw Cox waver and then slide off onto a broken left wing. He saw red! He knew that the S. C. was in a desperate condition. He gunned his motor and climbed down onto von Platen's back. He caught the German unawares and raked the black

enemy crate with one long blasting spew from his eager Vickers gun. The Jerry leader went down in flames. Then Captain Lewdrop whirled about in a deep bank, looking for Cox.

He saw the major land. The shaky, but exultant S. C. got within fifty feet of the ground before he could straighten out his crate. It steadied for a moment at his touch on the thrashing controls, then dropped in a pancake landing. Lewdrop swept down after him, bounced to a landing, cut his motor and jumped out of the cockpit before his plane had come to a stop.

He whirled and followed the group of pilots and mechanics who were rushing toward the squadron commander's Spad. As Lewdrop rushed up, it burst into flames. The belching flames swept back the pilots and mechanics into a huddled, horrified group. Lewdrop burst through them and rushed up to the flame-belching ship. The Spad was on its back and Cox was hanging out of his cockpit suspended by his safety belt. Lewdrop braved the flames. They licked out greedily and singed his hair and eyebrows. The flesh of his face withered before their scorching breath. He struggled with the safety belt that imprisoned Cox and finally felt the lean form of the squadron commander fall into his waiting arms. He dragged the S. C. back from that burning Spad.

Major Cox was unconscious. As a nervous doctor jumped out of an ambulance that had thundered up to the scene and leaned over him, his eyes flew open and he recognized his surroundings. He grinned up weakly into the faces leaning over him in a breathless circle. He croaked in a voice that seemed to come from the grave itself.

"Got him," said the blistered lips of the Ninth's commander. "Von Platen won't chalk up any more victories over our boys. Got him—even if he did—get me."

Cox fell back into Stan Lewdrop's arms and went out again. The doctor leaned quickly over him and made a quick, efficient examination. He got up and faced the anxious group about him and said with a confident smile:

"He'll pull through, boys." He nodded sagely as he saw the look of relief on their faces. "He's got a nasty scratch in the shoulder, but the shock of such a fight as he put up, and then crashing has hurt him more than his shoulder wound. He'll be all right in a half hour or so."

That night the Ninth Squadron threw a binge. They lingered over their supper in the officer's mess tent. Bottle after bottle of champagne was broken out. The war-worn pilots began to laugh more naturally again. That metallic something that had been in their voices during the early hours before dawn, when they had witnessed that desperate dog-fight between Cox and von Platen's *jagdstaffel*, was gone now. They smiled proudly as they looked down toward the head of the table where the major was seated.

Stan Lewdrop arose to his feet. He lifted a full glass of champagne toward the ceiling. He roared in a throaty, thick voice: "On your feet, buzzards," he cried, "let's drink to the damnedest, snappiest, nerviest squadron commander in the A. E. F. A guy who will fly in spite of hell! A guy who will fly in spite of orders! A guy who will go up single-handed to bring down von Platen's whole circus!"

EVERY man was on his feet and all glasses were raised toward the ceiling. As Stan Lewdrop finished, every man roared his concurrence to the captain's views:

"Yea! Yea!" they howled in chorus.

When quiet reigned again Lewdrop went on: "Drink to the guy, buzzards, that will fly to meet death and hell itself for his buddies, Major Cox!"

They drank. Then with one gesture the thin glasses which had held the champagne were all crashed on the floor. They slumped down into their chairs again, and more champagne was brought in. The binge was on. They had earned it.

Major Cox smiled wanly but contentedly as he saw that tense, nervous gleam that lately had lurked in them, fade out of the eyes about the long table.

He was satisfied to stay grounded now.

Want to Learn to Fly?

FLYING STORIES is Going to Help You

THIS magazine is going to do something no other publication has ever done, and that is to give you, *free*, beginning with the July issue, a complete ground course in flying. Here is your opportunity to start your air education right. Grasp it!

¶ Follow this course from month to month, study it hard, fit yourself to answer the examination questions at the end of each lesson, and you will be prepared and ready to start actual flying.

¶ This valuable course is prepared by the Macfadden Aviation Advisory Board, of which Captain Edwin T. Hamilton, ex-Army flyer and instructor, is Chairman, and you get it by simply buying FLYING STORIES.



¶ Each month these lessons will appear in four parts, under the heading of first week, second week, third week, fourth week. Master one each week. Don't let Saturday roll around without having completed the study for that week. At the end of each lesson will appear a glossary of the aviation terms and phrases which are used in that lesson and there will also be a set of questions which will thoroughly cover the major points in the lesson. Be sure that you can answer each of them and understand each thoroughly. These lessons will come fully illustrated with prints, pictures and diagrams.

¶ The course will be completed in eleven lessons and will cover the following subjects:



- Lesson 1. HISTORY OF AVIATION
- Lesson 2. THEORY OF FLIGHT
- Lesson 3. CONTROLS, CONSTRUCTION, OPERATION, TRAINING AND INSPECTION
- Lesson 4. NAVIGATION
- Lesson 5. AIRPLANE INSTRUMENTS
- Lesson 6. AIRPLANE DESIGN AND MATERIALS USED IN CONSTRUCTION
- Lesson 7. CONSTRUCTION OF FUSELAGE AND WINGS
- Lesson 8. CONSTRUCTION OF ENGINE MOUNT, EMPENNAGE AND LANDING-GEAR AND COVERING, DOPING AND FINISHING OF AIRPLANE
- Lesson 9. CARBURETION, IGNITION, COOLING, LUBRICATION OF GENERAL AIRPLANE ENGINES
- Lesson 10. METEOROLOGY
- Lesson 11. LAWS, REGULATIONS, AIRPORTS AND AIRWAYS

¶ The usual service of the Macfadden Aviation Advisory Board will be offered in conjunction with this course. If, as you study it, there are any parts that you do not thoroughly understand, write to the Macfadden Aviation Advisory Board and they will be glad to fully explain the subject. We suggest that the students of this course also read and

digest each month the department, "Plane Talk" inasmuch as many and varied questions are answered there.

¶ Don't fail to get your July copy of FLYING STORIES early and start off with a bang on the road that leads among the clouds in this most enticing of new vocations.

COMPLETE Aviation Dictionary

An Exhaustive, Authentic, Invaluable Assembly and Explanation of all Words,
Terms and Phrases Used Today in the World of Flying

Compiled by

Capt. EDWIN T. HAMILTON

Chairman, Macfadden Aviation Advisory Board

Part I

WE are proud to present here to our readers the first complete aviation dictionary to be compiled anywhere.

Although aviation is of recent origin and development, hundreds of new words, terms and phrases have found their way into our language. Some of them have already become bywords, and yet few know their real, full meanings and significance, nor, up to now, has there been any easily available way of learning them. Feeble and ineffectual attempts have been made to put a flying dictionary together, but either the task has been too great or the realization of the demand for one too little. The editors of *FLYING STORIES* understand this demand; scores of readers have written us pleading for an aviation dictionary. They state that they have sought everywhere but cannot find one anywhere—and they are right.

Consequently, to give our readers the service which is their due, we arranged with Captain Edwin T. Hamilton, Chairman of the Macfadden Aviation Advisory Board, to compile a dictionary which should be complete, exhaustive, authentic, and insofar as possible, comprehensible—the last word in the presentation of aviation definitions. The result of his intelligent effort is here. Clip out these pages and save them for reference. Later on, we will have to get out another dictionary, we suppose, because new words and terms are continually being coined.

But this is up to the moment, and we hope that the definitions will be clear to you. In case you want further enlightenment on any expression, write to the Macfadden Aviation Advisory Board for the details you wish.



A. A. GUN. Same as *anti-aircraft gun*.

ACE. (Peace) Any flyer of either sex who is considered an expert or who has gained renown in aviation. A complimentary term for an aviator. (War) A flyer who has officially brought down five or more enemy aircraft.

ACH EMMA. British pronunciation of the letters "A" and "M", meaning A. M., or morning.

ADJUSTABLE PITCH PROPELLER. See *propeller, adjustable pitch*.

AERIAL. Of or like the air. Atmospheric. High in air. Above earth.

AERIAL SICKNESS. A sickness caused by constant variation in altitude combined with deviations of motion.

AERO. Any vehicle used in the air.

AEROBOAT. Same as *seaplane*.

AERO-CLUB. A club of any number of members which is organized to encourage and master aeronautics.

AERODONETICS. The science pertaining to climbing or soaring flight.

AERODROME. Same as *airdrome*.

AERODYNAMICS. That branch of dynamics which treats of the laws of motion of the air and other gaseous fluids in connection with gravity and other mechanical forces.

AEROFOIL. Same as *airfoil*.

AEROGRAPHY. A written study of the atmosphere and its phenomena.

AEROGUN. Same as *anti-aircraft gun*.

AEROIST. One versed in aircraft.

AEROMECHANICS. Same as *aerostatics and aerodynamics*.

AERONAUT. Same as *balloonist or aviator*.

AERONAUTICS. The art and science pertaining to the flight of aircraft.

AEROPLANE. Same as *airplane*.

AEROSTAT. A general term used for lighter-than-air craft such as balloons, airships, dirigibles, etc.

AEROSTATICS. The science relating to the mastering of fluids which are lighter than air.

AEROSTATION. The art of raising and supporting aircraft by means of lighter-than-air fluids.

AEROVIEW. A view from height. Also a picture of the ground taken from a height.

AEROYACHT. Same as *seaplane*.

AILERON. A hinged or pivoted, movable, auxiliary surface of an aircraft, usually part of the trailing edge of each wing. Its function is to cause a rolling movement of the plane about its longitudinal axis. It also gives side-to-side stability to the plane.

- AILERON CONTROL HORN.** See *horn, aileron control.*
- AIR-BASE.** The landing-field or operation center of airships.
- AIR-BOMB.** A bomb designed to be dropped by aircraft from a height.
- AIRCRAFT.** A general term used for any and all airplanes, balloons, dirigibles, etc. Any device or structure which will carry weight, designed to be supported by the air, either by buoyancy or dynamic action.
- AIRCRAFT WOOD.** See *wood.*
- AIRDROME.** A landing field for airplanes.
- AIRFOIL.** Any surface of an aircraft designed to be propelled through the air in order to produce a directional or lifting effect.
- AIR-LINE.** The shortest distance in flight between two points.
- AIR-MAN.** Same as *aviator.*
- AIR-MINDED.** Interested in aeronautics. Desiring knowledge of aeronautics.
- AIRPLANE.** A heavier-than-air machine, mechanically driven, which is fitted with fixed wings and supports itself in the air by its own power. It may have any number of wings.
- AIRPLANE, Pusher.** An airplane that has the propeller or propellers behind or at the rear of the main supporting surfaces. Aircraft with pusher propellers.
- AIRPLANE, Tandem.** An airplane with two or more complete sets of wings of substantially the same size, placed one in front of the other and on the same level. These sets of wings do not include the tail unit.
- AIRPLANE, Tractor.** An airplane which has the propeller or propellers in front of the main supporting surfaces.
- AIR-POCKET.** Same as *pocket.*
- AIRPORT.** A locality, either on water or land, which is adapted for the landing and taking off of aircraft and which provides shelter, supplies, and repairs for aircraft. A place used regularly for receiving or discharging passengers or cargo by air.
- AIR RAID.** An attack from the air. An attack by military aircraft.
- AIRSHIP.** A lighter-than-air craft provided with a power plant and means of controlling its direction. When its power plant is inactive, it acts like a free balloon.
- AIRSHIP, Non-rigid.** A lighter-than-air craft whose form is regulated by the internal pressure in its gas bag.
- AIRSHIP, Rigid.** A lighter-than-air craft whose form is maintained by a rigid structure and the internal pressure in the gas bags.
- AIRSHIP, Semi-rigid.** An airship whose form is maintained by means of a rigid keel as well as internal pressure in the gas bag or gas bags.
- AIR SPEED.** The speed of aircraft through perfectly still air. When air is active, it either increases or decreases the air speed.
- AIR SPEED INDICATOR.** An instrument so designed as to indicate the speed of an aircraft relative to the air.
- AIRWAY.** An air route between air traffic centers. An airway is mapped out over ground on which there are good landing-fields, airdromes, etc., for the convenience of the flyers.
- AIR-WOMAN.** Same as *aviatrix.*
- ALTIMETER.** An instrument which indicates the height of an aircraft above sea level.
- ALTITUDE.** Any height above land or water.
- AMPHIBIAN.** A plane equipped for taking off from and landing on both land and water.
- ANGLE OF ATTACK.** The acute angle of the main supporting surface of an aircraft and its direction of motion relative to the air.
- ANGLE, Dihedral.** This is obtained by inclining the main wings of an airplane up from the center of the fuselage so that the tips are higher than any other portion of the wings. This angle is measured from the chord of the wing to a line drawn perpendicular at the intersection of the two wings, if they were elongated equally at the fuselage until they met.
- ANGLE, Elevator.** The angular displacement allowed in the setting of the elevator from its normal position with reference to the trailing edge of the wing.
- ANGLE, Gliding.** The angle of flight of an aircraft when gliding down preparatory to landing.
- ANGLE, Ground.** The acute angle between the longitudinal axis of an airplane and the horizontal when the plane is resting on the ground in its normal position.
- ANGLE, Landing.** Same as ground angle. See *angle, ground.*
- ANGLE, Longitudinal Dihedral.** The difference between the angle of wing setting and the angle of stabilizer setting.
- ANGLE OF STABILIZER SETTING.** The acute angle between the line of thrust of a plane and the chord of the stabilizer.
- ANGLE OF WING DIHEDRAL.** Same as dihedral angle. See *angle, dihedral.*
- ANGLE OF WING SETTING.** The acute angle between the line of thrust of an airplane and the chord of the wing.
- ANGLE OF YAW.** An angular deviation of an aircraft along the fore-and-aft axis from its course.
- ANTI-AIRCRAFT GUN.** Nicknamed *Archie.* This type was developed during the World War for use against enemy aircraft. Anti-aircraft guns are fired from the ground and must not be confused with machine-guns mounted on aircraft.

- ANTIDRAG WIRE.** A wire, usually inclosed in the wing, designed to resist forces acting parallel to the chord of that wing and in the same direction as that of flight.
- ANTILIFT WIRE.** Same as landing wire. See *wire, landing*.
- ARCHIE.** Nickname for anti-aircraft gun.
- AREA, Wing.** See *wing area*.
- ARTILLERY PLANE.** An airplane which works with and for the artillery. Its chief duties are aerial observation, range finding, photography, etc.
- AVIATION.** The art of operating heavier-than-air craft.
- AVIATOR.** One who operates an airplane and makes a study of the art of flight.
- AVIATIK.** An airplane of German manufacture, having twin propellers.
- AVIATRIX.** A woman who operates an airplane and makes a study of the art of flight.
- AXIS.** See *lateral axis, longitudinal axis, vertical axis, wing axis, fore-and-aft axis*.
- BACK WASH.** The blast of air driven to the rear of an aircraft by the revolving propeller.
- BALLOON.** An aerostat without a propelling system.
- BALLOON, Barrage.** A spherical balloon of small size, of the captive type, which is used to support wires or nets, as a protection against attacks by aircraft.
- BALLOON, Captive.** A balloon which is attached to the earth by means of a cable.
- BALLOON, Free.** A balloon, usually round, whose flight is controlled by ballast or loss of contained gas, and whose direction is controlled solely by the wind.
- BALLOON, Kite.** An elongated form of captive balloon which is fitted with fins to keep it headed into the wind, and whose axis is inclined toward the earth to give it increased lift.
- BALLOON, Observation.** A captive balloon used for the purpose of high observation.
- BALLOON, Pilot.** A small-sized balloon which is released in the air to determine the direction and speed of the wind.
- BALLOON, Propaganda.** A small free balloon which carries only a device by which advertising matter may be dropped at intervals.
- BALLOON, Sausage.** A kite balloon having the shape of a sausage.
- BALLOON, Supply.** A heavy fabric container, which is portable, used for storing gas at low pressure. This balloon is too heavy to rise even if allowed to be free.
- BALLOON, Triangulation.** A small captive balloon used for sighting in a triangulation survey.
- BANK.** (Verb) To incline an airplane laterally by rolling it on its fore-and-aft axis. "The plane banked to the left."
(Noun) The position of an airplane when its lateral axis is inclined toward the earth. To make a left bank the plane must be inclined to the left with the left wing down. "The plane made a left bank."
- BAROGRAPH.** An instrument which makes a permanent record in ink of the various altitudes attained by an aircraft in flight.
- BARRAGE BALLOON.** See *balloon, barrage*.
- BARREL ROLL.** See *roll*.
- BAY.** The portion of the face of a truss, or of a fuselage, between adjacent bulkheads or adjacent struts or frame positions.
- BINGE.** An aviators' "party."
- BIPLANE.** An airplane with two main supporting surfaces, or wings, one over the other.
- BLIMP.** A small, non-rigid airship. Used extensively in the World War.
- BODY.** Same as *fuselage*.
- BRACE WIRE.** See *wire, brace*.
- BRACE-WIRE BRACKET.** A light, metal stamping used to attach the brace wire to the surfaces which it braces.
- BUMP.** A natural disturbance of air currents which causes uneven or rough flight. "The airplane hit a bump." "The air was bumpy."
- BUS.** Slang for any aircraft.
- CABANE.** The framework which supports the wings at the fuselage. This term is also applied to the system of trussing upon the wing of an airplane to which the stays, landing wires, etc., are secured.
- CABIN.** An enclosed cockpit of any aircraft. The enclosure of an aircraft designed to accommodate passengers and pilot.
- CAMBER.** The curve of a wing surface from the front, or leading edge, to the rear, or trailing edge. *Top camber* refers to the top surface of a wing, and *bottom camber* refers to the bottom surface of a wing.
- CAMERA GUN.** A camera which has the shape of a machine-gun. This is mounted on an aircraft and is used when training pupils in aerial fighting. The camera, when "shot," takes a picture of the target instead of shooting a bullet at it, thus showing the pupil his marksmanship.
- CAPTIVE BALLOON.** See *balloon, captive*.
- CARPET.** Slang for *ground*.
- CEILING.** Slang for *sky*.
- CEILING, Absolute.** The maximum height to which an aircraft can climb above sea level.
- CEILING, Service.** The maximum height attained by an aircraft before it is unable to climb at a rate faster than one hundred feet per minute. This specified rate is set for United States and England.

- CENTER OF GRAVITY.** Incorrect. See *center of mass*.
- CENTER OF MASS.** The point in an aircraft at which the greatest portion of weight lies. The one point on which an aircraft would balance itself longitudinally and laterally when in contact with nothing but that point. That point in an aircraft about which all other parts, which are acted upon by the attraction of gravity, balance each other in every position.
- CENTER OF PRESSURE.** Usually used in reference to an airfoil. See *airfoil*. The point at which the surface of an airfoil is intersected by the resultant force of all the pressures acting on its surface.
- CHORD.** The shortest width of the wing from front, or leading edge, to rear, or trailing edge.
- CIRCUS.** (Peace) An exhibition of aerial acrobatics in which a number of airplanes take part.
(War) A pursuit squadron whose members fought together as a unit and were allowed to operate on all and any fronts.
- CLIMB INDICATOR.** An instrument which indicates the amount of a dive or a climb of an aircraft.
- CLOCK.** This indicates the passage of time similar to an automobile clock.
- COCKPIT.** The open spaces in the fuselage, or body, of an airplane which accommodate the pilot and passengers, and in which the controls and instruments are housed.
- COFFIN-NOSE.** Nickname given by the Allies for the square-nosed, Fokker Scout planes.
- COMPASS.** An instrument which indicates the magnetic north, the dial of which is so graduated as to indicate all directions. The most important instrument on aircraft.
- COMPRESSION RIB.** See *rib, compression*.
- COMPRESSION MEMBER.** Same as compression rib. See *rib, compression*.
- CONK.** Slang expression to indicate an involuntary stoppage of an aircraft motor. "I had a conked motor."
- CONNECTING ROD, Tail-Skid.** See *tail-skid connecting rod*.
- CONTACT.** The act of switching on the motor of an aircraft. Used as a warning to the man starting the propeller that the switch is on.
- CONTROLLABILITY.** The quality in aircraft which allows the pilot full control as to its direction and stability with little effort.
- CONTROL COLUMN.** Same as *control-stick*.
- CONTROL HORN.** See *horn*.
- CONTROLLABLE PITCH PROPELLER.** See *propeller, controllable pitch*.
- CONTROLS.** A general term applied to the apparatus provided for operating the devices which control the speed, direction, altitude and motor power of aircraft.
- CONTROLS, Air.** The devices employed for operating the control surfaces of aircraft.
- CONTROLS, Engine.** The devices employed for operating the power output of the engine or engines.
- CONTROL-STICK.** A vertical lever which operates the longitudinal and lateral control surfaces of an airplane. Pitching is mastered by a forward and backward movement of the stick, while rolling is controlled by a side-to-side movement.
- CONTROL SURFACES.** The surfaces which control the action of aircraft in motion. These are the ailerons, the elevators, and the rudder.
- CONTROL WIRES.** Any and all wires, cables, or other devices, used to connect the controls with the control surfaces.
- COWLING.** A removable covering which extends over and on the sides of the motor, over the portion of the fuselage just in front of the front cockpit, and sometimes over a portion of the fuselage at the back of the rear cockpit. It is used to decrease wind resistance and protect the parts enclosed.
- CRACK-UP.** An accident in which the plane is damaged. Usually used to designate a partial wreck, or one of minor degree.
- CRASH.** A fall or landing in which the plane is badly damaged. This term is used in reference to more serious accidents than usually result from a *crack-up*.
- CRATE.** Slang for any aircraft. Same as *bus*.
- CROSS-COUNTRY FLIGHT.** A flight in which aircraft must leave the immediate vicinity of a regular landing-field. A flight across country between two points.
- DEAD-LINE.** The line, actual or imaginary, on the air-drome from which airplanes start for their take-off. Also the line where the pilot must cease handling the airplane under its own power. "Never run your motor past the dead-line."
- DECALAGE.** The angle between the wing chords of a biplane or multiplane. In a monoplane, the angle between the chord of the main wings and the chord of the stabilizers, with the elevators at neutral.
- DERELICT AIRPLANE.** A term used for an airplane in uncontrolled flight. In the War, an airplane often flew some distance after its pilot had been killed.
- DIHEDRAL ANGLE.** See *angle, dihedral*.
- DIRIGIBLE.** Steerable. That which can be directed. To be used as "a dirigible balloon" or "a dirigible airship." Erroneously used to indicate an elongated airship.
- DIVE.** A steep descent, with or without the aid of the motor, in which the speed of the airplane is greater than its maximum speed in horizontal flight.
- DIVE, Power.** See *power dive*.
- DIVING RUDDER.** Same as *elevator*.
- DOG-FIGHT.** A nickname for aerial combat in which two or more airplanes are on each side.

- DOPE.** A waterproof varnish used to cover the fabric of aircraft. Usually consists of cellulose acetate dissolved in solvent such as ether, alcohol or acetone.
- DOPE, Pigmented.** Dope to which a pigment has been added to protect it from the effects of sunlight.
- DRAG.** The total resistance, from any source, to an aircraft's motion through the air.
- DRAG STRUT.** A fore-and-aft compression member of the internal bracing system of a wing of an airplane.
- DRAG WIRE.** All cables, or wires, designed primarily to resist the action of drag forces on aircraft.
- DRIFT.** Cross currents of wind which produce an angular deviation from a set course over the earth.
- DRIFT METER.** An instrument for measuring drift, in relation to the angular deviation from a set course.
- DRIFT WIRE.** A wire which extends between two compression members. Its function is to add strength and stability to the wing structure.
- DROME.** Abbreviation for airdrome. See *airdrome*.
- DURALUMIN.** An aluminum alloy comprising strength and lightness which is used in the structures of aircraft.
- EDGE, Leading.** See *leading edge*.
- EDGE, Trailing.** See *trailing edge*.
- EGGS.** Slang for *bombs*.
- ELEVATION.** Any height above sea level. "His airplane did not have enough elevation and he crashed into the tree tops."
- ELEVATOR.** A hinged or pivoted, auxiliary, horizontal surface or wing, which controls the up-and-down direction of the airplane. It is a part of the tail assembly.
- ELEVATOR CONTROL HORN.** See *horn, elevator control*.
- EMPENNAGE.** Same as *tail*.
- ENDURANCE.** The maximum length of time of flight of an aircraft at a given altitude and speed.
- ENGINE.** The power plant of aircraft which rotates the propeller.
- ENGINE, Dry Weight of.** The weight of an engine including propeller-hub assembly, reduction gears, if any, carburetor and ignition systems, but without exhaust manifolds, oil, and water.
- ENGINE, Inverted.** An engine whose cylinders are built below the crankshaft.
- ENGINE, Left-handed.** An engine whose propeller shaft rotates in a clockwise direction to an observer facing the propeller end of the shaft.
- ENGINE, Radial.** An engine having stationary cylinders arranged in a radial manner around a fixed crankshaft.
- ENGINE, Supercharged.** An engine equipped with mechanical means which allow an increase in the cylinder charge beyond that normally taken in at the existing atmospheric temperature and pressure.
- ENGINE, Vertical.** An engine with its cylinders extending vertically above the crankshaft.
- ENGINE, V-Type.** An engine whose cylinders are in two rows in the form of a "V."
- ENGINE, W-Type.** An engine whose cylinders are in three rows in the form of a "W."
- ENTERING EDGE.** Same as *leading edge*.
- ENVELOPE.** The bag, container, or portion of an airship or balloon which holds the gas used for support.
- EXTRA LIFTER.** Same as *extra lifting surface*.
- EXTRA LIFTING SURFACE.** A small, supporting surface, or wing placed beneath the fuselage and between the two wheels of an airplane. This extra wing was employed on several airplanes used in the World War by the German Air Force.
- FABRIC.** A fine, closely woven linen comprising both strength and lightness which is used to cover the airfoils and fuselage of an airplane. Usually an Irish linen.
- FACTOR OF SAFETY.** The ratio of the maximum strength of a member to the maximum probable load on that member in normal use.
- FALLING LEAF.** An acrobatic maneuver accomplished with a dead motor and a rotary motion of the control stick, which makes the airplane flutter slowly down much in the manner of a leaf when falling.
- FALSE RIB.** See *rib, false*.
- FIN.** A small, fixed, auxiliary surface attached to aircraft to promote stability.
- FIN, Horizontal Tail.** Same as *stabilizer*.
- FIN, Vertical Tail.** A small, fixed, auxiliary, vertical surface, attached to the tail of an airplane directly in front of the rudder.
- FIRE WALL.** A fireproof wall which separates the engine compartment from the other portions of an aircraft.
- FISH-TAILING.** A waving of the rudder. A quick, short, side-to-side motion of the rudder. Used to create wind resistance and decrease speed when gliding to a landing. So called because the rudder moves much in the fashion of a fish's tail.
- FITTING.** A term used to denote any small part used in the structure of aircraft. Usually used in reference to small metal parts.
- FLATTEN OFF.** The act of regaining a normal flying position after a dive, glide, climb, or zoom. Usually used in this way: "The airplane flattened off just before landing."
- FLATTEN OUT.** Same as *flatten off*.
- FLIER.** One who flies. Same as *aviator*. Also spelled *flyer*.

- FLIGHT.** An aerial trip. A venture in flight. An ascension by aircraft.
- FLIGHT, War.** A number of war aviators under the command of one officer, called the flight commander.
- FLIGHT PATH.** The path of the center of mass of an aircraft in relation to the earth.
- FLIPPER.** Slang for elevator. See *elevator*.
- FLOAT.** An enclosed, water-tight structure, which is a portion of the landing-gear of an airplane, and which provides buoyancy when in contact with the surface of the water.
- FLOAT TYPE LANDING-GEAR.** A landing-gear which supports the airplane by means of floats. See *float*.
- FLOTATION GEAR.** An emergency gear which, when attached to a landplane, permits it to land and float on water.
- FLYER.** One who flies. Same as aviator. Also spelled *flier*.
- FLYING-BOAT.** A seaplane. An airplane whose fuselage consists of a hull, or hulls, which provide flotation on the water.
- FLYING CIRCUS.** Same as *circus*.
- FOKKER.** A German pursuit airplane. Used extensively in the World War.
- FORE-AND-AFT AXIS.** Same as *longitudinal axis*.
- FORMER RIB.** Same as false rib. See *rib, former*.
- FRAMEWORK.** An expression used in reference to the general skeleton form of the airfoils or fuselage of an airplane, or the skeleton structure of a rigid airship.
- FREE BALLOON.** See *balloon, free*.
- FRONT SPAR.** Front wing spar. See *wing spar*.
- FUSELAGE.** Body. That portion of an airplane to which the wings, tail unit and landing-gear are attached. It is streamline and it contains the power plant, cockpit or cabin for passengers and pilot, cargo, gasoline, etc.
- GAP.** The shortest distance between the chords of any two wings of an airplane, whose positions are one above the other.
- GAS.** Nickname for gasoline.
- GAS GAUGE.** An instrument which indicates the amount of gasoline in the tank of an aircraft.
- GIVE HER THE GUN.** A slang expression for "Give the engine more gasoline," or "Open up the throttle."
- GLIDE.** A gradual descent without engine power sufficient for level flight.
- GLIDER.** A light, motorless form of aircraft similar to the airplane. One who glides.
- GLIDING ANGLE.** See *angle, gliding*.
- GROUND ANGLE.** See *angle, ground*.
- GUN.** Slang for *throttle*. See *give her the gun*.
- GUY.** A rope, wire, rod, or chain which is stretched between two objects. Used to add strength or stability.
- HANGAR.** A building, shed, tent, or any other form of housing used to shelter aircraft.
- HEDGE-HOPPING.** Any flight of an aircraft in which the aircraft flies just above the ground. So called because the airplane seems to hop over any obstructions in its path of flight.
- HELICOPTER.** A form of airplane whose support in the air is maintained by propellers with vertical axes. The aim of the helicopter is to land and take off almost vertically.
- HORIZONTAL TAIL FIN.** Same as *stabilizer*.
- HORN.** A small lever extending out from a control surface of an airplane, to which are attached the control wires of that surface.
- HORN, Aileron.** A small lever extending out from the aileron, to which are attached the control wires from the control-stick.
- HORN, Elevator.** A small lever extending out from the elevator, to which are attached the control wires from the control-stick.
- HORN, Rudder.** A small lever extending out from the rudder, to which are attached the control wires from the rudder-bar.
- HORSEPOWER OF AN ENGINE, Maximum.** The greatest amount of power which any motor is able to develop.
- HORSEPOWER OF AN ENGINE, Rated.** The average horsepower an engine develops in passing the standard fifty-hour endurance test.

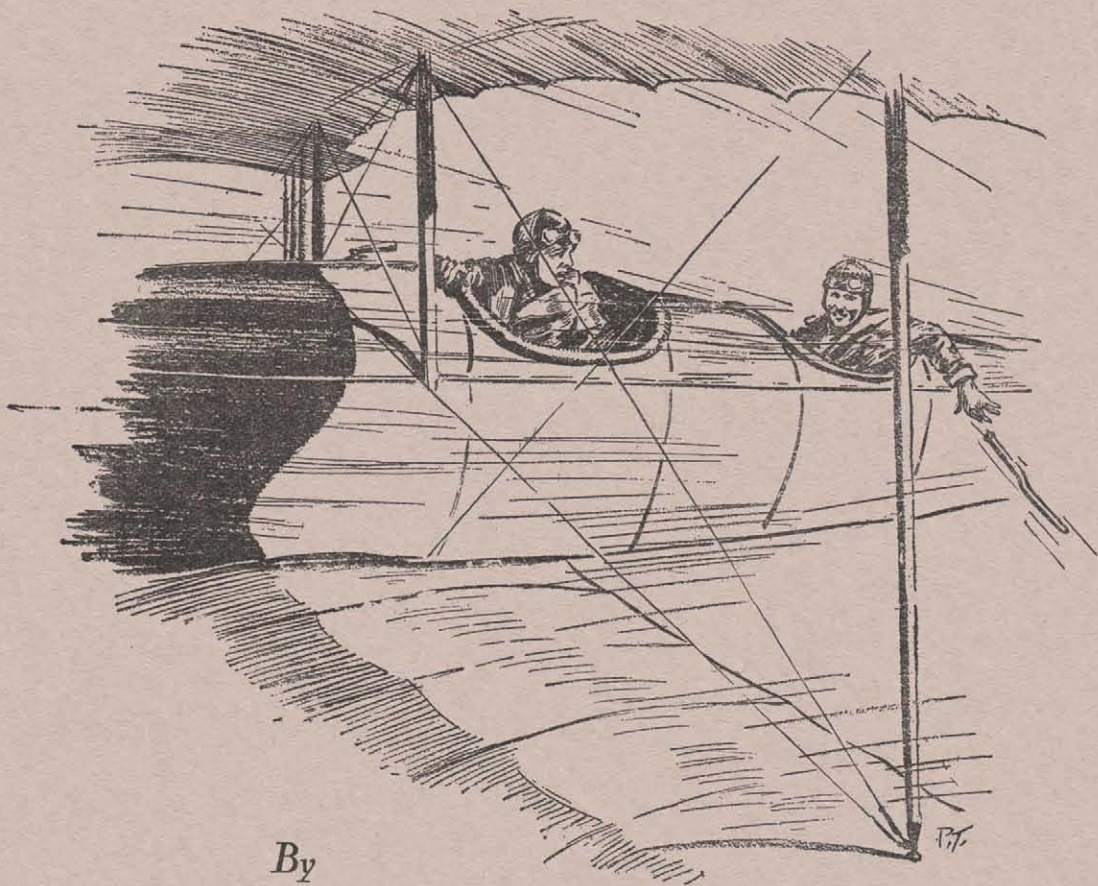
IMPORTANT ANNOUNCEMENT

When we first decided to present to our readers an accurate and authentic Aviation Dictionary, as an integral part of FLYING STORIES Magazine, it was our intention to present this Aviation Dictionary complete in this issue, but, as the work of assembling and compiling the important technical information went forward, we found ourselves confronted with a real problem:—

We found that we would either have to give our readers less than their full quota of thrilling flying stories assigned to this issue, or else present the Aviation Dictionary in two consecutive issues.

We decided upon the latter course, although the cover was already printed, with the announcement that it would appear complete in this issue.

The June issue of FLYING STORIES will contain the remainder of this highly authentic and up-to-the-minute Aviation Dictionary, without it being necessary for us to withhold a single one of the breath-taking and thrilling stories of the air such as are always to be found in FLYING STORIES Magazine.



By

LEE SLOAN

Stunt Stuff

A Game in the Sky When Nerve Was Trump

AFTER his first flight, Jimmy McCray knew that he was going to be a flyer. Dip Reynolds, the pilot, told him so. There could be no reasonable doubt of the future when Dip foretold it, considering who he was. To Jimmy, who was turning sixteen, Dip was a veteran of the world. In point of fact, Dip himself was only twenty-eight, but he was an ace of the A. E. F. flying service, with a citation, two wound-stripes and a marvelous sense of humor.

"Yes, sir," said Dip with emphasis, "you've got air sense, Jimmy. Now take it when we were making that steep bank, you didn't turn a hair. Most people get wild-eyed when you stunt with 'em. They're scared at the take-off, an' sick at the landing, I'm telling you, boy, you've got the stuff!"

Jimmy took the praise calmly.

"Shucks," he said, "I liked it. I'd rather fly'n eat."

"That's what makes a flyer," Dip told him. "You've got to like it better than anything else in the world."

They were standing beside the single-motored Jenny that Dip used for passenger flying. Jimmy, close beside the cockpit, could feel the heat waves from the engine that had just lifted him over the field.

"I like it better'n anything else already," he announced. He gazed admiringly into the pilot's keen, wind-whipped eyes.

"Will you take me up again sometime, Mister Reynolds?"

"Sure, Jimmy. Any time we get a chance."

The boy smiled happily, and turned reluctantly from the plane.

"Well, I better sell my papers. The home editions ought to be comin' along any minute now."

"All right, son. Put one in my mail-box at the office, will you? See you later?"

"You sure will," said Jimmy. "Thanks an awful lot."

He wheeled and ran across the broad expanse of the landing-field toward the hangars, too overcome with emotion to say more.

Back at the office, where the afternoon papers were delivered, Jimmy became a hero. The flyers and mechanics laughingly remarked on his flight. Working around the field, Jimmy had become familiar to them all. There were transatlantic men among them and unknown students; there were continental racers and war heroes, whose names were frequently in black type in the papers he sold.

"Well, now you're a flyer, Jimmy," said Dusty Devoe, a transcontinental ace, "I suppose you won't sell papers any more."

"What do you read?" Jimmy asked quickly, grinning. "I got 'em all, Mister."

The laugh was on Dusty.

"THE kid hasn't a swelled head," remarked Diver Lewis, a mail pilot. "He's not like some of the boobs I know in the flyin' game."

Dusty pretended to take the remark as a personal affront. "You don't mean that for me, do you, Diver?" he demanded.

"I mean it for any swell-headed flyer," replied Diver, grinning. "If the shoe fits—"

Dusty laughed.

"All right. Just for that, Jimmy, I'll take you up myself. That's more'n Lewis will do."

"When?" Jimmy asked, instantly, going to the root of the matter without delay.

"How about tomorrow?"

"Gee, that's great," said Jimmy.

Diver grinned.

"Watch out for him, Jimmy. He's not a safe flyer. He's likely to lose flying speed right over the field."

True to his promise, Dusty greeted Jimmy at the hangar on the following afternoon. He was revving his monoplane, with a trained ear cocked to catch the least variation in the even song of the engine. Jimmy stood back, watching.

"All right, kid," Dusty shouted over the staccato drone of the idling motor. From a locker near the wall, he took a leather helmet and a jacket of the same material. They were much too large for Jimmy, but he slid into them quickly.

"Climb up," the pilot directed. "We'll wheel her out, directly."

Obediently, Jimmy went up to the little step and crawled into the cockpit. Before him was a curved wind-shield to protect his face from the rushing air.

He twisted around in the low weather seat to stare aft. Behind him was the pilot's seat where Dusty would direct their flight. While he waited, Jimmy busied himself in a study of the dual controls that were revealed in his tiny compartment. Suddenly, the pilot was beside him, standing on the little rung that was placed in the fuselage.

"Keep your hands off that stuff," he shouted, smiling. "Are you all set?"

"Gee, sure!"

Jimmy's heart fluttered as he saw Dusty crawl into his place. Below, a mechanic kicked out the chocks from the wheels at the pilot's signal. The engine raised its voice to a terrific roar. Jimmy stared back into the grinning face of the pilot as they moved out to the field. Dusty switched off, and the silence was intense as the engine died.

"Keep your head in, son. Here we go."

They were off.

In one respect, Jimmy found this flight different from his first, with Dip Reynolds. On that occasion, he had devoted himself entirely to watching the earth below.

Now, Jimmy's interest was centered in the dual controls. Once they were in the air, he ceased to look down. Instead, he watched the rudder-bar as Dusty kicked it over for a bank. Or, he studied the stick as they climbed or

pointed down. He marveled at the deliberate slowness of their action, and at the swift response that came instantly from ailerons and rudder.

Every time he looked out, Jimmy experienced strange, little thrills that were unlike anything he had known. In his boyish way he tried to analyze them. He was instantly certain that it wasn't fear. Even when Dusty sent her down in a long dive, he was not afraid. To be sure, he turned and regarded Dusty with gleaming, excited eyes, but it was not fear that he felt. It was elation.

Carefully he stretched his legs and settled his feet lightly on the rudder-bar. In this way he could feel the action when Dusty turned on either wing. After a few moments of this, he dropped his hand easily on the stick, careful to offer no resistance when it shoved ahead or pulled back. He soon discovered that the plane moved with the stick, likewise the rudder-bar. But he was not aware that Dusty felt the weight of his hands and feet on the controls. Neither did he know that the pilot was smiling to himself in his cockpit.

They circled presently, and headed back for the distant field. Long before they were over it, Jimmy made out the hangars and began to take an interest in the landing. Dusty, with the true caution of an old pilot, circled down easily and came to a three-point landing, as gently as a baby carriage descends from step to paved walk. They turned and taxied in toward the line.

Their arrival at the field office was much like the one that followed his flight with Dip Reynolds. There was a repetition of the joking remarks and more praise for Jimmy.

With two flights to his credit, it was only natural that Jimmy should venture up again and again in the course of the summer at the field.

Mingling with the flyers day after day, he learned the lingo of their craft and studied the natures of these eagles who were forever laughing at death.

All the while, Jimmy sold his papers, gladly cashing in on the extras when a flyer made his goal; sadly when he was claimed by the shadows of the unknown heights. At home, Jimmy's talk was of flying and flying men, so that he became the envy of his friends in the gang and possessed the strange, worried respect of his father and mother.

"He's getting crazy on the subject," Mrs. McCray told her husband one night, as she came from Jimmy's room. "He's sound asleep up there—rolling around in his bed—yelling 'contact'—'contact.' Now what does it mean? I'm worried sick about him."

But John McCray, himself a skilled mechanic, only smiled.

"LET him alone, Martha. It's the coming thing. They used to be dangerous—those planes—but they're getting them down now so they're safe as the railroads."

Jimmy's mother paused in her evening labors.

"Do you know he's saving money to take lessons?" she demanded. "Every week he puts some in the savings bank. I declare, he won't buy anything for himself. Every penny has to go for his flying lessons."

The man nodded, smiling.

"Sure. And what he doesn't save, I'll give him myself. I can see Jimmy right now, a great man. Like Lindbergh, maybe."

Mrs. McCray's eyes lightened.

"Well, maybe," she admitted. "Jimmy's just as good as Lindbergh ever was, I'm sure—if he only had a few lessons."

Her husband laughed and placed his big hand gently on her arm.

In the meanwhile, Jimmy slept. In his dreams he was flying his own ship. He saw himself as he had seen pictures in lithographs of Lindbergh, with his hair whipping in the wind, his face streaked with grease, his blue eyes gazing out across the steel-colored sweep of the sea.

His mind had been particularly inflamed at the field that

day by an announcement on the bulletin-board in the office. It had consisted simply of the laconic statement that an inspector would come the following day to test student applicants.

Jimmy had examined his pass-book carefully. His balance in the savings bank would just about pay for ten lessons. When they were passed, if he made good, he could be ready for the inspector on his next visit. He entertained no doubts as to his ability. So now, in his dreams, he was flying.

At breakfast, Jimmy said nothing of his plans to his mother.

"Now do be careful, son," she warned him, as she always did when he started away. "Every time I pick up a paper I expect to see you've been killed in one of those crazy things."

"Don't worry, Mums. The only danger's in stunt stuff."

HE kissed her and left the house, hurrying immediately to the bank where he drew out his money. Jimmy knew, of course, that he might learn to handle the controls under the guidance of his friends at the field. But he had decided early to pay his way and attain his goal as a pilot by recognized and official methods. From his friends he accepted flights and encouraged, occasionally a bit of valuable information. But he intended to do his actual, student flying with a paid instructor. That was Jimmy's way.

Accordingly, he set out for the field this morning with high hopes, his blood singing in his veins.

Oddly enough, the student instructor was the one man around the field with whom Jimmy had little in common. To begin with, because he charged for flights, Tom Blake was not in the habit of taking up 'dead heads.' For this, he was not to be criticized. But nevertheless, with his keen, boyish instinct, Jimmy sensed something in the man that he did not like.

Perhaps it was because Blake refused to take him seriously. Jimmy felt, when the man looked at him, that he was laughing. Likewise, in a vague fashion, he distrusted Blake and, while nothing had been said directly, there seemed to be a wall between the instructor and the veterans who used the field. There was no doubt expressed as to his ability in the air.

Jimmy approached him this morning with a new degree of confidence.

"I'd like to start lessons, Mr. Blake—when you've got time for me."

The instructor regarded him with amusement in his gaze. "You mean you want to learn to fly, Jimmy? I thought you knew all about it—the way you've been going up with all these birds around here."

Jimmy smiled, a little embarrassed.

"Yes, sir, I want to learn. I don't know anything about it—yet."

Blake laughed and it sounded as though a sneer was lurking in the background of his mind.

"Well, well. I'll be glad to take you. How'll you do—pay as you go along?"

"No, I'll pay the whole thing in advance."

Jimmy thrust a hand into his pocket and withdrew a roll of bills. Blake's eyes glistened slightly and he became more interested, a little more deferential.

"We can start today, if you want, Jimmy. This afternoon?"

"Fine. I'll be right here, Mr. Blake."

"You better not eat lunch, Jimmy. It's different when you're at the controls, you know."

A thin note of scorn crept into the taunt.

"Oh, I'll take a chance," Jimmy told him.

As he went back to the office to sort the early editions, Jimmy found himself disliking Blake more than ever.

"So he thinks I'm afraid," Jimmy mused. "He figures I'll be sick—if I take the controls. Huh, Blake's due for a surprise."

In the meanwhile, Blake joined a group of men in the office beyond Jimmy's stand. The boy could hear their voices, but until he heard his own name mentioned, he was too deep in his thoughts to heed them. At that however, he stood upright and deliberately listened. Blake was doing the talking.

"Yeah," he said, with a short laugh, "the kid came out with a roll, all set to fly. You birds have spoiled him. He's got a swelled head before he's touched a stick. Believe me, I'll take that out of him."

Jimmy recognized Dip Reynolds' voice in reply.

"Don't fool yourself, Blake. That kid's got the stuff. He'll fly with any of us after he's done a hundred hours solo. He's a natural flyer."

"Go on," scornfully, "you're full o' hop. The kid's been spoiled around here until he thinks he's Lindbergh. I'll bet you a dinner he comes down white around the gills."

"It's a bet."

"I'll take that bet—and make it a suit o' clothes." Devoe made the new offer.

"All right, that's on. Any more?"

Jimmy scowled to himself.

"I've stunted with him," Reynolds continued. "You can't scare him that way."

"Did you ever let him have the stick?"

"No, I didn't. But I wouldn't be afraid to, in a dual-control ship like yours."

Blake's laugh sounded again.

"Well, I'll eat heavy and wear good clothes on you two," he announced, "because this afternoon, I'm going to turn the stick over to the kid. You remember the old army trick, don't you? Sling your own stick overboard and let the student handle her alone. Well—"

"What'll you do if he passes out on you?" demanded Devoe. "That's a dirty trick, Blake. After all, he's only a kid."

"What'll I do?" asked Blake. "Why I'll grab his stick and bring her down—and collect from you birds."

Outside, Jimmy turned to his stack of newspapers. He felt a sinking sensation in the pit of his stomach, for he knew that Blake intended to carry out his plan. Somehow, Jimmy told himself fiercely, he would have to beat Blake at his own game—that, or be a laughing stock among the flyers and cause his two best friends to lose their wagers. Somehow he would have to be worthy of their faith.

When most of the men were at lunch, leaving the hangars almost deserted, Jimmy ventured in to examine Blake's ship. He had chosen his time carefully. It was a two-seater, dual-controlled monoplane, painted a glittering red. The slim lines of the fuselage spoke silently of speed and the big, whirlwind engine told of power and endurance.

HE spent a moment or two in the passenger cockpit and came down, to stand admiringly beneath the wings. Presently, with a serious expression on his lean, tanned young face, he went to the lunch-stand and ate a hearty meal. Returning, he met Blake.

"Well, are you all set, Jimmy?"

"Yes, sir. I'm ready when you are."

"Did you eat lunch?" Blake asked, grinning maliciously.

"Sure—a big one."

"You're pretty cocky."

Jimmy was silent under the rebuff.

"All right, come on. Let's go."

Blake led the way to the hangar. Sketchily, he explained the mechanics of the ailerons and the rudder. The boy listened quietly. So engrossed did he become in the sleek plane that he forgot his feelings about Blake and his vague uneasiness at the prospect of their flight. He followed the man into the cockpit and received a brief lesson on the instruments—gadgets, Blake called them carelessly.

"Here's your altimeter." He indicated a dial marked with numerals. "That tells you your height—or, it ought to. There's the compass and that's the revolution counter."

Down here's your switch." There was evident contempt in his voice, as one by one, he pointed out the instruments and paused over each of them with laconic comment.

"You got it all now?" he demanded. "I suppose you know all about them anyhow."

"No, sir, but I'll learn."

"All right. Hop in. We'll soon find out."

Jimmy climbed swiftly into his seat.

"Now listen," said Blake. "There's one thing you've got to do. Keep your eyes on me and do exactly what I do. Don't yank on the controls. Handle them easy. And if I signal to you to turn 'em loose, do it. Savvy?"

"Yes, sir."

"Remember now," Blake warned him again. "Do exactly what I do."

AT Blake's signal, a mechanic below pulled out the blocks. The self-starter buzzed and the spark caught almost instantly. Jimmy's feet were on the rudder-bar, in the same position as Blake's. His hand gripped the stick lightly. He felt it move forward as the plane glided slowly out on the field.

Instinctively, when they taxied to the line, Jimmy glanced up at the sock on the tall pole. The wind was coming from the east. With a swift glance at Blake, he pressed the rudder and the ship turned into the wind. Then, as he had seen the other pilots do, he jockeyed the stick as they sped into the wind, maneuvering to keep the nose of the plane down until precisely the right instant for the take-off.

Jimmy laughed exultantly as they left the ground on the cushioned air. It was the old thrill intensified, owing to his own share in the control. He turned and saw the field below and behind them. A little group of men waved and Jimmy responded. Blake shouted at him, unintelligibly in the wind, but he read his lips and more plainly, his face.

"Cut it out! Watch what you're doing."

That, Jimmy decided instantly, was the best advice he had gotten from Blake yet. He proceeded to follow it. His tense nerves thrilled as he felt the swing of the stick when they pointed up in a long climb. A thousand feet, and still they were aiming at the clouds. Two thousand, three—the stick jockeyed and they straightened off. Suddenly, Jimmy's foot slipped as the rudder-bar was kicked and the plane banked over sharply.

He gazed down across the wing, straight at the ground, then up along the gleaming surface of the other, directly into space. He grinned at Blake, exulting in the roar of the engine, the song of the wind in the taut wires. Blakes centered the controls and they were on an even keel again, roaring on a straightaway.

Four thousand—five—the altimeter needle shivered between five and six. For ten minutes they circled, like a great falcon, diving then straightening off to climb again. Jimmy was watching his instructor's movements with keen eyes, responding to Blake's touch on the controls. He cut the gun and they idled in a vast universe where the throttled engine scarcely sounded.

When the thing actually happened, Jimmy was totally unprepared.

Blake reached down and jerked savagely at his stick, pulling it from its socket. He held it for an instant, so

that Jimmy might not, by any chance, fail to see his action. Then, with a leer on his dark face, Blake tossed the stick over the side. He leaned close and cupping his hands, shouted in Jimmy's ear. "Now take her."

The wrench had sent the plane into a dive. Jimmy, staring down, caught a last glimpse of the stick whirling toward the earth. Bending low, in a movement so swift that the pilot could not interrupt it, Jimmy pulled his own stick from its place and shot it out into space. He looked up into the blanched face of the instructor.

For a terrible instant, Blake was too shocked to act. His lips moved, but no sound came. His eyes widened in the fixed stare of horror and his face became ghastly white. The plane was hurtling down with the engine on full speed. At such a time, facts register in a strangely detached way on the human mind. Blake saw the faces of the instruments and read them subconsciously. They had fallen a thousand feet. They were doing down at a hundred and ninety miles an hour.

A piercing scream burst from the man's lips, and he raised his hands to shield his eyes from the sight of the rising earth. Up, up it came over the nose of the plane, until objects below were curiously distinguishable. They were over a stretch of dense timber, with the flying field far behind.

Blake tore his shaking hands from his face to stare down again and once more his lips opened a cry of terror. Then, oddly, he sank forward in his safety belt, hanging limp, with his head sagging on his chest.

Blake had passed into merciful unconsciousness.

Jimmy reached swiftly down to the floor beside him. He came up with a stick which he thrust into the socket. Gently he drew it back to center, then centered the rudder and the sturdy monoplane leveled off at two thousand feet. Jimmy pointed back across the timber toward the field. When he sighted the familiar hangars, the row of planes on the line, he circled twice and nosed gently down.

Straining now, in his aftermath of fright, he straightened twenty feet above the field and edged down to a three-point landing. Swinging the ship around, he taxied easily in across the line and switched off. Blake still hung in his belt, unconscious.

DIP REYNOLDS was the first to reach the plane. Close behind him came Dusty Devoe and half a dozen others. On all their faces there was anger.

"What's the matter with you, Blake—pulling that stunt stuff on the kid?"

Dip spoke before he recognized the figure at the controls. Then, his eyes widened. He stared at the limp form in the cockpit.

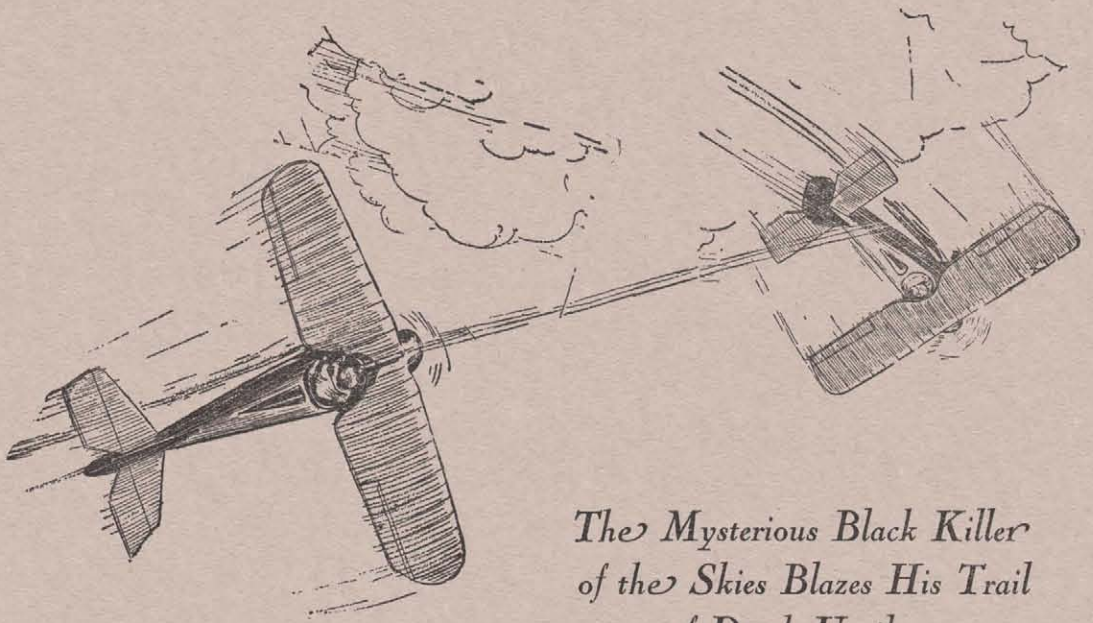
"What—what the dickens, Jimmy? Were you doing that nutty flying up there?"

"Sure," said Jimmy, grinning. "I couldn't help myself. Blake threw his stick overboard, so I threw mine, too. Gee, it must have scared him. But I took an extra one along, Mr. Reynolds. I wanted to play safe."

The pilots stared at him in amazement. Blake stirred in his harness.

"Well, you little son-of-a-gun," exclaimed Dusty. "If you're not a pilot, I'm president of Mexico."





*The Mysterious Black Killer
of the Skies Blazes His Trail
of Death Until—*

The Menace of the Desert

CONROY was handling his first big job. His heart was gay and his motor purred evenly, as he flew straight as an Indian's arrow across the arid wastes of Death Valley. Far, far overhead, a predatory buzzard circled, waiting for the desert to yield up its prey.

But Conroy noticed none of these things. He glanced back at his three passengers, looked down at the bulky sack at his side and pulled back the stick slightly for the sheer joy of feeling the ship respond to his touch. Conroy was so happy that it almost hurt.

Suddenly there whirred down from nowhere, a high-powered, ebony-black monoplane.

"Pretty close," muttered Conroy. But it would take more than some fool's reckless flying to disturb him on a day like this. He stretched forth his hand to wave a friendly greeting, when his smile froze to a ghastly grin.

Seated in the cockpit of the other plane, was a black-masked pilot, one hand on the stick, and the other wrapped around the trigger guard of a machine-gun. Conroy pulled the stick back hard, but the other was before him. He Immelmanned and circled at breakneck speed, coming into perfect combat position over Conroy's tail.

A passenger's scream fought against the roar of the motor. Conroy stalled her and the ship commenced to slip through the air. But it was too late. Mercilessly, the synchronized Lewis spat its couriers of death through the fuselage. Three steel-jacketed bullets found their mark in Conroy's back as he seized the stick in a bulldog death grip.

A fear-maddened passenger sought the wing, as his fingers groped with the cord of his parachute. Again the gun spoke and a body hurtled through 3,000 feet of space to the hungry canyon below.

Wind shrieked through the struts and the wires rattled

By

ANATOLE FELDMAN

bideously as the uncontrolled ship gained momentum on her fatal journey. Down, down she dropped and found her last landing place—a twisted, charred mass of metal on the grim floor of Death Valley.

The field superintendent of the Ralston Airways Line replaced the telephone on his desk.

"Boys," he said huskily. "That black devil's got Conroy."

The three pilots in the office stared at him in silence, which Jerry Lawson was the first to break.

"Got Conroy!" he gasped. "When? Where?"

"They figure about fourteen hours ago," explained the superintendent. "He was overdue at Chiluhua. No word of him. They just phoned that a prospector found him crashed and burned to pieces with a half hundred bullet holes in the fuselage, in Death Valley. He and the two passengers were burned beyond recognition."

JERRY LAWSON'S nails bit into his palms, and his voice was a tremulous whisper.

"Damn him," he muttered. "Conroy was the best friend I ever had."

A tear streaked unashamed, down his lean cheek.

Davis and the superintendent looked at him sympathetically.

"Steady, old boy," said the latter.

Davis rose and put his arm around his shoulder.

"Yes, easy, old man," he reassured him. "We'll get that murdering swine yet."

The fourth member of the group regarded them in tolerant amusement.

"What's the matter, son?" he asked with biting irony.

"Even kiwi's don't usually cry."

Jerry flushed at this epithet—the airman's super-insult.

"Michelson," he said. "I'm not ashamed of any tears

I shed over Conroy. He was a fine, square-shooting flyer and my pal. And I'll get the Black Killer if it's the last thing I ever do."

Mad Michelson grinned contemptuously.

"You'll get him," he sneered. "When they want the Black Killer, they'll send a man after him—a flyer."

He paused for a moment.

"Like me," he added and walked through the door.

Jerry glared after him in impotent rage.

"Easy, son," counseled the superintendent again. "That's just his way."

And it was just Mad Michelson's way. He was the most unpopular man on the field, retained only because he was, as he boastfully proclaimed, a crack flyer—a stunting, flying fool with a dozen planes to his credit in the War.

JERRY sat on the bench as Davis attempted to calm him. The superintendent's brow was wrinkled in thought. The Ellway Company, his chief rival, had relinquished the passenger and pay-roll service to Chihuahua because two of their planes had been crashed by a mysterious sky highwayman. The Ralston Company, hardly believing the story, assumed the contract, and Conroy had taken out the first run. Something *had* to be done. He lit an ominous looking cigar as the telephone jangled again.

He spoke tersely into the receiver and looked up with a frown.

"Jerry," he said. "It looks as if you'd get your chance. When the passenger plane leaves Wednesday with the pay-roll, you and Michelson are to go as escorts."

Jerry leapt up eagerly; his depression of a moment ago forgotten.

"Fine, Super," he said. "The Lord knows I don't like Michelson, but on a stunt like that, I guess he's the best man on the field."

Later on, Jerry climbed into the cockpit of his D. H., and glanced at the throbbing Curtiss beside him. Michelson ignored him. With his lips set in a firm, hard line, he tinkered with his synchronized machine-gun. Pulling back the cocking handle on his own Lewis, Jerry pressed the trigger. With a sharp click, the striker shot forward into the breech. Satisfied that all was in order, Jerry attached the circular magazine.

"Contact," he shouted, and an oil-begrimed mechanic jumped to obey.

Michelson, however, was a second before him. As Jerry revved his motor, he watched Mad Michelson whip off into the wind, his wheels barely touching the hard earth, and zoom into the clear, summer sky.

Jerry's Liberty pounded gaily on all her twelve cylinders. He jazzed the throttle and the plane's smooth, purring song developed into a steady pulsating roar. He eased her down again and swung his right hand in a half salute. Obeying the traditional gesture, willing hands pulled away the blocks, and the low squat hangars whizzed past him, as he duplicated the perfect take-off of Mad Michelson.

Flattening out as his altimeter registered 3,000 feet, he saw Mad Michelson's plane about a mile in front of him, speeding into the West like a migratory bird. Although their last instructions had been to fly slowly and double back to meet the mail plane, Jerry noted with some puzzlement that the Curtiss ahead was running close to her maximum speed.

Glancing at the instrument board, he found that his tachometer registered 10,000 revolutions per minute and that his air speed was somewhat over ninety, with a slight tail wind to help him along. There was something up Michelson's sleeve!

Maintaining this rate for some minutes, he suddenly became aware of the gleaming, gray bird that was Mad Michelson's ship, hurtling into the horizon leagues ahead. It was winging on at top speed, using every ounce of strength that its powerful engines could give.

Jerry's sun-tanned brow wrinkled in thought. Michelson

knew the orders. What was he up to? For a moment Jerry hesitated. No matter what the other did, his orders were his orders. It was his duty to follow them and render protection to the plane that would soon follow.

But some strange second sense bade him follow Michelson. The more he argued against it, the more the hunch persisted. He cast his eyes around the great circle of the horizon in search of some sign of the lumbering passenger ship or the swift, almost mythical plane of the Black Killer.

Almost instinctively, he made his decision. Jerking back the stick and throwing the throttle wide open, he shot forward and upward, as the slip stream belched a veritable gale behind him.

At 10,000 feet, he leveled his elevators and came out of his upward climb. Far down, in the distance, flashing in the golden sunlight, he saw Mad Michelson's plane, the blue smoke from her exhaust spitting steadily as she maintained her terrific pace. He set his jaw grimly and fed the D. H. all the gas she could eat.

On, on he flew, the earth whirling by underneath, as though for him gravity had been suspended. Closer and closer he drew to the ship of Mad Michelson which loomed larger and larger at each spin of the prop. Over the border of Utah, over the skyward-stretching Rockies, on and on—into the arid Nevada wastes—on and on.

The gleaming Curtiss was now but a scant few miles ahead of the sturdy roaring D. H. To his left Jerry saw a lone mountain crag.

"Charleston Peak," he muttered in surprise.

In the zest of the chase it was hard to realize that he had traveled so far—so fast. He was about three hundred yards behind Michelson as they pushed over the forbidding canyon of Death Valley. In another mile he passed him. Whirring by, he noted the look of surprise that settled upon the face of the other.

He glanced back over his shoulder and saw the Curtiss, circle, bank and volplane down toward the burning sands below. He killed his motor and swung the stick to the left. As his ailerons jerked into position, he side-slipped and joined the Curtiss on its earthward journey. Suddenly Mad Michelson thrust his head from the falling cockpit and swung his hand in a low, sweeping movement indicating that he was forced to land.

They hit the shifting desert floor at precisely the same moment, the wheels plowing through the gritty sand and the tail skids drawing a wavering line behind them.

Jerry jumped from the cockpit and approached the other plane as Michelson crawled out from behind the stick.

"So you got here," he drawled.

THESE words were meaningless to Jerry who decided that he had had enough of mystery.

"What's the matter, Michelson?" he demanded.

The other surveyed him coolly. His manner nettled Jerry. "What's the idea?" he said angrily. "You break orders. You drag me out here. You signal to land and then you tell me there's nothing the matter. Are you crazy?"

"Listen," said Mad Michelson. "You want to find the Black Killer. Don't you?"

"Do you know where he is?"

Jerry's eyes lit up and his voice was eager.

"Son," said Michelson, in a soft voice. "I've brought you to his hideout. I wanted to see if you'd follow me. And now that you have, I'll let you in on it. We're close to the Black Killer's hangar."

Jerry mentally forgave Michelson the wild chase he had led him. He extended his hand impulsively.

"Michelson," he said earnestly, "You're a brave man to tackle the Black Killer alone. And I'm glad you let me in on it. Where is he?"

Michelson ignored the hand with a queer light in his eye.

"Come with me," he said.

Jerry followed Mad Michelson across the desert for some two hundred yards. Despite this short distance and his

perfect physical condition, he found himself panting and perspiring copiously. The burning, searing heat sucked the very strength from his body. It was incredible that what was a mild summer day at the flying field, could be such a veritable hell in that appropriately named inferno—Death Valley.

Michelson stopped by the side of a projecting part of the rocky canyon wall and waited for him, still with that queer, dangerous glint in his eyes. Jerry, catching up with him, stared in amazement. For there in front of him, forming a perfect tarmac, was an almost flat clearing in the rocks, in front of a huge, darkened recess in the stony wall. As his gaze gradually penetrated the shadows inside, he saw that it formed a gigantic, natural, doorless hangar, and within, like a vulture awaiting the advent of its prey, was that notorious, ebony-black monoplane!

JERRY looked excitedly at Michelson, who leaned against the crag unmoved.

"Michelson," he gasped, his pulse pounding. "We've got him. How did you know?"

Michelson smiled a hard, twisted smile.

"We haven't got him yet," he said evenly.

"We'll get him, the dirty killer," said Jerry determinedly. "Do you know where he is?"

Michelson stared vacantly at a scampering coyote in the distance, for a moment, in silence.

"I'll take you to him," he said at last.

Jerry was a little baffled at the other's peculiar manner, but stifling a dozen questions that ran through his mind, he walked at Mad Michelson's side to the cavern entrance. He peered into the comparatively cool depths of the cave.

"Well, where is he?" he asked impatiently. "Aren't we going—"

He broke off suddenly, as he turned around to face Michelson, and found himself confronted with the snub nose of an unwavering automatic.

"He's right here," said Michelson, and his voice was edged with hate. "Right here, waiting for the gallant, young air hero to capture him. Who did you think the Black Killer was? What flyer in these parts do you know, who has enough courage and skill to do the things he's done?"

"I'm the Black Killer," he almost screamed, in a tone that sent an involuntary shudder down Jerry's spine. "I'm the man that you swore you'd get for Conroy. I'm the man that's going to finish you and get the passenger plane as she comes through!"

Jerry's utter bewilderment must have shown on his face. Was Michelson really mad, after all? It seemed likely.

"You don't quite believe me, eh," sneered the livid face behind the automatic. "All right. Look."

He raised his left hand and without looking, pointed to the north. Jerry's eyes, following the indicated direction, saw an inert black and gray object shimmering in the glaring sunlight.

"See that," said Michelson. "Well, that's your pal, Conroy's ship—or what's left of it."

"Michelson," Jerry said steadily, "you're either a fiend of hell or you're a madman. I hope for your sake it's the latter. Put down that gun and come with me."

Mad Michelson threw back his head and laughed heartily.

"So," he said, with a final chuckle. "You come out to get the Black Killer with words. You should have known Lawson, it wouldn't be that easy."

"What do you intend to do, Michelson?" Jerry asked.

Michelson glared at him with distended eyes, but his voice was even enough. He seemed calm and collected.

"Don't ask me questions," he replied. "I give no warnings. When you discover what I'm going to do to you, it'll be too late for you to do anything about it."

Jerry considered this in silence for a moment before he replied.

"Michelson, there's one question I'd like to ask you. Why did you crack up Conroy?"

Mad Michelson chuckled again in derisive amusement. "For the same reason I cracked up the other two planes. First I like money, second, I like a fight."

He looked at his wrist-watch and cursed.

"Enough of this. Come on. She'll be here in a moment. Get over to your plane."

Having no alternative, Jerry obeyed, mentally trying to figure out what the other's game was.

"Hop in," said Michelson as they reached the plane.

Jerry crawled behind the stick and adjusted the safety belt as the other strapped a parachute across his back. Michelson, still gripping the gun, clambered into the rear cockpit. Jerry felt the sun-warmed pistol muzzle pressed lightly at the nape of his neck.

"Take off," said Mad Michelson in a low, excited voice.

Like a frightened bird, Jerry's D. H. scooted across the vast plantless sands and climbed the canyon wall.

Obedying Michelson's signals from the rear cockpit, he tilted his elevators and soared into the east, seeking altitude. At 12,000 feet, Mad Michelson tapped his shoulder with the automatic and indicated that he was to flatten out. As he leveled off and stabilized his ailerons, Michelson seized the controls in the rear-cockpit. Jerry turned his head questioningly.

An instant too late, he saw Michelson come to his feet with his hand upraised and his thin lips parted in a cruel smile. Swiftly, but not swiftly enough, he attempted to duck his head, as he saw the butt of the automatic hurtling down upon him. He was vaguely conscious of a dull blow then a vacant darkness rushed upon him.

The shock of the blow caused the sturdy D. H. to dip her nose for a second but, grabbing the rear stick, Mad Michelson straightened her out and, doubling over the course, sped back to Death Valley. He glanced at his watch again and cast a hurried look behind him. The big biplane was due in about ten minutes.

Checking his flying speed and seeking even more altitude, he locked the controls and gingerly crawled out upon the port wing. Gauging the ground over a mile beneath him, he swung his legs into place, hung for a thrilling moment then let go.

For some seconds he fell like a plummet through space and then, as he tugged at the cord, the pilot's chute shot out and dragged the big, tent-like parachute after it. Mad Michelson floated gently down to his death-dealing, black monoplane, while Jerry Lawson sat, unconscious, in the cockpit of the speeding, uncontrolled D. H.

Mad Michelson's scheme was both cunning and simple. The unguided D. H. would undoubtedly, sooner or later, strike a pocket which would start her on her downward valedictory trip. From such an altitude she would be smashed to bits, her unconscious pilot with her. Michelson would blame the Black Killer and explain his absence from the scene by contending that he had landed in the valley to investigate the crash.

THE D. H. biplane whirred steadily overhead. For a time, she flew as straight and true as though an expert air-man were handling her. A ground observer never would have suspected that in her cockpit was huddled the limp, still figure of an incapacitated pilot.

Straight up to the north she winged her reckless way—when suddenly the inevitable happened. Her nose ran into a bump and jerked up. As she started upward at a dangerous angle, the tricky upward air draft hit her fuselage, moving her ailerons and elevators. She gave a frightened jerk like a horse shying at the unknown. The momentary hesitation permitted the weight of her engine to pull her nose downward and, with the engine racing madly, she started a devastating dive earthward.

Down she flashed like a rocket, gravity and motor conspiring to give her a speed that she never had attained before. Ten thousand—eight thousand—seven thousand—The altimeter went suddenly crazy. The barograph's quiver-

ing arm spattered ink over the chart. The instrument board resembled a string of mad, electric clocks. The tachometer alone kept sane, indicating a steady R. P. M. of 16,000.

Below, there rose a green-topped, lone peak at the northern entrance to Death Valley. Like a lover keeping his tryst, the D. H. swooped down to meet it.

Death Valley prepared to greet another victim.

Jerry Lawson stirred and opened his eyes. A terrific rush of wind flung itself viciously into his face, almost turning his head, but blowing a clear, fresh draft of consciousness into his befuddled mind. For a second he stared, horror-stricken, at the fast approaching mountain top. Then his brain raced. Before his thoughts were transmitted to his aching muscles, his flying instinct had moved his hands. He released the locks. Back came the stick, jerked with all the force of his strong young arms. Up went the elevators. The ship groaned and creaked under the fierce strain. She seemed to hang for an eternal moment above the emerald crag. His speed slackened and then, as it seemed she must crash to her doom, she flattened out, thrust her nose up and reluctantly tore her way skyward.

HE leveled out and flew through the refreshing air. He could think more clearly up here than down below. One thought drove into his mind persistently. He must get Mad Michelson before the latter got the other plane. He banked, circled and headed back to the south.

He had traveled some half-dozen miles when he saw the big, passenger-pay-roll biplane leaping along from the eastern horizon. It was too late to look for Michelson now. He must see that the other ship got through safely first. He banked again and zoomed for more altitude. If Michelson should attack, he—Jerry—must have height for the duel. At 20,000 feet he came out of the upward glide and sailed along in the direction of the passenger ship.

She passed some 10,000 feet beneath him, unconscious of his presence. He circled about and followed her, his flashing eyes searching the sky for Michelson. A black speck against the blue appeared.

Though itching for the battle, Jerry kept his head and his altitude. In all probability, Michelson had not yet seen him. The tactics of the monoplane would be to rise above the prey, then flash down over his tail, spitting a stream of steel death.

Holding the stick firmly and ready for any emergency, Jerry watched Michelson's ship stride into an advantageous position in the clouds. He pulled the stick back slightly. As high as the black monoplane went, Jerry climbed still higher. With his hand on his machine-gun, he neared his ceiling, waiting for Michelson to flatten out, preparatory to swooping down on the unwitting biplane beneath them.

At last the black ship threw her nose violently forward and came out of her zoom. In a trice, Jerry flung the stick forward, revolved the magazine of the Lewis and shot down through space. Michelson, unconscious of the Nemesis hovering above him dived also, aiming at the tail of the big, gray bird below.

Davis, at the stick of the passenger plane, looked up and saw them. Frantically he jerked at the controls and sidestepped down to temporary safety, the Black Killer in

bloody pursuit. From seven hundred feet above him, Jerry watched Michelson pull back his cocking handle. Setting his teeth, with a swift thought of Conroy, Jerry was upon him. He came out of his dive in combat position over Michelson's tail and, before the latter was aware of his presence, he hurled a devastating barrage of machine-gun bullets whistling through the black plane's struts.

Flying instinct alone saved the Black Killer. Even without completely comprehending the situation, he executed a perfect Immelmann, belching whining 303's through Jerry's fuselage as he passed. Jerry killed his engine, brought his ailerons into play and dropped a sheer four thousand feet. Michelson, his engine roaring a legato song of hate, dived after him. Jerry leveled out, flung the plane into a zoom and squeezed the gun trigger, as for an instant his sights bored the onrushing, murderous ship.

In a second, Michelson sped past him, whipping a burst of gleaming tracers into the side of the D. H. Jerry shot a quick glance to his left, seeking the passenger plane. He noted that she was circling some four miles away, as though her pilot were considering the necessity of returning to aid him. He had no time for further speculation, however, for the black plane was again rising to the attack.

They circled for a moment like two fighters sparring for an opening. Twice, Michelson fired a short burst that wasted itself on the empty air. Jerry held his fire until an opportunity offered. Suddenly, as Michelson banked and prepared to circle once more, Jerry dashed for his tail, but the super-speedy monoplane with Mad Michelson at the stick was too much for him. The black ship came up quickly on his exposed side and he thought he was done for.

But this time luck was with him. Michelson's Lewis barked twice and was silent, but not before one of the slugs had eaten its way into Jerry's arm. Pulling frantically at the controls, he awaited the final burst, but it never came. Looking upward, he saw Mad Michelson, his face distorted with rage, detach the empty magazine from its post and hurl it violently earthward. As the mad killer fumbled beneath his seat for more ammunition, Jerry shot up once again; this time more successfully.

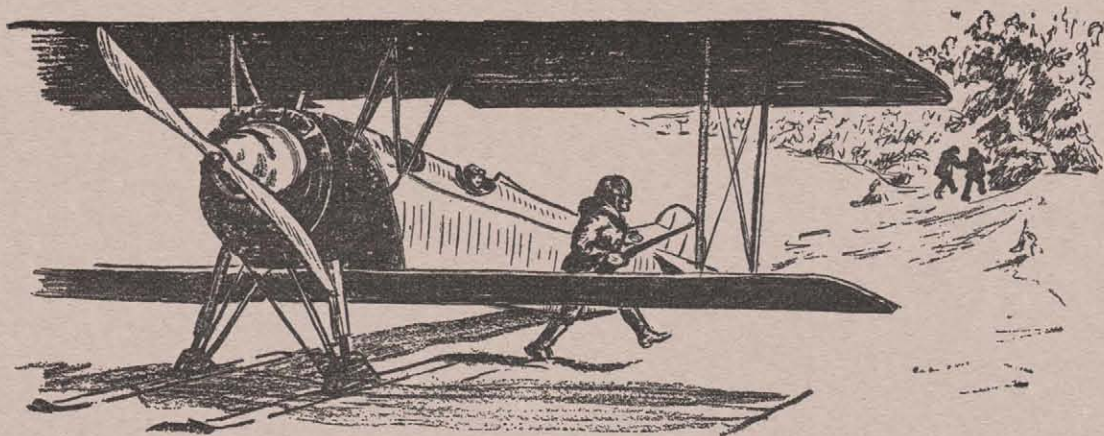
For fully five seconds he was in position over the other's tail. Round after round followed each other up the burning barrel of the Lewis. Michelson dropped 3,000 feet, but Jerry stuck in the dominating spot. Michelson wildly attempted to swing out from under, but stunt as he did, Jerry remained on his tail, unleashing his hurtling couriers of doom.

THEN there came from the black ship a silver liquid spray and Jerry knew it was over. The gas tank had been hit. Mad Michelson's engine conked badly. The killer looked up at Jerry, with a peculiar, resigned smile upon his face. His hand was off his gun and Jerry held his own fire awaiting the other's crash.

But Mad Michelson, waving his arm jauntily from the cockpit, thrust his stick forward and shot toward the yawning canyon below.

The Black Killer, not waiting for the death he had so often dealt to others, shot down to meet it, with engine roaring and his prop blades singing a swan-song in the air.





SLEET

*A Daughter of Daring Swoops from the Sky
to Save Her Lover from His Stricken Plane*

PILOT Jimmy Blair flies to Colonel Davies' camp in the Ungava, in the wilds of Canada, where a mysterious explosion has taken place. Colonel Davies, who is seeking a pulp-mill site, has been threatened by two mysterious strangers. Jimmy flies back to the Provincial Police headquarters for assistance, being shot at from ambush as he takes off.

Jimmy gets his message to headquarters, where, due to a misunderstanding, he is placed under arrest. He persuades the police to investigate the trouble at the Davies' camp before sending him back. They find evidence that Larson, a city gangster, has made himself the leader of a gang of local ruffians and that the lives of both Colonel Davies and his daughter, Linda, whom Jimmy loves, are in danger.

Jimmy is returned to his base where he is grounded for disobeying orders. His friend Farrell is sent to the assistance of the Davies. Farrell sends out another S. O. S. Jimmy's commanding officer relents and allows him to go to the rescue of his fiancée. He starts out in a heavy snow-storm with his plane loaded with guns and ammunition. Sleet and snow make flying very difficult.

IN the brief interval at Sioux Lookout, new snow covered the old, so that when Jimmy emerged from the office, with Sergeants Lawson and Jenks in his wake, he broke a new path to the field. The wings of the plane were heavy beneath the coating of snow and, in the faint light of an oil lantern, they worked to sweep it off with their gloved hands.

Lawson tried to dissuade Jimmy from the flight.

"Even if you could see, Blair, this snow'll weigh you down," he protested. "And you can't land on tree tops."

"I'll get over it," Jimmy replied.

"And hit sleet," argued Lawson.

Jimmy acknowledged that, but his determination did not weaken.

"She'll roll through it—that distance." He indicated the plane.

They shook hands with him, trying to conceal their conviction

By
**GUY
FOWLER**

tion that it was a last farewell. Jimmy climbed into his cabin and played with the engine, turning it over slowly, then racing the cylinders. The sound comforted him and he waved at the men in the circle of yellow light, as he swung the plane into the wind and hit the gun.

As he rose over the timber he looked back.

Two small, dark figures still lingered in the circle of light on the field, although they could no longer see the Fokker whose song was growing indistinct on the wings of the wind.

For a time Jimmy hung low over the trail that could be traced dimly through the trees. But for the snow, he could have followed it steadily through the night which was scarcely more than a shadow of the dim, gray day. The plane pitched viciously in the pockets and Jimmy pointed up in a long climb that brought him into the vast rolling clouds, heavy with their burden.

They lay in massive banks, heaped one upon another, so that the plane still plunged through their wet depths at five thousand feet. He rose until the altimeter registered eight and here there was a respite, like a tunnel of air through the clouds that lay above and below. Nowhere could Jimmy find a rift through which he could sight the stars.

He handled the controls mechanically, while his thoughts sped out through the storm to the camp which was his destination. Mentally, he pictured the situation. Unaware of Silton's tragedy, he saw him in the scene with Rogers—both of them barricaded in the Davies cabin with Linda, her father, Jerry Warner and the terrified Collins.

OUT beyond, ambushed in the timber, Larsen and Brad-dock, with the others, would be awaiting the moment to rush the cabin, if they had not already done so. Farrell, with two Provincials would be working in from the direction of the lake or, perhaps, fighting from the meager shelter of the crippled plane. At least, Jimmy rejoiced, Larsen would be forced to divide his men.

The flashes from the exhaust played fitfully on the gleaming wings and Jimmy instinctively pushed down for a lower

ceiling. Sleet glittered on the texture of the wings and the loyal plane gave warning as it strained beneath the burden.

"Steady," he muttered, as though it understood.

"We can't slip now, old girl. There's a job on."

* * * * *

When Larsen and his men pushed steadily into the forest, with Silton half conscious in the improvised sling, they headed for the up course of the frozen stream that had first led Jimmy to their lair. Their tracks were plain in the snow. Larsen seemed to have overlooked the possibility that they would be followed, or he had no fear of pursuit.

They came to the falls at length, where the ice cascaded from the rocks some fifteen feet above. Larsen turned off and climbed half a dozen feet beside the falls.

"We'll leave that here," he announced curtly, with a gesture toward Silton.

THEN, bending low, he moved into a crevice and disappeared. The others followed him into a cavern glittering like crystal, a natural cave that extended a dozen yards or so into the hill. During the thaws it would be flooded with water from the stream, a hidden pool where trout spawned and the otter came to play. Now it was a perfect retreat, with but a single entrance through which a man must draw himself with care.

The two men who were carrying Silton dropped him brutally on the icy floor.

"Sorta keep him on ice, eh, Larsen?" one of them leered.

"Sorta."

The leader bent over Silton and his hand went suddenly to the white, quiet face. He rose quickly.

"Hell, you guys don't know a dead one when you see him," he snarled. "That bird's plumb stiff."

Silton had gone on his last trek.

They grouped about him curiously, exchanging strained glances, attempting rude laughter to sooth their uneasiness. "This is as good a place as any," Larsen said presently. "They're not likely to find him here. Frisk him, Braddock. Maybe he's got something."

Braddock went through the dead man's clothes. On the ice beside the body he deposited what he found. There were only the usual articles: a note-book, pencil, some small change.

"Set a fire, somebody," commanded Larsen abruptly. "Burn that stuff an' his clothes."

A heap of wood lay in a corner, indicating that the cavern had been used before. Likewise, there were ashes on the floor and the pure crystal of the ceiling was stained by smoke.

"Pierre, you thought up something when you showed us this place." Larsen grinned at the native in a friendlier mood than he had yet shown. "It's worth a bonus to you when we clean up with old Davies."

"Eh, he good place to hide." Pierre's voice rumbled strangely in the cavern, as he responded to Larsen's praise. "Pierre, he come here ver' many time. Poleece, he nevair find, *très bien*."

Larsen regarded him keenly.

"You say the bulls never tracked you here?" he demanded.

Pierre shook his head.

"They're wise guys, though." Larsen glanced doubtfully at the narrow entrance, through which he could see the edge of the tumbling ice cascade. "They'll follow us—if they can."

The smoke from the fire hung low, stinging their eyes. Two men bent over the blaze, slowly feeding it with Silton's clothes, piece by piece. The rank odor of burning cloth drove Larsen to the entrance with a muttered curse. The stripped corpse lay grimly exposed, like a marble statue that had fallen from its pedestal.

When the grisly task was finished, Larsen came back into the center of the group, indicating that he had something to say. They waited expectantly.

"I figure we ought to clean up this job tonight, boys," he said. "It won't be long now until that bull who got away will have them down on us. If this gang can't finish off them

people at the Davies' camp, we ought to quit. Now, I got a hunch we ought to separate just before we get there."

He went on to describe his plan of attack, assigning a definite duty to each man.

"And I don't want the old man or the girl hurt, you get me?"

He turned cold, agate eyes from face to face.

"I'll take care of the girl," he added.

A filthy grin came to Braddock's face and his little, piggish eyes glittered.

"Won't you need help, boss?"

"If I do, I'll ask for it," snapped Larsen.

They listened attentively while he talked.

"On the getaway," he told them, "it'll take two of us to handle the girl. The rest of you split up. I guess nobody here is afraid I'll double-cross him, is he?"

There was no answer.

"We'll meet in Detroit, as I told you at the start. By that time, if I ain't mistaken, Davies'll come across. There ain't nothin' to it, if you boobs do what I tell you. You don't want to leave evidence lyin' around on a job like this. The less they get on you, the better chance you got, if they ever put the bracelets on you. Get me?"

His rasping voice was like a saw on metal in its harshness.

When he was certain that each man understood his particular duty, Larsen proposed that they eat and go on. From their shoulder packs that had been tossed to the floor, the men began to withdraw their meager food supplies, cold meat on slabs of hard, dry bread. Larsen went again to the entrance and studied the timber below in the direction from which they had come.

Suddenly, he wheeled and raised his hand.

"Shut up, you—"

They fell into instant silence, regarding him with surprised eyes.

"There's somebody comin' up," he lowered his voice. "Come here, Pierre, you got owl eyes."

The big man joined him, peering down into the trees over his shoulder.

"Poleece," said Pierre, in a sibilant whisper.

"One?" demanded Larsen.

"By gar, he same feller after us."

"Is he alone?"

Pierre stared out for a long minute and nodded.

"He follow our trek," he announced.

AS Rogers came on with his eyes studying the trail and darting swiftly among the trees, he gripped his rifle carefully and kept in shelter when he could.

"Let him get up here," said Larsen coolly. "He's alone."

When he came to the foot of the cascade, Rogers moved around warily and for an instant was out of sight. He reappeared, clutching at the ledge of ice for support.

"Drop that gun!"

Larsen's blue-barreled automatic was thrust almost into his face.

Rogers' mittened hand slowly unclasped and his rifle clattered on the ice below.

"Welcome to our party," said Larsen with a bitter smile.

He stepped out from the crevice and Rogers looked at the entrance, amazed.

"Get in there," snarled Larsen, keeping the automatic steadily on him. "We got a little surprise for you."

Still silent, Rogers obeyed. His eyes, unaccustomed to the gloom of the cavern, saw the figures of the waiting men indistinctly. At first, he failed to see the naked corpse of Silton at all. Then, as his gaze fell upon it, he gasped.

"God!" he exclaimed, swiftly turning away.

"Stand where you are." Larsen's gun touched his ribs.

"So you figured you'd trail us, eh?" Braddock faced him, leering.

"Close your trap," Larsen snarled. "I'm doin' the talkin' now." His face was not pleasant to see.

He faced the Provincial, studying him with cruel eyes. "What's that joke about you birds always gettin' your man?" he demanded scornfully. "You ain't so good, fellow." Rogers forced his eyes away from the stark corpse. "No," he replied evenly. "I admit it." "Where's your flyin' partner?" "I don't know." "Any more of your outfit in the woods?"

"PLENTY," Rogers told him, grimly. "They'll get you, Larsen—sometime."

The man laughed.

"That's a long ways off."

He half turned his head and spoke from the corner of his mouth.

"Well, step on it, you idiots. Get some string, or something. Am I goin' to stand here a week with this gat?"

In a few moments Rogers was again bound in rawhide, this time with cruel knots eating into his wrists and ankles. Larsen

ninety and the plane was plunging heavily on its snow-burdened wings.

Jimmy cut the engine and turned down in a nose dive, hoping to shake off the snow. He pulled up when the altimeter needle quivered between the figures two and three and leveled.

"Buck into it, old girl," he spoke impulsively, pleadingly, in his desperation. "We can't crack up now, not this close."

It was a prayer that kept repeating itself in his whirling brain. The cold had penetrated his furs and he was numb. Terror was a new thing to Jimmy Blair and he was experiencing it now, in a variety of awful forms. He listened to the roar of the engine and saw the instrument board mechanically, as he worked the controls. But his thoughts, consciously, were below and ahead on the trail.

"We ought to watch that trail," he muttered. "Somebody might be on it."

Instinctively, he pushed down again until he could see the wind-tossed trees. The plane pitched and the struts whined

The plane was out of control. He thought of his chances with a chute, had he possessed one, and grinned, picturing himself dangling in the air, while the men below picked him off at leisure.

"It'll be quick this way," he thought bitterly.

Staring out at the revolving universe, Jimmy saw Linda's plane almost beside him. She was leaning far out from the cabin, signaling to him. Her hand pointed to the undercarriage of her plane. Suddenly the dizziness left his head. He sprang to his window and climbed out, clinging to the wires.

Linda was trying to save him!

ordered them to place the helpless captive on the floor. "Over to his pardner there," he said, with a short laugh. "Two dead ones," he added.

"Get it over, Larsen. Be a man."

Rogers spoke evenly, in a tone of resignation that indicated his complete surrender.

"Don't you worry," Larsen retorted. "It'll come."

He turned away from the prostrate Provincial to his men.

"Now here's what I mean by gettin' rid of evidence," he said. "We do the same thing with this one that we done with the other, see? We don't want no bodies found—an' no clothes."

He paused and looked around at their faces.

"Anybody got a deck of cards?" he asked. "We'll cut to see who plugs him. High man does it."

There were no cards among them.

"All right, then we all do it," he decided. "Set him back against the wall, Braddock. Here's the idea, see? We line up here, the cop sets there. We all take a shot. That makes all of us equals, you might say."

Braddock placed the trussed figure with back to the wall.

"You're a soldier, ain't you?" asked Larsen. "Ever hear of a firin' squad?"

"Oh, shut up, Larsen, and do your dirty work."

* * * * *

Halfway to Otter Pass, as his instruments indicated, Jimmy Blair was flying at five thousand in air that registered forty below the zero point. A headwind cut his flying speed to

in protest at the strain. Blasts of wind shook the ship.

"Have to do it," he said aloud. "Only a little while now—we'll find the lake."

As he leaned forward in the cabin, peering through the snow-encrusted glass, Jimmy suddenly saw a fleeting shadow flying at him, perhaps a hundred feet over him. He turned out sharply, banking, staring.

It was a black Fokker plane, speeding into the south.

"Farrell," he exclaimed.

He circled and shut off his engine, reaching for the metal clasp that held the windows closed. The black ship came on and dipped in signal, turning out in a left bank.

JIMMY thrust his hand out and waved, then stared from the open window as the wind seemed to cut the flesh on his face and drove the breath back into his lungs. The pilot of the other plane likewise jerked at the cabin window and in a moment a hand waved back. Jimmy still could not see the face of the flyer, framed in the furred hood, half covered by the leather mouthpiece.

Then, as he cut the gun and circled close, while the second plane swung in, Jimmy leaned far out. They were flying almost wing to wing, in a wide turn. The pilot suddenly ripped at the masklike hood and threw it back. Jimmy gasped.

Linda Davies stared across the wings at him and she pointed into the north with her gloved hand. Her hair, torn loose by the wind, whipped back darkly from her white face. She was flying alone.

Jimmy swept his arm in an arc, signaling to her to turn and

head back with him. She nodded and drew down into the cabin, closing the window against the wind.

Jimmy circled over her and together they headed into the north. He left his window open that he might stare down to watch her careening ship as it bit into the night.

Each shock of the erratic wind caused Jimmy twofold anguish, as he stared down at the plane beneath him with its precious burden. A thrill of pride surged in him as he watched her, aware that she was flying with a skill that equalled his own and a daring that surpassed his because she was desperately afraid.

He could no longer bear to fly above her, fearful that her plane might buckle, yet he knew that he would be helpless in that event at any level. Nevertheless, he went down and they flew onward, almost wing to wing, with a scant distance separating them.

Linda waved and he saw her lips part in a reckless laugh, a gesture of bravado. He thrust his head out into the gale, questioning her with his eyes, straining his ears to listen for the drone of her engine. Was all well with her instruments? Was there ample fuel in the tank and were the controls responding as they should? These and a hundred other questions he asked in his glance.

HER reply was a quick touch on the stick and her Fokker dipped, then rose in signal. Jimmy was unable to hear her engine, but he watched the blue flame as it spat ceaselessly from the exhaust and marked that it struck as even-ly as his own. The motor then, was functioning properly.

He studied the timber, searching for the trail. Their problem now, if Linda flew in safety to the lake, lay in making a landing on the dangerously small surface of the ice.

The feat would, he knew, tax her skill to the utmost. Failure at a hundred feet would be more deadly than at five thousand, for she would have no time in which to right the plane if it slipped. Then too, his swift reasoning warned him, there would be Larsen and his crew to contend with.

Unquestionably they had heard Linda's plane take off. Jimmy sought to picture to himself the manner of her escape. Farrell was out of it altogether, otherwise he would never have permitted her to take his plane. The Provincials would be outnumbered by the men in the sheltering timber and, beyond a doubt, Larsen would be ready with his long range rifles, when two ships circled over the scene.

"They'll pick us off," he muttered. "Damn them! They can't have her."

He dipped in signal and drew her attention. Again leaning out, leaving the controls free, he waved in a sweeping gesture to her, trying to make her understand his meaning. He pointed up and made circles with his hand, while she stared at him across the space that separated them. Next, he reached to the floor of the cabin and seized a rifle, aiming it downward.

She nodded vigorously, still watching him. Jimmy lifted the barrel of the Marlin gun, bracing it against the wall of the cabin. Again she nodded and he signaled for her to climb, while he himself pointed down. Linda appeared to understand and he saw her reach for the stick. In the next moment her plane commenced to climb.

When, at length, they came over the clearing where the cabins huddled unprotected, Jimmy flew at a scant five hundred feet, watching for moving figures below. Linda was a thousand feet above him, holding her speed to his own, hovering like some great bird above its fighting mate.

They circled over the clearing once, before Jimmy saw a puff of white smoke burst from the main cabin. It was followed instantly by another and answering puffs appeared on the skirts of the timber toward the lake. He swung the forward window open and thrust the Marlin gun outward, with its heavy butt resting on the ledge. It was a clumsy procedure, yet he knew that the steel-jacketed bullets would travel farther and be more effective than any slug from rifle or revolver.

He found himself longing for the old Spad, with the gun

firing through the propeller field in a vertical dive. A sudden burst from above the trees, a swift straight climb at a thousand feet in fifty seconds—

"I could get them then!" he said, sighting the Marlin, throwing his weight on the butt to hold it down; then he pressed the trigger.

A hundred feet above the timber, Jimmy fired. He saw the first burst of steel plough up the snow and caught a fleeting glimpse of men running back. As the plane swung upward, Jimmy turned his gaze to the circling ship that lingered above him. He heard nothing save the straining roar of his own engine.

On an abrupt bank he returned and dived again, firing as the trees rose up over the nose of his plane. For those few seconds the controls were free and the ship was plunging without guidance. Jimmy sprang back and straightened her, while he watched the scene below. They were firing at him now, three of them who ran from the trees as he started up.

He saw a hole appear magically in one wing and grinned. They were getting the technique of it now, he reasoned swiftly. They waited until he flattened off to climb, then came out from shelter to get him when he could not fire back.

Ever watchful of the plane above, he swung around now in time to see the ship move off in a direct line toward the lake two miles distant. Jimmy hit the gun and went after her, circling as she came down. He saw the ailerons of her plane wiggle in signal. Staring down toward the lake he sighted three figures that emerged from the trees and waved, then ran back to disappear as shots puffed out from the timber behind them.

Jimmy grasped the significance of this and waved to Linda as she brought her plane close. Farrell and the two Provincials were fighting from the woods near where they had landed. Larsen, then, had divided his men, sending some of them to attack the cabin while the others remained to kill or capture the wounded pilot and his aides.

How then, Jimmy asked himself, did Linda manage to cross the open sweep of the lake and reach Farrell's plane? He wondered too, if Jerry and Davies could hold out much longer at the cabin. They could expect little aid from Collins, he considered. Indeed, it was likely that the weak-spined secretary would secretly hinder them if he could.

Jimmy leaned from his cabin again and pointed up, urging Linda to a higher ceiling out of rifle range. He saw now that his most important task was to drive the renegades from their hiding-place beside the lake. Thus, he would be able to protect Farrell and the Provincials and, at the same time, create a landing place for Linda. Later he could renew his attack on the men who besieged the cabin.

Accordingly, adjusting the Marlin again, he pointed down, first assuring himself that Linda had understood his signal. Her plane was up a thousand feet and climbing. Jimmy hit the gun and dived. He waited until he was almost over the trees, so that he could peer down between them. Then, as a man sprang across an open space, Jimmy pressed the trigger.

THE Marlin spat its steel messengers in a staccato burst of death. The runner below staggered before he got into shelter, then plunged. His arms were flung awkwardly forward as he went down and lay quiet. Jimmy laughed and pressed the trigger again, then leaped back to the controls.

There was a moment of strange significance, a pause, as though the whole world hung motionless in its orbit. The engine abruptly slowed, then burst into song again, but brokenly, coughing. The plane tipped over crazily on one wing and started into a slip.

"Got me!"

Jimmy's terse exclamation was synchronized with his swift gesture, as he took the controls, toying with the switch. The engine picked up, then quit. From its action, he knew that the gas feed was out of commission. A bullet had ripped into the tank.

Desperately, Jimmy struggled to climb. If he could gain a decent altitude, his instinct told him, he would be able to

switch off and come down to a landing on the ice. They would pelt him with lead, of course. Still, he would have the plane for protection. And there was the Marlin, with half a drum of ammunition, two rifles and his automatics.

"They may get me," he told himself, grimly, "but they'll go through hell doing it."

The plane was climbing, slowly, uncertainly, in imminent danger of a tail spin. Looking up over the nose, Jimmy saw Linda's ship circle anxiously, then point down. She came with her engine on full, in a long steep dive. When it seemed that her ship would ram him, she straightened and glided in a circle, banking over sharply on one wing. She had opened her window and was staring down at his careening Fokker.

He waved, motioning to her to climb back out of range. While his hand still hung out in the wind, he felt the plane slip and the engine die. He dropped low in the office, fighting the controls in a last effort to save himself. Strangely enough, he experienced anger more than fear, anger at the cruel irony that had almost let him win and now was taking the victory from him with so ruthless a hand.

THE plane was out of control. The rudder bar jammed and his efforts to loosen it were futile. The wind shrieked strangely in his ears, with the drone of the engine stilled. He thought of his chances with a 'chute, had he possessed one, and grinned, picturing himself dangling in the air, while the men below picked him off at leisure.

"It'll be quick, this way," he thought bitterly.

Linda would see him crack up. The game was ended. She too, would have to come down, even if her nerves did not fail her and send her down out of control. Larsen had won. The plane turned over slowly, like an autumn leaf in the wind.

Staring out at the revolving universe, Jimmy saw Linda's plane almost beside him. She was leaning far out from the cabin, signaling to him. Her hand pointed to the undercarriage of her plane. Suddenly the dizziness left his head. He sprang to his window and climbed out, clinging to the wires.

Linda was trying to save him!

Jimmy hung on to a strut with one hand and signaled his understanding of her plan. Then, swiftly, his face drawn and hard, he crawled out on the upper wing. As his weight went out the plane gradually straightened. The trees seemed to be coming up at a terrific speed, yet Jimmy calculated that he had twenty seconds, perhaps thirty.

For an instant it seemed inevitable that the two careening ships would tangle. She was coming down, straight at him. At the exact moment she swung up. The undercarriage zoomed just over his head. Jimmy sprang for it, both arms extended. In that dazzling instant he hung in space, between earth and sky. Below lay certain death. Above was the lone chance of survival.

His hands gripped the cross bar. He was jerked into the air and his legs swung up. With a strength that came from desperation, he pulled himself into the space between the V-shaped bars of the carriage and hung on. Already, Linda was climbing. He saw his plane plunge down and crash in the trees.

Until they had risen a thousand feet and were far out over the timber, Jimmy gripped the rods, staring down dizzily. At length, sure of himself again, he crawled to the edge and drew himself up to the wing. Linda swung the door open and he fell into the cabin, numb from the cold, half conscious, as sudden realization struck him with its full significance. In danger, his nerves had functioned smoothly. Now, for a brief moment, they faltered and Jimmy surrendered to the intoxication of relief.

He pulled himself together and made his way forward beside the girl at the controls. His hand fell upon her shoulder. She looked up into his face and her eyes were wet with tears, yet she smiled and spoke. He read her lips.

"Good stuff, Jimmy Blair."

He bent and spoke into her ear.

"Good girl, Linda Davies."

They laughed oddly. He motioned for her to quit the pilot's seat and she surrendered the controls to him. He leaned down to the switch and his hand gripped the stick as his mind took a new hold upon the will-o'-the-wisp of hope.

Jimmy circled back over the timber, flying high now, risking no chance shot from the ambushed marauders below. He was reduced to a single weapon, the automatic which was strapped to his leg. The rifles, the Marlin, even the second revolver had, of course, gone down with the doomed plane.

Linda saw him look at his automatic and read his thoughts. She leaned down in the cabin and from beneath the low seat drew a rifle.

"Good!" he exclaimed. "That's what we need!"

She could not hear the words, but she understood them and smiled. She leaned close and called into his ear.

"Get over them, Jimmy. I'll take the controls. You take the rifle."

He refused instantly, shaking his head in disapproval. "They're too good with their guns," he called back. "We've got to fly back over the trail. Sioux Lookout sent men up. They're somewhere on the way."

They were over the lake again, a safe two thousand feet aloft. Jimmy looked down toward the spot where he had last seen the marksmen. Linda's gaze followed his and an exclamation left her lips. There were three men running across the ice. One of them lingered behind the others, half dragging himself. Puffs of smoke from the woods told of riflemen in shelter who had them at their mercy.

Jimmy pointed down, risking a shot to get a closer view. Linda's hand tugged at his sleeve and she was suddenly speaking into his ear, her voice breaking with her emotion.

"Jimmy," she cried, "they've got them on the run. That man—that last one—is Fred Braddock. His hat—you remember—"

He nodded abruptly and reached for the stick. He did remember Braddock's peculiar headgear, a high cap of beaver skin, that distinguished him from the others with their parka hoods. The running men paused to fire back into the timber, then started ahead. As the plane pointed down, they suddenly raised their rifles.

Jimmy turned in a steep bank, evading their fire. From the timber there now emerged two figures, shooting, as they ran, at the men on the ice. Braddock went down. Jimmy saw his rifle flung out from him as he sprawled. Swiftly the scene became clear to him and he prepared to go down.

The rearmost men were Provincials. He made certain of that as the plane circled low. He half turned and signaled to Linda.

"I'm going down," he shouted. "Lie down!—keep out of sight."

SHE understood him and promptly obeyed. Jimmy headed the plane down in a steep dive and laughed madly. The runners below paused, looked back at the timber and decided to keep on. The fire from the trees was kicking up the snow in little spurts about their feet. Their safety lay ahead in the dense growth across the ice. They left their fallen companion and lurched ahead.

As the skis touched the ice, Jimmy wheeled the plane around and hit the gun. The engine roared and the ship sped across the ice, straight upon the fleeing men. Jimmy scooped up the rifle and without waiting to rip the window open, fired through the glass. He pressed the trigger again and saw one of them slacken his pace and stagger.

The plane slid to a halt and Jimmy sprang down, shooting as he ran. The men ahead abruptly wheeled and threw their rifles down, lifting their hands high above their heads.

"Keep 'em up," Jimmy barked. "Way up, too, damn you."

"No shoot, Meestair poleece. We give up."

He stared into the shifty eyes of the lean Pierre. The second man, white-faced, bleeding from a wound, he recognized as one of the Larsen outlaws.

"Where's Larsen?" Jimmy demanded.

Pierre gestured toward the timber in the direction of camp. "All right. Step ahead of me. We're going in after him. If he shoots, boys, he gets you first."

The Provincials came running up, with Linda shielded behind them. Jimmy recognized MacBair and Clancy.

"Hello, Blair. Dusty's back in the woods—hit. He said it'd be you when we heard your plane." MacBair greeted him eagerly.

They regarded Jimmy's prisoners swiftly.

"We'll shove on back to camp," MacBair resumed. "You watch these fellows and look out for Miss Davies—"

"Are Rogers and Silton back there?" Jimmy interrupted.

They returned his gaze blankly.

"No. They haven't showed up."

Jimmy nodded and his eyes were worried.

"We'll all go in," he announced. "We've got these fellows to catch bullets—if they cut loose at us."

The Provincials agreed and in a moment Pierre and his companion were marching ahead. The others fell in behind them, single file, with Linda following the Provincials and Jimmy bringing up the rear.

THE little procession moved warily into the timber and halted at an abrupt command from Clancy, who was following the prisoners.

"There'll be some trouble up ahead," he warned, with a sidelong glance at Linda. "This gang is waiting for us—either that, or they've headed out. You can count on it, they'll cut loose when they get a chance."

"They're too quiet to suit me," said MacBair. "They know something's happened out here, all right, and Farrell's over there in the woods alone. They're dirty enough to shoot a man when he's down, if they find him."

Jimmy agreed with their remarks, yet as he gazed at Linda, he was uncertain for an instant.

"We ought to stick together," he suggested. "Larsen and his outfit will, you can gamble on that. If they head out this way, boys, they'll run into us. Right now, there's nothing we can do about Farrell. Do you know how many men are with Larsen in there?"

"Four," replied the Provincial who had first spoken. "He had seven to begin with when we came down, counting himself."

Jimmy nodded.

"Let's take them on then," he said. "We've got the trees for shelter—and these men here, if we need them."

The Provincials laughed in unison, glad of the opportunity at last to settle the score for their lost comrades.

"Wait a minute." Jimmy swung on Pierre. "Look here, are there three more of you with Larsen? Tell the truth now."

"T'ree," Pierre held up three fingers, "with Larsen."

"If any more show up," Jimmy told him quietly, "I'm going to put a bullet in the back of your head, Pierre."

"Pierre he tell you trut'," the man protested.

They moved again among the trees, speaking only occasionally. Following Linda, Jimmy constantly watched the trail behind him and his gaze went cautiously into the woods through which they passed.

"How did you get Farrell's plane, Linda?" He spoke in an undertone, eager for an answer to the problem that had puzzled him since she first had signaled from the fleeting Fokker.

"They were fighting in the timber," she replied across her shoulder guardedly. "I waited until they got into the trees. They were like Indians. When I saw a chance I ran out."

"Did they fire at you?"

"Oh, good heavens! yes. I thought at first they'd hit the tank—or me. But it was the only chance—"

"How did you get out of the cabin?"

"I climbed out the window," she told him. "They were firing on us from the trees on the other side. Dad tried to make me stay. I knew we had to get help. When I got out, I ran into the timber from that side of the cabin. They couldn't see me. I circled around until I got to the lake. I could hear them shooting back there. We didn't know how

many of them there were—It sounded like about about a million!"

"Gad, that was pluck." He lowered his voice still farther and spoke almost in a whisper. "I love you."

She half turned to him.

"You proved it, Jimmy Blair."

His face, as she spoke, became suddenly a taut mask. So swift was his movement that she saw only the dark gleam of the automatic in his hand, the spurt of yellow flame, as he fired. A second shot spoke before the Provincials could wheel.

"Drop it, Larsen."

The name had scarcely fallen from Jimmy's lips, when a figure plunged from the shelter of a tree beyond the trail and lay twitching in the snow. Jimmy sprang in front of Linda, his automatic thrust ahead, his eyes roving among the neighboring trees.

"There's another one in here," he called back. "I thought I got him."

A second bundled figure lurched awkwardly into the open and he, too, went down groaning, as his rifle whirled into the snow.

Ignoring the second prostrate form, Jimmy spun around upon the first. Larsen had risen on his elbow. His face was twisted in a dying grin.

"That's the breaks." His voice was thin from pain and his hand clutched steadily at his breast. "That was quick stuff, kid." His rapidly glazing eyes gazed up at Jimmy.

"You had it coming, Larsen."

"I could have put it over on the hick cops—but you win, big boy—that was shootin'."

Jimmy kneeled beside him and lifted his sagging head.

"Will you talk now, Larsen? Or are you going to take the third degree at Sioux Lookout?"

The man laughed weakly. "Talk," he repeated. "What the hell for?"

"What's your—your racket, Larsen?"

The gangster gazed up at him incredulously. "You ain't wise to that yet?"

"They want you down in Chicago, I know that," Jimmy said. Larsen grinned. "They won't get me, will they?"

His head fell back on Jimmy's arm.

"I come up here to get the dame," he went on, slowly. "You had that doped out. I could of gotten away with it clean, too. But I ran into these hicks. They was after the old gent, so I played 'em for suckers. Hell, they was for bumpin' him off. I only wanted some of his dough."

"So you used them for your own game, Larsen?"

"Sure. Why not? It's dog eat dog in this racket, bozo."

Larsen sank lower and became a dead weight.

"That," said Jimmy gravely, "is all the confession we'll get from him."

"This one's still kicking," said MacBair. "We don't need any more confessions, Blair. We've got the goods."

JIMMY set down his burden and straightened, to gaze into Linda's horrified eyes.

"Two more of them, boys," he said grimly, "and we're through."

It was all straight in his mind, at last. His first guess had been accurate. Braddock, and the rest of them, had wanted only to get rid of Colonel Davies. Then, Larsen, with his cunning, had come into the Ungava. He had found his tools waiting for him in the hardened men of the timber. After that the way had been clear—almost.

Over his muttered protest, they forced the wiry Pierre to shoulder the burden of his wounded accomplice. Mercilessly, he carried the man without regard for his hurt, but mercy, as Jimmy was aware, had never been one of Pierre's virtues. They moved in silence as they neared the clearing. There was no sound ahead and one of the Provincials went out in advance to reconnoiter. He returned presently with the announcement that the two remaining marauders had evidently decamped.

They went on, still cautiously, (Continued on page 95)

The Mail Must Go!

By
JACK BELL



A mail plane of today sailing smoothly and majestically over the perilous terrain of the Rockies on its way from Reno to Cleveland. No landing field here

Photos © American Air Transport Assn.

Experiences of Mail Pilots Who Carry On Despite the Hazards of Land and Air

"MAY the good Lord take a liking to him," was the devout prayer of a grizzled cowman, as he stood spellbound for twenty-five minutes, watching an airman and his craft standing still in the sky.

The weather was fair above the Reno Air Mail field, in the mid-afternoon of January 27, 1923. Over the Sierras, a matter of fourteen miles, the weather indications did not

appear to be much worse than is usual during the storm season, when weather conditions are a bit changeable.

Pilot Burr Winslow took off from the Reno field on schedule time. He circled for altitude. Scarcely had he reached a height of a few hundred feet, when a murky spume of mists began gathering, heralding the terrific storm that was shortly to follow. So suddenly that the eye could scarcely follow, far, far above the earth, the monstrous



The "Hump," that treacherous sloping spot in the Sierra Nevadas that taxes the skill and ingenuity of the cleverest veteran pilots. Once over the "Hump," they are half-way home. This photograph was taken at an altitude of 13,000 feet

petrel of the clouds stood still; the glints of the lustrous body could be seen, hanging and shivering like a living, lost and frightened creature from another world.

Some unseen power snapped the ship west like a flash. The binoculars, centered on a dark spot, revealed an airman in the cockpit. The struggling plane was being manipulated by a man with sinews of steel and muscles of seasoned hickory, a man with nerve and a knowledge of past achievements. Never before and never again was Pilot Winslow called upon to meet a like condition.

Overhead, covering the entire sky above him and the quivering, man-made bird, black clouds moved with the velocity of light. The thundering roar of the billowing mists, angry and white-rimmed, swirled through the sky with incalculable momentum. Along the Sierra peaks there was a wide stretch of clearness, confined to the width of the tops of the range. This was an unprecedented circumstance. The elements were creating a scene comparable to that of Dante's Inferno.

At the field, the storm was so violent that it was feared the hangars would be leveled to the ground. The dust and wind were terrific, but as suddenly as it had started on the ground, it subsided to a 25-mile wind.

With straining eyes and shortened breath, hundreds of people between Verdi and Reno watched the sky. Winslow's plane was visible above the village of Verdi. As they watched, they saw the ship hurled this way and that, as the hurricane beat against it in the upper levels. Every second they expected the ship to be battered to pieces. She staggered, nose up, then tail vertical, rocking into almost a sideslip. Then, wonder of wonders, at a point above Verdi, the ship stood absolutely still, a thousand feet above the village.

At the Reno field the telephones were in use continuously. From ranch and farmhouses, from spectators and townsmen came telephone calls, alarmed messages, to tell of the plane and pilot in distress, seemingly suspended by some invisible force in the misty dome, under the blackness of the rising winds.

One woman, hysterical from watching Winslow's struggles in the air, called the field from Verdi and cried:

"Please, please! Can't you send help to the man in the airplane under the clouds? I've been watching him struggle in the hurricane, tossed about like a wisp of wild cotton, right above our home. He has been driven back and forth, like a flash of lightning, time and time again. Right over our house the airplane stands still. Then it backs away toward Reno like a wink; then it comes back again to the same place. It's just awful; I know the poor boy will be killed.

Nothing human can stand that cyclone. It's tearing away stunted timber along the rims of the high foot-hills. Please, please!"

This is but one instance of the expressions of anxiety, the pleas that came to headquarters at Reno, during the full hour and a half of Winslow's fight with the elements. This event will stand as a record in the official log at Reno field for all time.

THIS hurricane tore in from the west and a bit north, then scattered in twisters in all directions. There had been no warning of the high velocities from any station. The hurricane passed in sweeps over the highest saw teeth of the range, then in down currents along the foot-hills, and on into the cañons to the south and east, in the extreme western end of the great basin, wherein Reno is situated. The speed attained was rated at a hundred miles an hour, a thousand feet up from the ground.

Over this same town of Verdi, the intersection of hundreds of miles of cañons and broad, waste valleys, the storm center broke, as it always does, with the fury of a thousand fiends turned loose.

The deceptive part of the storm was the view of the "Hump," for just a rim of black clouds showed along the tops of the mountains. The pinnacles, roundtops, and shattered spires showed through and the sky seemed clear. Traveling beyond this line seemed safe from the air. There was safety for the flyer if only he could escape the maelstrom of angry, uncontrollable winds.

The blasts ran wild and to the driver's imagination they seemed to come from every direction of the compass. However, the ship waded and tore through, under full throttle, for about a quarter of a mile above Verdi. There she stopped, stopped as dead as if she were tied to a snubbing post. The ship was level and seemed to be headed straight into the blast, throttle wide. For minute after minute, until it seemed an eternity to them the watchers saw the phenomenon of an airship standing still in the heavens.

"My old boat stood still for what seemed to me an hour," said Winslow afterward. "As a matter of fact, we hung up there for just an even twenty-five minutes. Say! that Verdi hell-hole of the air ought to be arrested and put away forever. Well, the blasts began to hit the ship with a force that shook it, just like an old swamp angel with an extra dose of the ague. Never in all my flying did I have the queer sensation that I experienced during that long, stationary tie-up. It was weird and almost inhuman. I might have been in another world.

"It was a brand-new situation. There was danger of being turned upside down, assuming all the positions a ship may take to end in disaster. I had the time of my life keeping her snout down so she wouldn't go into a position where I would have absolutely no chance to get her back level. Believe me, I worked. Then I began to back up, slowly at first, and then with a swish. I glanced hastily over the side and again I was over Reno. This shook me up a bit. I had lost 6,000 feet of altitude, too. I had been up to 9,000 when I last noted the dial.

"I still had hopes of making a crossing over the 'Hump' and getting the mail down to San Francisco. The wind took me in a wide circle back west again, toward the cross-over. It was remarkable how quickly I reached 14,000 feet. Heading the ship for the Verdi whirlpool again, I quartered and reached the latter place in no time at all, seemingly in seconds. Bang I went against an incoming surge again. Never had I experienced such a pounding against a ship. I almost gave up; thought she would fly to pieces.

"Let me say, right here, we all have to hand it to the Motor Macks for their care of these ships. They make them safe. When a Reno-built ship can stand what the 158 did, why there seems to be nothing in the heavens that can destroy it. The Motor Macks always function. The strains and stress of that flight make me proud to be part of it all.

"Well," he continued, "I stood still again in that Verdi spot. The wind whistled like a thousand lost souls. There was a spong-spong as of harps, intensified a hundred times, in the twang of the wires. The covering of the wings flattened down to thin paper. All over the ship there appeared to me to be queer changes I had never before imag-

ined possible. The darn business kind of got my goat for a while. I was determined to get that mail down below, if there was the remotest chance.

"Resting, rather relaxing, for a few minutes while the ship stood at anchor upstairs, I glanced at the altimeter. It was dropping at an alarming rate. The down current, coming from off the high Sierras swept up and rolled in great billows, about like Niagara I figured out. I was back at Reno again. It was just—whiff—and there I was over the University, down again to 8,000 feet.

"Around the meadows, over Sparks, I again took her, with nose up, around Peavine mountain, swept her up to 13,000 and down again I went into the Verdi vortex. No getting past that barrier of savage, intense wind which I had found was over a mile thick; that is, the hurricane was probably about that, as near as I could judge. There was apparently no top nor bottom.

"**A**T the third and last try for the top, I saw the 'Hump' had darkened and was black as night over the entire range. At that I took another chance, believing I might get through. I made Verdi again. It was worse than ever. I succeeded in turning the ship again and came back to the field. Doggone tough luck, not getting the mail through. Made me mad to default—

"Goodness knows we have enough troubles without failing to get the mail over. But when you can't, you can't, that's all there is to it. I am mighty glad I did not have a passenger up there on that trip. I'd have worried for his safety."

This date, January 27, 1923, will always be remembered by the men in the United States Air Mail service at that time and by each member of the personnel at Reno and San Francisco, as having the most remarkable wind and weather of hurricane intensity in the history of the Weather Bureau. It is very doubtful if this exact condition will ever obtain again. Over and along the topmost crests of the peaks of the Sierra Nevadas, for a distance of about 100 miles, easterly and westerly, the sky was clear and bright. The condition was described by the two pilots, Winslow and Vance, who made identical weather reports, detailed the same air hazards, told of the awful fights they had and how the ships stood



Vance and Rickenbacher landing in three feet of snow at Reno Field from Elko. The ship nosed in and tailed up when about to stop, but neither of the flyers was injured. On this trip, Rickenbacher was carrying a message from President Harding to a convention in San Francisco

stationary in the high ether. Each told of the savage currents of air coming down on top of their ships and of how their altitude dropped thousands of feet in a fraction of time. They related how they made three attempts to reach their goal, the famous "Hump," how their ships sang and trembled and how the 400 horse-power Liberty motor was like an ant, hurling its puny strength against a locomotive under full speed.

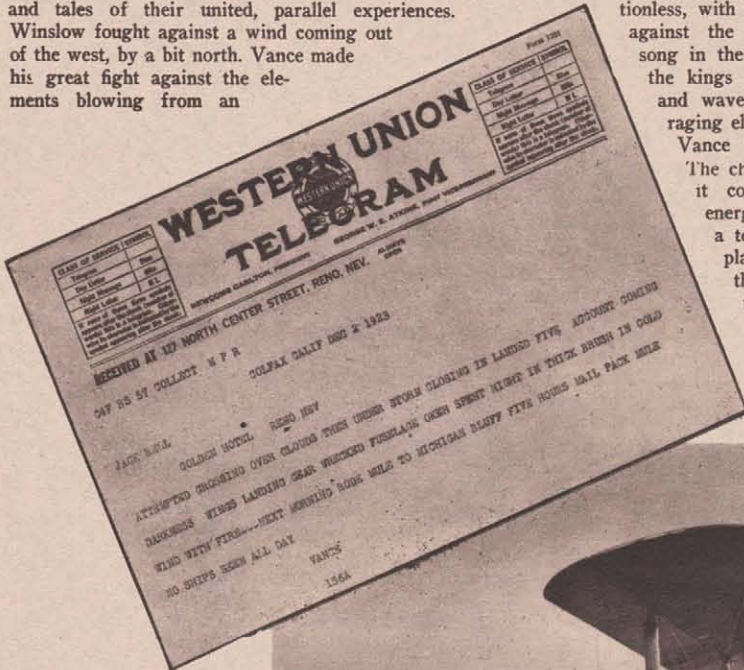
There was but one startling exception in the reports and tales of their united, parallel experiences. Winslow fought against a wind coming out of the west, by a bit north. Vance made his great fight against the elements blowing from an

from the Reno field. Vance came along at record-breaking speed, with a fair tail wind, until he reached a point within a few miles of Colfax, Calif. Colfax is about the same air line distance from "Hump" as Verdi is from Reno.

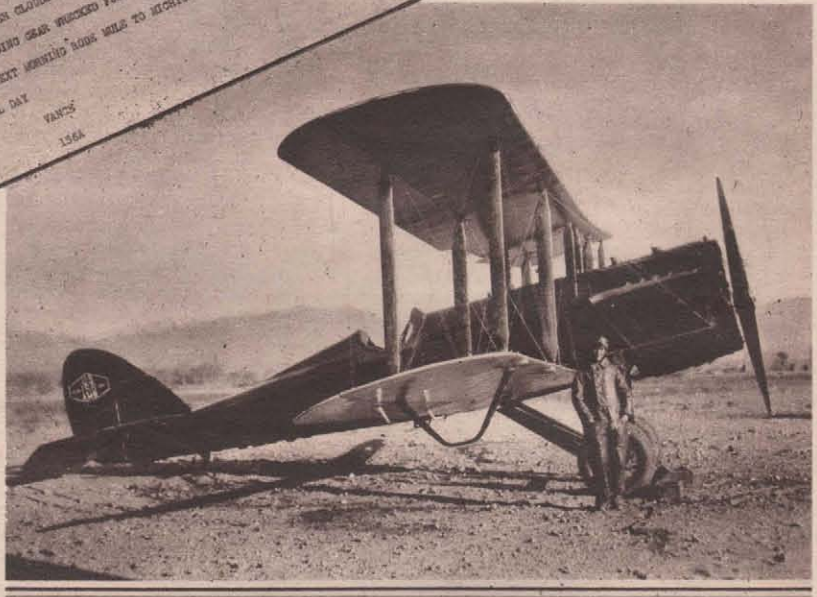
It was here that he hit a bump that almost unseated him. The shock was like that suffered by a liner striking a submerged iceberg. Then his battle began. After the first attempt to negotiate the roaring flow of winds, Vance found himself standing still in the air, motionless, with the powerful Liberty holding its own against the immeasurable pressure, singing its song in the long roar of combat, in defiance of the kings of the whirlwinds. The ship shook and wavered with the jumpy increase of the raging elements.

Vance watched for a way of deliverance.

The change came with such suddenness that it could not be timed. The wave of energy came from above the ship with a terrific impact and down and back the plane flew. With supreme effort the ship was headed tail-to. In less time than it takes to recount, the ship was driven back and hung again over Sacramento at 6,000 feet with scarcely any motion.



A message received by Mr. Bell, the author of these articles, from Pilot Clair K. Vance, telling of a safe, forced landing. Below is Vance standing beside his plane a few days before it was wrecked



eastern direction to a few points north. Otherwise they jibed.

This was due to an unearthly, abnormal splitting of the hurricane by the colossal row of peaks along the Sierras. A complete change in direction of the blow was created. As shown by the reports of the two airmen, the great width, depth and height of the wind-flow was actually split and changed in opposite directions.

These two pilots were doing the same things at the same time and they were 100 miles apart in an air line. Neither man knew of the predicament of the other until the next morning. It was then that they were dumfounded and were convinced only after long argument that the wind had blown in different directions, divided as it was by the Sierras.

Pilot Clair K. Vance left the field at San Francisco on the same day and at the same time as did Pilot Winslow

Around the edges, Vance zoomed up, up and up, until he calculated he had reached the ether above the wind flood. Then he guided his plane for a straight line over Placerville and Colfax, for the "Hump."

Into the cauldron of mixed and varying bumps he sped and, with a crash, again landed against the full force of the gale. The crash tried both pilot and ship. Over Colfax the air conditions remained unchanged. He turned the giant bird again and found himself at Sacramento, with the same loss of altitude.

It seemed inconceivable that the "Hump" could not be reached, when it appeared so clear and bright from the vantage of 13,000 feet above the earth.

Once more he headed up into the altitudes and reached 15,000 feet, hoping to take flight with his mail into Reno

with a default. He reached the holes and bumps with another awful pounding of the screeching winds, went through the same, trying, exhausting fight, and saw the denseness of the black clouds enveloping the mountains in every direction. He gave up.

But he made the fight that will go down with Winslow's as the most gruelling, most unusual and thrilling one that a flyer can experience. Over the 100 miles of territory there was absolutely no landing for a set-down.

Vance landed at Mather field, Sacramento, put his cargo of mail on a limited train and headed his ship for San Francisco, a distance of ninety miles. He broke into another half gale and it took him one hour to make the field at Crissy.

It was on this same day that Major Tomlinson, field manager at Reno, received official notification from the Postmaster General at Washington that the United States Air Mail was the recipient of the Collier aeronautical trophy. This prized award is the most sought after of all the cups and rewards given to every branch of aeronautics in the United States. It means that the United States Air Mail has a recognized, unbeatable aggregation of experts with resultant accomplishment, in this country.

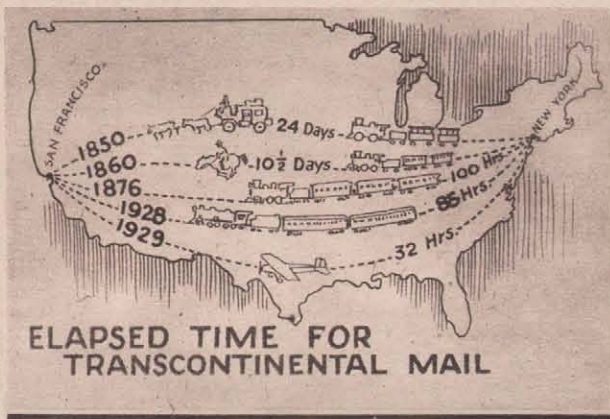
There were other times, however, when the monotony of uneventful sky-riding would become tiresome. The pilot would get bored watching the barren gray peaks and the timber growths below. Then, sometimes, the

pilots would come down dangerously close to earth, and hunt and prospect for a locality where there might be a chance to make a safe landing in the event of sudden stress. They never did locate such fields. The small frozen lakes in mid-winter were the only landings they logged.

Many times while off their runs, they would take automobiles and go through the highways and byways of the "Hump" country and make every effort to find such a location. They always failed. There was no such place. One chance they all knew, and that was one in a million, and that was to head their ship down into the great tree tops and gamble with death. They figured this as their one way out in that hundred miles.

Every once in a while, one of the boys would, while coming into Reno, note a speeding, limited train far below. Like a swooping eagle, he would nose his ship down in a long, graceful angle. He would cut his motor, and no thunder came from the Liberty. He would level

off and then give her the gun, and like an unseen force, like a stream of light, he would parallel the running coaches and glimpse the passengers as they would bump their noses against the window to get a look at the big ship of the United States Air Mail. Then the pilot would grin in delight at the consternation he had caused, nose his ship up into his level of security, get back on his air road, and swoop over the fields to the air-drome.



Who said, "The old order changeth not?" It used to take nearly a month to send a letter from coast to coast. Now it takes about a day. And there was more danger in those days, what with Indians, bandits and the like

The equipment carried by pilots of the air mail—snow-shoes, life preserver, parachute and 48 hours' hard rations



HOW Flying Penmen



This is what might be called a "sky pen." It is the plane that is used in spelling out words in a white chemical smoke 10,000 feet in the air. The exhaust pipe through which the smoke passes can be seen running along the side of the fuselage.

Photos © Fairchild Aerial Services, Inc.

By

JERRY WENTWORTH

WHEN he saw the scout plane dive from twelve thousand feet over Gaurrelle, Major Jack Savage expected to watch another forced landing. On the contrary, the little S E-5 looped back into the sky and arrowed straight at three German Fokkers that were riding on him in formation. They parted as though a bolt of chain lightning had crackled between their wings and Savage grinned. In the next instant, the R. F. C. chaser had one ship wheeling over in a slip and the other two were running.

"There," said the major quietly, "is a bird who knows his onions. I'd like to meet him."

That was early in May, 1915, when the Allies were forcing the Germans back in the region of Arras. The western battle front had been sagging down towards Paris, with the triumphant Germans playing havoc on the pocked ground and in the pocketed air. But now the line bellied back up towards Belgium and the pilots of the R. F. C. were celebrating.

Foremost among the celebrants was young Cyrus Turner, the lad in the S E-5 single-seater with that drumming Hispano-Suiza motor, augmented by a sputtering machine-gun. Turner had joined the R. F. C. at the age of sixteen. He had two hours of instruction and went up solo. It wasn't long until the German pilots began to think he had been born in a pursuit plane with his only toys the joy-stick, the rudder bar, and a machine-gun.

Major Savage was destined to have his hopes realized. He met Captain Turner and they became fast friends. They had helped to write history in the sky over the lines. Now they were to join in writing new legends in the air, for Major Savage had become the originator of sky-writing. They have, at one time or another, hung half-mile-high letters ten thousand feet in the air over nearly all of Europe and the United States.

So successful had the novel method of aerial calligraphy become, that there now exists the Skywriting Corporation of America, which is the only concern of its kind in existence. The company holds all sky-writing rights here and abroad. It trains pilots, provides ships, and tells the world a number of things in great letters of smoke, white against the sapphire background of a clear sky.

Allan J. Cameron is the president. He understands men and is familiar with the art of flying, and he is as enthusiastic about his work as the youngest flyer in the outfit. "The first time I saw sky-writing was over Paris," he told me. "It impressed me so much that I flew across the Channel to meet Major Jack Savage. He was the originator of it, you know. Well, Savage gave me the details."

Mr. Cameron smiled reminiscently.

"There was plenty of experimenting with it before the War," he continued, "but it didn't amount to much until 1922. It was in May of that year that Captain Cyrus Turner gave the first successful demonstration over the English Derby. He and the others used to try all sorts of things—and the ships in those days weren't so reliable as they are now, you understand."

Without recourse to his records, Mr. Cameron told the story from the beginning, calling only upon his photographic memory as the new romance of commercial advertising unfolded.

In those early days, he recalled, some of the pilots practised the backward system of writing on bicycles, using wet tires on the concrete before the Hendon airdrome outside of London.

"**B**UT they couldn't do a verticle bank with a bicycle," Mr. Cameron chuckled. "Still, they made an impression on the concrete."

His face sobered as he remembered "Collie"—Captain C. B. D. Collyer, the veteran mail pilot and 'round-the-world flyer who crashed with Harry Tucker in the Lockheed Vega monoplane *Yankee Doodle*.

"Collie did our first job in America," he resumed thoughtfully. "He wrote *Hello U. S. A.* His second job was to write *Call Van 7100*. That was our debut. In a little while we had five pilots flying S E-5's. We advertised cigarets and books and a lot of other things. . . .

"Good old Collie. He's got a higher altitude now than he ever reached in a plane."

He relayed the story of events which first brought Major Savage and Captain Turner together. The major was in Paris with a group of people who were watching an air

WRITE *in the* SKY

*The Daring Day's Work of Pilots Who Can Make no Error
Either in Spelling or
in the Reckless Manipulation of Their Planes*

circus carve one eagle after another in a succession of loops and spins.

"Wouldn't a loop look great," exclaimed one observer, "if a plane could shoot a smoke streamer as she flew?"

"It would," the major agreed.

And immediately it occurred to him that if a flier could perform an ordinary "O" in smoke, he could do a Spencerian with the rest of the alphabet and actually say something. Then and there the idea was born. After a series of trying and unsuccessful experiments, Major Savage at length mixed a chemical and found a method that worked.

"The chemical," Mr. Cameron explained, "is kept under pressure in a tank behind the motor. It is controlled by a 'Bowden' on the joy-stick, which is a sort of trigger. When the pilot is ready to start a letter, he opens the valve by means of this control. The chemical is forced into the hot exhaust pipe, which is covered with asbestos to conserve its

heat. This becomes the ink—or chalk—for the writing."

The exhaust pipe rides along the fuselage and emerges beneath the rudder. As the chemical catches the heat in the exhaust it becomes a white gas which expands when it contacts with the air. It then forms a column of smoke about five feet in diameter.

"However," said Mr. Cameron, "the smoke we use couldn't be spread as a screen for protection, because our chemical is different from that used by the Navy. Their stuff is heavier than the prevailing atmosphere and settles. Ours is comparable to the atmospheric pressure found at ten thousand feet.

"The chemical itself is a dark, thick mixture that resembles crude oil. The pilots call it *gubbins*. They couldn't pronounce the scientific monicker if they knew it. It is a secret process which was used first in England in 1922."

War birds occupy the control (*Continued on page 92*)



Writing a six-mile message in the sky over lower Manhattan



The sky-writing pilot has just rounded out the last letter, O, of a word he has inscribed on the "blue-board" above the beautiful Manhattan sky-line. The letters are a half mile long and the word itself stretches six miles

PLANE TALK

*Gather Around, You Curious and Inquisitive. Ask Any Question You Wish About
Airplanes and Aviation and the
Macfadden Aviation Advisory Board of Experts Will Answer It.*

WHERE do I make application to join the Army Air Corps?"

"Can you tell me if the training is free?"

"For how long must I

enlist and how long does the course take?"

"Where am I sent at the completion of the course?"

"Is it necessary to have a college education?"

"Where are the Army Aviation Training Schools?"

"Does the Army give a mechanics' course, and if so, where is the school located?"

These and many other questions of similar nature have been pouring in on us the last few weeks, and we are taking this opportunity of answering them collectively—bunching our hits, so to speak. You will find, here, complete data on the Army Air Corps, how it functions, qualifications required to join it, etc. All readers who have asked us anything about the Air Corps will find their questions answered here somewhere.

We will present the information under these subjects:

- Appointment for Flying Cadet.
- Form of application for appointment.
- Flying instruction.
- Pay and allowances.
- Schools.
- Examinations.
- Completion of flying training.

APPOINTMENT FOR FLYING CADET

Appointment as flying cadet is open to the following individuals: 1—Enlisted men of the Regular Army; 2—Members of National Guard Air Corps; 3—Members and graduates of R. O. T. C. units; 4—Civilians.

The requirements are as follows: 1—Unmarried male citizens of the United States, between the ages of twenty and twenty-seven; 2—Satisfactory completion of at least two years of a college course or ability to pass an examination which is the equivalent thereof; 3—Excellent character references; 4—Sound physique and excellent health.

The examinations referred to will be explained later.

FORM OF APPLICATION FOR APPOINTMENT

The applicant must apply to The Adjutant-General, Wash-

ington, D. C., from whom he will receive an application blank for appointment and affidavit to accompany it. This

must be carefully filled out and supporting documents attached to authenticate the applicant's education. Upon receipt of these papers in the War Department, applicant will be notified of the date of next examination.

The following are necessary in submitting the application for appointment: 1—Fill out application blank in triplicate; 2—Execute affidavit in triplicate; 3—Provide three letters of recommendation signed by persons of recognized standing in the community in which the applicant lives; 4—If two years or more of college work are claimed, provide a certificate from the college registrar giving the applicant's record while at college; 5—Applicants from the Regular Army, National Guard, or R. O. T. C. will forward their applications through military channels to The Adjutant-General, Washington, D. C.; 6—Civilian applicants will mail the applications to The Adjutant-General, Washington, D. C.

In this department each month the Macfadden Aviation Advisory Board will endeavor to answer all questions on the more serious and technical side of aviation. Address all questions to—

The Macfadden
Aviation Advisory Board
FLYING STORIES,
1926 Broadway,
New York City

Enclose with your letter a self-addressed, stamped envelope to facilitate an answer, as space is limited and all letters cannot be answered in these pages.

FLYING INSTRUCTION

The United States Air Corps maintains a group of flying schools where training is given at Government expense in piloting aircraft. Applicants may have heavier-than-air (airplane) or lighter-than-air (balloon and airship) training. In each case the course of instruction lasts one year.

PAY AND ALLOWANCES

A flying cadet receives \$75.00 per month. In addition to this, he is allowed a ration allowance of \$1.00 per day, which is sufficient to maintain a first class cadet mess. Uniforms and other equipment are furnished without cost to flying cadets, a clothing allowance being credited to each flying cadet upon reporting to duty. Cadets are transferred from the point of enlistment to the flying schools and from the flying school to their home at Government expense.

SCHOOLS

The Air Corps Training Center and the Balloon and Airship School comprise a group of flying schools which without doubt offer the best course in flying instruction available anywhere in the world. These schools are located in parts

of the country where the climate has been found favorable for almost year around flying, thus reducing the amount of time lost by bad weather.

Airplane course. The first eight months of the heavier-than-air training is given at a primary flying school of which there are two, one located at Brooks Field, San Antonio, Texas, and the other at March Field, Riverside, California. On the completion of the primary training, the students are transferred to the advanced flying school at Kelly Field, San Antonio, Texas, for the remaining four months of the course.

Courses start at the primary flying school on July 1, November 1 and March 1 of each year. The primary flying training consists of approximately 75 hours in the air during which time the student receives instruction in all maneuvers necessary to pilot airplanes. There is also training in airplane engines, navigation, machine-guns, radio, and other academic subjects necessary to a military pilot.

At the advanced flying school the training consists of the following: transition of service type airplanes, cross-country flying, aerial gunnery, special training in either pursuit, attack, bombardment or observation aviation. The successful completion of the entire course at the Air Corps Training Center includes approximately 250 hours in the air. Upon completion a graduate is rated "airplane pilot" and commissioned without further examination as a second lieutenant in the Air Corps Reserve.

Balloon and Airship course. This training is given at the balloon and airship school at Scott Field, Bellville, Illinois. The course starts on September 15th of each year. The academic course of this school consists of such instruction in military and theoretical subjects as are necessary to qualify students as airship (dirigible) pilots (including balloon observing). The flying course consists of approximately 175 hours in the air, including aerial observation (in captive balloons), free balloon flights, airship flights. Graduates of the balloon and airship schools are both rated as "airship pilot" and "balloon observer."

Mechanic's course. The Air Corps has one school for the training of Air Corps mechanics. This is located at Chanute Field, Rantoul, Ill. The course is of six months duration, and upon completion the pupil is rated "airplane mechanic" and licensed as such.

EXAMINATIONS

When the application is approved by the War Department, the applicant is notified to appear before an examining board. These examinations are usually held the second Tuesday of April, August and December, or at such other times as the War Department may announce and find necessary. The examination consists of three parts and includes:

1. *Physical.* This examination is to select physically normal applicants and eliminate those with defects or disease which may become aggravated by flying training or which would increase the hazard of such training. All applicants must take this examination. Vision must be normal; that is, 20/20 for each eye without glasses. The refractive error must not be greater than one diopter in each eye.

Particular attention is paid to the balance of the ocular muscles which must be within the established limits. Normal color vision is required. Hearing must be normal, and there must be no obstacles in the nasal passage, as for example, enlarged turbinates or any disease or abnormality of the nose or throat. The equilibrium must be normal and there must be no tendency to nervous or mental instability.

2. *Education.* Applicant may omit the educational examination upon presentation of documentary evidence of his graduation from or satisfactory completion of two years' work at a recognized college or university. If such evidence cannot be furnished the examining board, the education examination will be given.

All expenses incident to the applicant's appearance before the examining board for this examination is to be met by the

applicant and no claim for reimbursement of expenses incurred prior to enlistment can be considered.

The following is the general scope of the educational examination given those not exempt therefrom: United States History, English grammar and composition, general history, geography, arithmetic, higher algebra, plane and solid geometry, plane and spherical trigonometry, elementary physics.

The Macfadden Aviation Advisory Board will be glad at any time to furnish the names of manuals and books in which can be found all information to be mastered in the passing of any of the above subjects.

3. *Psychological.* Great flyers are born, not made. A certain combination of psychological attributes not required by any other activity or effort of man is a necessity to a satisfactory pilot. The majority of men and even a majority of men who desire to fly do not possess these attributes. Years of research and experimentation have enabled the flying surgeons assigned to the Air Corps, specialized psychiatrists, to isolate the individual characteristics which go to make up this combination, which for want of a better term, is called "inherent flying ability." They can thus analyze the candidate and determine his potential value as a military pilot with only a negligible degree of error. This examination consists of three parts: 1—A practical test to determine the applicant's reaction under various stimuli; 2—A practical test on an instrument called the Ruggles' Orientator which simulates the evolutions performed in flying; 3—A personality analysis by specialized flight surgeons.

All these tests are given all arrivals at the primary school. A candidate is not considered as acceptable until he has passed them. They are incidentally the hardest part of the examination to pass. Records show that more than twenty-five per cent. of all candidates fail in them. The decision of the examining surgeons in these examinations must be considered as conclusive and final from which there is no appeal. If the applicant fails in this examination, he is returned to his point of enlistment at Government expense, thus causing the individual little or no loss of money.

COMPLETION OF FLYING TRAINING

1. *Heavier-than-air.* Upon successful completion of this training, a flying cadet is discharged from the service, rated an "airplane pilot," and is given a commission as second lieutenant Air Corps Reserve.

2. *Lighter-than-air.* Upon successful completion of this training, a flying cadet is discharged from the service, is rated an "airship pilot" and "balloon observer," and given a commission as second lieutenant, Air Corps Reserve.

Within the limit of appropriation, all cadets are then offered active duty with the Air Corps as second lieutenant. This duty is now for a period of one year. While on this duty, they have the privileges, pay, and allowances of a second lieutenant Regular Army. Men who contemplate taking the competitive examination which is held each year to fill existing vacancies in the grade of second lieutenant Army Air Corps (Regular Army) will be eligible for this examination and are accorded certain exemptions and priority therein. If they decide against taking active duty, they are free to return to their normal civilian pursuits.

It is needless for us to point out at this time that there are many enviable positions in this field today due to the enormous expansion of aviation, and this is especially so with Army trained pilots. If the applicants choose to return to their civilian pursuits, they are assigned to reserve units in their localities and will be able to report for active duty for two weeks each year if they so desire during which time they will be permitted to fly all types of aircraft that are available and on which they are competent. During the remainder of the year, within the limits of available funds and equipment, they are permitted to fly at no expense to themselves in Government airplanes at Government flying fields. This training offers an outstanding opportunity for the young men of America to become identified with this most fast growing activity.

Here is one of the most interesting letters which Plane Talk received this month, interesting because of the many and varied questions which it contains.

Gentlemen:

I and a few friends have been trying to figure out what an air pocket is and we don't seem to get anywhere. You know how it is. One knows more than the other and as I knew we would never get to a decision, I decided to ask you. Is there such a thing as an air pocket? If so, how does it act? What causes it? And at what height do you generally find it?

Also I would like to know the following:

1. *What are bumps in the air?*
2. *What is the best way to get out of a tail spin?*
3. *At what height is a pilot supposed to fly in cross-country flying? Over a city?*
4. *Is a plane supposed to take off and land against the wind or is it done for safety?*
5. *How do you identify licensed aircraft from unlicensed?*
6. *How long is an overhauled engine supposed to be on the test block?*
7. *How long can an engine be run before an overhauling is needed?*
8. *How many air miles does the average airplane get on one gallon of fuel?*
9. *What effect has a supercharger on an engine?*
10. *Who hires mail pilots?*
11. *Are you a Government man as long as you are transporting mail regardless of by whom you are hired? Well, I guess this is all this time. Thank you very much for your service.*

Sincerely yours,

GEORGE MORETTO
Bergholz, Ohio, R. 1, Box 52.

Dear Mr. Moretto:

In reply to your letter we are pleased to offer you the following information:

1. "Air pocket" is merely a slang expression indicating air currents which tend to go in a downward direction. The action of the so called air pocket is to force the plane into a sudden drop. All deviations of normal air currents are made by varying temperatures of the air. Such things as cold water, shady spots, such as woods, etc., cause air to descend. These irregularities in air currents are found at all heights up to 8,000 or 10,000 feet.

2. So called bumps in the air are caused by erratic motion of air currents, such as warm and cold air coming together, cross wind currents meeting, passing over rivers, deep gorges, cities or any spots where air currents tend to be irregular because of varying atmospheric conditions.

3. The quickest way to bring a machine out of a spin is to centralize the rudder and push the control stick forward. This action will bring the plane out into a straight dive, when the control stick is pulled back until level flight is again obtained.

4. According to Department of Commerce regulations, a plane is supposed to maintain a height of 500 feet or more when in cross-country flight; 1,000 feet over a city.

5. A plane should always land and take off against the wind. This is done both for safety and to obtain the greatest measure of lift from the air currents when taking off and to obtain the greatest amount of break power or speed reduction when landing.

6. You may identify licensed aircraft from unlicensed aircraft in the following manner. Licensed aircraft will have on the lower surface of the lower left wing and on the upper surface of the upper right wing the letter "S" (aircraft used for Government purposes) or the letter "C" (all other aircraft) followed by the identification and license numerals. Unlicensed aircraft must display when in flight an identification mark assigned to it by the Secretary of Commerce. This must be permanently affixed to the aircraft and is assigned

to the aircraft owner upon application to the Secretary of Commerce. This will consist of a number only. No other letters or symbols must appear in front of the identification marks on unlicensed aircraft.

7. According to Air Commerce Regulations (Article 10), the manufacturer of a motor is required to give that motor a twenty-five hour running test and present to the Department of Commerce a log of this run. The test block run is one of fifty hours endurance and is run in ten five-hour periods. During the first five hours the engine is run at full speed. During the remaining forty-five hours the engine shall be run at approximately the rated speed, and the horsepower developed should at no time be less than the rated horsepower.

8. The average life of an airplane engine is 300 hours without a major overhauling. A good airplane engine can undergo several major overhauls and should last from 500 to 700 hours with these.

9. A Curtiss OX5 motor uses about eight gallons of gasoline to every sixty miles which should indicate that it averages around eight miles to a gallon. Other machines of later manufacture give more or less according to their size, weight and load carried.

10. The effect of a supercharger on an engine is to pump in a greater or heavier charge of mixture so that the compression will be the same at sea level as it is at great heights despite the reduced air density.

11. Mail pilots are hired by private companies which contract to carry mail for the Government. Only Government mail is transported by the Government, by army pilots.

12. You are considered a Government man when transporting mail regardless of for whom you work or by whom you are hired.

We hope this fully answers your questions. If we can be of any further service to you, please command us.

Very truly yours,

MACFADDEN AVIATION ADVISORY BOARD.

Here is another letter which brought a generous batch of questions. We print it because we believe that the answers will be of more or less general interest.

Gentlemen:

I have a few questions to ask you. They are probably very simple, but have stumped me. Here they are:

How many horsepower of work does a motor perform when it raises 2250 lbs. to a height of 5000 feet in 5 minutes?

Is the Hisso A the 150 h. p. motor and E the 180? Are they air-cooled or water-cooled?

What is the difference between Curtiss V1550 and supercharged V1550?

What is a cabane?

What is a 360° turn and a 180° turn, as called for in the transport license?

Would you advise an Army or Navy training?

Would a course taken before going to the Army or Navy be of any great value?

What high school subjects would be the most beneficial?

I have heard that many aviators didn't think Allen's plane, with an aspect ratio of 17 to 1 would fly. Why not?

In the February copy of FLYING STORIES a Mrs. E. R. S. gave you a bawling out for encouraging and advising a boy to take up aviation. If her boy is as interested in aviation as I am, taking books away from him will have no effect. A person who really wants to get into the game is not likely to heed any advice to stay out.

If you know of any pilot who could spare a few minutes writing to a boy of sixteen who is really interested in aviation, please give me his address. I would like to carry on a correspondence with a pilot or mechanic who

has time to write about once a month.

*Your friend,
"RUDY" BRIGHT,*

2009 Warren, Cheyenne, Wyo.

P. S. I'll be waiting for your answer.

Dear Rudy:

In answer to your first question as to how many horsepower is required to raise 2250 pounds to a height of 5,000 feet in five minutes, we must first consider what a horsepower is. One horsepower is the amount of energy exerted to raise a weight of 33,000 pounds one foot in one minute, or, looking at it the other way around, one horsepower will raise thirty-three pounds 1,000 feet in one minute. Now as to how many horsepower is required to raise 2250 pounds 1,000 feet in one minute, you must divide 2250 by 33 which will give you 68-2/11 horsepower required to raise 2250 pounds 1,000 feet in one minute, and of course you realize that it would be the same amount expended to raise it 5,000 feet in five minutes.

In answer to your second question, the Hispano-Suiza motor A is the 150 horsepower motor. It is water-cooled.

The only difference between the Curtis V1550 and the Supercharged V1550 is that the latter is equipped with a supercharger.

Cabane is a framework for supporting the wings at the fuselage and is also applied to the system of trussing used to support overhang in the wing.

As to your next question, a 360° turn is a horizontal turn in the form of a complete circle which leaves the airplane flying in the same direction as before it made the turn, and of course, a 180° turn is just half of that and leaves the airplane flying in the opposite direction.

It would be impossible for us to advise you about taking an Army or Navy training. Either is excellent. A course taken before joining the Army or Navy would be of little use inasmuch as you get the finest aviation training known when you become a cadet in the Flying Corps.

We know of no special subjects that would be of benefit to you in relation to a flying school in either the Army or Navy, but to join as a cadet in either of these services, you must have had two years of college work or pass an examination which is the equivalent thereof. (Read requirements above.)

As to why many aviators do not think that Allen's plane with its aspect ratio of 17 would fly, we imagine it is because of the great amount of resistance that would be due in such a ratio. Resistance increases as the aspect ratio becomes greater.

I will try to find a pilot who has the time to correspond with you and will send you his address at my earliest opportunity.

Thank you for your letter, Rudy. Its questions were interesting and we hope to hear from you again.

Very truly yours,
MACFADDEN AVIATION ADVISORY BOARD.

Dear Sir:

I am seventeen years old and very interested in aviation. Both my uncle, who is flying now, and my parents are willing for me to take up flying as a vocation and are doing everything possible to help me through. I have completed a general course in high school, taken one year in technical work, mostly on airplane engines, and have taken a home study course in aviation. Having been physically examined and found fit to pilot a plane, I am in difficulties as to my next move. In your opinion should I proceed at once to a flying school or first take a year or so at college? If I did the latter would I be wasting time?

Yours,
P. M. WEST
2807 37th Ave. W.
Vancouver, B. C., Can.

Dear Mr. West:

Your most interesting letter arrived this morning and I hasten to answer.

In the first place your age offers you opportunities which the average man of more years can not have. Inasmuch as you are asking my advice on this matter, I am going to tell you exactly what I should do if I were seventeen today and know what I know now. I have had many years of experience in aviation, both in the War and since then, and I realize only too well what an expert training means in this field.

If I were seventeen, as you are, I would certainly go to college where, upon my graduation, I would enter an aviation school, in which I could obtain a thorough and exhaustive knowledge of aviation. I take it from your letter that such a procedure would be possible in your case, but if you found, for financial or any other reasons, you could not complete your college course, I would at least take two years, which would entitle you to apply to The Adjutant-General, U. S. Army, at Washington, D. C., for an appointment as a flying cadet. There your training would be free of charge and you would go to a school conducted by the United States Government where it would take you one year to complete a thorough and splendid aviation education. With such a background, the future of any normal boy is assured.

If on the other hand, your finances are unlimited, you could obtain the same education through any one of a number of schools in the United States inasmuch as this country boasts of the best equipped schools in the world today. Please understand that I am not belittling home study courses in the United States, but it appears to me that they serve their purpose by fitting men who are unable either because of age or financial ability to do that which you can do.

Education is the first stepping stone to accomplishment, and especially so when your vocation is a profession, and you must remember that aviation has entered that field. By all means, go to college and then if the unusual should happen and you should change your mind and decide upon another vocation you would have a foundation that nothing could replace. If in two years' or four years' time, I can look back and see you have accomplished this and feel that in some measure we were responsible, it would make me most proud. If, as you say, your uncle is flying now, I am sure if you showed him this letter, he would say this is sound advice.

You can get training in less time than in the way I have suggested, but you are young and have plenty of time, and I am suggesting a way that will give you that little extra touch which will place you above the others in the same field of endeavor. Whether you accept this advice or not, I wish you all the luck in the world and would appreciate hearing from you as to what you have decided to do.

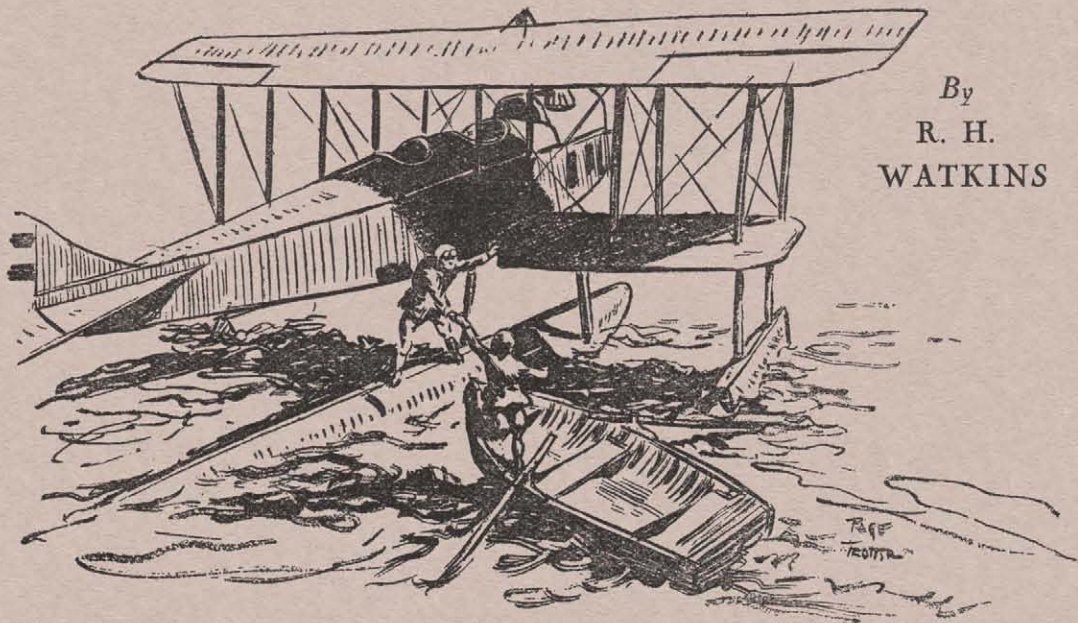
If there is anything more that I can do for you in any way whatever in this line, do not hesitate to write me.

Very truly yours,
MACFADDEN AVIATION ADVISORY BOARD

Gentlemen:

Will you please inform me:

- 1. If a pilot can get insurance on his life.*
- 2. Tell me how old you must be to be a pilot.*
- 3. I would like to know who produces the most aeroplanes in the world or who has the most.*
- 4. In some book you read about a plane R9. What does that mean?*
- 5. What is a fuselage?*
- 6. What country has the speed record?*
- 7. What kind of a plane is it?*
- 8. How many years does it usually take to become a pilot?*
- 9. Does the Government furnish you with a plane to*
(Continued on page 90)



By
R. H.
WATKINS

HIGH - HANDED

*Winging Through a Wilderness of Hissing Rain and Gale,
Romance Rides With the Reckless Pilot, as
He Flies to the Lair of the Kidnapers*

A SEAPLANE drops into Long Island Sound near a canoeist. Pilot and canoeist change places, the former paddling ashore for a mechanic. The canoeist discovers Coralie Roweton in the rear cockpit. He refuses to tell his name and she nicknames him "Cross." Her father and sister, Lenore, arrive in a seaplane piloted by Louis Gregg. All return to the Roweton yacht, where Cross finds himself locked in a stateroom, suspected of being the Black Corsair, who has kidnaped the Elridge heiress.

Mr. Roweton is knocked down by a stranger, but a search of the boat fails to reveal him.

Romantic Coralie helps "Cross" escape from the stateroom in which he is locked. Swimming to the seaplane, he finds Lenore there. The yacht sails and as they start in pursuit by speed boat, a masked man pulls Lenore into the boat and pushes "Cross" into the water. "Cross" returns to the seaplane and is starting it when he is knocked on the head and spirited away by the Black Corsair. "Cross" goes overboard in a parachute. He is picked up by another speed boat with a girl in it. They head for Roweton's Island.

Lenore recognizes her captor as Ted Huntsley, childhood friend. They run out of gas, signal a plane by means of a flare, attracting the attention of Gregg. He takes Lenore from the boat, leaving Ted.

Finding her unresponsive, he takes her to her father's island. They meet "Cross" and the girl.

In the meantime Mr. Roweton has spread the alarm that the three men, Lenore and Coralie are all missing.

"Cross," Lenore and Gregg fly to Southampton in Cross's plane. As they step onto the landing float, Gregg surprises the others by taking off alone. "Cross" is sure he can see the plane which kidnaped Coralie.

CROSS was casting about in the darkness for a boat with oars in it. The motor of the flying boat roared into action just as the canoeist, muttering a luridly disapproving description of his own mentality, found a dingy among the tenders tied up at one end of the float.

Lenore scrambled into it before he could push off.

"Please!" she said when he would have stopped her and he offered no further protest.

The flying boat, with exhaust vomiting flame and roaring defiance to the gale, swept far down wind, turned and was in the air above the bay before the tender had gone a hundred feet. Cross, sending the light craft through the water in great leaps at every swing of his body, said nothing. The girl crouched in the stern, her back to the torrent of wind and rain and watched the piston-like sway of his body and the whip of his long, lean-muscled arms. The oars churned the creaming waves.

Not until they were alongside the seaplane with the damaged pontoon did Cross speak.

"One chance, if this ship is gassed," he shouted, the wind tearing at his words. "Faster than Gregg's. Want to come?"

"Yes—yes!" Lenore cried.

For the tenth of a second he hesitated, oars trailing, staring at her. Then he gathered the girl in his arms, balanced himself in the plunging boat and, with a quick, sure move, swung her high up in the air and into the rear cockpit of the seaplane. As he followed, the disregarded dingy slipped into the darkness behind the pitching, fretting plane. To Lenore its disappearance was a sign; they were irrevocably committed to this wild venture.

While Cross groped feverishly in the cockpit and finally

found the switch and a miraculous little button that illumined the instrument board, Lenore, with eyes almost blinded by the downpour, followed the streak of red flame that was fading, vanishing in the black, rain-swept eastern sky. And as she watched it died away.

The starter screamed; the propeller moved reluctantly, in little jerks. Round and round it went, without a cough from the motor. Then, at the moment of despair, came a burst of sound, a belch of fire from the exhaust that sent Lenore's head ducking into the cockpit.

The motor thundered into its stupendous cacophony and wind tore with tripled energy at the girl's helmet, as she cautiously peered above the padded rim of the cockpit.

The seaplane took up the slack of its mooring in a nervous plunge ahead. For a few seconds Cross gave her the gun, shooting gas to the limit into her hungry cylinders. There was now no dissonance in that stupendous symphony of power.

Throttling down, he slipped out of the forward cockpit onto one of the pontoons, cast loose the mooring and scrambled back to his seat. The mad wind seized the light craft in its invisible, buffeting arms and thrust it backward over the bay into a region where pelting rain and Cimmerian night cut off the rest of the world like a dripping, sable curtain.

CROSS let her drift a few seconds. He hastily examined the instrument board. Then he methodically moved the stick backward and forward to work the elevators, then from right to left, to operate the ailerons at the wing tips. The stick felt right and so did the rudder bar which his feet controlled. His hand went to the throttle.

The seaplane lunged forward, like a thoroughbred under the whip the pontoons cleft the water and the whole light structure of the plane shuddered under the rack of the racing motor. But faster and faster the ship gallantly stormed ahead, bouncing more lightly now over the heaving surface of the bay. It was a matter of moments before the clenched right hand of Cross, fixed on the little stick that governed life and death, brought his plane off the water.

For a breath more she hung level, then rose sharply over a deeper darkness that crept below. The right wing went up with a lurch and the plane veered around to the eastward.

Once more Lenore ventured to raise her head. Rain-drops, hard as hail at this high speed, rattled against her helmet and goggles and set her cheeks on fire. The plane was no longer charging directly into the gale but the sheets of rain seemed nevertheless to assail her from ahead, sweeping horizontally through the propeller and under the upper wing.

A flame, fierce and fiery as the breath of a dragon, was leaping from the right side of the motor roaring backward along the linen-sheathed side of the fuselage, and flaming astern. Instinct warned that the hungry blaze would consume plane and passengers; reason tremulously denied the danger. Real reassurance came to Lenore when she drew in out of the gale and stared forward through the tiny, streaming glass of the windshield.

She could see the head of Cross, motionless, fixed, protruding from the other cockpit. He was staring into the chaotic gloom in front, through the propeller sweep, on the weather side of the plane, opposite the blinding flare of the motor exhaust. Seemingly he paid no attention to the flame, to the biting rain, or to the controls within the cockpit. His whole being seemed concentrated on the task of locating some faint glimmer of red ahead of them that would indicate the whereabouts of the flying boat in which Louis Gregg was speeding on some baneful mission.

Lenore reluctantly released the clutch her hands had maintained on the seat since the take-off. Shielding her cheeks with her palms, she leaned out into the lashing wind and, with eyes narrowed behind her goggles, searched the space ahead.

Above, below and directly forward, there seemingly was

nothing—not land, nor sky, nor water. Only the plane and an aura of red-glowing mist and rain surrounding it seemed real. More fear-inspiring than the flame itself, was this mantle of scarlet enveloping the plane. Beyond was not even blackness. The earth was not. All creation might have vanished, leaving this roaring mote alone in untenanted space.

Lenore shuddered, and turned her thoughts to Coralie, to Gregg, to material things.

A sudden lurch threw her against the left side of the cockpit. For the first time she became conscious that she was physically as well as mentally uneasy and strained. That clutch of hands on seat had been part of it. She now realized the reason. The light seaplane was plunging and rolling in sharper, quicker motions than a small boat in a rough sea; it was swiftly parting a way through an ocean of air currents gone mad. That tension and swelling about her heart was due to her apprehension of this farrago of movements, this dance of discord which must be resisted by the slender, outstretched wings, the tiny wires and struts, the woven threads of linen cloth.

It was impossible to anticipate, to compensate for the crazy action of the plane. Now it rose slowly under her—an ominous, breath-arresting lift that slowed the beating of her heart—then completed the rise in a sudden leap and, the next moment, dropped from under her, setting her heart pounding frantically and her hands clutching at the cockpit's sides. Never could she prepare for what was coming. . . . She realized, with a little start, that she had been neglecting her watch ahead. She peered out over the side again, stifling a desire to scream for the sheer relief it would give her nerves from that unbearable uncertainty.

The gaze of Cross was set uncompromisingly ahead, but even as she resumed her hopeless straining of eyes, he turned and looked at her. In the flare of the exhaust every feature of one side of his face leaped into view. Lenore gave a little gasp.

Instead of the stern, grey, tight-lipped countenance she had unconsciously visualized as belonging to that man who was fighting his way through the tempest, her eyes encountered the smiling, broad-mouthed, reddened face of a cheery young man very much on the alert for trouble but nevertheless enjoying an escapade to the full. She felt that his eyes were twinkling behind the shadowing goggles. There was nothing in him of coldness, or reserve; nothing of apprehension or strain.

This new Cross flicked his disengaged left hand over the weather side of the plane, like a man indicating a prized possession. Simultaneously the plane reeled to the right.

LENORE'S heart jumped and her hands darted to her seat as she tumbled suddenly against the side of the cockpit. The plane instantly rolled back to the horizontal, carrying a frightened Lenore with it, but there remained in her eyes a dim vision of a blur of red light, ahead and far below them, that had been revealed with that roll of the plane.

And the face of Cross, still turned backward, revealed an apologetic, solicitous expression. He motioned downward and ahead, in the direction in which Lenore had glimpsed that momentary flare, and his lips framed the word, "Gregg!"

Lenore nodded violently and her fears slipped away into the night, like wolves slinking from a blazing camp-fire. There was nothing to worry about. This strange young man in the forward cockpit was conquering the storm without a quail; he had discovered Gregg—perhaps had seen him from almost the first—and he was so undisturbed by the fury of the elements that he ventured to bank his unstable craft far to one side merely that she might have a clear view of the quarry. Lenore felt a momentary desire to shout to him not to show her the other boat again; then she decided that this was unnecessary. His expression had promised emphatically that she should not be alarmed again.

As she sank into her seat, touching the back of it for the first time, she experienced an overwhelming flood of curiosity concerning this queer, cold quick-acting and daring young individual in whose hands her life lay. Without question she had agreed to fly with him through this terrible storm and blackness, in a plane about which she knew nothing. And he had never even told her he was a pilot.

OF course, the need was urgent—Gregg must be prevented from reaching Coralie at any cost—but who was this young man to whom she had entrusted herself so casually? She did not know even his name, and yet, instinctively, she had trusted him. The thought sent a thrill through her, half of pleasure and half of fear.

The motor roared on, the exhaust flamed, the seaplane pitched, as it held its unvarying place high in the wilderness of hissing rain and air, behind the heavier craft which was unknowingly leading it directly to its unknown destination.

moved forward as the nose of the boat grounded. Gregg flung them the anchor rope, barking nervous commands. Then he sprang ashore, directed the paying out of enough rope to moor the boat in deeper water and commanded the trio to make fast the line to an axle of the car. The wind was still tearing at land and water in spasmodic fury, but the rain had almost ceased.

"That'll hold her," Gregg announced after an inspection of the mooring. He fumbled in his pockets for a cigarette. "I've had the devil's own time of it, but I'm back."

"And why you had to go away again like that is what beats me," growled the smallest man of the three, who had awaited the pilot. He was a meager little specimen, whose knickers and gaudy golf stockings revealed reedlike legs, but, despite his size, his beady eyes snapped in the headlight glare as he faced Louis Gregg.

"You ain't the only one that's had the devil's own time," the short one continued, unabashed by the pilot's answering

She experienced an overwhelming flood of curiosity concerning this queer, cold, quick-acting and daring young individual in whose hands her life lay. Without question she had agreed to fly with him through this terrible storm and blackness, in a plane about which she knew nothing. And he had never even told her he was a pilot.

Of course, the need was urgent—Gregg must be prevented from reaching Coralie at any cost—but who was this young man to whom she had entrusted herself so casually? She did not know even his name, and yet, instinctively, she had trusted him.

The thought sent a thrill through her, half of pleasure and half of fear.

And away to the eastward, whence clouds still charged in from sea on the wings of the storm, the impenetrable darkness was lightened by a faint grayness just above the horizon.

Louis Gregg, hunched over the left wheel in the operating cockpit of his big flying boat, peered ahead into the rain-swept gloom with a scowl on his face. He glanced at the luminous hands on the dial of the clock set into the instrument board and the worried lines in his forehead deepened.

Short, ugly words dripped from his protruding, downturned lower lip. Not even a perceptible let-up in the pelting of the rain softened his distorted countenance. Then, suddenly, he ceased to scowl and the hang-dog twist of the under lip changed instantly into a charming smile.

The cause of the metamorphosis was obvious. Ahead, and a little to the right, two white lights, whose vertical beams seemed to pierce the storm easily, burst into view. Simultaneously they winked, out and on, three times, then their glare was uninterrupted. After a moment or two their beams were depressed, one at a time, so that they played upon the uneasy water at the edge of a sandy shore. Gregg throttled down with a grunt of relief.

As the land was to the weather side, the water had not been lashed to fury by the wind. With the aid of the two lights Gregg dived, banked and set his cumbersome boat on the water without difficulty. He taxied toward the beacons and cut the motor just before reaching the gently sloping beach.

Three men, who had been standing beside an automobile whose powerful headlights had been the landing lights,

stare. "While you've been gallivanting around in the air, hell's broke loose right here."

"What's wrong, Hance?" Gregg snarled impatiently, his fingers ceasing for an instant their manipulation of match and cigarette.

"Here, let me tell about it," interposed another of the trio, roughly thrusting his raincoated form between Gregg and Hance. "In spite of all our precautions this place has been discovered. Another girl has turned up!"

Gregg muttered an imprecation.

"That's just what I was going to tell you, when that wind-bag butted in," Hance broke in, dodging around the taller man and confronting Gregg. "Yeah, a new girl blew in on us and there's trouble at the house."

"I CAN'T understand—" began the man in the raincoat, raising his voice in contest with Hance.

"Shut up, both of you!" snarled Gregg. They subsided, somewhat sullenly. "Now, Meigler, if you can tell me just how this happened, go ahead. Only shoot it fast!"

Meigler bestowed a triumphant, but fleeting, smile upon the little man. "Certainly I can tell you," he said, lowering his voice confidentially. "We were all three up at the house listening to Pen Elridge chatter about being abducted, how it feels to ride in a flying boat and so forth, when—"

"Aw, put some snap into it, bo," demanded Hance, dancing restlessly about in the wet sand. "The cops will be here before you spill it. Tell him, can'tcha? Tell him!"

Gregg swore impotently. "Go on, man!"

"There was a knock on the door—this was before the

storm, you know—and we were all thunderstruck, knowing it couldn't be you. Well, we hustled Pen out of sight, Hance opened up and there was this girl."

"How in blazes did a girl get way out here at night, with the road practically impassable?" demanded Gregg, his eyes passing distrustfully from one to the other.

"Aw, she give a song and dance wit' variations about falling off a yacht and not wanting to yell out because her old man was sore at 'er," Hance interpolated swiftly. "Said she swum ashore. That goil kin lie faster'n Pen kin talk."

"She fell off a yacht!" Gregg ejaculated. His jaw dropped and he knitted his brow. "A yacht!" he muttered.

"Out'n the channel," Hance corroborated derisively. "Yeah, we seen a yacht out there, but that don't prove nothin'. I think she's scoutin' for the cops. The boat was turnin' round, like she says, and the skirt claims she done an unwilling Kellerman out a porthole while climbin' to the floor above. And she comes here because we're showin' the only light in miles."

"What's her name, Meigler," the pilot demanded suddenly.

"SHE said," Meigler began, emphasizing those two words, "that her name was Coralie Roweton."

"What!" Gregg's eyes blazed. His cigarette, twisted to shreds, dropped from his hand.

"That's what she said," repeated the man, somewhat bewildered by his chief's intensity. "Boss, I think we're in a trap here, and we'd better flit by plane before they close in on us."

"Be quiet!" the pilot commanded, turning his back on Meigler's anxious countenance. "I'm doing the thinking here. Coralie Roweton! God, what luck!" He was muttering to himself, taking short strides up and down the beach. "I've got her here—here—and we're still safe. Can I work it? I'll show that icy sister of hers. I'd have fixed her anyhow, but—where is she?"

"I asks her if she is sure the Empress of China didn't fall off the yacht, too," Hance put in, failing to note the blazing, exultant eyes of his chief. "But all she—say! what's eatin' the boss anyway?" He stopped his flow of words to stare at Gregg, who had swung about at Meigler's nod toward the bungalow and now was dog-trotting up the beach.

Meigler followed the pilot, but Hance paused to address the silent third member of the trio, a huge man in a pea jacket who half stood, half sat, against a mudguard of the car, with his powerful arms crossed on his chest.

"I wonder does the boss really believe that line about her being one of the Roweton gals?" the little man speculated. "Say, wouldn't that bull the game if she was? Wowie, boy, but we'd be cashin' in big wit' two golden goils to dicker on. Wouldn't we, kid?"

The giant cogitated.

"Yup," he vouchsafed at last, but Hance did not hear the decision. The talkative little man was legging it after Gregg and Meigler. The giant, perceiving, on emerging from his intellectual fog, that he was alone, lumbered in the same direction.

Up at the head of the procession, a few yards below the house on the dunes, Gregg had paused for a word with Meigler.

"Of course you've kept the two girls apart—neither knows the other is here?" he said, eyeing his lieutenant keenly in the dim light.

Meigler moved uneasily. "How could we, boss?" he muttered. "Pen came sailing back into the living-room as soon as she heard a woman's voice."

"You brainless fool!" Gregg raged in sudden fury. "Do you know what that means? All the careful alibi I've built up is endangered, maybe ruined! How do you suppose I can work anything safely now?"

Meigler wilted, incoherently voicing explanations and apolo-

gies. Gregg shoved him aside with a curse and strode up the wooden steps to the bare porch of the clapboarded, unpainted bungalow. He paused, struggling with his wrath.

"I'll take all the stuff I've got and the luck of it—I've got to get away with this or we're sunk!"

He walked in.

No chatter of girlish voices impinged upon his ears. Instead he entered a silence as thick as a thundercloud. In the stuffy little room to the right, on either side of an oil lamp sat two girls, each apparently under the impression that she was the sole occupant of the bungalow.

One was a dark-haired, black-eyed young woman somewhat spare of form and sharp of countenance, clad in sport attire of the most pronounced cut and of no subdued color. She sat stiffly in her chair and her hands were uneasily active in her lap, but it was quite plain to Gregg after a single glance at her smoldering dark eyes that it was anger, not embarrassment, that dictated her attitude.

The other girl, upon whom Gregg looked with suppressed anxiety, was Coralie Roweton. She had chosen a rocking chair and flung herself into it with an easy grace that lingered in her present attitude. She was quite obviously comfortable and cheerful. This was strange because she was clad in a sweater that undoubtedly was the father of all sweaters, the property of the laconic giant without, and her attire was completed by a pair of wrinkled and far-gone trousers that spread abroad the fact that they undoubtedly once—and not so long since—had been intimately connected with the fishing industry. Certainly few girls would have been happy in such a costume, yet Coralie was emphatically so.

Both girls looked up at the sound of the opening door, but it was Coralie who won the trick. In a flash she was on her feet. In another flash she had given Gregg both her hands and the most entrancing smile in her ample stock.

"So you *are* the Black Corsair, Louis," she trilled, and then, with one of those swift, stabbing feminine glances toward Pen Eldridge she chattered on.

"Tell me, do! How much do you charge for abducting a girl?"

For just a moment the audacity and dash of her greeting robbed Gregg of his usual glibness of tongue. But it was less than a moment before Pen Eldridge flew out of her chair and confronted the pilot:

"Louis, are you going to let this—this creature—say things like that right to my face?" Her lips worked convulsively and she shot venomous eyes from the gay Coralie back to Gregg. "If you don't send her away from here this instant—" Her voice shrilled to incoherency.

"YES, yes, of course, dear," Louis Gregg murmured soothingly and laid a hand reassuringly, though somewhat gingerly upon Pen's arm. "I'm afraid you're a bit upset by this storm and my unavoidable absence, but I'm back safe now."

"I am *not* upset," shrieked Pen Eldridge.

"No, not precisely upset," he agreed hastily, "but just a little bit anxious, dear?"

The girl had taken refuge in a handkerchief and her reply was inaudible. Gregg patted her back, mumbling sympathy, and contrived to shoot a smile at Coralie, over Pen's bowed head.

"Well, Coralie, I see you've discovered my little secret," he said amiably.

Pen's head came up with a jerk.

"Don't *speak* to her," she shrilled.

"Come now, dear, I must be polite to her, you know," Louis Gregg gently remonstrated. "She's our guest; you mustn't forget that."

The dark eyes of Miss Eldridge shot sparks. "And when you get through talking with—with this castaway perhaps you may want to talk to me. But I'm sorry to say that you won't be able to, because after waiting up all night and suffering agonies of torture and torment for you through

the storm, I'm going to bed. I'm completely exhausted!"

She whirled around, evading Gregg's protesting hands and swept, with head high, through a door leading to the rear of the bungalow. The door banged shut.

The instinctive movement of restraint that the pilot had made, changed, with the shutting of the door, to a gesture of indifference. Before Coralie had removed her interested eyes from Pen's dramatic exit, Gregg's attention was concentrated most flatteringly on her, the girl in the hand.

"Say, look here, Mr. Gregg," Coralie burst out in unembarrassed amazement, "do you mean to tell me you fell in love with *her* and had to kidnap her to make her love you?"

The frankness of this seemed to hit Louis Gregg squarely, for he blinked as if hit. When he spoke, it was with a philosophical gentleness of tone that would preclude the possibility of his voice carrying through that closed door.

"Love is a strange thing, Coralie, a strange thing," he said and there was melancholy, in addition to philosophy, in his moving voice. "It is true that very recently I was madly in love with that girl."

"But you aren't now?" Coralie asked promptly and, indeed, somewhat eagerly.

HIS eyes, backed by an inscrutable face, searched hers intensely, then flicked away. He did not speak as he led her gently to her rocking-chair. For a moment he stood tensely before her, his face flooded with anguish. He passed a weary hand through his hair, tousling the long locks.

"Coralie, she doesn't understand me," he intoned hollowly and collapsed into a chair. With elbows on knees, chin resting on his hands, he stared mournfully at the bare wall of the room. "She loves me, but it is the surface me, the pilot, the—the good-looking young man that she sees when she looks at me. But she does not understand the real me, my depths, my soul."

His fixed, agonized gaze was broken by a swift glance at the girl. She was watching him, her eyes big with some strong emotion.

"She does not understand you—the real you," she breathed. "That's it exactly," Gregg agreed. "Sometimes, Coralie, I have hoped—yes, even thought that you, although I have seen little of you, have penetrated to depths of understanding of me that *she* will never reach."

Coralie blinked. "You—you think I understand you?" she asked softly.

"Yes," he declared firmly and turned to lay his hands lightly on her shoulders. His handsome eyes searched hers. "It may be audacious of me, even impudent of me, but I think you do."

Coralie faced him without the slightest movement of response or of protest at his sudden caress. Then slowly she averted her head.

"I—I do understand you, Louis Gregg, I do," she whispered.

His dark eyes blazed with triumph and, in his moment of exultation, they did not note that Coralie's own eyes, concealed beneath her long lashes darted a keen, unmaidenly glance upward at his flushed face. His arms moved toward her, but at that moment Coralie leaned backward a trifle. Instantly he abandoned his purpose and drew back.

"But tell me, Louis, did you really just haul her out of the water and carry her off despite her struggles?" Coralie inquired.

Louis Gregg smiled. From a pocket of his leather coat he withdrew a letter. "This is a secret, Coralie, but I'm going to let you in on it," he murmured, with a cautious eye on the door through which Pen Eldridge had vanished. "I have here a letter written by Pen—quite voluntarily, you know—to her father, in which she states that she was expecting me to land for her at Southampton and that was why she swam out so far."

"Really?" said Coralie, gazing with frank interest at the envelope. "That *would* come in handy if the county police

or whatever they are got hold of you, wouldn't it? Lucky you haven't had time to mail it."

For just a moment, a frown formed on Gregg's brow. He looked at this naive young girl with a shade of doubt and perplexity in his expression, but her clear young eyes, alight with admiration, dwelt upon his unwinkingly.

* * * * *

The instant that Gregg throttled his motor and started maneuvering for a landing was one of immediate action for Cross.

The red will-o'-the-wisp that was leading the two pursuers in their lurching plane through the wilderness of damp, black, intangibility was square in Cross' line of vision, when its glare flickered and faded away. Like the dart of a snake, the tall pilot's hand leaped to his own ignition switch.

To Lenore, tense in the rear cockpit, came stunning, amhilating silence and darkness. Her universe—a thing of streaking flame and rhythmic thunder—was instantly blotted out. For a moment, stupefying, absolute blankness and silence, incomprehensible, utterly terrifying, prevailed. Then, as the girl's heart plunged wildly in her breast, there came a feeling of sinking and a gradually rising wail of demoniac triumph rioted in her ears, shrilling through her head.

A voice, as welcome to her as air to the lungs of one drowning, came back through the darkness. It shouted above the devilish screaming.

"He's landing. I cut to prevent them from spotting us by the flare of our exhaust."

"W-what is that?" Lenore quavered.

A laugh, a real, casual laugh, soothed her. "That noise? Just the taut wires between the wings singing us a tune. Sound spooky?"

"Dreadful. Can't they hear it down there?"

"Not a chance. We're too far away. And, as long as you hear it, you know we're in a safe glide."

It didn't sound like a safe glide. Cross spoke no more, and somehow Lenore sensed a certain tensity, an increasing vigilance in him, although she could barely make out the loom of his head and shoulders. The plane whistled downward, with little lifts and drops that affected her like brief electric shocks. Staring straight ahead, past Cross' figure and through the slowly rotating propeller, Lenore vaguely perceived a thickening of the gloom that indicated land—or water.

They were very close—how close she could not judge—when Cross suddenly banked the plane sharply to the right and headed directly into the faint greyness that lightened a segment of the horizon. They struck something with a jolt and Lenore felt the plane leap upward again like a startled horse. She saw Cross lunge suddenly forward in the cockpit and the plane, as if in response, nosed down, leveled off and jounced easily over the water. Ahead Lenore could see a darker line of blackness that must be the shadow of the dunes.

CROSS' breath whistled outward through his mouth.

"Rotten landing," he muttered, his voice deprecatory, but Lenore was not deceived.

"You didn't think you could do it at all in this dim light," she accused. He turned and peered at her, heedless of the plane, which was already drifting away from the dimly sensed shore.

"H'm," he remarked, his surprise manifest. "That's pretty good mind-reading. I did think we might have a bit of a crash."

The next instant he was scrambling down onto the pontoons, with the plane's patent anchor in his hands.

"Have to warp her in," he explained. "We could swim for it but I don't want to desert our only line of retreat. We might need it if, for instance, Gregg's got Coralie in his grip already."

Progress was slow, for the plane drifted backward each

time Cross pulled up the anchor for another heave toward shore. He worked manfully, with perspiration dripping from his forehead. Lenore discovered that she was shivering and cramped in her cockpit, but she did not offer any assistance she knew could be rated by a busy man only as a drawback.

Unremitting effort finally brought the seaplane to shallower water.

"Good! Only three feet deep," Cross exclaimed, much gratified and splashed overboard. With the end of the rope slung over his shoulder, he toiled ahead through the shallows. When the plane grounded he dug the anchor into the beach.

"Come on," he called, and Lenore climbed slowly out of the cockpit, her tingling feet feeling their way. Suddenly she found herself in the pilot's arms. He swashed through the water and set her upon her feet on the firm sand, with a matter-of-fact thump.

"Well, here we are, wherever here is," he remarked, peering this way and that through the gloom. Around them was nothing but mist and sand. The noise of cresting waves still snapping angrily at the dying breeze filled their ears, unchallenged by other sound. The grey in the east was now reaching out over the sky.

"THE outlook's a bit bleak, but we have the edge on Gregg, anyhow," Cross commented cheerfully, after a close stare at the rather drooping, damp figure that stood beside him. "We don't know where we are, but we know where Gregg is. And he thinks we're back in Southampton."

"I do hope we can prevent him from reaching Coralie," Lenore said, clenching her teeth to prevent their chattering. "If we could only find her!"

"He landed about half a mile or so down the beach, as near as I could judge, from the air," Cross said thoughtfully. "We'll have to move cautiously for we haven't the least idea of what kind of game we're playing. We may run into a den of cutthroats or even a practical joke. All we know is that he had somebody on the watch for him on the ground."

He looked at the girl compassionately.

"I know you're dripping wet, but we can't risk a fire now." He spoke soothingly, as if to a child. The disconsolate figure straightened and he felt her eyes upon his face.

"If you think I'm downhearted you're mistaken," she retorted with brave indignation. "It—it feels a little dryer when I don't move much and that's why I slouched. But I'm ready to go after Gregg this minute."

He chuckled, immensely relieved. "Good! Come on!" he commanded and tucked her hand under his arm in friendly fashion. "We're off."

He sprang ahead at a dog-trot and Lenore ran lightly behind, catching up in a few steps. Their feet spurned the wet sand in unison as they jogged along and soon a warm glow pulsed through her cramped body. The air became crisp rather than piercing as they breathed it and the eastern sky gave more promise of a sunlit day.

Their spirits rose with the coming sun and the quickening of the sluggish blood in their veins. They looked at each other and, without reason, laughed gaily. The beach unreeled with marvelous speed beneath them and the retreating shadows revealed a clean, fresh world, from which it seemed all trace of man had been swept by the storm.

The swish and thud of their feet on the firm, moist sand had come to be an unceasing, rhythmic refrain, as much a part of life as the splash of the waves, when Cross finally came to a reluctant halt. Ahead the shore made a slight turn. Projecting dunes, sparsely covered with coarse grass, barred the view.

"Gregg's landing place can't be far beyond this point," Cross said, keeping his voice low. "Probably it is just around the turn. Let's look around."

Their gay abandon of the run along the shore changed to slow caution as they advanced to the shelving bulk of the dunes and peered around the curve.

A few hundred feet ahead they saw Gregg's big flying boat, tailing out in the water, beyond a mooring rope. Well above the high water line, a black touring-car stood motionless. There was no one in sight, but above a bungalow, set upon the dunes, a plume of black smoke, trailing toward the water, indicated that people were up and about.

After a moment of scrutiny of the peaceful scene, Cross and Lenore retreated a few steps and faced each other.

"If we only knew," Lenore murmured. Her face revealed her anxiety and Cross hastened to speak.

"The whole gang is probably at breakfast," he said. "Even crooks must eat. The question now arises: What do we do?"

Lenore besought his answer with an appealing glance and he continued:

"Plan No. 1. Watch and await their next move. Plan No. 2. Crash in on them now."

"We'd know what to do if we could find out whether Coralie is there," Lenore ventured, wrinkling her brows in a little frown of perplexity.

"Only one way to discover that," Cross decided crisply. "Go up and do it. That's what I intend to do."

"But these men may be desperate criminals," Lenore objected with sudden warmth.

"I'm feeling rather desperate myself," Cross said, his eyes gleaming suddenly. He picked up a piece of driftwood, heavy from the months in the water, but stout as ever. "I hold a theory that all the desperation in that bungalow can be cured with a bit of wood judiciously applied."

He halted an enthusiastic sweep of his club to add, with a tinge of regret:

"But somehow I'm depressed with the thought that Gregg is playing a game into which force doesn't enter."

"How can you say that—if he is the Black Corsair," Lenore interposed doubtfully. "At least he forcibly kidnaped Penelope Elridge."

Cross shook his head dubiously. "I'm unable to back up my theories with facts, but I feel I'm right," he insisted. "I've met some hellbenders at various times myself and he hasn't that cut of jib. He's a pussyfooter, a soft-soaper."

"But he's an aviator—an accomplished flyer," protested the girl, surprised and incredulous. "That proves he's daring, even reckless."

Cross laughed. "Ever since I first watched him handle a plane, I've felt he's no bold, bad man. Flying's no sign of a sporting spirit these days. It's as safe as motoring and not so dusty. Lenore, he's a bit too ladylike in the way he handles his ailerons."

Lenore considered this technical criticism somewhat doubtfully and refrained from speech.

"I'M going to call on him now—taking this club to prevent misunderstandings," he announced. "You watch from here. If I wave to you, it's safe to join me; if not, do what you think best after seeing what happens. Something will happen, all right. You are sure to find cottages and people down the beach in the other direction."

"I want to go with you," Lenore protested emphatically. "I'm not afraid of this man, no matter what he is."

"No, you can't, Lenore," Cross said gently. "You must think of Coralie, you know."

"But—" The girl's rebellious eyes dwelt upon another stick of driftwood on the beach, lighter than the man's but substantial, nevertheless.

In Cross' face a sudden, transforming light seemed to glow for just an instant, as he followed the direction of her eyes. The wrinkles, the paleness, the weariness vanished and he took a step toward her. Then he stopped.

"If they jump us both, Coralie's out of luck," he reminded her, his tone low, but insistent. "As a matter of fairness to her—"

"Well," the girl said reluctantly, "I suppose you're right, but—"

"I knew you'd see it that way," he interrupted hastily,

his relief ill-suppressed. "Here's hoping. See you later."

For an instant he paused and again he took a big stride that brought him close to her. The girl's eyes fluttered shut as his arms loomed about her, but, with a reassuring pat on the shoulder, he turned and walked around the point.

Swinging his driftwood club with careless ease, he made his way down the beach. Lenore, taking cover in the grass on the dunes, watched him with wide eyes, while her fingernails dug tiny half-moons in the palms of her hands.

THAT interview with Coralie which had begun so promisingly for Louis Gregg did not move along on the tenderly confidential lines planned by the handsome pilot.

In fact, about the time that Cross was sloshing his way toward shore, with the seaplane towing jerkily behind him, Coralie gave the little talk a decidedly novel twist.

Evading the ardent arms of the suddenly love-struck Black Corsair, she leaped to her feet like a startled tigress.

"Yes, I understand you, Louis Gregg! I understand you right down into your inner being where you keep your withered wits," she blazed, disdaining to retreat behind the chair. "You couldn't fool Lenore with your silly blatherings on the yacht and you can't fool me, either."

For just a moment his poise deserted him. He stood staring, amazed at the girl whom he had so underrated. At that instant, in her fearless, defiant indignation she was superb, commanding; then girl-like, she realized what a splendid figure she made and youthful self-consciousness overwhelmed her. She laughed scornfully, but there was a hint of the theatrical in it. Louis Gregg recovered himself; an air of indifference replaced his obvious surprise.

"You compliment yourself, Coralie," he said, smiling indulgently. "Because I chose to amuse myself by thrilling a silly child and talking twaddle you think you see through me. Well, you don't."

There was such a grim, cold menace in his voice as he snarled the last few words that Coralie blanched. That sudden transformation was like storm clouds overwhelming the sun.

"I'm tired of talking to you," she said hurriedly. Her eyes on his, she slipped around the rocking-chair and sidled toward the outer door.

"Stop!" shouted Gregg and sprang after her. Coralie's hasty walk became a run. She flung herself at the door, but as her hand seized the knob the panels between her and freedom resounded in a sharp rat-a-tat.

The door swung inward. Coralie dodged and leaped through the opening.

"Grab her!" Gregg commanded. Outside on the porch his three men, about to file in, fell back in confusion; then little Hance flung his arms about the fleeing girl and the other two closed in about them. They brought her back into the room.

"Put her in that closet," Gregg directed, indicating a door on the other side of the cottage. "You—" his eyes picked out the giant—"stand in front of it."

Hance watched the order obeyed in silence, but as soon as the door closed on the sobbing girl he turned to his superior.

"We been doing a little thinking outside, boss," he began, speaking slowly, as if picking his words carefully. "These other guys have asked me to put it up to you."

"What do you mean?" demanded Gregg, frostily.

Hance jerked his head sideways toward the closet door. "Well, there's somepin. F'r instance, what do you expect to do with that goil? Keep her in the closet till she dies of old age, or hit her on the head?"

Meigler, who had been fidgeting uneasily, raised his hand in horror at Hance's curt words, but the little man turned on him like a darting snake.

"Shut up!" Hance commanded harshly and then swung back to face Gregg. "See here, Gregg, when you signed me on as mech with these other fellers you told us the game

was tricky but not dangerous, but you was damn short on information. Now me, I'm willing to take a chance, in the air or out of it, if there's a hunk of cash in it for me, but Meigler, he's getting all upset and hysterical-like. What we want to know is, when do we cash in and beat it? Everything was going great till this other girl blew in, but now it looks like you'd lost yer grip."

"You think so, do you?" Gregg said calmly. "What's wrong is that you've lost your nerve, all three of you. Well, if you think you can get out of this mess without me, when all Long Island's on the lookout, why go ahead."

He paused a moment, but although Hance started to speak he thought better of it. Gregg went on, a sneer in his voice:

"That girl in the closet you're so excited about simply means about twenty thousand cash for us. I'll tell you flat; the game with the Elridge girl was absolutely safe; I'd fixed things so no court in the country could touch us. But now we've got Coralie Roweton as well and we're criminals. Back out of this now and I'll see you do time with me; stick, and I promise you big money. It's up to you!"

The big man who stood with arms akimbo before the closet door looked at Hance. Meigler shuffled his feet uneasily. The little spokesman looked at neither of them; he was absorbed in a shrewd scrutiny of Gregg.

When Hance spoke again there was a conciliatory note in his voice. "Me, I'm game to go through wid it, but this bimbo—" he looked contemptuously over his shoulder at Meigler, "is gettin' jumpy."

"No, no!" Meigler exclaimed hastily. "You misunderstand me. But I would like to know just what has happened and is going to happen. That girl—" His voice trailed off weakly as he looked toward the closet.

"Yeah," said Hance. "What's the lay, boss? Where do we skip from here?"

"You're with me then?" Gregg asked, still icily indifferent.

"Sure we are," Hance assured him. "Ain't never been anything else. But what's the scenario of this mix-up?"

"Simply this," replied the pilot. "By ten o'clock today—within five hours—this affair will be over. I will be a happy bridegroom, with a wife who is wealthy in her own right. I will have not only the rosy prospects I mentioned to you before, but a substantial sum in hand which will be divided among you. That will be your bonus for the added risks—and perquisites—Miss Roweton has involuntarily brought us."

"Maybe so, boss, maybe so," said Hance doubtfully. "But I don't mind telling you, since we're confidential-like, that I had my nose to the winder there, when Pen Elridge breezed out o' the room and she didn't look like no blushin' bride to me. She's more likely to get you pinched than marry you, the way she slammed that door."

"PAH!" said Gregg scornfully. "Eavesdropping! Well, get out of here, all of you, and in five minutes I'll have her looking like a bride again. Lock that closet door, first, though."

With stolid precision the big man turned the key in the closet door. No sound of protest came from within.

Hance moved uneasily; the other two looked at him and, under their obvious desire for leadership, he finally moved toward the outer door. Gregg surveyed his three followers with a sardonic smile.

"Remember," he said, "if you want to come out of this safe—and rich—just obey my orders and don't ask questions. I've got a big surprise coming. Keep your nerve and sit tight when it breaks."

"There's too many blasted surprises in this bunco party," muttered Hance discontentedly. "But we gotta stick; we're in too deep to get out widout a lifeline." Silently the others filed out behind him.

Left alone, Gregg turned to the other door, through

which Pen Elridge had made her sweeping exit. The derisive twist of the lips with which he had looked upon his aides was still upon his face as he went toward it. He knocked softly.

"Pen! Pen!" he called gently, with a note, scarcely louder than an echo, that hinted of distress in his voice.

There was no answer and no stir that he could hear. He knocked again, somewhat more insistently. "Pen," he repeated. "I must speak to you at once."

"Go away! I won't speak to you!" a muffled, uneven voice wailed behind the door.

"I'm sorry," Gregg said regretfully. "I did so want—but never mind, Pen."

The door swung open. Pen, flushed of cheek and with eyelids somewhat swollen, stood before him.

"What do you want?" the girl demanded.

THE pilot instantly took possession of her hands and his head drooped over them.

"Pen, Pen," he murmured. "What do you think I want? To quarrel with you on this—this day?"

An expression of smug satisfaction passed over Pen's sharp features, as she looked down upon this humble lover.

"Have you tired of talking to—that Coralie Roweton thing?" she inquired, her tone still far from amiable.

Gregg looked up suddenly. His eyes were big with reproach.

"Pen, Pen," he chided. "How you misunderstand me! Do you know where Coralie is now?"

"Go on," said the girl eagerly. "Have you sent her away?"

Gregg pointed a quivering, dramatic finger at the closet door.

"She is in there, locked up, and there she stays to prevent trouble-making until we are married—or until you tell me that all is over between you and me."

Penelope Elridge turned a triumphant, scintillating pair

of eyes on the door, behind which Coralie was supposedly languishing.

"I care not what laws I shatter, what penalties I face—for you!" the pilot rushed on, but his task was over. Pen Elridge melted rapturously into his arms, murmuring endearments. And over her shoulder he flashed that same, ironical smile, as he responded to her in loverlike language.

"But dear, we must be sensible," he whispered after a few moments had passed. Ever so gently he disengaged himself. "I must give orders to my men. If anything should occur to mar our wedding—" His tongue could find no words to voice his horror, but his mobile face mirrored it for an instant.

He strode to the front door and flung it open. "Hance! Come in, all of you."

Back into the living-room the three tramped. Jaws dropped as in response to Gregg's swift gesture they stared at Pen Elridge. Her eyes were downcast; her pale cheeks flooded with color before their eyes.

Gregg moved swiftly toward her and his arm went about her waist. He led her gently toward the door of her room, murmuring his regret that the crude affairs of the world must separate them once again. The door closed softly behind her, and Louis Gregg faced his men with a complacent smile on his lips.

"Boss, yer a wonder!" Hance renewed his fealty with a downward sweep of his hand. "Say the word; I'm travelin' wid you and these blokes—" his eye dwelt fiercely upon Meigler and the giant—"are comin', too."

"Very good," responded Gregg, moving away from the door. "Now what we've got to do is to get word to old Roweton himself that—"

He came to a startled pause. A rapid tattoo was resounding from the panels of the front door. An instant later, before a man could move, the door was flung open. The man called Cross walked unhurriedly into the room.

The concluding instalment of this thrilling serial clears up all mysteries and finishes with a daredevil flight that will hold you tense. Read the stirring climax in the June issue of FLYING STORIES, on sale everywhere May 23rd.



What Air Adventures Will We Be Having in 1950?



Where are all the marvelous, almost incredible inventions that are developing in the air and through the air today going to sweep us tomorrow?

You will get some idea of our air actions twenty years from now when you read Guy Fowler's imaginative novel

"THE SUPER-SHIP"

which begins in the June issue of FLYING STORIES. You will be startled and amazed when you read this stirring story, the best this author has ever written.

Don't miss this thrilling yarn in the next issue of FLYING STORIES, which goes on the news stands May 23rd.



*A Gathering Place for Those Who Fly, Who Would Like
to Fly, or Who are Interested in the Fast-Growing
Business and Sport of Aviation*

WOW! What a gang has rallied around this month! If this keeps on, we'll have to ask the traffic manager to let us meet out in the middle of the field instead of over here in the shade of the hangar. We might have expected it. We, whose hearts are in this flying business, know full well that the number of air-minded boys and girls, men and women, is almost limitless. We might have known that they would rally around one flying field where the newcomer has an equal voice with the old-timer; where the fledgling may speak out without fear that some pilot who has had a couple of thousand hours in the air will say, "Pipe down, swab. Let your elders speak, and listen with respect!"

Welcome to our circle, you folks who are sitting in for the first time. It's a great gang. The only cost of admission to full membership is the price of a postage stamp and the energy to write us and say "happy landings" to the other pilots and would-be pilots who are gathered around.

Mrs. E. R. S., of Newton, Mass., certainly started a whale of an argument in our February meeting. The gang is still arguing about it. Listen:

To me, the most interesting article that you had in your February issue was the letter from Mrs. E. R. S., in which she stressed disappointment and anger at your publication for advising young men to enter the aviation game. She would not allow the youngster even to finish reading this most interesting magazine.

Thank goodness, my mother was different! She wanted me to fly and to take an interest in the things that would eventually come to the front, as the airplane has done in the past few years.

I have had two hours' instruction lately and I get much enjoyment out of flying. When I can get my pilot's license, I'll fly back to my home town and the first thing I'll do will be to take Mother on a trip into the clouds. And she's fifty-eight years old. And would she fly? Boy, howdy! She's a modern American woman—what you might call one grand sport.

Earle M. Holden, Daytona Beach, Fla.

And here's another.

I sure would like to join The Flying Field and I know there'll be no objections. I like the stories in your magazine and get a real thrill out of them. As I was reading the letters, I happened to notice one written by a Mrs. E. R. S., saying that the stories did nothing but teach young boys suicide careers. I know differently.

Your stories do nothing but tell about real adventure. I guess I ought to know, for I am interested in flying and spend as much time as I can at the airport here in Butte. We have a wonderful airport here, with many planes flying and an air-mail plane dropping in every day.

Lillian Kemp, Butte, Mont.

Welcome, Miss Kemp. You are already a member in good standing. We'll watch for your name, some day, in the list of licensed pilots.

The letter from Mrs. E. R. S. is ridiculous, to say the least. Her attitude on flying as a suicide career is all wrong and decidedly un-American. I am advising my son to go into aviation and, doggone it, I am going with him! Crazy? No! Aviation is a thing of the future, tell the dear lady, and the future is every young man's right. At least, in America. Safe? Do you think I would send my son into something without thinking? Hardly. I am no pilot, but I learned to take a ship up and bring it down without breaking my neck and I'll say this; I consider flying, nowadays, safer than driving a motor-car in this city of Chicago. From my rather short experience of barely twenty flying hours, I can testify that any one using common sense, flying good ships and doing with those ships what they were built to do, is safe enough. Take flying away from our young men and put her "suicide" stamp on it and you have taken away the right of every young and able-bodied man, a right which the U. S. A. extends to those who can thank their stars for living in this country. I come from Germany and believe me, I know what I am talking about.

A. C. Besser, 5935 Diversey Ave., Chicago, Ill.

Shove over, gang, and let our new pilot-member sit down. He is modest about his twenty hours. We can remember how we boasted when we passed our tenth. We'd have taken Beachy for a ride, any time! About the twentieth hour, we began to know something. Pilot Besser's remarks about common sense and using good ships for what they were built for deserves a second reading. Read it again, you stunt artists!

Here's a different point of view.

I am sorry that Mrs. E. R. S. takes the view she does. It seems to me that her boy should be permitted to choose his own vocation. But I am a mother and only too well

do I know the terror she has in her heart. I, too, have a small boy, aged eleven. He and his dad wander off for hours at a time in the direction of the airport here. When they come back I look, terror-stricken, for betraying oil smudges on their faces! I don't think Sonny has flown yet, but I don't know and I don't dare ask. You laugh at me for being afraid?

Unless you've been through what I have, I don't blame you. I was a very young war-bride, married to a war flier. As a bride I accompanied him to his various training fields here and there throughout the country. I have seen slender young officers and cadets who dined with us the evening before tail spin to the ground and burn. I've seen my own husband fall. I've seen—but it doesn't matter now. But I am afraid my husband is going to fly again after all these years and take Sonny with him. Yes, I know planes are better and motors are reliable, but still I'm afraid. Now laugh at me if you wish.

F. F. B., Tampa, Fla.

No, Mrs. B., there is not a smile in the entire gathering. We know only too well how the image of those early days must be branded upon your heart. We admire you for not asking your menfolk, old and young, whether or not they have been flying. May all their landings be happy ones!

But let us state our own position once again for the benefit of the newcomers. We, the editors, are content merely to publish fact and fiction about what we, personally, believe to be the greatest sport and the finest business ever developed since man first discovered that he did not need his hands to assist him in walking. We sympathize with those who do not see flying as we do. But advise others to fly? No. Those who feel the urge to ride the wings of the winds will do so without our advice. Those who have no such desire had best stay on the ground. It is, after all, a perfectly reasonable difference of opinion. And a difference of opinion is what enables lawyers—and magazine editors—to make their livings!

Stand out from under the propellers, you men flyers, and make way for a girl who is all set to go! Here's what she says:

I read your latest issue of FLYING STORIES and, believe me, it reached the ceiling. I like the stories that are rip-roaring full of action, but the lovey-dovey stuff is a washout. I think your authors are very clever and must have seen more or less of the world from the air themselves.

Believe me, I'm not waiting until I get out of school to fly. I'm taking Hinton's home-study course and it's the airplane's flippers!

Watch out, men! We girls are coming right along—and there are a good many who are not afraid of mice, spiders or snakes and who probably wouldn't be greatly worried up in a plane if the pilot suddenly got tired of living and did an outside loop!

May I ask a question in closing? Is it possible for a girl to make a business of flying? Lots of girls who are longing to fly and have no money are hopeless because they think girls can't get jobs flying. If not—why not? If so—hurray! Many happy landings.

From a sincere sky booster,

Benita G. Coffin, Somerville, Mass.

That's quite a letter. To tell the truth, it has this editor at a disadvantage from the take-off. We are no more timid than most men. We've flown our share. We once nose-dived a bomber, loaded with 150 pounds of T. N. T. smack into the ground and were able to light the traditional nonchalant cigarette to show that it hadn't scared us two whoops. But we'll confess that we have two fears:—(a) snakes, ugh! and (b) outside loops. If any one ever takes us up and puts us through an outside loop, we'll spend the rest of our life

chasing him with a Lewis gun!

But as to girls making a living, why not? To be sure, lack of money and lack of a job are serious handicaps, but not impossible ones. Among our most famous girl flyers, there are several who became started under similar conditions.

Miss Coffin likes the thrills but not the love stories, eh? Well, she isn't alone in that. Here's a letter from the top of the pile.

For the *lucra* Mike, cut out the clinches in your stories. Give us the real he-man stuff and cut out the mush! The bird who said that when a pilot fell in love his wings were soon clipped, said a mouthful!

Pete Miller, Portland, Maine.

As we've said before, we are always open to reason. If you don't like love stories among those of action and adventure in the air, we won't publish them. Vote on it, you folks out there. Let us know what you want and we'll give it to you. So far, this love versus no-love argument is almost a draw. Here, for instance, is another opinion.

Just how any one can say that girl's haven't any serious part in an aviator's life is more than I can see. Hasn't woman always played an interesting part in man's life since the time of Adam and Eve? Was she not put here to be man's companion? Are aviators the exceptions to the rule?

As for your correspondent saying that he would sell his plane to buy the wedding ring when he got married, just think how many joy-rides they might have together if he kept the plane and bought the ring, too! Would this not take the monotony out of life and furnish a few thrills instead? Just use your imagination.

Beatriz Gillogly, Oakland, Calif.

And here's another.

The adding of a few flying love stories to your table of contents is just the thing that makes FLYING STORIES such a welcome relief from all the other air magazines that flood the stands. It gives balance and variety to your fiction—something absolutely necessary if an intelligent reader wishes to read your book from cover to cover. All love stories? Decidedly not! All war and adventure? Thumbs down! Keep on as you've taken off the field and your flight will be a long one. I'll buy you a gallon of gas or two every month!

Sam Helmuth, Nogales, Ariz.

So there you are! Speak up, the rest of you! This book is yours. If you don't like it, we'll change it!

Next month we plan to start calling the roll of those who have done their bit to make flying safer for their brother and sister pilots by helping in the great movement to place air-markers in every city, town and hamlet in the United States.

In some of the larger cities, the placing of a proper air-marker is a big task. In others, it calls for only a few minutes' work with a paint brush and a stepladder, plus a large roof surface. And, strangely enough, it is in the small towns, where the work is easiest, that it is the most necessary. Flyers aren't likely to mistake New York, Chicago, San Francisco or other great cities for any other town. But, from the air, every little town looks pretty much like every other little town. It is entirely conceivable that your five minutes with a paint brush atop your movie theater or your largest garage may, some day, save a fog-bewildered airman who must find a suitable place to land his ship. Isn't it worth while? Let's hear from all of you who are doing your bit. If you've asked your club to exert its influence;

if you've talked to the mayor or the chamber of commerce; if you've written a letter to your local newspaper, let us know. We pilots will all be grateful.

Here's an interesting letter and one which brings out a reasonable point of view, as well as a flood of old memories.

I wonder why so many of your authors use Baron von Richthofen as the hero of their stories? Surely he was no greater flyer and fighter than many of the members of his circus. Why not, for a change, make some of the Great French aces your heroes? Nungesser, for instance? Why not have a series of articles telling about the exploits of some of these wonderful Allied aces?

How's this for a suggestion—why not have a reunion in The Flying Field of the old timers of the R. F. C. and the Lafayette Escadrille?

P. J. F., New York.

As to the suggestion about publishing a series of articles about the meteoric careers of some of the noted aces, we'll leave that to you, around the circle here. Would you like them or not? Let us know.

We subscribe most heartily to the reunion suggestion, although we frankly doubt whether there will be a very large gathering of old pilots of the R. F. C. and the Lafayette Escadrille. There aren't many left, you know, of the real old-timers of both outfits.

We didn't know so many of the R. F. C. boys personally, although we bumped into them here and there along the front, and dropped in on their airdromes once in a while. We had some noble battles with and against some of them in the streets of Paris in the wee sma' hours of the morning. We remember them with joy. Those were the days!

But the Lafayette Escadrille—there, the names become personalities! Bill Thaw, Norman Price, Victor Chapman, Elliot Cowdin, Bert Hall, Clyde Balsley, Walter Lovell, Harold Willis, Dave Lewis—we're recalling a few names and a few faces from memory, some of them who have answered the last roll-call of all. What a crew! We wonder where the survivors are, now? Now and then we run across one of them and, over a little table, remember this pilot and that one. Some of them, though seldom heard of, are among the greatest heroes of all times, to our way of thinking.

THERE was Clyde Balsley, for instance. We don't know how many planes he had to his credit, if any, but what a youngster he was! A little fellow, perhaps five feet six, he was one of the very first of the little group to form what was then called the Franco-American Flying Corps. On one of his first trips over the lines he received an explosive bullet in the stomach. For a year or more he lay in the American Ambulance Hospital in Neuilly, undergoing one operation after another. We, who had known him when he drove an American Ambulance, thought he had died. We returned to Paris, early in 1917, and heard that he lived, after a fashion. We called the hospital. He was being discharged that day. We met at Henri's, over a table. He told us that he was leaving the following day for the front as a machine-gunner. He could no longer pilot, of course—he was almost a hopeless cripple, but he could point a machine-gun, so the French had at last permitted him to do so. Courage? Of a kind seldom encountered in our experience.

We met him once more, quite by accident. In Washington, just before the Armistice, we noticed a familiar looking little figure hobbling down 16th Street. He wore the uniform of an American captain. Reminded of some one, we looked again and there was Balsley, the marks of suffering indelibly etched on his face, but the indomitable courage still flashing in his eyes. The American Army was making use of his knowledge and experience, but he regretted being 3,000 miles from the combat.

Again we lost track of him and have heard nothing from him since. We wonder where he is. We wonder where the

rest of his kind are now. Many of them, we know, have stopped flying. Some of them have not. Bill Thaw, now Col. William Thaw, acquired a few broken bones when his plane crashed a few months ago in a transcontinental air race.

If any of the old-timers, British or American, read these words, won't they answer "present" to the roll-call? There'll be big, comfortable seats for them at this, and at all other gatherings of air-minded folk!

THREE or four years ago Miss Rosalie Klausner of 48 West 73rd Street, New York City, enjoyed a trip to Europe with her father, who is a prosperous florist. As is not uncommon, she kept a diary, faithfully, too. A few bits from it, jotted down as she was flying across the English Channel struck us as mighty interesting. It made us feel as if we were really along with her.

I am writing this while passing over England above the clouds. Father and I and five other persons besides the pilot and mechanic are in this huge airplane—not to mention hundreds of pounds of baggage. We left London at four o'clock.

The scenes below are positively indescribable. We started up slowly and we are now passing over fleecy white clouds. It is, without the slightest doubt, the supreme thrill!

I am thoroughly enjoying the sensation—so is Father. He's not a bad sport.

The trees and houses below are almost indistinguishable, they are so minute.

We are in wireless communication with other airplanes and with the airdrome in Croydon.

We have just reached the English Channel. It's getting much colder now. I was wise to bring my sweater along.

I am thinking of my mother and how much she would not enjoy knowing about this upward flight of ours!

Father is so entirely unsentimental that he is sitting here partaking of such earthly things as gooseberries and grapes, a basket of which we brought along with us from Joe Shearn in London. I do believe that he'll take a ham-and-egg sandwich and probably some "Matzapens" when he knocks on the door for St. Peter.

We are now approaching the coast of France. We made the Channel in one half hour. I can see the coastline but I cannot see any houses or trees on the land; the clouds obstruct our view.

There is not the slightest uncomfortable sensation. The feeling is that of suspension—an aerated sensation! If it were not for the fact that I hear the noise of the propellers I would not be sure that I am in a state of consciousness.

We are now flying above Paris-Plage. I believe I see a multitude of forts or barracks, or some kind of military buildings along the coast. It is only five-fifteen now. It's certainly wonderful to be able to be in Croydon, London, England, at four o'clock and in Paris-Plage by five-fifteen. What progress the world is making!

We just passed another plane on the "next street." You see, ours is a "one way street." There are landing stations every fifteen miles on land.

We are passing over Amiens and Beauvais. France is a very pretty and well-kept country.

We are flying lower now in order to make the landing a gradual one. There is the airdrome! We're landing now—6:40 o'clock. 'Round and 'round in a circle—then "terra firma."

Well, it's been a good meeting, hasn't it? But it's getting late. The long shadows are crawling across the field. The flying cone is coming down. See you all next month.

Until then, cheerio! Happy landings!

A Flyer who Couldn't

*This Pilot Dreaded the Air Until
the Big Moment Came*

THE big crowd which came out to Robins Field every Sunday afternoon to watch the flying of the One Hundred and Sixth Observation Squadron, State National Guard, surged against the fence. It stood on tiptoe and climbed on running boards and automobile tops with hundreds of eyes focused on one point of the field. Members of the squadron, waiting to fly or tending ships, cautioned each other to stand back.

Out on the field, just past the hangars, where ships came in and took off, a man lay on the ground beside a plane. Two other men stood nearby and the flight surgeon was kneeling beside the prostrate figure. "What was the matter?" came the collective query. The plane was intact. "Had he been hit by the propeller?" every one asked. Apparently not. Had he fallen out of the plane? No, he had been dragged out of the plane.

It became apparent that members of the squadron were snickering and telling each other something very funny. Presently the man on the ground opened his eyes and was half helped, half dragged into a hangar, several squadron members following him with broad grins and allegedly witty remarks. One forlorn, searching glance at the crowd was the only sign of interest he exhibited. The center of the little scene was Private Jones and Private Jones was very ill.

A few moments before, the plane in which he had been a passenger had gone through a series of stunts, which was part of the squadron's regular practice, but Jones, who had accepted an opportunity, rare with him, for a flight while hiding the fact that he had been upset since morning from "something he ate at breakfast," had lost the battle with his stomach.

This was very unfortunate for Private Jones, because of all men in the squadron, it would cost him most in painful jibes. And he knew that the plea that he had already been ill would only aggravate matters.

Some one had once called Jones the Helmet and Goggle Brigade because Jones' connection with flying was, it is feared, chiefly in the fact that he wore helmet and goggles on almost any and, some said, all occasions. At least he wore them well. The more romantic spirit of aviation was never without its representative when Jones was present.

The old-time mechanics, highly trained experts who made their living keeping the squadron's planes in shape, and other members of the national guard outfit, took great delight in Jones, the "ground flyer," and although it was this very kidding that reduced Jones' opportunities for flying, the spirit of the kidding gradually became confused with the idea that Jones was a little bit afraid of flying, or perhaps altogether afraid.

So when Jones became ill, it was practically taken for granted that he had become ill because he had been scared. The whole result was that Jones was almost completely cheated of the flying instruction most enlisted men were given just as a favor by the pilots.

One situation aggravated another. Those who "rode" Jones couldn't know that he sat all day long on his stool at the offices of the hardware house where he was bookkeeper, and dreamed about flying. Flying was in his brain, in his muscles, his fingers and in his very soul. He lived it, ate it and slept it, and when he had enlisted in the squadron two years before, he had at once purchased helmet and goggles

and some of the men swore he had never taken them off since.

So when he strode along the edge of the field with his helmet and goggles and his serious, romantic air, thrilling at the glances from the crowd outside the fence, the squadron members had yelled "Helmet and Goggle Brigade" at him.

Thus he didn't get so much flying as he might have, but the urge was still in his soul and so it made him strut more and wear his helmet and goggles more and talk bigger.

The more he posed the less he flew and the less he flew the more he posed.

Jones lay in the hangar, slowly recovering and wondering if "she" had seen his humiliation. The glance over his shoulder as they were dragging him in showed that she was not standing where he had seen her just before he went up. He prayed she had gone. Every Sunday, the regular drill day of the squadron, and some other days, too, he had seen her there at the fence and longed to know her—and dreaded it.

He knew she had been watching him, knew he had "knocked her cold." But he was afraid his bubble would burst if she met him and thus came in contact with other members of the squadron who would, of course, generously supply her with details about his "flying."

He thought, too, lying there, about the endless kidding he was in for because he had become ill while flying. It would get old, old, old—that kidding. They'd drive him mad. He'd quit. If they didn't let up he'd quit next month. He'd give them one month and then good-bye to his dreams.

But a week or so later Jones' illness, Jones and, in fact, practically every other individual member of the squadron was forgotten in the excitement over reports from the state capital. For, it appeared, the squadron was facing the possibility of an amputation or even complete annihilation.

A NEW governor had been elected and the new governor had appointed a new adjutant-general. The new adjutant, who is head of the national guard, was expected to show Washington in a fact-and-figure report that each unit of the national guard would be cared for under the new administration equally as well as it was under the old.

Any unit, especially one as expensive as the squadron, which the adjutant-general mentioned negligently or which he neglected to mention at all, was likely to suffer in Washington. It appeared that in the squadron's case, the whole outfit might be eliminated.

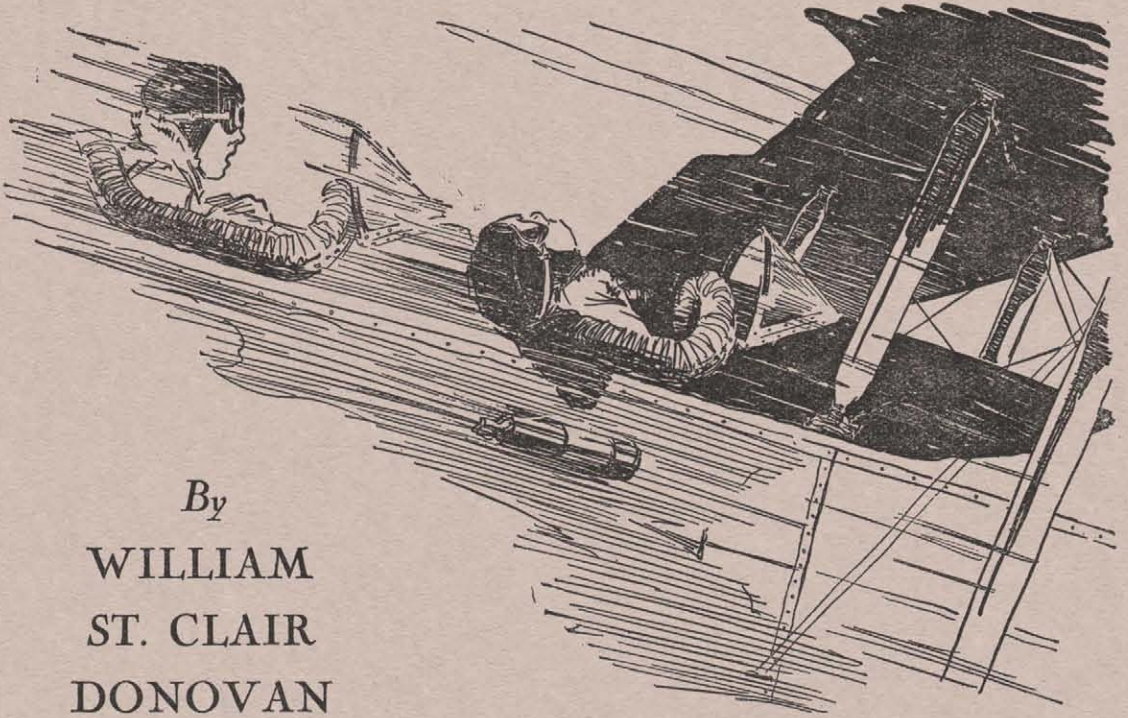
It further appeared that present indications were the adjutant-general wouldn't give the squadron much attention. The new head of the state military, it seemed, being an old-time politician and an older-time military man, had, as old-time military men are often accused, little interest in aviation. To him, it was feared, that branch of the service, when he thought of it at all, still appeared as a fanciful experiment.

Major Walters, the squadron's commanding officer, interviewed the governor and he interviewed the adjutant-general. These gentlemen were polite but their minds were elsewhere so soon after election.

So the members of the squadron worried and cursed and hoped desperately while the shears that were to clip her wings snapped closer and closer.

It was a pleasant Saturday morning in the private office of His Excellency Thomas I. Murphy, governor of the state,

FLY—BUT



By

WILLIAM
ST. CLAIR
DONOVAN

The governor was at ease with his feet upon his desk and his friend, Mr. Joe McAllister, recently appointed, assistant chief something-or-other at such and such a salary, reclined across another corner of the official furniture.

"Joe, you know what?" inquired His Excellency rhetorically.

"What?" prompted Mr. McAllister.

"I've got to attend that dinner of the State Improvement League in Steelville tonight."

"Yeah, it's hell to have to take a trip all the way up there to listen to a lot of hot air from that bunch of high hats," sympathized Joe.

"Hell, nothing," replied His Excellency, taking his feet off the desk and leaning toward Mr. McAllister. "That's not the hell, the trip, I mean. You may not realize it but that bunch is getting stronger and stronger and they can make a lot of trouble or be a big help. You know what one of the biggest planks in my platform was, don't you? A plank I inserted especially for the benefit of that crowd?"

"You've doubtless heard that there has been a controversy over the proposed new north-and-south highway that lasted through the whole four years of the last administration. Well, I promised that I'd personally see to it that a satisfactory contract for that highway was signed within three weeks after inauguration. It's been a month now and I've got an idea tonight's kind invitation is a call to the carpet."

Mr. McAllister brightened. "Alec Smith is in Johnsonville with the contractors now, isn't he?" he asked.

"Yes, he's there and he'll have the contract all signed up by two o'clock this afternoon. If the contract had only the ninety miles to travel from here to Steelville, where the supper is to be tonight, that I have, everything would be easy. But Johnsonville is three hundred miles away from Steel-

ville and there is no way in hell or on earth to get that contract there in time for the dinner tonight."

"Well, what of it? You can tell them about it? Or you can even read a telegram from Alec and polish things off in grand style."

The governor looked harried.

"Say, you don't know that bunch. They've fought, battled, bickered, quarreled and pulled hair over that highway for four years and the news that it's been settled is going to be big news to them.

"And the man who gets credit for putting it over is going to be solid with them for life. Well, I mean to get credit for it and I want that little old contract right there in my hand to wave over their heads when I make the announcement."

His Excellency became enthusiastic. He pulled himself closer to Mr. McAllister and his eyes shone.

"WHY, Joe, it'll be the greatest thing yet. I'll sit there all quiet and everything until I'm introduced. Then I'll stand up with that little old contract right there in my pocket and I'll tell them.

"Gentlemen,' I'll say, 'Gentlemen, you are probably interested in our new north-and-south highway more than in anything else. There has been a great deal of controversy—needless, I am convinced—and you have been given various excuses why the matter was not settled. All that was needed was for the man at the head of our state government to get behind it and put it through. I told you that if I were elected I would do so, and, gentlemen, I am a man of my word. I have put through a contract for the new highway.'

"I'll pause there, Joe, and let that sink in. Then I'll pull out the contract and wave it over their heads.

"Gentlemen,' I'll say, 'here is the contract that will give

our great state one of the greatest highways in this great nation!" His Excellency gradually wilted in his chair and stared gloomily at the inkwell.

"At least, that's what I would say if I could get the contract for tonight. You know, Joe, it looks like a little thing but it won't be the same unless I've actually got the contract in hand. I lose the punch out of one of my best bets."

"Yeah, it won't be the same," sympathized Joe, who was often annoyed at the governor's insistence on what Joe considered petty details in the elaborate stagings the new executive prepared for his speeches. But, after all, he was king.

"Why don't you pull a dummy contract on them?" asked Joe.

"And have the whole bunch crowding around to read terms we've lined up and me with a blank contract in my hands? No, sir, that's too much risk."

They pondered a while hopelessly.

"Say," said Joe suddenly, "why couldn't you get Alec to start the contract out in a fast car as soon as it's signed? He might make it."

The hope that had arisen in His Excellency's face faded and died.

"WRONG again. If we already had the new highway we might have a chance. Just a bare chance. But the way things are now there wouldn't be the faintest hope of an auto making the trip in five hours, even if the schedule carried through perfectly."

"If you only had an airplane," mused Mr. McAllister.

The governor sat upright.

"Say, there's a thought. Yes, sir, Joe, that's a brilliant thought.

"Look here, I believe the state has a national guard flying outfit of some sort, hasn't it?"

"Yeah, I believe it has. Yeah, I'm sure of it. I saw some of them flying around here inauguration day."

His Excellency was all business now.

"All right, let's get right in behind this. Let's start right now. I've got to catch a train at one-thirty. Look in the adjutant-general's office, Joe, the second on the left down the corridor, and see if Colonel Marks is in there. Tell him to hop right up here."

Presently Joe reappeared in company with the state's new adjutant-general.

"What's up, Tom?" he greeted the governor, "your first mine war?"

"No, no. Sit down, Pete. Listen, I want you to do me a little favor."

"All right."

"Hasn't the national guard got a flying outfit?"

"Yes, we've got some sort of organization at Robins Field, in Steelville."

"Well, say now, Pete, there's a certain little contract that has got to be waved in the air while I make a little speech in Steelville tonight. But, right now, that contract is in Johnsonville and it won't be ready until two o'clock.

"The only chance in the world of getting it is to get one of those planes to make a round trip to Johnsonville in time to get it and be in Steelville by seven o'clock, or before dark some time."

"Well," said Colonel Marks, "I'll call up the squadron's commanding officer and see what he can do. Goodness knows they ought to be good for something. I don't know what else they've done."

Colonel Marks retired to his own office. His Excellency had become very much impressed with the little show he was going to put on for the State Improvement League and so when Colonel Marks returned half an hour later he found the governor staring nervously out of the window and busying himself with breaking up a pencil while Mr. McAllister paced the floor for him.

His Excellency whirled around when the adjutant-general entered.

"What did he say, Pete? Can they do it?"

"Yep. The commanding officer said he would make the trip himself. They'll bring the contract to your hotel before the dinner."

The governor relaxed.

"Well, now that's fine. That's just fine."

* * * * *

Bookkeeper Jones looked at the head bookkeeper's retreating back with lifelong gratitude. It appeared that the work was pretty well caught up and so, as was the office custom, Jones was to have the rest of Saturday morning and all of Saturday afternoon off.

Bookkeeper Jones would now become Private Jones of the Hundred and Sixth Observation Squadron. He reached in a desk drawer and found his helmet and goggles. Sunday afternoon was drill period and the whole squadron was always at the field to fly but on Saturdays there would be several pilots out and only a few men.

Maybe he would get a hop for a change.

At the field, a few minutes later, Jones went to the locker room, dressed himself in his light flying suit and fitted his helmet and goggles carefully on his head. He had noticed a number of sightseers already hanging on the fence and he wanted to be in the midst of the glory of flying. Outside, he thought of an errand that would take him up the field close to the fence.

Adjusting his eyes to a shade proper to one intent on darning, he strode along, catching the sightseers in the corner of his eye to see if they were getting the effect. And—joy of joys—he saw Her.

Two young ladies in their late teens hung on the fence close together. Both were ornaments to the fence. Their clothes were neat, colorful and brief.

Either the brown eyes or the blue were a good choice, but at the moment the blue eyes were all aglow. Their possessor nudged her companion excitedly.

"There he comes, Sadie! There! There!"

"Where, June?" asked the brown eyes.

"There, right there with all the swell flying things on."

June Martin, of Ladies' and Misses' Ready-to-Wear Department, Jupiter Ginsberg's Big Store, clutched her companion's arm as Private Jones strode by.

Then she clasped her hands in abandoned ecstasy.

"Oh, ain't he cute! Ain't he cute! Ain't he the cutest thing?" Into these "cutes" blue-eyed June put all her heart and they carried what might have been expressed by one more academic with "handsome, romantic, thrilling, charming and devastatingly gallant."

Sadie's eyes followed Private Jones and she was impressed.

"YEAH. Yeah, he is cute," she admitted. "Do you come out here every Saturday and Sunday to see him?"

June wouldn't admit to much abandonment.

"Well, I come out nearly every Sunday. I've been out the last six Sundays and sometimes Saturday, but not just to see him. Shucks, I like to watch the flying. Besides, I told you I have never met him. He don't know me from Adam's off ox. Gosh, I bet he's some pilot!"

Sadie halted a reply to stare after him.

"Well, say, Junie, why don't you get somebody to introduce you to him?"

"Gosh, wouldn't I love to! I've tried and tried, but I don't know anybody that knows him."

She looked about eagerly for some one who might know Jones. Her eyes lighted on Corporal Jim Sprague, leaning against the opposite side of the fence.

"Who is that man right there? The tall one with the helmet and goggles?" she asked Jim excitedly.

Jim looked her over carefully, then inspected Jones and chuckled.

"Oh, he's a member of the helmet and goggle brigade."

June's eyes grew big. "Is he a good pilot?"

Jim turned around to give her the full benefit of the remarks he was about to make.

"Him? Why he's—"

A yell from out on the field interrupted.

"Hey, Jim," some one called. "It's your hop."

June turned to Sadie.

"See, Sadie," she said excitedly, "he's a member of the helmet and goggle brigade. And I was going to get that boy to introduce me. Yes I was. I'm going to find him again."

On his return trip down the field, Jones' eyes resumed their impersonal trailing over the crowd, but for a moment they focused definitely—on the blue eyes.

THEY made him slightly dizzy, even if this was about the fortieth time he had looked at them. He wanted desperately to run over and pick up one of those quick acquaintances, but he couldn't do it that way with her.

Anyway he couldn't meet her at all, he suddenly realized because some squadron wit would be sure to stop and ask him if he was feeling all right lately.

The squadron elected its officers from the ranks. If he only had a chance, Jones thought. But he'd always be a private.

He noticed that the girl was talking to Jim Sprague and

the Falcon out on the line. The crew began filling the tanks with gasoline.

Falcon is the name of Uncle Sam's latest type observation plane. It is one of the largest planes, carrying two men, pilot and observer. The pilot rides in the front cockpit and the observer in the rear.

Sergeant Bill inspected the plane's oil.

"Who wants to go with Major Walters?" he asked.

None of the privates dared speak until the full-time mechanics, all staff or master sergeants, expressed themselves. However, these old-timers seldom sought a hop and none wanted to go this trip.

Like a sudden whirl of the wind, before the others could speak, one private stood before Sergeant Bill.

"Let me go," he said.

Bill surveyed Private Jones with a show of disapproval.

"You don't deserve to go," he said severely, "the way you are always kicking, even after you do most of the flying."

"Well, but I—"

"Oh, go ahead. The squadron's going to hell anyway."

"Whoopee," yelled Blackie Harrison, a little weather hardened mechanic who had nursed air steeds for war birds in France. "Whoopee! The Helmet and Goggle Brigade is going up. Better give him a pill and some nice snug wrist

All of Jones' world resolved into that stick he clutched in both his hands. Everything else was forgotten, nothing else ever existed and the engine continued to roar wide open.

Just that stick. Pull it back and the ship would level off. Pull it back and fix things up.

He pulled. The stick refused to budge. He pulled with all the strength of legs and arms until it seemed his temples would burst.

half hoped, half feared Jim might call to him. The outside gong on the telephone clanged noisily and Jones welcomed the chance to rush to it.

But Master Sergeant Bill Martin, foreman of the mechanics, perched atop a Liberty motor, had heard the phone first. Bill, cussing, climbed down and answered it.

"Hello."

"This is Major Walters, Bill. The governor has an official paper in Johnsonville, which he wants brought here this afternoon. Can you have one of the Falcons ready to go by eleven-thirty?"

"Yes, sir," replied Bill.

"I'm going to fly it myself. And, say, I don't want to cause any false hopes or to appear foolishly excited, but this looks like our chance. It's the first time they've paid us any attention at all and when we bring this paper back, it will probably get some action in our favor. At least it will give us something to work on. And, at any rate, we'll certainly ruin all our chances if we don't get it back."

"All right, sir. We'll service a ship right away and have it ready for you."

"Come on, somebody," Bill shouted back into the hangar, "let's get this Falcon out. Major Walters is going to Johnsonville."

When the others gathered around the big plane he explained to them that the sun, in all probability, was about to rise and dispel all their troubles.

Eagerly, the other mechanics, aided by Jones and a few other enlisted men who had been loafing at the field, pushed

warmers. And, Bill, you better go with him to keep him from getting nervous."

Jones was silent. He had been expecting something like this from somebody, and Blackie seemed to have it in for him worst of all. He'd tell Blackie a few when he got back.

Private Jones pressed his fingers on his helmet over his ears as Major Walters opened the throttle in the last stage of warming up the engine. This would be Jones' first hop in one of the squadron's Falcons. Heretofore, his flying, such as it had been, had been confined to training ships.

He was a little dismayed by the terrific blast of air hurled back by the powerful Liberty's propeller. He could hardly stick his head above the cockpit without having his goggles almost ripped from his head. He'd get used to it though, he supposed.

THE windshield was a narrow strip of material similar to celluloid or mica and served as a windshield only when one kept his head firmly behind it. To add to Jones' discomfort, his windshield had a large gaping crack across the bottom where it had been broken loose.

Some awkward wrench slinger had set himself upon it and snapped loose several of the rivets which fastened it to its frame and thence to the rim of the cockpit. It was a wonder, Jones told himself in annoyance, that some of these fellows didn't fall through the wings every time they got near a ship.

It might be dangerous if that thing came loose while they were flying. He comforted himself by inspecting it closely

and discovering that most of the rivets were still holding the sheet of mica firmly, too firmly for any wind to rip it loose.

In the air the big plane roared away, climbing, climbing, climbing. At two thousand feet the major leveled off in the direction of Johnsonville. Jones stood up in the deep observer's cockpit to look around. The terrific wind pressed against his nose and closed his nostrils, took his breath and whipped his goggles cross-wise on his face.

He sat down to adjust his goggles. He'd have to get used to these Falcons. They were certainly a different proposition. He imagined himself flying the Falcon, reached out and touched the control stick before him, which moved gently as the major moved his own in the other cockpit. He touched his feet gently on the rudder pedals.

No—he couldn't quite see himself flying this monster, he admitted. It was so different from the lighter training ships. One dared hardly look over the cockpit's rim, the big wings hid so much of the view and when the big plane wobbled or hit an air bump it was with so much greater force than in the slower planes to which Jones was accustomed.

PRIVATE JONES had often imagined himself the hero in an accident wherein the pilot should become disabled and Jones should bring the plane safely to ground. Although he had never actually hoped that this would occur, there was a great deal more fervor in his hope that it would not now, because he felt that he would certainly be helpless in this roaring air dragon.

The field at Johnsonville had never before seen a Falcon and Private Jones basked in the glory of his almost contemptuous familiarity with it and answered questions for the curious, while Major Walters sought a telephone to inquire about the paper which had not been brought to the field as expected.

In a few minutes Major Walters returned to the ship, mumbling remarks too livid to be delivered aloud. The paper, it seemed, had not been signed or something. The person to whom the major had talked said he would have it at the field in an hour—he hoped.

A stiff and rising breeze, which had sprung up from the direction of Steelville, failed to cool the major's ire. In fact it seemed to fan the flames higher and when the major noticed low, gray clouds scuttling up out of the south, followed by blacker ones down on the horizon, the livid remarks heretofore mumbled were announced loudly and in a clear voice for instruction of all who might wish to listen.

The clouds promised certain rain. There was no escaping it. The head wind would delay them greatly and if they were delayed until darkness caught them in the rain, disaster would be almost certain. Well, if it got too late, he just wouldn't try it, and that was all there was to it, the major decided with colorful comments thereon. Just the luck to be expected though.

Just when the opportunity arrived to attract a little favorable attention from officialdom it seemed it would be turned into unfavorable attention. While the former did not necessarily mean that the squadron would be saved, the latter almost certainly meant its doom.

An hour passed, and in spite of the fact that the major had not expected the paper in the hour promised, he renewed his torrid comments with new and original trimmings. Just as the fifth minute of the next five elapsed, a taxi hurtled a few ditches on the edge of the field and crashed to a stop in front of the hangar.

The major took one look at the man climbing out of it, clutching a heavy manila envelope, and shouted to the mechanics on hand to start his motor.

Private Jones waited for no instructions. He climbed hurriedly into the cockpit, adjusted his goggles and fastened his safety belt. The major climbed in, in front of him, halting long enough to shout that he thought they could make it all right.

They were off.

Jones looked above him at the sky, now completely over-

cast and sending tentative warnings, drops of water to earth. The clouds shut off the sun almost completely and made the time appear much later than it was. Above the roar of the engine Jones sensed an ominous hush.

Soon the drops increased in frequency and a few moments later they were cutting across his face like red-hot needles and in such quantity that the nose of the big ship was only barely visible.

Private Jones was uneasy, became much more uneasy and then finally gave himself over to wishing fervently that he had never come on this mission. He trusted the major's flying implicitly but now they were skimming along at an altitude of one hundred and fifty feet and the strong head-wind reduced the ship's ground speed alarmingly, while the "bumps" met at the low altitude tossed the plane angrily.

Jones sincerely hoped that the long-imagined incident should not occur and that the major would be in command of every faculty, including several spares. The very thought made him panicky. Of course nothing could happen to the major on his own account, but what, he thought, if some one had left a wrench or something on top of the center section and this should fall off on the major's head. He craned his neck to see that the center section was clear.

Or what, he thought, if something should tear loose in the engine and strike the major.

After what seemed to Jones hours, his misery, which at times had entered the stages of terror, gradually began to abate and he began attempts to survey the landscape in order to establish their location. He knew that even with the head-winds they must be nearly home.

The ceiling by this time had lifted to about 1,200 feet in spite of the fact that the rain seemed to have increased its intensity and the heavens to have become darker.

Jones abandoned attempts to look over the side of the cockpit when the terrific blast from the propeller, now heavily rain laden, threatened to tear the skin from his cheeks. The great plane roared on and Jones could not conceive of any one being able to fly it with the nose and wing-tips well nigh invisible.

He examined the windshield in front of him again for lack of anything else to do. He took off his goggles and wiped the rain away. Thus he was reminded of something which the rain had obscured. The broken windshield. A thought struck him almost physically.

Instantly he decided to brave the tearing wind and rain for a moment to raise his head and look at the major's windshield.

To his horror, what he had feared was true—but worse. The same lazy oil-squitter who had sat upon the windshield in Jones' cockpit had repeated his show of lack of intelligence in the strip of mica on the forward cockpit. But it, being smaller, had suffered more. Almost the entire line of rivets had been torn away, only one on each end remaining, and the sheet of mica was snapping about in the angry blasts. The rain and tearing wind existed for Jones no more.

HE tore loose the buckle on his safety belt and stood upright. He reached over and touched the major on his shoulder to warn him.

The pilot shook his head violently and Jones tumbled back into his seat, licking his lips feverishly. The major was too busy flying the ship to look around. Perhaps he had noticed the damaged windshield already and would curse Jones for a fool when he found out what he wanted.

Jones bit his knuckles in agony and glanced at the pilot's windshield. It seemed that those two lonely rivets could not possibly endure that wind except through a miracle.

He jerked his safety belt loose once more. Perhaps the major would curse him for a fool. On the other hand, they might both be killed if he kept silent. The major's head was directly behind the mica. He pulled himself to his feet and reached for the major's shoulder.

Suddenly, the broken windshield ceased snapping about. It bent low, horizontal to the wind. It trembled a little and snapped off.

The heavy mica struck the major edgewise, just above his goggles. He pitched forward against the stick, then against the cockpit's side and lay still.

The great ship, with a shudder, engine full on, tore nose downward in an almost perpendicular dive.

Jones fell back into his seat, dazed with terror. For a moment his eyes refused to see and his arms refused to move.

Something reminded him to get the ship on a level. Just pull back on his stick. Half consciously he put his feet on the rudder pedals, grasped the stick and braced himself. The plane trembled all over as its speed passed the two-hundred-miles-per-hour mark.

All of Jones' world resolved into that stick he clutched in both his hands. Everything else was forgotten, nothing else ever existed and the engine continued to roar wide open.

Just that stick. Pull it back and the ship would level off. Pull it back and fix things up.

He pulled. The stick refused to budge. He pulled with all the strength of legs and arms until it seemed his temples would burst.

THAT damned motor! How could a man pull a ship out of a dive with the motor dragging it down faster and faster. The throttle! Jones' left hand released the stick for one panicky moment and shut off the throttle. In that split second he remembered he had been told that in a dive it was the motor that was most likely to help him out.

He shoved the throttle wide open again. Then back to the stick. The terror caused by the lost time brought renewed strength in the pull, another fiber straining pull.

She answered a little. More pull, and gradually the big plane leveled off. The terrific force of flattening out pushed Jones low in his seat. He scrambled up.

Don't let her stall!

Give her the gun. His hand shot out to the throttle again and pushed it timidly and then he realized it was already wide open. So concentrated had he been on the business of getting the plane out of that horrible dive that he had hardly even heard the engine.

Jones' senses cleared somewhat and, with temporary relief from the first, horrible moment, reaction seized him. His hand trembled on the throttle so that he removed it for fear of closing it.

His other hand shook so that he had to cling to the stick with desperate strength. His knees shook violently as he braced his feet harder against the rudder pedals.

Although Jones had no account of how long the plane had dived at that terrific speed, it had in reality descended only about seven hundred feet so that he still had a good five hundred feet altitude. But the ground looked too close and this added to his terror as his recovering senses brought to him again the ferocious wind and rain.

He was flying level at any rate, but he realized that the ship was capable of flying thus, alone for a short time, but that any moment it might demand action on his part. He clung to the controls desperately and licked his feverish lips.

Finally he decided to force the issue and ventured to gain altitude. His piloting experience was vague and he had no idea how steep the ship would climb. As a result he put the nose up too much and presently was forced to realize that the plane was threatening to stall.

This terrified him so that he forced the nose too low and lost most of the altitude he had gained. Presently, however, he succeeded in striking an angle suitable for a straight, slow climb and settled back to wait for twelve hundred feet before he permitted himself even to think.

At twelve hundred feet, he came to the realization that he hadn't the remotest idea in what direction he was headed. He looked overside and was overjoyed to find, in the dim mist below him, a low ridge, dotted with houses, which he recognized as being on the edge of Steelville.

After further inspection he discovered that he was flying rapidly away from the field, back in the direction of Johnsonville. During this inspection he permitted the plane's

nose to get too high again, almost stalled, whipped around in a terrifying bank.

He snapped the plane upright with the ailerons, neglecting to adjust his rudder and skidding badly, the fuselage vibrating uneasily in the heavy side wind.

He pushed the rudder too far the other way, then too far back. Presently, however, he brought the ship to a fair degree of steadiness. He now discovered that he was headed lengthwise of the ridge, but still away from the field. He made a wide and cautious bank and headed in what he judged was the direction of the field.

Now a new and, it seemed, the most terrifying problem of all faced him. He would be over the field shortly and would have to land, possibly the most difficult part of all flying for a student. Jones had had no instruction whatever in landing, had never so much as touched the controls during a landing.

Worse, he knew that even the most experienced pilots at Robins Field, who never before had flown a Falcon, were given lengthy and careful instructions in landing before being permitted to take up one of the big ships.

Besides that, it was almost dark and, although he had become more accustomed to the propeller's terrific wind and slightly less terrified by the rain, it still seemed impossible for him to fly the plane very successfully for long.

His goggles had become hopelessly fogged and he tore them from his head and cast them aside. He strained his eyes to look through the rain, over the ship's nose. Very soon he saw two familiar smokestacks which rose from a furnace a few hundred yards from the edge of the field.

Agonizing fear held him. It was small comfort that the downpour was now only a light rain. It had grown darker and he had noticed no slackening in the rain.

His knees began to tremble again. Death, real death, not a character in an imagined incident, stared at him from between the flashes of the whirling propeller.

He couldn't make it. He couldn't make it. What a simple ass he used to be, away back in those times when he was on the ground, or safe on his stool at the office.

Suddenly his left hand groped in front of his left shoulder and clutched a hard, metal ring. The ring to the rip cord on his parachute. Thank God! Dear old parachute. He had forgotten completely that wonderful saver of lives, required of all army flyers. He'd get to windward of the field, jump out and let the damn ship fly to hell.

Ordinarily he would have laughed at any one who suggested he make a parachute jump. But now the idea was greedily welcome, with the terrors of landing the plane before him. Land too low and nose into the ground at seventy-five or eighty miles an hour, or stall in a bank, spin and crash.

LET the ship go to hell—and the major? Immediately it was to Jones as if he had no parachute. He wouldn't dare to let go the controls to attempt pulling the major out and releasing his parachute. It never occurred to him to let the major go down with the ship, alone and unconscious.

Well, he'd have to land. He was over the field now.

He was afraid to spiral down, that in his inexperience he would throw the plane into a spin. So he made another cautious turn and went away from the field about a mile and a half to glide in. But when he began the glide he discovered he could not see the field, was almost certain to miss it.

Well, he'd have to go back to the field, spiral in and let her spin if she must. Over the field he began to spiral down. Fearing a stall, the chief cause of the deadly spin, he spiraled with his throttle partly open. This brought him down at high speed and when he was low enough to land he was traveling much too fast.

He banked around carefully, frightened by the low altitude, flew away from the field a short distance, banked again and started back to land. Miscalculating the plane's gliding ability, he kept the throttle open too long and at the last moment discovered he was too (Continued on page 88)

Flying Suitors

(Continued from page 16)

of the thatched huts of Azua, and flew at fifty feet or so until the cool breeze from Ocoa Bay came in and Tex could climb out of the vacuum.

Ten thousand, all sorts of gliding radius, and we were slamming back for the capital city.

"Sis," I remarked to that kid sister of mine, "my advice to you is that if you decide to take one of these gazebos, take either one of them! One's a fool on wheels, the other is a tailor's dummy. . ."

Then I fainted. Too much excitement close to the ground, too much rarefied atmosphere in the upper air-lanes, and I had lost seventy pounds.

I CAME to with my head in Sis' lap, and she was talking, which wasn't anything unusual.

"I'll have to find some other way," she wailed. "I can't marry both of them, and I can't decide which one I want. As a brother, you're a darned good wet blanket! The world's most proficient, as a matter of fact!"

"Well," I said, "you know your own business best." But I wondered how she was going to decide.

I kept on wondering as the weeks passed.

Sis was very quiet and thoughtful.

Every day two planes flew over our house. One invariably touched wheels to our roof, the other was invariably so high he couldn't have picked out anything but the approximate location of our domicile. Sis thought Tex was something of a 'fraud cat, and that Shep was too reckless, such recklessness being conducive to early widowhood on the part of whoever married Shep. On the other hand, Tex might somehow climb so high some day he wouldn't be able to find his way back down.

Then I got up one morning and called Sis. She didn't answer. I waited for half an hour, called her again.

Yep, there was the usual letter on the bureau.

"Have gone into the Cordilleras, somewhere between Manoguayabo and San Jose de Ocoa, to wrestle with my soul, if I have one, and decide which of those two chaps I want. I can't have 'em both cluttering up our front porch forever."

Well, there's a lot of territory between Manoguayabo and San Jose de Ocoa, and it's all jungle, except what is mountain peaks, and I had a hunch Sis could take care of herself. She was my sister, see?

But then I was worried too. The hinterland was no place for a young white girl to be in. The gentlemen of the interior liked white girls, if one were to judge by the way they eyed those they were privileged to gaze upon. Besides that, the jungle was full of *gavilleros*, those malcontents who saw off the muzzles of shotguns and

rifles and go to the hills to rob and waylay. The fact that our one and only maid was missing too didn't help me any. I'm a bum cook.

But, as I said, there's lots of territory between Manoguayabo and San Jose de Ocoa, and maybe she hadn't even gone that way. She didn't want me to butt in, that was plain enough.

Are You Planting Gladioli?

Roscoe Huff, secretary of the American Gladiolus Society, tells some things about the "Glad" in the May issue of YOUR HOME that will be of great interest to all who are including this flower in their garden plans this year.

The lover of the garden and the home will find many other articles of timely interest in this issue of YOUR HOME, a Macfadden publication.

It went on sale at all news stands on April 23rd for twenty-five cents a copy.

All I knew for a certainty was that she hadn't booked passage on a ship to the States, though I wished she had.

Five days later I heard a knock on the door at four o'clock in the morning. Then I heard a lot of sobbing. I got up and went to see what was what.

It was the maid who had gone with Sis. She was ragged because thorns had almost stripped her, and what I could see of her body thus exposed was bruised and bleeding. Her feet were raw and crimson from much running over sharp rocks.

"Your sister," she wailed, then stopped.

"Yes," I said, "my sister! What of her?" And I shook the maid until her teeth rattled.

"WE had plenty of provisions, a map of the country . . ." went on the maid.

"Listen," I told her, "if you were a witness answering questions before a court-martial, they'd let you tell your family history and the state of the weather past and present before they'd make you answer directly, but I'm not a court-martial. What about Sis?"

"Captured by *gavilleros*!" she wailed. "Fought until they overpowered her, but refused to listen to the pleading of their *jefe*, who tossed her into a hut and told her he'd give her twenty-four hours to decide what she'd do about it."

"Where?" I shouted, shaking her again.

"El Jamey, back of El Tablazo, which is back of San Cristobal," she told me straightly, "and we haven't much time left."

Well, you've guessed it. I telephoned to both Tex and Shep and had myself driven out to the field, where two ships were idling at the blocks, all set to go. I'd been to El Jamey. Mountainous, no place to land; but a chute jump, now. I didn't like chutes, nor airplanes; but she was my kid sister, and I didn't like *jefe gavilleros*, either.

I got in the after pit of Tex's ship, the maid in the after pit of Shep's, and we started off like a pair of comets, skihooting down the field until Hades wouldn't have taken out insurance on either one of us.

WELL, and what do you think?

Shep started circling, madly circling I'll admit, for whole handfuls of altitude, while Tex started for El Jamey by the shortest route, which took not too much account of the tree tops that intervened, and when I say he traveled I mean just that.

It goes to show what love will do.

In a trice, because their sweetheart was in trouble, the two might have changed minds. All Tex's preconceived ideas went into the discard, as he flashed toward El Jamey at a hundred and thirty miles an hour, just above the tree tops. The exhaust flames bathed the sides of the ship until I had a hunch we'd be going down in flames long before El Jamey was reached.

Far above us, eight thousand feet up at least, I could see the exhaust flames of Shep's ship, and he was making time, too.

Then, far ahead, where El Jamey was supposed to be, we could see a light which looked like the light-glow above a big city, though I knew El Jamey was little more than a name, and not one with which to conjure either.

Ten minutes later I knew the answer. The jungle there was a raging furnace!

My heart in my mouth, forgetting my own fears on the instant, I leaned forward, literally willing our ship to greater speed. As we approached, the light grew brighter. The maid had told me the approximate location of the *gavillero* encampment, and I could locate El Jamey itself from the conformation of the ground about it, and by the fact that it was on the bank of a mountain stream whose name at this moment I don't remember.

Well, we reached El Jamey well ahead of Shep, and Tex was looking over the side of the ship, down upon a clearing no bigger than a table cloth. All mountains here, and the natives had merely cleared away a

When answering advertisements

strip of jungle in which to build this settlement, a clearing so up-and-down that a fly couldn't have alighted upon it without breaking his neck.

How could we do anything for Sis? The clearing was a furnace, because all the jungle around it was in seething flames. The clearing was crowded, proof that the *gavilleros* had been trapped by the fire.

Low down swooped Tex, driving for the clearing. Already we could feel the terrific heat which rushed up at us. But I didn't mind. I was watching the clearing for Sis. I could make out the natives as we swooped over, and they certainly were scared pink.

THEY held up their arms to us as though they prayed. Then I saw Sis, recognizable because she was the only woman there who was dressed in breeches and her hair was hanging around her shoulders.

And how could we help?

Jump? Sure, and only get into the trap Sis was already in. Getting in and dying with her wouldn't help Sis. Getting in and getting back out, with her, would help.

And nothing but that side hill to land on.

I looked up at Shep's ship as we swooped over, zooming for altitude from which to dive back; and saw a black bundle come catapulting down from the ship. Good Lord, what could Shep be thinking! That maid with him couldn't fly a ship.

And besides, I saw that Shep, because of his high altitude, the winds or something, was going to land outside the clearing, outside the circle of flames which hedged the clearing in. His chute filled with air and he was striving with might and main, by pulling on the shrouds, to get into the flame-swept clearing. His ship was spinning down, too, and I watched for another figure, the figure of the maid, to come catapulting down, behind Shep.

But no such figure showed, and the spinning ship disappeared behind the side of a mountain shoulder as we, Tex and I, banked around and came back. Well, Tex couldn't land here. Neither could Shep. It looked sort of up to me. I slapped Tex on the shoulder and signaled that I wanted to jump.

Instantly, a grin of relief on his face, he nosed up, half stalled, and I went over at about seven hundred feet. I forgot that it was my first jump, forgot to be afraid, because of the fact that the heat which reached up for me was burning my eyebrows off before I had any more than nicely got started down.

I was going to hit the clearing all right, and then what?

I struck, and my whole body seemed to shrivel with the heat. Sis came running for me. I grabbed her around the waist. We looked up at Tex, swooping in again, and then up at Shep, who was just disappearing into the jungle, outside the flames!

I felt like uttering a wail of despair.

please mention this magazine

Listen In On Life!

9 P. M.
Eastern
Time

8 P. M.
Central
Time



True Story Hour

Makes You Glad You Own a Radio Set!

Symphonic and Vocal Music—Absorbing Travelogue
A DRAMATIZED TRUE STORY

Tune in on any Columbia Station

WOR—N. Y.—Newark
WEAN—Providence
WNAC—Boston
WFBL—Syracuse
WMAK—Buffalo
WCAU—Philadelphia
WLBW—Oil City

WJAS—Pittsburgh
WOWO—Ft. Wayne
WADC—Akron
WKR—Cincinnati
KOL—Council Bluffs
WMAL—Wash., D. C.

WHK—Cleveland
WGHP—Detroit
WMAQ—Chicago
KMOX—St. Louis
WCAO—Baltimore
KMBC—Kansas City
WSPD—Toledo

EVERY FRIDAY NIGHT—A RADIO TREAT!

BIGGEST BARGAIN SALE !!
Newest Shape Ladies Wrist Watch
Direct from
S. J. Jenkins
Cut
to
3.77

This emerald watch...
diamond set special...
platinum, white gold effect ladies' wrist watch. Assorted shapes...
jeweled movement, tested and adjusted accurately. Exquisitely engraved. Two years' written guarantee. Send no money. Pay postpaid \$5.77. JENKINS, 522 Broadway, New York, Dept. 5-4-213

LUCK Money, Happiness, Success—
all symbolized in this rich, new "LUCKY SERPENT" Gold Acid Test Ring. Attracts, compels, mystifies! Get Secrets of How to Get Rich and postage on delivery. Guaranteed.

MAGNUS WORKS
Box 12, Varick Sta., Dept. MFN-1, New York.

You can be free from Constipation —So easily!

Men—why suffer longer with constipation? Drugs, laxatives—pills and pellets, only make matters worse. Gradually, as their use is continued, the nerves and mucus membrane become tired and refuse to respond. Then larger and larger doses are resorted to. Finally the drug loses its effect altogether.

Now you can discard this deadly evil of constipation. And as easily as you throw away an old dress. For Bernarr Macfadden's great book, "Constipation," makes the natural elimination of body waste a very simple matter. He tells you what constipation is, what causes it, what effect it has on the general health and how to overcome it.

Although his methods are so effective, they are surprisingly simple! He brings nature to your aid in a way, that has never been discovered before!

Send no money—just read the coupon below with its five-day trial privilege—then sign and mail it!

.....
 Macfadden Publications, Inc.
 Desk F. S.-5, 1826 Broadway, New York City.
 Please send me a copy of "Constipation." I will pay the postman \$2.00 plus delivery charges, upon receipt. If, after five days' examination, I do not feel that the book is worth more, I have the privilege of returning it, and my \$2.00 will be refunded.
 (Postage prepaid on cash orders.)
 Name.....
 Street.....
 City..... State.....
 Canadian and foreign orders—cash in advance.

Want a Government Job?
\$1260 to \$3400 a Year
Steady Work Paid Vacation
Men—Women 18 to 55
Common Education usually sufficient
Valuable Coupon Mail It Today SURE

FRANKLIN INSTITUTE,
Dept. P299, Rochester, N. Y.

Rush to me FREE OF CHARGE list of U. S. Government jobs now obtainable. Send FREE 32 page book telling salaries, duties, hours, etc. Tell me how I can get a position.

Name.....
 Address.....

Trapped, Sis and I, though there was relief in the fact that we were going out together.

I even felt sorry for the *gavilleros* who were trapped with us. The best thing the natives did, however, was die, so, though their cries to the Virgin for forgiveness and mercy bothered me, I didn't pity them overmuch.

"How'd this happen, Sis?" I yelled at her above the roar of the flames.

"I tried to escape," she cried, her face as red as a beet with the heat, "and couldn't make it. So I set fire to my hut, knowing they wouldn't leave me to roast, and this is the result."

I LOOKED all around. I had an idea that, without Sis, I might manage to get through. But Sis'd never make it.

Over our head roared Tex's ship. I looked up again, and gasped in surprise and disbelief. Tex was going to set his ship down on that side hill.

He came stalling in, doing everything under the sun to his ship to cut his flying speed, trying to keep her at an angle so he wouldn't crack her up getting in and, as the Lord is my witness, he touched his trucks to the side of that hill. I saw what he intended doing, in time, and yelled my head off to the natives. To them, maybe, this bird from the skies was a messenger from on high, come down to take them out of danger.

Maybe that's why they conquered their fear of the bird. Anyway, at my command, a gang of them tailed onto the ship, stopped its rolling, keeping out of the prop by the grace of whatever it is that looks after fools, drunkards and primitives, and Tex jumped out.

"Put her in the pit," I yelled at him. "I think I can get out of here, if I'm alone!"

"You didn't think," shouted Tex in return, "that I dropped in for you, did

you?" His face was haggard and set.

Well, despite the fact that it seemed hopeless, still it was our only hope. We tailed the ship around until she pointed the long way of the clearing. It was like trying to take off on the roof of a house, and the natives held onto her while Tex revved her up.

At his signal, having absorbed his few words of instruction, via me as interpreter, the natives held the ship until she was blasting for a million. Then they let her go.

I thought she'd never get off.

The fire from that inferno fairly bathed the ship, as she finally left the ground and Tex lifted her. If the fire hadn't burned off the tops of the trees, Tex would have taken 'em with his landing gear.

But they were away and a disappointed gang of natives was left behind, wondering just what they'd got out of helping their prisoner away.

I asked for the *jefe*.

"Will you promise to go to the capital city and turn in your arms if I'll get you out of here, you and all your men?" I shouted at him.

He'd have promised anything then, just to get away. So he nodded his head.

Just as I started off, my blouse over my head, toward the spot I had picked because the fire was thinnest there, a blackened figure, with hair burned off, pants in rags and smoking, came through that selfsame thin place, and ran wildly, stumblingly, toward us.

Yep, it was Shep.

"The maid . . ." I began.

"Fool!" he shouted, "didn't you see me dump her out at the field at the last minute? We needed a pit for your Sis to sit in when we got her. Where is she?"

"Gone with Tex," I said. "And we are going!"

Shep led the way, because he knew it. It led along the stream, into which we wallowed like so many pigs, soak-

ing our clothes by the simple expedient of dropping down and rolling in the water every ten feet or so, and of crawling on our bellies, noses and faces under, when the going got too hot.

We got out, and the *gavilleros* decided that a promise given under stress was no soap, and that, left to their own devices, they'd have found the way out themselves, without our help.

So Shep pulled his gun on 'em. It was wet, and probably wouldn't fire, but they didn't know that. A chap who could drop out of the sky, then come through fire without burning to death, might be able to make even water-logged guns fire. Taking the hint, I pulled my gun also.

Fortunately for us, the natives had left the clearing without theirs, which were inside a bunch of huts that by now were more or less in a state of ashes.

It was dusk of that evening before we got back to the city.

I told the Commanding General of Shep's heroic jump, of his trip through the flames, of how his quickness of wit had coralled the *gavilleros* and made it possible for us to bring them in. Shep was a hero. The C. G. recommended him for a medal of some kind, and overlooked the loss of the De Haviland.

"SHEP was the real hero," I told Sis. "You oughta take him. He had guts. Through air, fire and water he came to us, and if it hadn't been for him I wouldn't be here now."

"He rescued you, Bud," says Sis to me, "but Tex rescued me, which makes a difference! Shep always played to the grand-stand, and I admit he's given me many a thrill, but brains win out in the long run. Besides, the padre married me to Tex before you and Shep got in with your prisoners!"

A Flyer Who Couldn't Fly—But

(Continued from page 85)

high again. He'd have to try once more.

He opened the throttle wide and roared across the field at a hundred miles an hour. Once more he veered off for a landing. Dimly he saw groups of men on the ground.

This time he calculated the glide correctly, but as the ground rushed closer and closer to him out of the drizzling dusk, he became panic-stricken, gave her the gun and once more roared across the field—this time hardly five feet from the ground.

Jones was near exhaustion and his nerves were almost shattered. He decided to put everything into one more try and if things didn't work out, to stick her into the ground and have done with it.

Calmed by his resignation to the apparently inevitable, he calculated his glide excellently. Jones pulled back on the stick and resigned himself to what might happen. He had leveled off just a moment too soon. The plane had not

"What Will a Man Do For Love?"

The woman he loved was so lonely when he took those long trips. And what harm, she argued, could come of a little flirtation with the man across the hall? It helped to pass away the time.

But she couldn't look ahead to the day when that little harmless flirtation threatened to lead her to tragic widowhood, to prison, or even to the shadow of the gallows!

Every husband and wife, every girl and her sweetheart should read this thrilling story of a reckless wife and a husband's sturdy love and magnificent heroism. It is one of the fourteen soul-revealing documents in the *JUNE TRUB STORY* Magazine a Macfadden publication. On sale everywhere May 5th. Twenty-five cents a copy.

lost enough speed and refused to settle.

Up went the nose! The wings wobbled as the ship threatened to turn over and crash. There she wobbled for the tiniest fraction of a second.

Then she mushed. Bang! went the tail skid. Bang! went the landing gear. Surely those wheels were flattened. No! She was rolling across the field. She was stopping!

It was done!

Done, done, done! Jones wilted. He wanted to quit—to quit now! But the sight of a still shoulder on the edge of the forward cockpit roused him. Wearily he opened the throttle, turned the ship on the ground and taxied up to the hangars.

There, ten or fifteen men, now only unidentified shadows in the dark, surrounded the plane.

"Hey, what's the idea of the funny landing?"

"Did you get the governor's paper?"

"Where's that paper. Jim's ready to

When answering advertisements

take it to the hotel. It's about time! The governor wants it."

Jones stood up in his cockpit. He found himself talking foolishly, flatly matter of fact.

"The major there. He's hurt. You'd better get some one right now to look at the major. He's hurt. You'd better get a doctor quick."

Two men nearest the plane climbed quickly up beside the major.

Some one farther away asked again: "Where's that paper?"

"Oh, yes," said Jones. "The paper. The major's got it tucked inside his flying suit."

One of the men beside the major extracted the manila envelope and handed it to some one else who hurried away with it. Then the man beside the major straightened up suddenly.

"HIS head's bleeding. He's knocked cold."

He turned to Jones. "How did this happen? How long ago?"

The crowd was hushed. "The windshield hit him," Jones told the man, "about an hour ago, I think. Don't ask fool questions. Get a doctor."

Then many pairs of hands reached up to help bring the major's limp form from the cockpit and huddled about him, murmuring excitedly as they bore him away.

Jones climbed wearily out of the cockpit and started toward a hangar. He staggered.

A stout arm went about his waist and a strong bony hand gripped one of his. "Attaboy, Jones, old kid," said Blackie, softly.

But if Private Jones was deserted by the mob that night, the mob was swayed the other way a short time later with so much enthusiasm that the following announcement appeared on the squadron bulletin board:

"At a special meeting of the Squadron Thursday night, Private J. K. Jones, in recognition of his service with the squadron and in recognition of his cool and courageous action the day Major Walters was injured by a broken windshield, was elected observer-lieutenant to fill an existing vacancy. Other vacancies will be filled at a future regular meeting."

It was Sunday afternoon drill. A tall young man stepped out of the officer's locker room and surveyed the crowd hanging on the fence. He strode this way and that because he wore a brand new uniform with the insignia of

second lieutenant on its shoulders. He glanced again at the crowd and from a pocket drew helmet and goggles and fitted them nonchalantly on his head. He started toward the fence.

About that time Corporal Sprague had sighted at the fence a young lady with indescribably disturbing, blue eyes, whose attention it had been his pleasure to attract several weeks earlier. He made his way to the young lady and reminded her of their former acquaintance. When the blue eyes lighted with recognition, he decided to waste no more time and then and there made known his name and was given hers in return.

When he was asking her for her telephone number, she interrupted him.

"Oh, there's that man I was asking you about the other Sunday. That one in the uniform coming right this way. Who is he?"

Corporal Sprague sighed. "Hey, Jones," he called, "come here." Jones diverted his steps to Corporal Sprague, reclining against the fence. Then his eyes caught the blue ones. He flushed but masked it under a new air of military dignity.

"Say," said Corporal Sprague, "I want you to meet a friend of mine, Miss June Marvin. This is Lieutenant Jones."

The "lieutenant" slightly startled its wearer. In spite of the parade he had been staging he had for the moment forgotten. He flushed again, a little with guilt, a little with newborn pride.

How glad he was that he had not met her earlier. Then there would have been no "lieutenant" and his introduction more than likely would have been carried out with allegedly humorous, side remarks.

He removed his helmet and goggles and bowed gravely.

"How do you do."

MISS MARVIN almost gasped in the face of such gallantry and splendor. Corporal Sprague sighed again and retired.

"Oh," she burst out. "I'm so glad to meet you, Lieutenant Jones. I've heard so much about your belonging to the Helmet and Goggle Brigade, and all."

Lieutenant Jones started and looked at her suspiciously. No, she was not kidding.

"Er—yes, yes," he said. "Would you like to look over the Falcons? They are great ships."

With a bored glance at the planes, Lieutenant Jones fitted his helmet and goggles and took the young lady's arm.

ARE YOU SEX WISE?

This book on **SEX and LOVE LIFE** Discloses Nature's Secrets

These days no young man or young woman can afford to be without this knowledge



Now, at last, freedom from the slavery of darkness and ignorance. Sex and Love—marriage and happiness—Manhood and womanhood—all of it so vital to each of us and now explained in such a simple, clear, easy-to-understand method. Everything you have been wanting to know all your life about sex and love and personal hygiene—all the scientific secrets known only to the learned doctors told now so every man will understand them. A fearless discussion by a recognized expert—leading authorities the world over recommend "Sex, and the Love-Life."

New Joys—Greater Happiness Can Be Yours



The following list of chapters will give you a brief idea of the wide range of subjects and their tremendous importance: Sex and life—Sexual Reproduction—Hunger and the Sex Impulse—Ancient Sexual Practices—Sacred Prostitution—Sexual Coldness—Sins of the Flesh—Error of Sex Denial—What Impels to Love—Sexual Curiosity—Man's Sexual Nature—Male Sex Organs—Emissions—Woman's Sexual Nature—Anatomy and Physiology of Female Organs—Hygiene of Menstruation—Preparation for Marriage—Sex Hygiene in Marriage—Woman's role in the Sex Relations—The Sex Act means more to the Female—The Bridal Night—Hygiene of the Honeymoon—Birth Control in Relation to the Love-Life—Morality of Birth Control—The Fallacy of Intercourse for Reproduction only—How to Calculate date of Confinement—Signs and Symptoms of Pregnancy—Sexual Impotence and Sterility—Prostitution—Venereal Diseases—and hundreds of other subjects of tremendous interest and importance.

"Sex and the Love-Life"

may be the remaking of your whole life—men and women who live by what it tells them can reach heights of peace and happiness never before known to them. We believe a copy should be in the hands of every grown-up in America, therefore, we are willing to send you a copy—322 pages cloth bound—on 5 days' approval. Sent in plain wrapper.

SEND NO MONEY PAY POSTMAN

Only \$2.50 plus a few cents for postage. If you prefer to send your remittance with order we will pay postage charges at this end. Outside of United States, send money-order with order.

5 DAYS' FREE EXAMINATION

If at the end of that time you don't care to keep "Sex and Love-Life," return it to us and we will refund your money.

Order at Once—We Guarantee Satisfaction

WIDELAND SERVICE

P. O. Box 310, Dept. M-2, Mount Vernon, N. Y.

Wideland Service, P. O. Box 310, Dept. M-2, Mount Vernon, New York.

Send me "Sex and the Love Life." If not absolutely satisfied, I will return it within 5 days and you agree to return my money without question.

() I enclose herewith \$2.50
() Please send your book C.O.D.

Name.....

Street.....

City..... State.....

A STIRRING NOVEL OF ALASKA

Beautiful Cherry Malotte, who reflects the splendid courage and loyalty of the Northland, will amaze and intrigue you utterly as she plays her own gallant, heart-breaking part to help the man she loves in the gigantically bitter struggle pictured by

REX BEACH

in

"THE SILVER HORDE"

a tremendous and stirring epic of Alaska that will leave an indelible impression upon your memory.

It is complete in the May issue of THE GREAT AMERICAN NOVEL Magazine. This Macfadden publication went on sale at all news stands April 1st. A thrilling \$2.00 novel for twenty-five cents; thirty cents in Canada.

please mention this magazine

Plane Talk

(Continued from page 68)

take the mail or do you buy your own plane?

Yours truly,
JOSEPH LUSCALZO,
1014 Sedgwick St., Chicago, Illinois

Dear Mr. Luscalzo:

In answer to your questions we have the following to advise.

1. A pilot can get insurance on his life in the United States.
2. There is no set limit as to the age of a pilot, many boys flying at the age of sixteen.
3. There are more airplanes manufactured in the United States than in any other country in the world.
4. As to the meaning of R-9, this refers to the number and letter of the model of the plane.
5. A fuselage is a body. I suggest that you look in the dictionary where this is more fully explained.
6. France holds the speed record of an airplane, which is 278 miles an hour.
7. A Berbois monoplane equipped with a 550 horsepower Hispano-Stuiza motor holds the speed record.
8. As to the number of years it takes to become a pilot, this would be impossible to give. Some men are good pilots in six months and others are not good pilots in that many years.
9. The Government does not furnish you with a plane. Contracts for carrying mail are let out to various aviation companies who employ pilots.

We hope this answers your questions.
Very truly yours,
Macfadden Aviation Advisory Board.

Gentlemen:

We have a couple of questions we would like explained to us:

1. Can a plane while in the air stop its motor completely, that is, can the pilot shut the motor off for an indefinite time, dive and with the aid of the propeller on the principal of a clutch in a car, start its motor again?
2. Why not self-starters on planes?

We read your flying stories each week and like them very much. But can't you drop the serials?

Thanking you much in advance for your kind attention.

RUSSEL BURKE,
LEONARD PAYNE,
The Castle Club, Callas, Pa.

Dear Mr. Burke and Mr. Payne:

Replying to your letter, would advise that it is quite possible for a pilot to shut his motor off completely in the air and dive until his propeller rotates from the force of the air, contact his motor and start it again.

As to your suggestion for self-starters on planes, please be advised that most of the new airplanes of large size used today are equipped with self-starters and have been for some three years.

If we can be of any further service to you, please command us.

Very truly yours,
Macfadden Aviation Advisory Board.

Dear Sirs:

I like your book first rate and think your department, "Plane Talk," is the best I ever saw in any magazine. I am interested in aviation very much and have built two gliders. However, I would like to ask a couple questions: first, what

Lengthen Your Life by Dancing

This is the stirring new message which Ted Shawn delivers to readers of the May issue of THE DANCE Magazine in his article, "Dancing and Long Life."

The above article is only one big feature of the May issue, which also includes part two of "The Last Chapters of Isadora's Life," the gripping story of the last years of Isadora Duncan.

"The Three Musketeers of Song," the story of Brown, De Sylva and Henderson, leading writers of the songs to which the nation dances.

"How They Make Up," the make-up secrets of many famous dancers explained in detail.

THE DANCE Magazine—a Macfadden publication goes on all news stands April 23rd. Thirty-five cents a copy.

is wing dope? Where can it be bought and at what price? Second, do you think a person could build a successful biplane using a motorcycle engine for a power plant?

Sincerely yours,
JOSEPH WOOD
Box 328, Glossmere, Pa.

Dear Mr. Wood:

Replying to your letter, in answer to your first question, which refers to wing dope, I suggest that you find this under that heading in the aviation dictionary. Wing dope is a highly concentrated varnish which has a tendency of drawing the Irish linen to which it is applied very tight and at the same time making it waterproof. It can be bought at any store or factory handling aviation materials. The price is about the same as the ordinary high-class varnish.

As to the possibilities of building a successful biplane and using a motorcycle engine for a power plant, I would say that it is quite possible as it has been done in the United States several times. However, it requires first class

blueprints and a close application to them.

If we can be of any further service to you, please command us.

Very truly yours,
Macfadden Aviation Advisory Board.

Gentlemen:

As a constant reader of FLYING STORIES, I am taking this opportunity to make use of your Advisory Board. I should like to know if it is possible for a young man about twenty years old to construct an airplane.

The "Heath Tomboy" or "Parasol" are the type of plane which I should like to build. Would it be possible to learn to fly by one's self? During the winter months I could equip the plane with skis and try hedge-hopping, as there are miles of level stretches around Montreal.

Hope you can find time to answer.

Very truly yours,
HUGH LAMB, JR.
267 Marcil Avenue, N. D. de G.
Montreal, Quebec.

Dear Mr. Lamb:

In answer to your question as to the possibility of building an airplane by yourself, would say that this has been done by many young men in the United States.

The Heath Tomboy or Parasol are both good types of planes and with the plans well drawn up which they will furnish to you, as I understand it, it will be quite possible for you to construct one of these types easily.

As to the possibility of teaching yourself to fly, I would not attempt this. As to hedge-hopping and so forth around the ground, that can be done very easily while at the same time teaching yourself the rudiments of actual flight, but I would advise strongly your taking a few lessons in the air with an instructor before attempting a solo flight.

I hope this answers your question.
Sincerely yours,
Macfadden Aviation Advisory Board.

Gentlemen:

I am glad you have answered my aviation questions.

I would like, if you please, to answer these two questions. The first one is why don't they have driving in both driver's and gunner's pit so in case anything happens to the driver, the gunner can drive the plane to the ground and save the airplane and both of themselves?

The second is, why is wire attached to the top of the wings on the airplane?

Yours truly,
ALBERT TOMKINS

Dear Albert:

Many people have wanted to know why there were no controls in the gunner's cockpit. Because of the fact that the gunner's cockpit of an Army aircraft is so small and the fact that he must stand up most of the time in firing his gun on all sides of the cockpit, makes it impossible and impracticable to have controls there.

The wires attached to the top of the wings of an airplane are called the cabane supporting wires. These lend support and stability to the plane when flying. The rush of air against the wing of an airplane is so great that the wing has a tendency at times to buckle and the cabane wires hold it in place against such an emergency.

Good luck to you, Albert.

Your friends,

Macfadden Aviation Advisory Board.

Dear Sirs:

Recently a friend and myself had an argument concerning the Ford Tri-motored Plane. As arguments go, I'm sure that I'm right, and he is equally sure that he is.

While this is not a technical question, we hope that you will play the role of the dove and the olive branch long enough to settle our differences.

What is the number of r. p. m. of the Ford motors, and how many motors must be going to maintain flying speed?

Thanking you in advance, I am

WARD W. MILLER

1955 E. 76th Pl.,
Los Angeles, California.

Dear Mr. Miller:

Your reference to Ford Motors is a little vague, inasmuch as the Ford airplane is equipped with two types of motors. The 4-AT-E and the 6-AT are equipped with Wright W W, and the 5-AT-B is equipped with 3 P & W Wasp motors.

The rating of the Wasp engine is 410 horsepower at 199 RPM and on the Wright J-6 it is 300 horsepower at 2,000 RPM.

Two motors must be running to maintain a flight to destination and with only one motor the ship has a very long gliding angle, approximately thirty miles.

Very truly yours,

Macfadden Aviation Advisory Board.

Dear Sirs:

I have been reading your magazines and find them interesting.

Could I get some pointers, please?

1. Could I get a list of some good schools and the price and the course?
2. After a person completes a course, how can he get a job?
3. How healthy must he be? As for myself, I have to wear glasses while reading or my eyes get sore.
4. How much time of the day does it take to go to school

and for how many months?

5. I have been thinking of joining the Army, but there seems to be no opening and I am afraid of my eyes. What would you advise me to do as I am terribly interested in aviation and would do almost anything to get into it?

6. Do you know anything about the Universal Air Lines? As we have a port here I thought possibly the school would be good here, and I would like very much to know if they hire their own fellows that complete the course or what they do with them.

I don't know how to thank you for this information but I am enclosing thanks just the same.

Yours truly,

L. LUND

3033 Garfield Ave. So.
Minneapolis, Minn.

We could easily supply you with a list of good schools and prices, courses, etc., but inasmuch as there are about three hundred and fifty schools in the United States, it would be impossible to give you a complete list, and as you are living in Minneapolis, we are taking this opportunity of recommending you to the best school that we have on file nearest the locality of your home. This is the Greer College, 2024 Wabash Avenue, Chicago, Ill. We believe it would be better to give you the information which you ask on this one school so that you could have an idea as to just what a really fine school offers a pupil.

In answer to your second question as to how you will find a position upon completion of your course, would say that the Greer College operates a very large employment department which will gladly assist you in finding a position while you are in training or after you have completed the course, which you find most satisfactory.

As to your health, please be advised that before a pilot can obtain a license from the Department of Commerce, he must take and pass the physical examination required by that department. This examination can be made by an appointed doctor in Minneapolis, if you wish, or after you arrive in Chicago.

As to the amount of time such a course would take, that would depend greatly upon yourself. If you could attend a school all day you would finish that much sooner, but if you had to work during a part of the day, it would, of course, take longer. The average pupil takes four months to finish the Greer flying course. We would sincerely recommend that you write to the Greer College from which you may obtain full data as to their courses, etc. With such a training behind you, your future would be assured.

We regret to say that we have no information whatever on the Universal Air Lines.

Very truly yours,
Macfadden Aviation Advisory Board.

CAN ASTROLOGY GUIDE ME in the SOLUTION of MY VARIOUS PROBLEMS?

The above is a question that has been asked by many persons who have not had the opportunity of making a first hand investigation of the science.

With all the mathematical accuracy with which this, the most ancient of all sciences, is calculated, there is nothing fatalistic about it. It is more of a means for averting some of the blows of Fate, and making more of the opportune moments of life.

It is an old astrological maxim, "The stars foretell but cannot compel."

From a broad point of view, there are no "good" or "evil" planets. The so called "evil" brings the discipline necessary for building character or unfolding the spiritual side.

Perhaps this science can help you to solve your problems of life.

Bend every effort to learn your correct birthtime. If it is not definite get as close as possible. Send a photograph and let me have the name of your birthplace.

Write in detail, the condition of your mind and a description of the problem you are confronted with.

My fee is ten dollars in advance. I will carefully and accurately calculate and draw up your birth chart and progressive chart for the coming year. I will advise you of the shortcomings in your character as I see them. There are persons who have greatly improved their lives through the practical use of astrology and among them could be listed some of the greatest figures in the world. Perhaps one of the most effective users of astrology in recent years has been Mussolini.

It is at least worth ten dollars to find out what astrology can do for you. Is it not?

PAUL PAYNE

150 East 41st Street, New York City

Fat Can Be Reduced in Just Two Ways

Fat enters the body when food is consumed in excess of one's needs, it can be removed by lessening the fat-making food intake or by muscular exercise.

All other ills of the body may sometimes fail to respond even when the best known methods are applied. Not so with obesity. The cause and elimination of obesity is a matter of mathematics and there is no argument about it.

"HOW TO REDUCE WEIGHT"

By Bernard Macfadden

gives you the complete regime for weight reduction including full dietary instructions, actual menus, food classifications and reduction exercises.

It is by all odds the most thorough and effective work on weight reduction that we have ever seen. Only 50c postpaid—send for it today.

MACFADDEN PUBLICATIONS, INC.

Desk F. S.-5, Macfadden Building, 1926 Broadway, New York City

WHISKEY or DRUG HABIT Cured Forever or No Pay!

sent on trial. Secret home treatment. \$2.00 if it cures, nothing if fails. Guaranteed to bewilder a doctor for diagnosis or other laboratory, drugs, and opium, morphine, heroin, paracetic acid and barium. GEORGE LAZARUS, 1000 BROADWAY, N. Y. C. R. 99, Los Angeles, Calif.

BE A DETECTIVE

WORK HOME OR TRAVEL. Experience unnecessary, DETECTIVE Particulars FREE. Write NOW to GEORGE H. WAGNER, 2190 Broadway, N. Y.

PSORIASIS

CAN BE CURED. I SUFFERED MANY YEARS WITH THIS DREADFUL SKIN DISEASE. WRITE R. S. PAYNE, 234 E. SECOND ST., COVINGTON, KY.



Fortune Tellers' Globes for CRYSTAL GAZING

Genuine solid crystal balls as used by professional seers for answering their clients' questions. Beautiful, crystal-clear, flawless. With artistic metal stand.

SPECIAL OFFER: Regular \$5 globes including \$1 instruction book "The Unseen World" for only \$2 and postage. Pay your postage on delivery or send money order and save the postage.

MAGNUS WORKS Box 12, Varick Sta., New York Dept. M.F.N.



The Bust

Developed Quickly THIS BEAUTIFUL WOMAN SAYS:

"I have proven that any woman can have a beautiful bust if she will only use your method. It gives every my perfect figure." (Name on request.)

For eighteen years this method has been used successfully—endorsed by physicians of national reputation—praised literally by thousands who have beautified their forms.

Send your name and address for this valuable information with actual photographic proof—all sent FREE. THE OLIVE CO., Dept. N. Clarinda, Iowa



WANTED, GIRLS—WOMEN

Learn Gown Designing and Creating without leaving home. In spare moments only.

Designers— Creators—

Earn \$35 to \$100 a Week

MAIL COUPON TODAY SURE

Name Address

FRANKLIN INSTITUTE Dept. P. 629 Rochester, N. Y. Rush to me free 32 page "Gown Book" with sample gown lessons.

Send NO Money. Pay \$37.50 when you receive your first gown and postage. Your money back guaranteed and keep the watch, too! That's how sure I am that you'll be delighted. Use coupon on any postal and send it 10 days at my expense.

Mail This Coupon

BRADLEY, Bldg. R-3, NEWTON, MASS. I accept offer. Send Watch (Kilts and Chain Free. Will pay on arrival. Money back if not delighted and I keep watch for my trouble.

Name Address

How Flying Penmen Write in the Sky

(Continued from page 63)

seats in all of the sky-writing planes. This is due to several reasons, the most significant of which is that pilots who fought in the air have learned the tricks of stunting which are so essential to the business.

"Captain Alexander Lingham, a former British Army man, succeeded Collyer," Mr. Cameron continued. "It was he who wrote over Times Square in New York city, in July, 1923, Join the C. M. T. C. Pilot E. D. C. Heine, who is now in the automobile business in Detroit, was the first to use colored smoke. That was in April, 1924, when he wrote Here again. The colored smoke was not entirely successful, but we got some ideas."

WHEN the Skywriting Corporation is assigned to a new job, the pilots are acquainted with the message to be written in the air. They work on a blackboard at first, until they have figured out the shortest way in which to cover the entire group of letters. They practice in the air until they have it letter-perfect. They dare almost anything except the possibility of an error in spelling. Thus far, no one has invented a suitable eraser to eliminate a mistake in the air.

"No two pilots write alike," said Mr. Cameron. "I can tell who is up by glancing at the writing."

All writing is done on a horizontal plane, of course, as it would be impossible otherwise for the people below to read it. Furthermore, it would be impossible for a plane of the type used to climb at an angle steep enough for vertical writing.

At ten thousand feet the prevailing wind is westerly and gentle. To perform effectively a pilot requires a steady breeze, or, still better, no wind at all.

"We are always at the mercy of the weather," Mr. Cameron explained. "It is necessary to have a clear, blue sky and a steady wind not exceeding forty miles an hour.

"There are, however, exceptions to this rule. If the message is to be exceptionally brief, it is practical to write in a wind at fifty miles an hour.

"We had a job over Philadelphia in February, 1928," Mr. Cameron recalled, "to advertise Lindbergh's story, 'We,' for the Philadelphia Bulletin. We made those letters over a mile long. We could have done it in a high wind, but as it happened we got a lucky break in the weather."

A variable wind makes sky-writing impossible. The pilot, when he quits the ground, must allow for wind velocity. He nearly always starts the first letter far into the wind, so that by the time he has finished the word, it will hang directly over the city. He must forever keep the letters aligned. According to Mr. Cameron, no two flyers employ the same scheme in getting this result. One will use the Hudson river in lining his words over New York.

Another selects a long avenue, or street. A third gets results by holding the shadow of one wing strut across the same rib of his lower wing.

With letters half a mile high and a quarter of a mile wide, the average message extends from four to six miles in length. Down below, the gaping throngs will watch a curving plane as it covers this distance in the space of a few minutes. It seems to write with almost leisurely strokes and suddenly, as the word is finished, the plane itself is momentarily invisible. It is then that the pilot has cut off the smoke valve.

"Have any of your men ever cracked up?" I asked Mr. Cameron.

"No. They've been lucky, or too clever. They always have altitude and if anything goes wrong they've got a good chance to glide to a landing somewhere. And of course, our men are so at ease in the air that it is second nature for them to handle their ships in emergency."

Captain O. C. LeBoutillier, a British war ace, has been flying over New York City during the winter of 1928-29. To his intimates, the captain is known as "Boots." They say of him that he handles a pursuit plane as a veteran cow-puncher controls an exceedingly fast and tender-mouthed pony. The winds were not so good and Captain LeBoutillier nearly began to write somewhere over New Jersey.

"Look here, Boots," said a flying mate, without smiling, "what's the idea? You're writing over Jersey. You ought to know the people there don't read."

"Boots" nodded cheerfully.

"I know," he replied, straight-faced. "But I allow for the drift. Every word I write hangs over New York. Those Jersey fellows just think it's steam escaping from the factories."

Sky-writing is now an established method of advertising in nearly every civilized nation on the globe. The corporation operates in Australia, France, Germany, Switzerland, Denmark, Holland, Austria, Hungary and Poland, in addition to England and the United States. More than five thousand messages have been delivered in a variety of languages. Wherever the smoke words appear, it is a foregone conclusion that thousands of straining eyes are gazing upward.

THE thing has ceased to be a novelty, but people still pause in their occupations not only to read the graceful words that spread across the sky, but to watch and marvel as the plane loops and levels off across the blue-board of the heights.

The corporation met with opposition in England. An objection was raised that the new form of advertising sooner or later would mar the heavens as bill-boards already spoil the beauty of the hills and highways.

A motion in the House of Lords to prohibit sky-writing was voted down

When answering advertisements

when Lord Birkenhead reminded the House that even the ex-Kaiser claimed only the land and the sea, but made no effort to seize the air. His argument was supported by the Duke of Sutherland who contended that sky-writing was of actual value to aviation, for the reason that it kept pilots in constant training.

Within the past year, two new forms of aerial advertising have been developed. One is the voice of the sky, the other the flying signboard. The first consists of a loud-speaking apparatus attached to a plane, which broadcasts the voice to the ground. The second is a bi-motored Keystone plane with two ninety-foot electric Neon signs attached to the lower wing. This operates at night and flashes words in electric letters to those below.

In the meanwhile, as sky-writing becomes more popular, Major Jack Savage and Captain Cyril Turner, along with other aces of the War, are working to perfect new methods and, sooner or later, in the opinion of Mr. Cameron, they will succeed. Color writing is a possibility of the not-distant future. When this is perfected, it will be possible to write against the

background of the clouds, making the weather a less important factor than it is today.

"Whenever I watch one of our planes carving a message," said Mr. Cameron, "I am always carried back to thoughts of those days over the lines. We're writing messages of peace now, in words of smoke. Those boys were writing death and destruction then, in fire and steel. But they have to know their stuff today, just as they did then. They aren't allowed any more second chances now than ever."

And so, the handwriting is on the wall—of the heavens. It is like the inscription so aptly described by Omar Khayyam in his Rubaiyat:

THE Moving Finger writes; and,
having writ,
Moves on; nor all your Piety nor Wit
Shall lure it back to cancel half a
Line,
Nor all your Tears wash out a Word
of it.

That also is the way of the sky-writing S E-5. Once the word is written just try your piety and wit on it. And no weeping will wash the slate.

Thrills I Have Had in the Air

(Continued from page 23)

many, and have had plenty of excitement in every one.

I was racing a high-powered single-seater fighting machine, one I had bought from the Government. I was "scratch man," last to leave the mark because my machine had the greatest handicap. As we all stood toeing the line, engines roaring idly, I was careless enough to let mine stop.

As will happen to the best regulated motors, ground or aerial, it would not restart. I fussed and fumed, but when my flag went down, there I was, immobile.

THE precious seconds passed while the mechanic swung furiously. Suddenly one bright young engineer dashed up with a booster magneto. With his bare hands he pressed the terminals against two of the spark-plugs.

One swing from the man in front and she roared into action.

"Let 'er go!" shouted the boy who had put the spark in the spark-plugs. He dropped flat on the ground, under a wing, while I shot across him onto the course.

I never put so much into a race. All my rivals were in front, so my course was marked clear for me. All I had to do was to get the speed out of my ship. It was a fifty-mile race, on a triangular course.

I flitted along the surface of the meadows, utterly regardless of the feelings of the cows and horses whose contentment I was disturbing.

When I came to the two turning points, both of which happened to be breweries, I had the feeling that you could not have inserted a playing-card

between my wing-tip and the smoke stacks that served as pylons. The others were just ahead of me, and the roar was deafening.

The last few seconds were one concentrated thrill. The handicappers had done their work well, and the machines were bunched together for the finish. If there were cheers from the crowd they were unheard by the jockeys of those ear-splitting steeds of the air.

I had to keep clear of them, so that the wash from my propeller would not disturb the others. But something in my engine responded to the mental call I made upon it.

With a mighty thunder, like an artillery barrage, we streaked past the others like a meteor, and dove across the finish line a close second. It would be hard to forget a race like that!

With the same machine, the following year, I had an entirely different kind of thrill. I had loaned it during the winter to a group of military aviators, on condition that they kept it insured. It had a good, hard record of winter's play behind it when I took it over for the summer's races.

The first race was at Southampton in June, five laps of a five-mile course, free-for-all. Half way around the third lap, while I was straining to drag the last ounce of power out of her, a complete cylinder head blew off!

It was an old Hispano water-cooled engine, and you can guess what happened. She finished the course spouting fire and smoke and clouds of steam, at the same time pouring boiling water back onto wretched me.

I was rapidly becoming hard-boiled when we finished the race, though my

How I Lost 97 Pounds



I weighed 279 lbs. After trying many ways to reduce, a leading insurance medical advisor told me of a new way . . . a natural, pleasant, healthful way.

I lost 97 pounds. I feel better, look better, have more energy and vitality, no flabby or wrinkled skin.

Send name and address for full particulars FREE, without obligation.

M. E. HART
Dept. 68
New Orleans

Hart Building

Weak, Nervous Women

Rundown, miserable? If you suffer ovarian or bearing down pains, female troubles, irregular or painful periods, write Mrs. Ellen Lovell, social worker, 327 Mass., Kansas City, Mo., for a convenient home method whereby she and many other states they regained healthy, happy womanhood. This advice is free; she has nothing to sell.

WE MATCH PANTS To Any Suit!



Double the life of your coat and vest with perfectly matched pants. 100,000 patterns. Every pair hand tailored to your measure; no "ready-mades." Our match sent FREE for your O. K. before pants are made. Fit guaranteed. Send piece of cloth or vest today.

©1929 SUPERIOR MATCH PANTS COMPANY
115 So. Dearborn Street, Dept. 207 Chicago

New Model Men's Strap Watch

CUT PRICE SALE



Two years' written guarantee given with this full jeweled elegant Swiss watch. Your choice in square, tonneau or cushion shape—same price. Radium dial, tells time in dark. Accurate timekeeper, tested and adjusted. Send your order. Quantity limited. Send no money, pay postman 60-60.

JEANERS, 631 Broadway, New York, Dept. 6-102

QUIT TOBACCO



No man or woman can escape the harmful effects of tobacco. Don't try to banish unaided, the hold tobacco has upon you. Join the thousands of inveterate tobacco users that have found it easy to quit with the aid of the Keeley Treatment.

KEELEY TREATMENT STOPS Tobacco Habit

Quickly banishes all craving for tobacco. Write today for Free Book telling how to quickly free yourself from the tobacco habit and our Money Back Guarantee.

THE KEELEY INSTITUTE
Dept. G-702 Dwight, Illinois

BUNIONS GONE IN 15 DAYS



I end bunions with my new Pedodyne Solvent treatment. Pain stops almost instantly. Actual reduction of the enlarged growth starts so fast that your next pair of shoes may be a size smaller—often two sizes smaller. It's perfectly marvelous, and you can prove it by actual test.

TRY IT AT MY RISK

Just send your name and address so that we can arrange for you to try Pedodyne on your own bunion and prove the quick, sure amazing results. No obligations. Address

KAY LABORATORIES, Dept. A-72
180 North Wacker Drive Chicago, Illinois

That Baby You've Longed For

Mrs. Burton Advises Women on Motherhood and Companionship

"For several years I was denied the blessing of motherhood," writes Mrs. Margaret Burton of Kansas City. "I was terribly nervous and subject to periods of terrible suffering and cholera. Now I am the proud mother of a beautiful little daughter and a true companion and inspiration to my husband. I believe hundreds of other women would like to know the secret of my happiness, and I will gladly reveal it to any married woman who will write me." Mrs. Burton offers her advice entirely without charge. She has nothing to sell. Letters should be addressed to Mrs. Margaret Burton, 180 Massachusetts, Kansas City, Mo. Correspondence will be strictly confidential.

LEARN Aviation
Completes training in 4 months. Learn to fly in new Big Flying field. Airplane mechanics, Construction and Design taught in his 7 story shops. R. H. Fair refunded to Chicago. Save time work jobs pay expenses. Reduced tuition. Send now for Big Free Aviation Book. GREEN COLLEGE, Dept. 28, 2012-28 S. Wabash Ave., Chicago, Ill.

TOBACCO OR SNUFF HABIT CURED OR NO PAY
Any form, cigars, cigarettes, snuff, pipe, chewing. Full treatment on trial. Harmless. Costs \$1.50 if cured, nothing if it fails. Over 50,000 treatments used. SUPERBA CO., N.Y.C., Baltimore, Md.

THE DANCE

Dancing, music and the stage—if you are interested in any or all of these you will be delighted with "The Dance"—one of the most really fine magazines. Beautifully illustrated, printed with artfulness, the current issue will charm you with its artistry. At the news stands 35c or by the year \$3.00.

AVIATION Information FREE

Send us your name and address for full information regarding the Aviation and Airplane business. Find out about the many great opportunities now open and how we prepare you at home, during spare time, or in our schools. We also offer OPPORTUNITIES IN THE AIRPLANE INDUSTRY! also sent free if you answer at once.

AMERICAN SCHOOL OF AVIATION
Dept. 2825, 3601 Michigan Ave. CHICAGO

"LUCKY GOLD COIN"



SOLID gold offset RING set with gold coin replicas dated 1848—good rush year! Success in business, love and great RICHES said to follow wearer.

SEND NO MONEY

Pay postman \$2.46 and postage on arrival. Money back if not delighted. BRADLEY, 195 Newton, MASS.

CORRECT your NOSE

to perfect shape while you sleep. Anita Nose Adjuster guarantees 1848 A.F.B., rapid, permanent results. Age doesn't matter. Painless. 60,000 doctors, users praise it. Gold Medal Winner. **Booklet Free.** Write for it today.

30 Day FREE TRIAL

ANITA INSTITUTE, E-11, Anita Bldg., Newark, N.J.

BUST DEVELOPED

My Big Three Part Treatment is the ONLY ONE that gives FULL DEVELOPMENT without bathing, exercises, pumps or other dangerous absurdities. I send you a GUARANTEED TWO DOLLAR 14-DAY TREATMENT FREE. If you send a DIME toward expense. (A Large Aluminum Box of my Wonder Cream included). Plain wrapper. IS IT WORTH 10c TO YOU? If not, your dime back by first mail. Address NOW, with ten cents only. Madame K. S. Williams, Buffalo, N. Y.

BE A RAILWAY TRAFFIC INSPECTOR

Here's a position—and a career—for ambitious men. Many positions are open in this unswerving profession. You start at a definite salary, and advance rapidly to \$175, \$200, \$250 per month, plus expense. Travel, or remain near home. We'll train you with three months' spare time home instruction, and upon completion, send you to a selected position, or refund your tuition. Could anything be fairer?

Send today for free booklet. For ten years, we have placed our graduates in selected positions. Booklets look to us for more. Our booklet shows how we can make your future a certainty. Send for it today.

Standard Business Training Institute
Dept. 38, Buffalo, New York

EARN UP TO \$250 per month SALARY

flying volcano could hardly be expected to take a place.

Breaks, lucky and otherwise, always seem to come in bunches. Once I had a whole month of unlucky breaks. They began when I had to get out and push my machine about in a muddy field.

In so doing I wrenched my back rather painfully—afterwards I discovered one of the vertebrae was broken. My doctor put me in plaster for several days, and it looked as though I was out of flying for some time to come.

But just then came the great general strike. All the aircraft in the country were pressed into service, for carrying the mails and distributing newspapers. After much persuasion my good doctor agreed to let me up, after winding thirty-six yards of adhesive tape around me, and making me promise I would never straighten up (physically) till he let me.

Of course I intended to keep my promise, and I set out with the best of intentions of taking care of myself. Captain Frank T. Courtney, who later made the Transatlantic attempt from England, said I had the funniest luggage he had ever seen. I toured the country with a blue eider-down quilt to lie on at night, together with three or four strong pillows and a strong walking-stick for ground use.

I flew regularly with consignments of *The Daily Mail*, which we pilots distributed to all the cities when the railroads ceased to run. After four or five days I found I could straighten up all right—and who would want to go around all humped up any longer than necessary?

Now came the problem of taking the adhesive tape off. Any one who has tried to remove a porous plaster will have a faint idea of my predicament, with over a hundred feet of tape glued to my skin.

I tried hot water, gasoline, turpentine—nothing would touch it. It hurt so much at every pull that I began to fear I was permanently mummified in adhesive tape.

But finally I had a bright thought, and went to a local dentist. He very kindly put me to sleep with his gas, and while I was mercifully unconscious he peeled off the tape.

There were some twenty light planes in use during the strike, which flew some 100,000 miles and helped greatly in keeping the papers and mails going. The little "Moths" like mine flew over 10,000 miles without a mishap.

The next break was my own fault entirely. I was carrying about 200 pounds of newspapers, from Folkestone to London, and was rash enough to swing my propeller with the switch on.

It immediately backfired, of course, and the first finger and thumb of my left hand were broken. It really was not as painful as it sounds—it numbed me at the time, but the pain did not start till half an hour later, when I was in the air.

Four days later I was bitten again, also through my own fault. It was another occasion on which I paid for my conceit. I was on a military flying field, with a score of officers and mechanics about, only too eager to help me.

But I wanted to show how easily I could start my engine and plane unaided. It backfired again. This time my right wrist was broken. I felt I had to go on and finish the journey, for many were depending upon me. But it was rather terrifying.

Fortunately, I was alone, or I certainly would not have flown, for I felt weak and with the pain. Unable to hold the stick either with my bandaged left hand or my newly broken right one, I held the joystick in the hollow of my right elbow, keeping it in place with the back of my left hand.

I flew very low and slowly, so that I would not hit too hard if I did faint and lose control. I managed to pull through all right, which shows what one can do when necessary.

Although self-starters have been used on airplanes, so far they have proved too heavy and cumbersome. One of the first things the student learns is how to start his own engine. It is really very easy on light engines.

You just place the palm of both hands on the blade of the propeller, previously turned as high as you can reach. Then, with the switch turned off, you swing the blade several times, to draw gas into the cylinders.

Now, with the switch on, one easy swing should start the engine with a bang. Of course, any engine will backfire sometimes, but this will cause no danger if your fingers do not grasp the edge of the blade. Too tight a grip on the crank-handle of an automobile will do quite as much damage to hands and arms as the wrong grip on a propeller. It's just a case of knowing how and of being careful—automatically.

I went into flying because it entranced me from the first. My first trip in the air, however, was made because I was in a hurry. I had just heard of the opening of an International Athletic Conference in Prague. It was the very next day, so the only way I could get there was to fly.

I called the nearest air-field, found a pilot and plane, and so embarked on my flying career. From that day on I have been "up in the air" just as much as I could.

PARACHUTE drops appear more thrilling to the ground observer than to the performer. I made many drops during my exhibition and "barnstorming" tours, but one adventure stands out in my recollection as the least expected and the most thrilling. It was one of my closest calls, for it might have ended very seriously.

I was stunting at Hereford, and was to make a parachute drop from a plane piloted by a very skilful pilot—I believe that if he had not been so skilful I would not be telling this tale today. I had climbed out of the cockpit, and was on the point of jumping into space at the word from my pilot, when suddenly the engine went wrong.

It was quite a different drop and landing than either of us had expected—or the crowd either. Only the pilot knows how we managed to miss trees and various other obstacles to a peaceful landing. I wondered more than once, before our

When answering advertisements



"Mary, I Owe It All to You"

"Mr. WILLIAMS called me into his office today and told me he was going to raise my salary \$50 a month. 'I am glad to give you this opportunity,' he said, 'for the best reason in the world. You deserve it.'

"You may not know it, but I've been watching your work ever since the International Correspondence Schools wrote me that you had enrolled for a course of home study. Keep it up, young man, and you'll go far. I wish we had more men like you.'

"And to think, Mary, I owe it all to you! I might still be drudging along in the same old job at the same old salary if you hadn't urged me to send in that I. C. S. coupon!"

How about you? Are you always going to work for a small salary? Are you going to waste your natural ability all your life? Or are you going to get ahead in a big way? It all depends on what you do with your spare time.

More than 180,000 men are getting ready for promotion right now in the I. C. S. way. Let us tell you what we are doing for them and what we can do for you.

Mail the Coupon for Free Booklet

INTERNATIONAL CORRESPONDENCE SCHOOLS
"The Universal University"
Box 5455, Scranton, Penna.

Without cost or obligation on my part, please send me a copy of your 48-page booklet, "Who Wins and Why," and tell me how I can qualify for the position, or in the subject, before which I have marked an X.

TECHNICAL AND INDUSTRIAL COURSES

- | | |
|--|--|
| <input type="checkbox"/> Architect | <input type="checkbox"/> Automobile Work |
| <input type="checkbox"/> Architectural Draftsman | <input type="checkbox"/> Aviation Engines |
| <input type="checkbox"/> Building Foreman | <input type="checkbox"/> Plumber and Steam Fitter |
| <input type="checkbox"/> Concrete Builder | <input type="checkbox"/> Plumbing Inspector |
| <input type="checkbox"/> Contractor and Builder | <input type="checkbox"/> Foreman Plumber |
| <input type="checkbox"/> Structural Draftsman | <input type="checkbox"/> Heating and Ventilation |
| <input type="checkbox"/> Structural Engineer | <input type="checkbox"/> Sheet-Metal Worker |
| <input type="checkbox"/> Electrical Engineer | <input type="checkbox"/> Steam Engineer |
| <input type="checkbox"/> Electrical Contractor | <input type="checkbox"/> Marine Engineer |
| <input type="checkbox"/> Electric Wiring | <input type="checkbox"/> Refrigeration Engineer |
| <input type="checkbox"/> Electric Lighting | <input type="checkbox"/> R. & P. Positions |
| <input type="checkbox"/> Electric Car Running | <input type="checkbox"/> Highway Engineer |
| <input type="checkbox"/> Telegraph Engineer | <input type="checkbox"/> Chemistry |
| <input type="checkbox"/> Telephone Work | <input type="checkbox"/> Pharmacy |
| <input type="checkbox"/> Mechanical Engineer | <input type="checkbox"/> Coal Mining Engineer |
| <input type="checkbox"/> Mechanical Draftsman | <input type="checkbox"/> Navigation <input type="checkbox"/> Assayer |
| <input type="checkbox"/> Machine Shop Practice | <input type="checkbox"/> Iron and Steel Worker |
| <input type="checkbox"/> Toolmaker | <input type="checkbox"/> Textile Overseer or Supt. |
| <input type="checkbox"/> Patternmaker | <input type="checkbox"/> Cotton Manufacturing |
| <input type="checkbox"/> Civil Engineer | <input type="checkbox"/> Woolen Manufacturing |
| <input type="checkbox"/> Surveying and Mapping | <input type="checkbox"/> Agriculture (Fruit Growing) |
| <input type="checkbox"/> Bridge Engineer | <input type="checkbox"/> Poultry Farming |
| <input type="checkbox"/> Gas Engine Operating | <input type="checkbox"/> Mathematics <input type="checkbox"/> Radio |

BUSINESS TRAINING COURSES

- | | |
|--|---|
| <input type="checkbox"/> Business Management | <input type="checkbox"/> Business Correspondence |
| <input type="checkbox"/> Industrial Management | <input type="checkbox"/> Show Card and Sign |
| <input type="checkbox"/> Personnel Management | <input type="checkbox"/> Lettering |
| <input type="checkbox"/> Traffic Management | <input type="checkbox"/> Stenography and Typing |
| <input type="checkbox"/> Accounting and C. P. A. | <input type="checkbox"/> English |
| <input type="checkbox"/> Conchling | <input type="checkbox"/> Civil Service |
| <input type="checkbox"/> Cost Accounting | <input type="checkbox"/> Railway Mail Clerk |
| <input type="checkbox"/> Bookkeeping | <input type="checkbox"/> Mail Carrier |
| <input type="checkbox"/> Secretarial Work | <input type="checkbox"/> Grade School Subjects |
| <input type="checkbox"/> Spanish <input type="checkbox"/> French | <input type="checkbox"/> High School Subjects |
| <input type="checkbox"/> Salesmanship | <input type="checkbox"/> Illustrating <input type="checkbox"/> Cartooning |
| <input type="checkbox"/> Advertising | <input type="checkbox"/> Lumber Dealer |

Name.....

Street.....

Address.....

City..... State.....

Occupation.....

If you reside in Canada, send this coupon to the International Correspondence Schools Canadian, Limited, Montreal, Canada

"I knew that Linda could fly, but—" "All I did, Dad, was to fly over him. Jimmy pulled himself up and that's all there was to it. You can't put the blame for this on me."

Pierre and his wounded companion stood uncertainly in the background while Jerry watched them narrowly from his place. The third man lay motionless at their feet, where Pierre had unceremoniously dropped him. Jimmy faced them abruptly.

"Pierre, I'm going to give you a chance to save your hide."

The man stared at him curiously and a hopeful light came into his beady eyes.

"TELL us all you know about this business and you'll keep out of the noose. If you lie, Pierre, we're going to hang you."

Colonel Davies had stepped closer and was studying Pierre's face.

"Why, this fellow's one of those three who came in here to see me." He turned to Jimmy. "I remember him perfectly."

Pierre grinned. "Sure. Him, too." He pointed at the injured man on the floor. "Odder feller run away."

"How about Larsen, Pierre? What did he want?"

"Eh, by gar, Larsen, he one ver' bad man."

Step by step, Jimmy pieced together the tangled skeins of the plot that had evolved in Larsen's scheming mind. Pierre's sweeping admissions verified his suspicions one by one.

"Pierre," said the big native, "want plenty game—set trap lines—kill fur. Larsen," he paused and looked at Linda, "he jus' want girl. Want to kill everybody—"

"Then he wanted money from Colonel Davies, Pierre?"

"Sure," the man replied simply.

"Where are Rogers and Silton, the policemen?" Jimmy's eyes, narrowed, bored into those of the native, and again the man shrugged.

"Dead."

The single word startled them all. "Pierre, he show you where," the trapper added and a gleam of cunning came into his watchful eyes. "You let Pierre go free, he show you."

Further questioning was interrupted by the return of MacBriar and Clancy carrying the wounded Dusty Farrell between them.

"Jimmy, I thought you were in the hoosegow," he said, "until I heard that crate of yours coming in. You all right?"

"Yes, I was lucky, Dusty. And you—where'd they get you?"

"Through both legs, hang it. I had

THE END.

to come down before I passed out. Loss of blood I guess—weakened me—I couldn't seem to keep the old bus flying any longer."

They stretched him out at ease on a bunk.

"God! it looks like a hospital," exclaimed Jimmy.

"Yes, I've been thinking that for a long time," Colonel Davies put in.

MacBriar turned to Jimmy. "Well, you can get ready for a couple more, Lieutenant. We'll bring 'em back here."

When the wounded had been made as comfortable as was possible, under the circumstances, and Pierre sat beneath the watchful gaze of Jerry Warner, Jimmy and Linda drifted toward the door.

"Now look here, you two," the colonel called after them. "I don't propose to be left with this outfit any longer while you go mooning under the northern lights."

They turned together and smiled back at him. "But, Daddy, you have Mr. Collins," said Linda, glancing at the mournful secretary, "and Jerry—and Mr. Parker!"

"Go on," he told them. "I want a little talk with Collins anyhow. I want to let him know he's fired."

They went out into the gray silence. A snow owl screeched in the timber, far off, and the lonely call of its mate came back. The sky still frowned menacingly and Linda moved close beside Jimmy. His arm went about her and they paused.

She turned to gaze up into his eyes. "Jimmy, I'm afraid—afraid of this Ungava. It threatens you."

He smiled gravely.

"Yes, I understand, dear. It's a grim country. It makes a man dwindle down to his own significance."

Her mood changed and she laughed. "Not you, Jimmy Blair," she told him softly. "You've whipped it. You can't feel that way about it."

"No. It took you to do that, Linda—my brave one." Impulsively he held her close and bent down to kiss her lips.

SHE drew away, after a long, ecstatic moment; her eyes misty with love. Her voice, when she spoke, was quivering.

"Jimmy, my dear—we'll fly in the sunlight—when we go back. The sunlight—and not the clouds."

He kissed her again, held her trembling form in his arms and gazed down into her eyes.

"We will, my little cloud-breaker," he laughed gently. "We'll go sailing into the sun."

PLAGIARISM

Stories have been submitted to this magazine which are copies of stories that have appeared in other magazines.

Any one submitting a plagiarized story through the mail and receiving and accepting remuneration therefor, is guilty of a federal offense in using the mails to defraud.

The publishers of FLYING STORIES are anxious—as are all reputable publishers—to stamp out this form of literary theft and piracy and are advising all magazines from which such stories have been copied of such plagiarism, and are offering to cooperate with the publishers thereof to punish the guilty persons.

Notice is hereby given to all who submit stories that the same must be original.

When answering advertisements please mention this magazine

Sensational New

BAKELITE Automobile CIGAR LIGHTER

"PULL-A-LITE"

with ONE HAND WHILE DRIVING

new patented suction grip holds like iron

attached in a second to windshield wall or dashboard

No WIRES-NO BATTERIES-NO TOOLS JUST PULL FOR A SURE LIGHT

25 MILLION CAR OWNERS AWAIT THIS NEW INVENTION

The new sensational PULL-A-LITE was designed specially to meet the needs of 25 million car owners. Motorists have long felt the need for a popular priced and dependable cigar lighter that works without clumsy wires or batteries. The amazing new PULL-A-LITE now fills that need. It sells to every car owner, in every home and office, and every dealer on a flash demonstration. The automobile accessory field is conceded to be the coming and most profitable industry in the country. Statistics further show that during 1928 the firms making the most money were those connected with automobile accessories. If you are to reap the benefits of the prosperity in this industry, now is the time to get into it with PULL-A-LITE Cigar Lighter. No other automobile accessory will sell so largely and so profitably as the PULL-A-LITE Cigar Lighter.

\$72.00 PROFIT a Day! ON TWELVE EASY SALES TO DEALERS

If you have the foresight to recognize a new money-making opportunity you will quickly take hold of this new sensational Bakelite Cigar Lighter and cash in big. It is the only dependable lighter ever made for an automobile. Even cars that are now equipped with expensive electric lighters find it more economical and convenient to use a PULL-A-LITE Cigar Lighter. The man at the wheel pulls with one hand and gets a sure light while driving. It requires no connection to batteries or wires of any kind. PULL-A-LITE operates on the same principle as the popular, one-hand lighters. Lights instantly by a single pull of a sharp file on a special oversized flint and burns ordinary pocket lighter fluid. No mechanical parts—nothing to get out of order. Every pull of the wrist with one hand brings a sure light to the driver, and it can be passed around to the other occupants of the car as there are no wire connections. PULL-A-LITE is attached permanently in a second to dashboard, windshield or wall by new patented suction grip.

PULL-A-LITE is made of Bakelite in a variety of lustrous colors and makes a beautiful addition to every car. It is not only useful in automobiles, but can be attached in a convenient place in the home or on the desk in the office. And get this: This handy, sure-fire lighter retails at the surprisingly low price of only \$1.50. The lowest priced automobile lighter on the market today is priced at \$2.50 and the installation charge is often even more than the price of the lighter. Can you picture the enormous market for the PULL-A-LITE Cigar Lighter?

START A WHOLESALE BUSINESS OF YOUR OWN OVERNIGHT—MAKE \$72.00 A DAY SELLING TO DEALERS

When we say that you can make \$72.00 profit a day on 12 easy sales to dealers, we mean just that and stand ready to prove it. Figure it out for yourself. This new sensational PULL-A-LITE Cigar Lighter retails at the popular price of only \$1.50. This brings in \$18.00 for a dozen and leaves the dealer a net profit of \$6.00, as your price to him is \$12.00 per dozen. In five gross lots our price to you is \$6.00 per dozen and you MAKE A PROFIT OF 100% or \$6.00 on every dozen you sell to the dealer. Any experienced salesman knows that it is easy to make 12 sales a day to dealers with a popular priced specialty that sells as readily as PULL-A-LITE Cigar Lighters. You can see at a glance your profit margin is so large that you can even hire salesmen and pay them a handsome commission to sell for you. Nearly every dealer along the street is a prospect—garages, accessory stores, stationery stores, hardware stores, novelty shops, drug stores, cigar stores, etc. Every dozen PULL-A-LITE lighters is packed assorted colors in magnificent multi-colored display carton illustrated here. This self-selling display carton placed on any dealer's counter will sell the lighters with hardly any attention from the clerk. Keen merchants realize this at a glance and stock the item with no urging from you.

OUR 5 TESTED SUCCESSFUL SELLING PLANS START YOU MAKING BIG MONEY AT ONCE

\$10.50 an hour is guaranteed to anyone following any one of the other five plans. You make \$10.50 clear profit by selling only one box of lighters to motorists and it will take you less than an hour to do it. If you buy in quantities you make 200% PROFIT SELLING DIRECT TO CONSUMER. All you do is walk up to an automobile, stick the lighter on the dashboard, pull with one hand and then let the prospect select a lighter of any color he may choose from your box. This plan is given to you in detail and shows you how it is done most successfully by other salesmen. Another plan is to get orders by mail without any personal selling. This is our mail order plan. We have tried the new mail order circular which is the greatest stunt ever created in the direct selling field, and it will bring you orders and money by mail without selling. Anyone can operate this plan from his own home either in full or spare time. Full details of this plan and a copy of

the circular which brings in the orders will be submitted to you with your order for a single sample or a dozen box. Another plan given in detail is the consignment plan. This plan holds unlimited possibilities for the man who can operate in a big way. Another wonder is the initial and emblem plan. You sell every prospect a PULL-A-LITE Cigar Lighter with their own individual initial or their own emblem on the lighter. This special initial or emblem stamps personality and pride on the product and if ever there is a hard prospect this special feature will clinch the sale for you without fail. These initials and emblems are artistically and beautifully designed and can be applied to the car as well as to the cigar lighter. This gives you additional sales and greatly adds to your day's profits.



for automobile table or desk

SEND FOR SAMPLE OR DOZEN NOW. A DOZEN EASILY SOLD IN AN HOUR NETS YOU \$10.50 CLEAR PROFIT

If you are the right man to take on an agency, we want you to write us immediately. At the same time, we recommend that you order a dozen PULL-A-LITES at our regular dozen price of \$7.50. It will come to you packed in our self-selling multi-colored display carton. If you care to, you can quickly and easily sell them out to consumers in an hour and cash in \$10.50 clear profit on the dozen. Or you can start right out with the sample dozen taking orders from your nearby dealers to test out the great selling power of this article. Send \$7.50 with the coupon or attach \$1.00 bill and we will ship a dozen promptly C. O. D. for the balance, or if you want a sample only—send \$1.00. We guarantee you will make sales from the start or will refund your money. With the sample dozen to start, you can operate all the plans immediately. Full details of the five selling plans will be sent to you at once with your order for sample or dozen. Above all, we urge you to write immediately. Territories will go fast—reserve yours today. Quick action is necessary. **FILL IN AND MAIL COUPON NOW!**

GORDON MANUFACTURING COMPANY
Dept. LD-66 110 E. 23rd St., New York City

Gordon Mfg. Co. (Dept. LD-66) 110 E. 23rd St., New York City.

I enclose \$..... for which please send me order checked below:

One dozen Pull-a-Lite Cigar Lighters. In self-selling counter display carton. Price \$7.50. (If \$1.00 is enclosed, send one dozen for the balance C. O. D.)

One Sample Pull-a-Lite Cigar Lighter. Price \$1.00.

Please send full details of all your sure-fire selling plans which guarantee that I will make sales.

Name.....

Address.....

City..... State.....

(MASTER)

PULL-A-LITE PULLS DOLLARS LIKE MAGNET

The biggest market in the world is your field and the margin of profit is greater than on any product ever offered.

EXCLUSIVE TERRITORY TO PRODUCERS

Our policy in selling the new PULL-A-LITE Cigar Lighters will be to appoint limited distributors in exclusive territory. We want live wire men who can appreciate a good proposition and act upon it. PULL-A-LITE Cigar Lighter is new and exclusive—has no competition. If interested, you must lose no time. Reserve your territory now before some other live wire beats you to it.

