11th Year of Publication!

FLYING ACES

DECEMBER
15¢

IF JAPAN BOMBS VLADIVOSTOK

GREAT FOTO-PACKED AIR RACE FEATURE—CONROY’S 7TH FLYING LESSON
PHIL STRANGE MYSTERY, ‘CRASH’ CARRINGER YARN, PHINEAS LAUGH
MODELS: HEINKEL 64C, ‘TRIPE’ STICK SHIP, DOUGLAS O-41A GAS JOB
Dad or Uncle may not know that you are planning to enter a contest next Spring, and that a Megow Model is your top desire for Christmas! It's time to put them right! ... If it's a gas-powered contest you have in mind, you'll need a QUAKER FLASH, a FLYING QUAKER or a Bassett's CARDINAL... and now is the time to begin work on it. On the other hand, there is no end of fun in building sleek, beautifully colored, smooth-gliding rubber-powered models... and Megow offers scores of wonderful models at every price.

MEGOW'S
New Super-Quality AIRCRAFT DOPE

Brilliant, rich in color, smooth-flowing, quick-drying—the dope that puts the finishing touch on your model job. Colors dense—can be thinned to about 50% and still have wonderful coverage. Fine for spraying. Same quality used on big planes.

Sizes from 5¢ up. Send for color card.

MEGOW'S
Dept. FA, Howard and Oxford Streets, Philadelphia, Pa.; or 217 N. Desplains Street, Chicago, Ill.; or Great Western Merc., 718 Mission St., San Francisco
MANY MAKE $40, $60, $75 A WEEK
Let Me Show You How to Get Into This Fast Growing Industry

My up-to-date home study Course gives you the groundwork you need to get and keep a real job in this fascinating, fast-growing industry. A number of my graduates, who didn’t know a thing about Aviation before they enrolled, are holding down fine jobs right now—in the air and on the ground. Get the facts about my practical training and what it has done for others. Mail coupon now.

I Teach You QUICKLY—at Home in Your Spare Time

You don’t need to give up your present job—don’t need to leave home, to get your training in Aviation. I’ve made it easy for you. I’ve put my own twenty years of experience—five years of instructing in the Navy—all into your thorough, quickly mastered home study Course.

No Previous Experience Needed

You don’t need a high school education—don’t have to know anything about planes or engines to learn the ground work of Aviation with my Course. Everything is clearly explained—illustrated by hundreds of pictures, drawings and charts—simple and easy to understand.

You Have Many Types of Jobs to Choose From

You have over 40 different types of jobs to choose from once you have the necessary training. You get all the information you need to pass the Government’s written examination for Mechanic’s or Pilot’s Licenses, in a few short months. If you want to learn to fly, I can probably save you more than the cost of my Course on your flight instruction at a good airport near your home.

Aviation is Growing Fast

Don’t wait and let the other fellows get ahead of you. Think about your own future. Get the FACTS. Mail the coupon on the right today—right now—while you’re thinking about it. I’ll send you my big new FREE Book—packed with interesting facts about your opportunities in Aviation. Do it NOW.

WALTER HINTON, President, Dept. B2D
Aviation Institute of America, Inc.
1115 Connecticut Avenue, Washington, D. C.
IS IT FAIR
that lots of fellows who are fit as fiddles are kept from becoming military pilots by our Air Services' stringent educational requirements? Read what Arch Whitehouse has to say on this much-argued question. You'll find his pointed opinions—
ON PAGE 25
GLORY RIDERS OF THE SKY!

THE FLAMING CAVALCADE OF AMERICAN AVIATION!

"MEN with WINGS"

SEE... the flaming crash of the pioneer airships!
SEE... the wartime bombing of Paris!
SEE... reckless dogfights high above the front!
SEE... the 5000-foot power dive to the rooftops!
SEE... the conquest of the Atlantic by air!
SEE... these... and a thousand other thrills... in this daring, romantic drama of man's conquest of the air!

Fred Mac MURRAY
Ray MILLAND
Louise CAMPBELL

Andy Devine • Lynne Overman
Porter Hall • Walter Abel

Produced and Directed by
WILLIAM A. WELLMAN
A PARAMOUNT PICTURE

DREAMERS WHO DARE TO MAKE THEIR DREAMS COME TRUE!
OF the third time in an hour, Colonel Ira Jordan put down the phone and grimly marked a red cross on the map which lay on his desk. General "Wild Bill" Thorne, gruff old Air Service Chief, stood at the window of their emergency headquarters, staring across the Third Wing field, at Toul.

"Well," he rasped, without turning.

"Another ace killed," the Intelligence colonel said wearily. "And the new dump hidden in the Bois d'An-dubon was shelled just before noon."

Thorne faced around. Under his shaggy brows, his eyes had a haunted expression.

"Who was the pilot?" he muttered.

"Carter of the 38th Pursuit. He came down in flames near St. Mihiel. The same old story—no one saw what happened. Apparently he was above the clouds—but nobody has seen what got any of them."

Thorne sat down heavily.

"Fifteen aces, shot down like raw replacements!" The shadow in his eyes deepened. "Ira, if only Philip Strange hadn't been killed—!" He broke off, and there was a moment's silence. Thorne's haggard face turned toward the calendar on the wall.

"Just a month ago today," he said, in a tone so low that Thorne barely caught the words.

"It's hard to realize he is dead," the general said huskily. "I never had a son, but somehow—"

"I know," said Jordan. He seemed about to add something, then stopped. But Thorne did not notice.

"I wish I could have known soon enough to see him—the last time," he said sadly.

"It's better this way," said Jordan, and his voice had an unwonted gentleness. "You can remember him as he was." Thorne gazed at the floor with unseeing eyes. "If I could only give him some tribute—I hate to think of him in that unmarked grave."

"We had to do it that way," said the Intelligence colonel. "To the A.E.F., the name of Captain Philip Strange had become a symbol. Thousands who never saw him—or would never have recognized him if they had—used to talk about the things he did. Distorted tales, perhaps—" but it would be a jolt for the A.E.F. to learn that their greatest agent was killed by German spies. It's been fairly simple to cover up his death, for only a small number knew him as Strange. Most of those he met knew him as John Neville, the pseudonym he used at Chaumont. When anyone asks, I tell them that Neville is on G-2 business in England. Of course, most of the Staff officers and some in the Air Service know the truth—and von Zenden has spread the story in Germany."

"You're sure he engineered the killing?" queried Thorne.

Jordan's bulldog jaw hardened. "I've absolute proof. Von Zenden was in bad with the German High Command because Strange had balked him so many times. And he was always jealous of Strange's ability at make-up and quick-change. You'll recall that von Zenden was known as the 'Man of a Thousand Faces' on the stage before the war, when Strange was a youngster and his uncle was exploiting him as a boy prodigy. They happened to appear on Broadway together and had a clash. And when they met over here in the war it set off the feud again."

"I remember something about it," Thorne said dully. "But I thought Strange's quarters under your Chaumont house were well protected. I don't see how it happened."

"Von Zenden, it seems, knew about that hide-out," explained Jordan. "I told Strange it was dangerous, but he thought he would have enough warning if they tried anything, and he wouldn't let me put guards at the secret entrance in the basement of the adjoining house. From what we could learn after he was killed, I think von Zenden meant to abduct him and take him to Germany. There were several spies in the scheme, evidently all dressed as French soldiers. One of them was evidently a master craftsman, for they managed to work the combination of the vault-door at the end of the secret passage. Strange had fixed a tear-gas release, but the spies wore special masks—we found one on a dead German later. When they broke in, they must have expected to catch Strange alone. It just happened that he'd called a
meeting of the G-2 air unit, and all but the Jay twins were there.

"I was upstairs in my study, and I heard a commotion and muffled shots. I tried to get below, but the tear-gas spread and drove me clear out of the house. By the time I could flash an alarm to G.H.Q. and get men and gas-masks, all but one of the spies had escaped—and everyone else was dead. The Germans had released cyanide gas when they saw they couldn't abduct Strange."

"The damned fiends!" grated Thorne. "If I ever get my hands on von Zenden—"

HE STOPPED as there came a rap at the door. The Wing adjutant entered, followed by several pilots, among them Tom and Noisy Jay, who had been aides of Captain Strange. Identical twins; these two youngsters had been in vaudeville at the beginning of the war, in a magic and ventriloquist sketch. Their weird sense of humor and ideas of practical jokes had made more than one Staff officer groan, but there was no trace of their usual audacious manner now. They came in quietly, eyes a trifle grim, and stood waiting with the others. Jordan motioned them over to his desk.

"Noisy, you and Tom are the only ones left from the old G-2 air unit. You'll have to train these men and the others I've selected. There'll be no more revenge strafes across the lines."

A mutinous light came into Noisy's eyes, but Tom slowly nodded, nudging his brother to keep quiet.

"I understand, colonel. This is the way Phil would have wanted it."

"That's right, Tom." Jordan bent over the map. "Now, listen carefully, all of you. There's something rotten going on, and we've got to find the answer. We've supremacy in the air—and yet we've lost forty-two pilots in five days. I've doubled our counter-espionage net in this sector—and in spite of it the Boche knows every new dump, gun emplacement, and supply depot as fast as we put them in and no matter how well we hide them."

Grouped about the map, none of the men present noticed that the door had opened. The man who entered was a tall, awkward-looking figure who would seemingly have been more at home in a cowpuncher's garb than in army uniform. From his worn belt hung two six-shooters, in place of the regulation .45 automatic. And one of the pistol butts carried several notches.

His boots had the same well-used look as his gun belt, and his olive-drab breeches were badly in need of pressing. His face was a mahogany brown, with eyes half-slit and little crinkles at the corners, as from years of squinting under a blazing sun. A lock of sandy-colored hair hung down at one side of his forehead, giving him a somewhat bucolic look, but his narrowed eyes were shrewdly calculating.

He waited a moment in the doorway, helmet and goggles stuffed in one pocket of his leather flying-jacket, the strings of a tobacco-sack dangling from the other.
Then, as no one turned, he leaned indolently against the door-frame and began to roll a cigarette with one hand.

"You men may as well understand now," Colonel Jordan was saying, "you're going to be in more danger than you've ever faced. But don't worry. You'll be the nucleus of the new G-2 air unit which Captain Strange headed. German spies will try to get rid of you, also, to keep our air intelligence at a minimum. If you're caught on the other side, you'll be shot—the same as any spy."

The man in the doorway watched the group with an odd interest. Pulling the strings of his tobacco-sack with his teeth, he returned the sack to his pocket and lazily reached for a match. As he flicked the head with his thumbnail, the match sputtered, and Jordan turned quickly.

"Who let you in here?" he demanded.

"I reckon I'm th' guilty party, colonel," said the other man in a nasal drawl. "Cap'n Tex Kane, from down to th' Casualty Post, reportin' for duty with th' emergency patrol."

"See Major Dunlap, Room 19," snapped Jordan. "This is a private conference."

"Beggin', yore pardon, colonel," drawled Kane, "but I couldn't help hearin' yore remarks to these here sky-wranglers. I've always sort of hankered to be a spy."

Jordan reddened, and two or three of the pilots grinned.

"I suppose you speak fluent German?" the Intelligence colonel said sarcastically.

"No, can't say as I do," replied Kane. "But I'm right good at pickin' up things."

"Then pick your feet up and get out of here!" roared Jordan. "When I need any help from you, I'll let you know."

Kane sighed.

"Well, I reckon I can take a hint."

He ambled out, closed the door behind him. Jordan glowered at a snickering pilot, turned sourly to General Thorne.

"You've certainly let down the bars in the Air Service, if he's any sample."

"He must be an ace, or he wouldn't have been sent here," growled Thorne. Jordan turned to the Jay twins.

"Check up on that man. I want to know how much he overheard. Tell him I've reconsidered and may be able to use him. Find out if he heard what I said about Strange, and if he did, don't let him talk to anyone until I see him."

THE JAYS hurried out, saw the lanky captain sauntering down the stairs. They followed, waiting to see if he met anyone, but he crossed the road to the Third Wing field and stopped beside a Spad at the end of the line. The ship was oil-splattered, with patches over bullet-holes in wing and tail. A figure astride a bucking bronco had been painted on the side of the fuselage. Kane leaned against the ship, smoking idly, now and then looking up at the cloud-packed sky. Oddly, he had none of the jitters that approached him narrowed his eyes to their former half-slitted appearance.

"Th' major wasn't in," he said laconically. "Thought I'd mosey out an' wait till after I'd put th' nose-bag. It's gettin' on to noon, ain't it?"

"Close to it," said Tom. "By the way, Colonel Jordan thought it over, and maybe he can find a way to use you, after all."

"Well now, that's right nice of him," drawled Kane. "Sort of changes his mind in a hurry, don't he?"

"He's been pretty much upset," explained Tom. He hesitated. "I guess you heard him mention Captain Strange?"

Kane flipped away the butt of his cigarette, took out sack and papers and began to roll another one.

"Come to think of it, I reckon I did. Sounded kind of like he'd come to th' end of his trail."

The Jays looked at each other. Kane finished rolling his cigarette, lit it, slowly inhaled.

"Anyways, what's all the fuss about? There's plenty of good men left what can ride a Hajnie's tail."

Noisy's eyes bled. "He was the best pilot on the Front! He'd have been the leading ace if he'd got credit for all the Bavarians and the Turks and the Boche. He didn't have to wear any notched guns to show how good he was!"

Kane looked down, kicked a pebble with his foot. "Sort of gettin' riled up, ain't yuh, son?"

"Don't call me son!" Noisy said furiously. Kane gave him a mild glance.

"I wasn't aimin' to start no ruckus. But this here fellow Strange was just one man, after all."

"One man?" exploded Noisy. "He was ten men in one! He spoke about a dozen languages, and he was an expert at make-up. He could take one look at a map and remember everything on it. He was a concert violinist when he was thirteen—he could have been as good as Paderewski if he'd kept at it. He'd been all over the world—studied just about everything—medicine, hypnotism, Yoga—"

"Huh?" said Kane. "Now what might that be?"

"It's a Hindu system for controlling the mind and the body," snapped Noisy. "You wouldn't understand it if I explained it."

"Reckon not," drawled Kane. He glanced at a pilot who had hurriedly climbed into a Nieuport next to the Spad. As he saw the man's face he straightened up, and for an instant his right hand hovered near the butt of his notched pistol. Then, as though thinking better of it, he leaned back against the Spad's wing.

"Funny how yore mind slips a cog now an' then. Somewhere or other, I've seen that hombre in th' Nieuport, but I don't rightly remember him."

"His name's Brown," said Tom Jay, curtly. "He's a new courier pilot for Fourth Corps."

"Nope," said Kane. "That wasn't th' name. But he shore is a dead-ringer for that other cloud-wrangler, exceptin' this one's got a mustache. Got th' same sort of square look at th' back of his head, an' th' same thin nose."

"Well, what of it?" Tom said. "Lots of people look alike—and I don't mean twins, either."

KANE did not answer. He was watching Brown as the man leaned out of his pit and snarled at a mechanic. The ackammas swung the prop, but the Breguet only coughed. Brown swore at him.

"Hurry up, you fool! I've got to be at Chaumont in thirty minutes."

The mechanic gripped the prop again, but before he could jerk it through there came a sudden dementing roar from above the clouds. Kane watched with a leap skyward. Through the roar of a diving plane there came the faint, sinister sound of machine-guns.

The muffled clattering ceased, then a ship plunged down through the clouds. It was a JN-4 trainer—one of the few. Jennys sent over for Fourth Corps. Two legs on the ground stared upward it fell off into a spin and came whirling down toward the field.

"He's going to crash!" yelled Tom Jay.

The moan of the JN's wings was drowned by the shrill howl of the field sirens. Ambulance and crash-truck squads dashed to their machines, and Wing officers and soldiers ran out from the nearby buildings. The plane skidded with a grinding roar at the opposite side of the field. The sound was still echoing from the hangars when the Nieuport's engine sputtered to life.

"Pull the chocks!" Brown shouted at the mechanic. "I can get there first—maybe save him if the ship burns!"

Kane started toward the Nieuport, but it thundered out just before he could reach it. He wheeled around and sprang onto the running-board of the ambulance as it careened past. The Nieuport was taxiing swiftly, tail up, two hundred yards ahead. He watched it slacken.

(Continued on page 52)
They Had What It Takes

XXIII—BERT HINKLER—THE LIGHT PLANE ACE

By ALDEN McWILLIAMS

1—Herbert John Louis Hinkler, tagged “Bert” for the sake of simplicity, was born at Bundaberg, Australia, in 1892. He developed an interest in aviation when in his teens, building and flying experimental gliders during 1911 and 1912. But he really did not take up flying seriously until 1920, when he began staging demonstration hops in an Avro “Baby.”

2—Shortly thereafter, he flew his little Avro non-stop from London to Turin, Italy, a distance of 650 miles, in 9½ hours. In those days, needless to say, such a deed in the small-ship category was truly striking. Then for the next seven years, Hinkler was a test pilot for the Avro firm, and during this period he won several prizes in flight competitions.

3—The year 1926 saw this expert pilot travel to America as a Schneider Cup team racer. It was in 1928, however, that he turned in his most lauded feat. This was his light plane (Avro “Avian”) solo hop from England to Australia which lowered the record from 28 to 15½ days. The Royal Australian Air Force then made Hinkler an honorary Squadron Leader.

4—Once again the Aussie flyer jotted a great flight into his logbook when, in 1931, he flew another small ship—a D.H. “Puss-Moth”—from Brazil to Africa. Part of a round-about New York-to-London trip, this amazing 2,000-mile dash was the first solo crossing of the South Atlantic. And marked by very bad weather, it certainly was extraordinary.

5—Then came tragedy! For in 1933, on a new England-to-Australia record attempt, Bert Hinkler roared into a raging snow storm over the Italian Alps—and vanished! Anxiously, the world awaited news of the famed skyman. But none came—until, full three months later, his body was found in his wrecked plane on a snow-swept mountainside near Aresso.

6—Little Bert Hinkler—he was but 5-feet tall, though staunchly built like a boxer—was said to have had “a compass in his head.” His numerous awards, notably the Segrave Trophy, Oswald Watt Gold Plaque, Britannia Challenge Trophy, and Air Force Cross, evidenced his skill. Indeed, many authorities rank him among the half dozen greatest flyers in history.
National Air Race High Spots

Once again, fans, that crack sky racing reporter and cameraman, Burton Kemp, is back with us—this time to relate the real shop-talk story of this year's thrill-packed National Air Races! Yep, and he's got just the dope here that you F.A. readers like—pertinent info on the pilots, ships, races, speeds, and purses, together with a select gallery of photos that take you right out onto the field!

By Burton Kemp
Flying Aces Air Race Correspondent

In which they fared in the gruelling contests. Because the actual race program was limited to three days, an additional three days preceding the events were scheduled as a qualifying period with a minimum speed of 200 m.p.h. for the Greve and 225 m.p.h. for the Thompson event as the requirements. These time trials proved exceptionally exciting, although they were marred by one serious accident and a few minor crashes. Russell Chambers, Pacific-Coast flyer who earlier this year had competed in races in the West flying his home-built special, was forced to slide the little ship into a squash patch on the first day, receiving head injuries, but being the first man to walk away from a crash off the regular landing field in air race history. Chambers hurried back to the scene of activity when he appeared to be in fine shape but for a head cut. Unfortunately, however, an infection set in shortly thereafter. And after a collapse on the field two days later, Chambers succumbed.

Because of its tiny size, much attention was attracted by the Pobjoy-powered Flagg low-winged special which had only 13 feet of wing to keep it in the air. But Pilot McLain soon found that this short span made the ship very hard to control in flight. On coming in for a very fast landing, Mac's little job did an over amount of bouncing. Result: The ship was slightly smashed on one wing tip and was withdrawn from further competition. Though the Flagg's retractable landing gear failed to work in the air, it nevertheless stood up well under the extreme shock of landing, thus minimizing the damage. So small was this little plane that the gas tank was carried beneath the pilot's headrest, and oil was even farther to the rear of the ship. "Just not enough airplane," was McLain's crisp decision on this midget racer. And in passing, it may be recalled that this ship cracked up last year with Tony Le Vier at the controls.

Another plane which failed to pass muster was the remodeled Miss Los Angeles entered by Marion McKeen. In fact, we predicted in these pages last year that this craft
needed considerable cleaning up if McKee was to have any success in keeping pace with the newer and faster creations. Appearing for the first time in its new version, the plane carried a full cantilever low-wing with a fully retracting landing gear. The latter proved to be stubborn in operation, necessitating a risky belly-landing by McKee after more than 30 minutes of vain effort was made to lower the undercarriage.

Although the plane was only slightly injured, McKee did not try to repair it for the racing. In truth, he was extremely happy that he had come out of his jam landing without a scratch, and he quickly declared that Miss L.A. had flown for the last time with a retractable (?) gear.

While retracting gears are almost perfect in operation on larger ships, it has been discovered at Cleveland that the smaller and lighter versions needed on little racers were very dependable and caused great deal of trouble in nearly all cases where they were used.

Delgado's Flash also had seen quite a bit of changing since last year, but it did not perform up to prophecies ventured following its setting of a world record for its type over a cross-country course. Although qualified at over 220 m.p.h. for the Greve event by Roger Don Rae, it was not on the line at starting time, since the regular pilot, Clarence McArthur, did not qualify to fly the ship.

Not winning any prizes or flying in any of the races, Roger was still one of the busiest men at the field and qualified two other ships, Folkerts' latest creation and Keith Rider's new 8 Ball. The Folkerts, which was very much like the late Rudy Kling's top money winner of last year, got around in quick time. But when violent wing flutter suddenly developed, it looked like a promising-wing creation. And once the ship was perched on the ground after this sad exhibition, it was decided to leave it there. Thus, Joe Jacobson lost his mount for the races, until he arranged to fly the 8 Ball after it had first qualified with Rae at the controls. Keith Rider produced this "pool table special," and it is typical of his own distinctive design.

To go on with our story, Dave El mendorf's racer of two years ago was remodeled by Marcoux (who also fixed up Orman's Keith Rider), and it was entered by Orman as the Jackrabbit in the Greve. But when it barely made 200 m.p.h. to qualify, it proved ineligible for the Thompson race, in which El mendorf had planned to fly it against Orman in the larger Marcoux-Bromberg Twin Wasp Jr. racer.

The old Keith Rider Bumblebee was back in competition, now tagged as the Bushey B&M-1, with George Dory, a newcomer from the West Coast, as its pilot. When a connecting rod of the Menasco engine broke on the 13th lap of the Greve race, however, Dory suffered serious head injuries and a broken back on landing his ship in a dead-end suburban street. His motor almost torn from his plane, he battled bravely to avoid children playing in the street, and great credit is due him for succeeding. He sacrificed his own chances in the interest of the youngsters.
EXT, we note that this year Harry Crosby finally arrived with one of his racing creations, the Crosby CR-4. He competed in both closed-course races, too, but he had trouble each time, due to extreme heat plus considerable exhaust gas which entered his cockpit from a broken exhaust manifold.

Art Chester and his just-completed Goon, among the favorites at all times, turned in a good performance even though hampered by minor difficulties. The landing gear proved troublesome and kept the plane from hitting its real top speed. Meanwhile, however, the plane's French Rattier racing propeller helped considerably in keeping this job in the thick of things. Chester's design was seen throughout in this plane, and it should be a worthy successor to the famed Jeep.

Schoenfeld's Firecracker, with Tony LeVier as pilot, was in really top form and continued the fine showings it had made at the Pacific Coast races earlier this year.

Because of trouble encountered in qualifying by a lot of the ships, both the Greve and Thompson races started with the entrants being less than the number of prizes offered. The Greve was scheduled to pay off eight places, with the first ten ships winning prizes in the Thompson.

The Greve race found LeVier and Chester jumping right into the lead, with the former's Firecracker besting Chester's Goon for the first few laps. Eventually, Chester put himself in the coveted lead-snatching position, and he did cop the front spot from time to time during the middle part of the race—only to have LeVier quickly regain it whenever he did.

Chester would gain on the Firecracker by flying a race very close to the pylons while LeVier went slightly wider and at a little more altitude. Then, after this seesaw game of leadership had taken place six times, the planes were virtually tied on their entrance into the 15th lap. But here, Chester cut inside a pylon on the back stretch—and as he doubled back to circle it and prevent disqualification, LeVier forged far ahead!

More drama was in store, however. For a little later in the race, LeVier eased up slightly to give his motor as easy a trip as possible—not knowing that Chester had been only momentarily dissuaded in his fight for the lead. The Firecracker pilot did not find it out until Chester swept past him immediately in front of the roaring grandstand crowd on the next-to-last lap, number 19.

Realizing that first place was about to be grabbed from him, LeVier opened his engine wide on the last lap. That proved all that the Firecracker needed, and so Chester was destined for second place after LeVier passed him for the final time on the back stretch.

Although victorious with a new 250 m.p.h. record, LeVier nevertheless was to meet with great disappointment on landing his little yellow special. Striking a bump in the field, the ship careened from side to side and one of the wing spars gave way. The landing gear leg fastened to this spar then collapsed, and the plane skidded over the ground on the bottom of the wing and fuselage. This set-back prevented LeVier from flying in the Thompson contest on the next day, for he didn't have sufficient time left to repair his ship.

While LeVier and Chester were having the thrilling time of it just described the other four Greve contestants were continuing to circle the course. Crosby had taken third place to lead Jacobson, Ortman, and Dory in that order. The last named, after taking off last and trailing for many laps, failed to show up at the grandstand pylons on the 14th circuit. Observers realized that something untoward had happened, and later it was reported that he crashed on the back stretch. Meanwhile, Crosby was forced to land after his 13th lap when his motor began to fail after he had struggled along for some time not only with gas fumes but also with a fire which was eating back into his
**PILOTS AND PLANES IN GREVE AND THOMPSON EVENTS**

**GREVE TROPHY RACE**
(Planes with engines of 549 cu. in. displacement or less)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Harold McLain</td>
<td>Flagg Special</td>
<td>Pobjoiy Niagara</td>
<td>177</td>
<td>NX-86-Y</td>
<td>Blue &amp; Gold, white trim</td>
</tr>
<tr>
<td>Russell Chambers</td>
<td>Chambers Special</td>
<td>Menasco J-4</td>
<td>320</td>
<td>NX-26-Y</td>
<td>Yellow, black trim</td>
</tr>
<tr>
<td>George Dory</td>
<td>Bushy B&amp;M-1</td>
<td>Menasco G-48</td>
<td>363</td>
<td>NX-28-Y</td>
<td>All aluminum</td>
</tr>
<tr>
<td>Earl Ortman</td>
<td>Marcoux-Bromberg Jackrabbit</td>
<td>Menasco C-88-4</td>
<td>544</td>
<td>NX-26-Y</td>
<td>Black fuse, yellow wing</td>
</tr>
<tr>
<td>Harry Crosby (2)</td>
<td>Crosby CB-4</td>
<td>Menasco C-88-4</td>
<td>544</td>
<td>NX-26-Y</td>
<td>Alum. fuse, blue wing</td>
</tr>
<tr>
<td>Art Chester (2)</td>
<td>Chester Goom</td>
<td>Menasco C-88-4</td>
<td>544</td>
<td>NX-26-Y</td>
<td>All cream</td>
</tr>
<tr>
<td>Joe Jacobson (2)</td>
<td>Keith Rider 3 Ball</td>
<td>Menasco C-88-4</td>
<td>544</td>
<td>NX-26-Y</td>
<td>All light blue</td>
</tr>
<tr>
<td>Marion McKean</td>
<td>McKeen Miss Los Angeles</td>
<td>Menasco C-88-4</td>
<td>544</td>
<td>NX-25-Y</td>
<td>Red, gold trim</td>
</tr>
<tr>
<td>Tony LeVier</td>
<td>Schoenfeld-Rider Firecracker</td>
<td>Menasco C-88-4</td>
<td>544</td>
<td>NX-28-Y</td>
<td>Yellow, red trim</td>
</tr>
<tr>
<td>Roger Don Rae</td>
<td>Delgado Flash</td>
<td>Menasco C-88-4</td>
<td>544</td>
<td>NX-28-Y</td>
<td>Black, white trim</td>
</tr>
<tr>
<td></td>
<td>Folkerts Special</td>
<td>Menasco C-88-4</td>
<td>544</td>
<td>NX-28-Y</td>
<td>Red, blue trim</td>
</tr>
</tbody>
</table>

**THOMPSON TROPHY RACE**
(Planes with engines of 1800 cu. in. displacement or less)

<table>
<thead>
<tr>
<th>Pilot</th>
<th>Plane</th>
<th>Speed (M.P.H.)</th>
<th>Prize Money</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Wittman</td>
<td>Wittman Super-Chief</td>
<td>224.774</td>
<td>$9,000</td>
</tr>
<tr>
<td>Earl Ortman</td>
<td>Marcoux-Bromberg</td>
<td>238.564</td>
<td>$5,000</td>
</tr>
<tr>
<td>Joe Mackey</td>
<td>Wexell-Williams 4</td>
<td>226.179</td>
<td>$3,000</td>
</tr>
<tr>
<td>Leigh Wade</td>
<td>Military Aircraft Special</td>
<td>199.388</td>
<td>$2,000</td>
</tr>
<tr>
<td>Roscoe Turner</td>
<td>Laird-Turner LTR-14</td>
<td>181.842</td>
<td>$1,000</td>
</tr>
<tr>
<td>Leland Williams (3)</td>
<td>Pearson-Williams Mr. Smoothie</td>
<td>(Landed before 5 p.m. deadline but finished out of prize money)</td>
<td>(Forced down close to start)</td>
</tr>
</tbody>
</table>

**Notes to above tables:**
(1) These details included to enable future identification and as an aid to model builders.
(2) Also competed with this ship in the Thompson finals.
(3) Appeared at field but not tuned up in time for races.

cockpit. Yep, for Harry C. the Greve was too hot! Jacobson then took third place and held it. And actually Ortman was flagged down for fourth place after 18 laps, at which time he was the only one left in the air. After landing, both Chester and LeVier exhibited a film of grease and oil on their respective windshields which certainly may have decreased their visibility greatly.

IN THE LENGTHENED Thompson grind, the favorites once again supplied the race drama. But this time the winners were decided somewhat earlier than in the Greve. Earl Ortman jumped off to a lead on the take-off. And he held it for five laps while Turner remained a few hundred feet in his wake. But on the sixth lap, Turner moved up to make it a tie—then took the lead at the start of the seventh.

From this point on, Turner was never headed. He always kept pulling a little farther ahead of Ortman as he rounded the pylons at the new record speed of 283 m.p.h. Turner’s ship, incidentally, was the same one which he flew for the first time last year, and it had only minor changes, one of them being a pair of pants over the wheels. Ortman, too, flew the same ship in which he finished second last year.

Second was Ortman’s spot again this year—and he had to grit his teeth to get it, for toward the end of the race his oil line split and he completed the grind almost blindly and at a slower pace. Guided into a landing by radio men, he was of the opinion that most of his prize money would have to go to the purchase of a new engine, since he feared that lack of oil practically burned up the (Continued on page 61)

**BENDIX, GREVE, AND THOMPSON EVENT RESULTS**

**BENDIX TROPHY RACE**
(400 miles to Cleveland with added lap to New York for leaders)

<table>
<thead>
<tr>
<th>Place</th>
<th>Pilot</th>
<th>Plane</th>
<th>Speed (M.P.H.)</th>
<th>Prize Money</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Jacqueline Cochran</td>
<td>Seversky</td>
<td>249.774</td>
<td>$9,000</td>
</tr>
<tr>
<td>2nd</td>
<td>Frank Fuller, Jr.</td>
<td>Seversky</td>
<td>236.564</td>
<td>$5,000</td>
</tr>
<tr>
<td>3rd</td>
<td>Paul Mantis</td>
<td>Beechcraft</td>
<td>206.579</td>
<td>$3,000</td>
</tr>
<tr>
<td>4th</td>
<td>Max Constant</td>
<td>Beechcraft</td>
<td>199.388</td>
<td>$2,000</td>
</tr>
<tr>
<td>5th</td>
<td>Ross Hadley</td>
<td>Beechcraft</td>
<td>181.842</td>
<td>$1,000</td>
</tr>
<tr>
<td></td>
<td>John Hinchey</td>
<td>Spartan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lee Gehbach</td>
<td>Wexell-Williams</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frank Cordova</td>
<td>Bellanca</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Robert Perlick</td>
<td>Beechcraft</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>George Armistead</td>
<td>Gee-Bee Q.E.D.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GREVE TROPHY RACE**
(200 miles comprising 20 laps of 10-mile course)

<table>
<thead>
<tr>
<th>Place</th>
<th>Pilot</th>
<th>Plane</th>
<th>Speed (M.P.H.)</th>
<th>Prize Money</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Tony LeVier</td>
<td>Schoenfeld-Rider</td>
<td>254.884</td>
<td>$10,000</td>
</tr>
<tr>
<td>2nd</td>
<td>Art Chester</td>
<td>Chester Goom</td>
<td>253.416</td>
<td>$5,000</td>
</tr>
<tr>
<td>3rd</td>
<td>Joe Jacobson</td>
<td>Keith Rider 3 Ball</td>
<td>218.271</td>
<td>$2,000</td>
</tr>
<tr>
<td>4th</td>
<td>Earl Ortman</td>
<td>M.B. Jackrabbit</td>
<td>192.908</td>
<td>$1,000</td>
</tr>
<tr>
<td></td>
<td>Harry Crosby</td>
<td>Crosby CB-4</td>
<td>(flagged down after 18 laps)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>George Dory</td>
<td>Bushy Special</td>
<td>(Crashed on 18th lap)</td>
<td></td>
</tr>
</tbody>
</table>

**THOMPSON TROPHY RACE**
(300 mile free-for-all comprising 30 laps of 10-mile course)

<table>
<thead>
<tr>
<th>Place</th>
<th>Pilot</th>
<th>Plane</th>
<th>Speed (M.P.H.)</th>
<th>Prize Money</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Roscoe Turner</td>
<td>Laird-Turner LTR-14</td>
<td>283.429</td>
<td>$15,000</td>
</tr>
<tr>
<td>2nd</td>
<td>Earl Ortman</td>
<td>Marcoux-Bromberg</td>
<td>266.718</td>
<td>$9,000</td>
</tr>
<tr>
<td>3rd</td>
<td>Steve Wittman</td>
<td>Wittman Special</td>
<td>259.217</td>
<td>$6,000</td>
</tr>
<tr>
<td>4th</td>
<td>Leigh Wade</td>
<td>Military Aircraft Special</td>
<td>249.842</td>
<td>$2,000</td>
</tr>
<tr>
<td>5th</td>
<td>Joe Mackey</td>
<td>Wexell-Williams</td>
<td>249.629</td>
<td>$1,000</td>
</tr>
<tr>
<td>6th</td>
<td>Joe Jacobson</td>
<td>Keith Rider 3 Ball</td>
<td>214.576</td>
<td>$1,000</td>
</tr>
<tr>
<td></td>
<td>Art Chester</td>
<td>Chester Goom</td>
<td>(flagged down after 27 laps)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Harry Crosby</td>
<td>Crosby CB-4</td>
<td>(Landed after 20 laps)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Landed after 19 laps)</td>
<td></td>
</tr>
</tbody>
</table>
A HEAP FUNNY "PHINEAS" WHOOP FEST

By Joe Archibald
Author of "Skyway Robbery," "Heir-O-Bats," etc.
With Illustrations by the Author

URING the big tiff known as the World War, the Potsdam propaganda prodigies scouted the very plausible theory that an army travels on its stomach. The Kaiser's skullduggierians, from the very first day that armistice was signed, took a short-cut across Planders, worked on the idea that an army really meanders along on its morale.

So Heine newspaper photographers were commissioned by Wilhelmstrasse wise men to go out and fake batches of pictures portraying terrible atrocities behind the lines. Limei, Frog, and Yankee uniforms were draped over store dummies which were snapped in significant postures that would have thrown a scare into a family of gorillas. The pictures showed Allied airmen what would happen to them if they should be caught on Heine real estate.

There was a time early in 1918 when a whole flock of such pictures was dropped out of a Jerry Rumper near Vaubecourt. It was on the very same day that Chau mont's Sam Browne-belted brass hats got jitters from significant information that came to them from the Intelligence Corps. Three Russky soldiers had turned up in a batch of prisoners near Mont Sec—and one of the Steppe sons had told his captors that his countrymen would be represented in the Heine battlefield soon and that they would outnumber the fish eggs in a barrel of caviar.

The propaganda photos arrived at the Ninth Pursuit Squadron outside of Bar-le-Duc in time for mess. The gory snapshots took away the appetites of all Major Ruf us Garrett's buzzards—that is, with the single exception of Lieutenant Phineas Pinkham, Iowa's illustrious contribution to the U. S. Air Force. Phineas took a look at one of the masterpieces and did not blink an eye. It was the picture of a Frog flyer hanging by his thumbs and with three bayonets inserted into various parts of his torso.

"Haw-w-w-w-w!" Phineas yipped. "That Frog is wearin' a Yank's sky piece! An' look at his hair. You can see the wind is blowin' the trees in back of him but his hair isn't even ruffled! It's a fake!"

"Oh yeah?" Bump Gillis, long-suffering hutmate of the scion of the Pinkhams, snorted. "Don't kid me. I've heard what they do—they blood-thirsty bums. Look at this picture here—ugh. They got the guy tied between two planes an' the Fokkers are takin' off in opposite directions—aw-w-w-wk! G-Goomer, git me some paragogic or somethin'"

"Aw you're a sissy," Phineas sniffed. "And as for them Russians, why if they came over to fight for Germany, who'd stay home and keep the revolutions going?"

"Himmel!" yipped von Hambockz. "Der savages take der scalps mit!"

"Shut up!" Major roared, as Phineas beamed at his success in getting the C. O. more riled than usual. "If anybody else shows me any more of these things, I will fracture his skull!" he hollered, shoving Bump Gillis out of his chair when the Scot showed him another grisly picture of a couple of Yankee doughs tied to a leg of gunpowder. A grinning Kraut had been snapped in the act of lighting a fuse that snaked away from the goodbye dust.

Lieutenant Pinkham helped Bump up off the floor and then he went to his hut. Plumping down on his cot he began to go through a stack of newspapers he had received from relatives back home. One of the journals, a sports section from a Sunday edition, drew his particular attention. Reading the headline, which referred to the Milwaukee and Indianapolis ball teams of the American Association, the Yank's homely face split open in a grin that would have permanently dislocated the jaws of a hyena.

A gangster can take his sauce and dish it out, too," he chuckled as he tore out the page he wanted and put it in his pocket. "I will put this in a corner willie can an' weight it with a rock."

A few minutes later, Phineas ambled out of the hut and across the tarmac toward "A" Flight's hangar. In one corner of the Spad garage he found his old bicycle. He wheeled it out, hopped aboard, and pedalled off the drop-off close to midnight. The sky was clear, and the captain, walking like a G. A. R. veteran loaded down with smoker bones to ankles with inflammatory rheumatism. At intervals, the returning prodigal paused to explore various pained parts of his anatomy. He gave vent to "ouches" on each venturesome pressure on his bruised empannages.

"A" FLIGHT went out the next morning on schedule. Captain Howell and the rest of the early-go buzzards wondered about Lieutenant Pinkham while they were sipping early morning java. The miracle man of the squadron looked a little pale around the gills, and when he eased his bruised frame gingerly into the pit of his Spad, he screwed up his face in such a gargoylike pattern, that Bump Gillis scratched his helmet and mumbled to himself.

"The crackpot got in late last night," Bump ruminat ed. "I remember that much an' I'm dam' sure he had a bag of somethin' with him, but I must've gone to sleep again before he put it away. Now I wonder what ails that halfwit? Someone musta given him a going over."

"A" Flight thundered toward the front. And Bump Gillis, Captain Howell, and two other Spad pushers felt a touch of jitters as they skimmed over a sea of
“Ugh!” grunted Chief Spotted Elk. “Pile fire wood around stake while I takem scalp!”

gulped, massaging his clean-shaven noggin. “Was ist das!” With the help of two Hefnie non-coms he clambered to his feet and one of them handed him the missile that had scattered his marbles. Across the yard came another cocked Rhine whiner carrying a strange hatchet and his knees buckled a little.

The Herr Oberst dumped the rock out of the corned willie tin and a piece of newspaper came with it. Black Yankee print hit him in the face—and after he had read it he wished he had never taken English lessons at Heidelberg.


The Herr Oberst staggered to Kraut headquarters and fell into his chair. Three other Teutons gathered around him and asked if it was the Uber-Offizier’s heart or liver that was acting up. Then a Heinnie with a monocle peered at the Yankee print on the bit of newspaper and his eye window popped loose.

“Ach! Look vunze! INDANS SCALP BREWERS! Take Lead—”

“Was ist? Donner and Blitz—der Brewers in Amerika Chermans ist always. Der Indians take der scalps mit—Himmel! Der lead to shooit in guns—dey take. Dat means der Indians half—Gott! If—”

Into the presence of the Teuton tactualian tycoons shuffled an undersized Boche dough. His shaking lunchhook held the aforementioned strange hatchet, and he extended it to a big Herr Oberst without remembering to salute. The Heinnie officer took the war

American military moguls were miserable! For along the Western Front, the Krauts were doing a Russian business which threatened to give the Potsdam Potentate a corner on the Frog real estate market. But meanwhile there was one thing that neither Chaumont nor the Wilhelmsstrasse had figured on. This was Phineas Pinkham’s skin game—a redskin game that was a cinch to corner a flock of squarehead scalps!

clouds. They could not banish pictures from their minds. They were certain that their ends would be horrible ones if they were forced down behind Kraut ditches.

Their morale, therefore, was a trifle shot when they went slam-bang into a staffel of Vons over Mars la Tour. Howell got tagged on the blind spot two minutes and three seconds after the brawl started, and he got out and headed for Bar-le-Duc with half the meat eaten off the Spad’s wishbone. Bump Gillis got cornered by two Tripes and he took plenty of cufing around by Spandau lead before he picked out an exit in the ceiling and hurried downstairs.

Four Vons were chasing Phineas. But they got discouraged when the pilot from Iowa went down so low that he could have picked daisies by leaning out of his pit. Phineas then vaulted an Alsatian church, hop-skipped and jumped over a half mile of Boche linoleum, and flattened a thousand Boche doughs who were moving along a road. Lead flew up at him and most of it missed.

Then Garrit’s acute pain in the neck finally dropped a corned willie can overside and it almost made a permanent idiot out of a Jerry Herr Oberst who was standing near a big jalopy. Phineas threw something else, too, and it whanged against a scurrying Heinnie dough’s coal hod, sending up a loud ringing sound.

When the Kraut brass hat sat up and pawed at the spots that were dancing in front of his optics, Phineas was again climbing and heading for Yankee skies with a Hisso that missed more than a cross-eyed man aiming at clay ducks in a shooting gallery.

“Himmel!” the Herr Oberst
Fighting Aces

December, 1938

Hatchet and looked at a name that had been carved into the handle. It was "CHIEF SPOTTED ELK." And there were dark stains on the business end of the sinister weapon.

"Don't Oberst von Hamhockz wipe globules of worry dew off his beefy face and got up. Breathing heavily, he waddled out to a Jerry staff car and told the flunky at the wheel to get him to the nearest town where there was a drug store. He might even want to be driven to Sweden, muttered as he wedged his big carcass through the door of the gas buggy.

OVER on the drome of the Ninth Pursuit Squadron, there was quite a to-do. Lieutenant Phineas Pinkham brought his ailing Spad down just in time to see a Frog peasant being dragged by a sentry toward the farmhouse where the Operations Office was sheltered. Phineas quickly hopped back into the pit and tried to take off again, but the Hisso had folded up for the day. "Oh well, I'll make 'em prove it!" the flyer sniffed, and he again climbed out of the Spad's office. "Let 'em get a lawyer."

He limped over to his hut, paused in the doorway for an instant to watch the Frog go into Squadron Headquarters, then said disgustedly: "Them Frog bums are always makin' a fuss over nothin'. Well, I will wait, and it won't be long."

Phineas was right. It wasn't.

An orderly appeared on the threshold of his cubicle within five minutes and told the joker that Major Garriott was desirous of having an immediate interview with him.

"Awright." Phineas chirped. "Tell him to keep his carmismo on. I must first get tidied up. Haw-w-w-w-w!"

He began to whistle.

Lieutenant Pinkham had never seen a more excited Frenchman in his life than the one on deck in the Operations Office. The Frog hick was hopping up and down and waving his arms like a windmill, meanwhile hurling a verbal barrage at the Major that had the Old Man's ears vibrating.

"Mais oui! Ze peeg hee have steez zez hir from ze mane of ze cheval. Hee have cut eet off ze ends from ze tails of ze vaches. Sacre Bleu—Mon Dieu! Hee steal eet ze blankets of ze chevaux! I getz ze gun an' geeve to ze robbair ze shots from bucks. Tres bien—I heet thees robbair an' he mak' ze holler. I veel see President Poinecare an' Marshal Poche. General Persheng I veel see, ausi Joffre—"

"You fought Napoleon," Phineas helped out. "Well, Lafayette, I am here and whatever I am blamed for is a lie. I have been limpin' ever since last night because I was hit by shrapnel yesterday, and—"

"Pipe down!" roared the Old Man. "You were out last night. The only buzzard off this drome. You might as well own up, Pinkham. You can be shot for stealing—maybe you can get hung. You—"

"Did they bring the electric chair over here with the doughs, too?" Phineas yelped. "Awright, if I did it, prove it!"

"You peel off those pants and let us look at your shrapnel wounds, Pinkham!" Garriott issued a roaring order.

Phineas covered his freckled face with his large hands. "Major," he bleated, "shame on you. How could you? Why you—aw-w-w-w!"

The C. O. growled like a hound with the rabies. Captain Howell edged close so that he could prevent the Old Man from pulling a gun.

"Bah-h-h-h-h!" screamed the Frenchman. "Za argent eez zat wheech I want. Fifty francs for ze blankets an' a hun-red francs for ze hair from ze cheval. I go to Poincaineto Paree—"

"Make it Siberia," Phineas suggested, "an' I'll pay half the ticket. You can't threaten me, you snail killer. I demand a fair trial, as I know my rights! And I will not disrobe in front of everybody without a court order. It is indecent exposure, an'—"

"Mon Dieu!" the wild-eyed peasant yelled. "Ici I come for ze sateesfacasion—an' what ees thee I have get, non?"

"You get out of here!" The Old Man suddenly belowed. "Or I'll shoot you for a spy. They stole hair off a horse, huh? Is that such a crime, you little greauze? You still have the sheevels, haven't you? You've still got the vashes to milk. Get out of here or I'll kick you clear to the Channel!"

"Haw-w-w-w-w!" Phineas gurgled. "I'm beginnin' to like you, Major. Now you are usin' some sense. That Frog—"

"And as for you—you get out of here, too, Pinkham, or by cr-r-r-ipes I'll put a half hitch in your neck! If I find out—"

"I veel see Foche—ze President of France!" the Frenchman fumed as he was hustled out. "Aussi ze robbair try to steal ze pouluts. Ze chickens—"

"I wonder what that Frog will say when he sees he has no paint left in his hair. Am I not puttered to himself as he tramped out ahead of the blast from the Major. And the Major, meanwhile, continued to roar.

Brass hats rolled into the Ninth Pursuit an hour later. They came to relay news from Chantonnay that the Air Force had found out for sure if Russian troops were being brought up to support the Hindenburg line.

Now "A" Flight was having a respite and "B" and "C" outfits were taking a break at the Vons for the nonce. Accordingly, Phineas Pinkham was within earshot near the window of Garrriott's office while the brass hats' oral barrage was being fired.

"We've got to be sure," one of the officers, a Colonel, said to the Old Man. "If that Russian army has decided to throw in with the Kaiser, we've got to call for a million or two more men back in the States. Planes can find out whether they have. I think the Russians are gathering back of the front, and when they get strong enough—"

"That's easy," Phineas piped up. "Once the wind blows right, you will find out. The bums—"
Snapshots of the War

One of the first Americans to see World War service in the air was the late Bill Thaw, shown above beside his favorite Nieuport. Thaw helped form the Lafayette Escadrille.

Notable because it was one of the few ships to see constant active service throughout the War was the B.E.4.C (British Experimental, second type, C series). Here's one of these loyal old-timers, powered with the R.A.F. air-cooled engine of 90 h.p. For a time, these ships were actually used as fighters, though as this one may appear. Note the four-bladed prop. (Official Canadian War Photo.)

And here's another C model—but this time it's the little known Nieuport 28 two-seater (Maybe we'd better write that 2-C-two). You'll recognize in this ship many of the characteristics of the Nieuport single-seat jobs, with similar fuselage and strut arrangement. Observe these guns—especially that top-wing weapon which the gunner apparently handled from a standing position. (Puglist photo.)

Britain's first popular sky hero, George L. Hawker, V.C., is shown here as he appeared not long before he was "crossed" by von Richthofen and hurled to the airman's Valhalla. That particular fight lasted nearly an hour.

Known as "The Duelist," this smiling German flyer was an expert swordsman, and he "fenced and parried" even in his aerial encounters. His real name was Bruno Loerrer, and he was credited with 44 victories. (Puglist photo.)

You've often heard of Eduard Ritter von Schleich, the "Black Knight of Germany." And now here's a chance to catch a glimpse of him up there in the pilot's pit of this Roland "Wolfisch" two-seater. Translated into English, the name of this ship means "whale," and you'll note how some wag—maybe the Black Knight himself—had painted the craft with eye and gaping mouth to make it resemble its aquatic namesake. (Puglist photo.)
“Landing Fever”

By George Lyle
Transport Pilot and Flying Instructor

I
n the middle of the week following the Sunday Chet Macklin had deliberately cracked up with his student, Jack Conroy, to avoid crashing into another plane, the instructor was logging his time for the day when a well-dressed man appeared in the office doorway.

“I’m looking for a pilot named Macklin,” the gentleman announced.

“Guilty,” admitted the instructor arising.

“I’m Jack’s father. You know—Jack Conroy’s.”

A slow smile spread over the pilot’s tanned features as he studied his visitor’s face. He extended his hand.

“I was just wondering where we had met before. Now I see it’s merely the resemblance between you and Jack. . . Won’t you sit down, Mr. Conroy?”

Both men lit cigarettes. And then the elder Conroy came directly to the object of his visit.

“I’m thinking of putting a stop to Jack’s flying,” he declared.

“Why?” asked Macklin quietly.

From his pocket, Jack’s father took a folded piece of newspaper. He opened it out, shoved it across the table to the instructor.

The pilot scarcely glanced at it. “I know,” he said. “Some amateur camera hound got a shot of our crack-up, then sold it to the papers. Yes, I saw it.”

“Well, you can imagine the effect it had on Mrs. Conroy and myself. Jack is our only boy. I—can’t let him go on with it.”

Macklin carefully refolded the clipping and returned it to the frowning father. “Are you also going to stop him from doing any more driving in the family automobile?”

“There’s no comparison there,” contended Mr. Conroy.

The pilot shrugged. “In the same paper in which this appeared a picture was published of a demolished car—side-swiped by a truck and hurled over an embankment! Three people were killed outright and two were critically injured. . . Would you, Mr. Conroy, have preferred Jack to have been in that car rather than in our little crack-up?”

The other man gestured impatiently. “But that’s different!”


“Because—” The student’s father hesitated a moment. “Well—because I feel an accident is far more likely to happen in flying than in driving.”

“But that’s where you’re wrong, Mr. Conroy. If you eliminate military, test, exhibition, and racing flying, statistics on the basis of miles travelled prove—”

“I know,” interrupted the pilot. “Good heavens! Jack harped on that very thing for a year before I gave my consent to his flying in the first place. Why, for awhile I almost believed it myself. I wanted to, you understand? But now after seeing the picture of that wrecked plane and reading things about my son’s miraculous escape from death—”

Macklin propped the pilot. “I noticed that line in the news story, too—and that’s the sort of stuff that gives me a pain.”

“You mean,” said Mr. Conroy incredulously, “that you don’t consider Jack and yourself fortunate in getting out of that—that smash-up alive?”

“ Heck no! Why, I got a split lip out of it and Jack a nasty bump on the head—whereas with any sort of luck we’d have walked away unscathed! Anytime you can take the impact on the wing the way we did, the risk of injury isn’t as great as when a guy hits the line in a football game. Believe me, sir, I know what I’m talking about. I’ve seen plenty of deliberate crack-ups—in fact, I pulled a few myself in motion picture work—and I’m telling you Jack and I were playing in rotten luck to get bunged up at all.”

“Do you honestly believe that, Macklin?”

“Know it! And speaking of luck, here’s another angle: I’ve been flying for more than fifteen years specializing for the last ten in dual instruction—and that crack-up is not only the worst one I’ve ever been in but also the only one I’ve ever had with a student. . . Now, considering the thousands of student flights I’ve made, don’t you think it was a miserable stroke of luck for Jack to have been in the lone, solitary crack-up of my instruction-flying career?”

“Well...” Jack’s father rubbed his chin. “You almost make it sound like all my fuss is sort of a tempest in a teapot.”

The veteran pilot grinned. “A most accurate description. Then his face straightened. “But it does have one serious aspect. “What’s that?”

“The effect it’s going to have on Jack,” came back the instructor.

“How do you mean?”

“Well, the kid’s quite imaginatively flighty. It won’t do his morale a bit of good.”

The elder Conroy grew tense and his face paled. “My son’s no quitter!” he snapped.

“No,” I don’t think he is,” agreed Macklin, then he added sincerely, “I had a son in a similar situation. I’d give him a chance to prove that to himself, I wouldn’t like to leave any cancerous spot of doubt in his own mind by forcing him to quit under fire.”

Mr. Conroy arose angrily. “I’ve noticed that people who have no sons invariably know just how, one should be handled.”

Macklin met the other man’s eyes without rancour. “I had a son, Mr. Conroy,” he replied in a low voice. “He was just eleven when, three years ago, he and his mother were killed in an automobile accident.”

The elder Conroy caught his lip. Embarrassment was manifest in the sudden flush that spread over his face. “I—I’m sorry. I didn’t know,” he said. Then he picked up his hat and started for the door.

But at the threshold he paused and turned. “Mr. Macklin, if—I mean when Jack comes out for his next lesson I’d appreciate it if you wouldn’t mention this little talk we’ve had.”

“Of course not,” the pilot assured him. Then he went on: “You know, I think it might be a good idea if you came out with him and let him ‘introduce us’.”

JITTERY

On the following Sunday, Macklin gravely accepted the introduction but coughed abruptly when Jack, after saying, “Mac, this is my Dad,” added, “I don’t think he’s feeling very well today. Can’t dope it out—because after arguing against my flying for a year, this morning, out of a clear sky, he insisted on coming out
here with me. And of all things, he gave me a 'pep' talk on the way!"

"Well, that's fine!" broke out Macklin in a tone somewhat strained from coughing. "Because you may need a rooting section today. We're really going to start in on the old grind in earnest. . . . And say, how do you like the looks of the new plane?" Then he indicated, with a jerk of his head, a clean-cut looking little job on the line.

"Gee, it sure looks keen, Mac. But—but it isn't exactly like the other one. Will it fly much differently?"

"You'll never notice it. There's very little difference in the flying of airplanes which are in the same weight classification and have anywhere near equal horsepower. They all have ailerons, flippers, and a rudder. And they all feel the same 'mushy' way when approaching a stall," he added.

"Well," said Jack uncertainly, "I hope it's all okay. You see, I—I'm still kind of nervous," he confessed.

Macklin smiled at him. "That's natural after the bang-up we had last week. Be something the matter with you if a wingding like that didn't make you a little bit jittery before your next few flights. But don't let it worry you. I'm going to keep you so busy you'll forget all about it. Come on, let's go!"

JACK made the take-off, but not without considerable help from Macklin. The student's nerves were not "up to snuff," and so his muscular control was not of the best.

"Easy, fellow. . . . Easy on the climb and hold it," coached the instructor through the Gosport. "I'll tell you when to make your turn, and don't forget to level off before starting the turn!"

A minute later, he pointed down and slightly ahead. "See that barn? Well, make your first turn around it. In shooting landings, you know, we don't actually circle. We fly a rectangle with rounded corners. Climbing will be done only on the straightaways. Anyhow, when we reach an altitude of 800 feet, hold it until we're ready to start our glide in. . . . All right, level out now and make your first turn. No! No! Not so steep! . . . There, that's better. Hold it through 90 degrees and then resume your climb . . . ."

"Now do you see that paved road? It's about a half mile from the airport—parallels the runway. Make your second turn as soon as you cross that road. Then turn and fly along the far side of the road. Don't get directly over it though, because the plane will block your vision. Stay far enough to the side so that you can easily see the highway off your wing tip. Keep it in one position in relation to your plane and you'll be paralleling it okay.

"And don't forget to stop climbing when we get to 800. No use picking up a lot of excess altitude that'll just be a problem to lose later. . . . Hey, watch that wing. Carry it level. If you can't watch the road without dipping a wing, ease off a bit farther from it.

"And keep an eye on that altimeter. I said 800 feet! That doesn't mean 750 or 850. I want every single hop around this field flown exactly the same. We're going to wear a groove in the air, and as long as we're shooting landings I don't want you to get out of it. Get me? . . . All right, and for Pete's sake try to fly in a straight line. A snake couldn't have followed our course for the last few minutes?"

(Continued on page 64)

The elder Conroy grew tense and his face paled. "My son's no quitter!" he snapped.
CRASH Carringer knew something was wrong the moment he stepped out of the heat-scorched Customs office at Bushire, on the Persian Coast. He stopped two steps outside, looked back through the doorway quizzically.

The man still sat at the desk in his musical-comedy uniform holding his Oriental pen between his first and second fingers, just as he had when he had scrawled his initials at the bottom of Carringer's Customs carnet. He seemed to be made of stone, except for those strange yellow eyes. They still focussed on the American airplane salesman and there was still that taunting half-smile at one corner of his mouth.

The last words the man had said were: “So you aire Mister Carrin-n-nger, and you are going on to Rubbah Wells.... that is in Iraq? I wish you a ver-r-ry pleasant journey, Mister Carrin-n-nger. A ver-r-ry pleasant journey!”

These words on paper seem innocent. In fact, uttered in a warm tone they would create a feeling of true sincerity. But the words had been spoken to Carringer with a sword-blade tonal quality. The man had made his “n’s” in “Carringer” ring like a harsh bell one might expect as a signal opening the dread door leading to an execution chamber or some ancient torture dungeon.

“Yes,” Carringer had answered crisply. “I’m going through to Rubbah Wells—and I intend to get there! I came through the Yengah Nallah in spite of the fact that one Achned Khan tried to block me. And now I’m going to Iraq and sell them Hale Helions that will make those Breda jobs look like a flock of penguins with the pip.”

He turned, strode across the cracked concrete apron to where his Helion was standing.

He’d said his piece, and had received no response. The Customs man still stared out at him with those glinting yellow eyes.

Crash hunched his shoulders, walked on to where the two Persian mechanics sat hunched on their heels beneath the Helion wing. One of the mechanics grunted, shoved a check sheet toward him. Crash looked over it, saw what had been done on his plane—fuel tanks filled, wings inspected, and control rods greased. These grease-balls, he mused, knew their stuff, evidently graduates of the new Persian Air Force which had been trained by a selected group of flyers from the Swedish Air Force. But somehow Crash resented them, was untrusting.

While he went over the work, neither of the mechanics moved. They watched him, slit-eyed and silently immobile, as he assured himself that everything was right.

“You guys do a good job,” Crash reluctantly admitted, as he took out his wallet and selected the money required. “And here’s an extra bit of cash. Get yourselves a couple of facial massages and see if you can get a new expression on those dials of yours.”
Crash Carringer gasped. Across his vision, directly between his hurling Hale Hellion and the onrushing Messerschmitts of the Yataghahn, plummeted a toppling, twisting body—the wretched figure of a man hopelessly entangled in the shrouds of a parachute!

There was still no response. The wad of notes fell between the knees of one, who after a calculating glance dropped a long, lank hand over it. His fingers drew it up into a shapeless ball, along with the signed check sheet.

"Okay! Scram!" snapped Crash. "I'm on my way. How many miles is it to Basra? I'm going through to Rutbah Wells."

There was still no reply, no effort to offer any form of information, and Crash knew now that something was surely wrong. He knew that some mysterious, veiled force opposed his flight into Iraq. Perhaps a plan was already being hatched to block his way.

But something had always cropped up to oppose his selling of Hale Hellion fighters. Something had cropped up in the Pacific, in China on his wild flight out of Nanking, and recently at the Yengah Nullah where the forces of Ached Khan had blocked him, only to open a way for him to sell the British Royal Air Force a large order of these new American fighters. And now, with his eye on the air expansion scheme of the Iraq Government, Crash was once more on his way.

But again something was being done to stop him from getting through to Rutbah Wells, the Iraq aerodrome which lay 500 miles from anywhere in the heart of the Syrian desert. He tried to dope it all out. It was only his keen sense of intuition that warned him. That native in the Customs hut and these two silent Sams under the wing had put him on guard—but against what? And for what reason?

"Oh, well. If they try anything in the air, I've got the best bus in the world and plenty of socks to slap at them. If they've fixed this boiler, I've always got my silk. And I'll still be able to walk, I hope."

Crash climbed in and kicked the starter. The big 1,000 h.p. Allison motor opened with a generous roar, and he throttled her back for a warm up. The two mechanics scampared away out of the dust, grinning back at him over their naked shoulders.

"Go ahead, laugh," snarled Crash. "I'll laugh when I get to Rutbah Wells."

He watched the engine temperature dials, glanced up at the wind sock over the dull stone sheds. It was hanging limp, so he simply released the wheel brakes, gave her the gun, and rumbled away. Crash held her steady with that fine hand of his, and let her fly herself off in a long easy lift. He circled once over the aerodrome, then shot away to the northwest and followed the coastline up the Persian Gulf toward Basra, which lay a little more than an hour's flight away.

Crash Carringer, sky-fighting "Hellion" salesman, was resolute. "I'm going through to Rutbah Wells!" he clipped defiantly at the shifty Bushire Customs agent. But Crash didn't know that he was about to face a horrible, paralyzing death against which his heavy "Hellion" armament would be utterly useless. Nor did he know that while he shuddered there helplessly, a murderer's bullet—a bullet strangely powered with the flame of life—would be blasted at his back.

Finally he set his prop and switched her over to "George," the robot pilot. So far on his journey, things had gone fairly well. They had, at least, until he ran into the yellow-eyed devil at Bushire. True, there had been no Customs trouble, but it was the manner of the man that bothered the American. Crash reflected for the seventh time on the man's evil tone and manner. It had a stench of treachery, but there was nothing he could really put his finger on.

He stared again at the map which he had slipped into the "A.A." case he'd strapped to two cable conduits running
along the right side of his cockpit. His route passed along the coast, crossed open water for about one hundred miles, then entered the south-eastern tip of Iraq and followed the Tigris River to Baghdad.

He finally shook himself out of his weary reflections and studied the terrain below. It was strange country, a mixture of lush tropical vegetation and gaunt desert. The blue green waters of the Persian Gulf bore a few surface vessels, an odd tramp steamer or two and a few gay-sailed broad beam boats that might have been built in the days of Carthage. There was also a gray cruiser of indeterminate nationality and a lumbering freighter trailing a long plume of smoke that seemed to be broken up into uneven lengths of black blobs.

In the sun, the slant from the forest that caught Carringer's attention. He had never seen smoke pour from a freighter's funnel like that, and his keen mind at once sensed that the smoke was being used as a signal of some kind.

"HELLO. What's the idea?" he snapped to himself, checking the dots and dashes of the smoke.

"That's a new idea!"

He pondered on it, then realized that for one to be sure of seeing and reading it correctly, one would have to be above or to one side of the vessel.

He waited, looking around above him. But the sun was particularly bright and he could not cover the whole area at once. Now he sensed his shoulder muscles that he looked back toward his instrument board and—gasp!

The thing before him held him spellbound. He quickly drew up his feet, thankful that "George" still had control over the plane. He watched horrified, remembering he only wore light brogues, British cashmere golf stockings, a pair of gabardine shorts, a singlet, and a light speckled shirt—no gloves, no heavy boots, no protecting coverall.

The thing twisted, coiled just between the rudder pedals. Its head had a majestic air of command as it slowly turned from left to right and surveyed the situation. Strange lights glinted off its neck, and its beady eyes were alive with glints of crimson, emerald, and jade. It twisted again, hissed and jerked. Crash slammed himself against the opposite side of the narrow cockpit. He fumbled for a knife, a hammer, a wrench—anything to ward off this deliverer of coiled Death.

The Syrian was darted away to work itself among the insulated cables and conduits that lined the right side of the cockpit. And Crash could now see part of the bull-whip tail swishing back and forth under the map case.

"Good Lord! How did that get in here?" he gasped, wondering whether to strike with his foot and hope to hold it until he could get the plane down. "That thing must have been placed in here."

The Customs man at Bushire now came back to him again, and he cursed under his breath. No wonder that devil had said: "I wish you a very pleasant journey, Mistara Carrin-n-ger!"

"What a dirty, lousy trick," snorted Crash, drawing his feet farther up. He sensed that if he trod on that part of the tail he could see there was still enough left to turn and sink its fangs in that freighter understood enough about these snakes to know that one slight break of the skin would be enough to finish him. That would mean a writhing, screaming death that would let him remain conscious just long enough to watch himself crash at 300 m.p.h. into the desert waste below. His muscles would be paralyzed, his fingers would stiffen. The lethal poison would surge through his system in a few minutes, in a much shorter time than he would need to get down and—but what was there to get down for? He'd only die in the desert, wrenched with pain, helpless, unable to move a poison-bloted limb. To lie there grovelling in the sand with a mad, dancing film of departing consciousness flashing across the screen of his tortured mind!

He almost went mad as he realized his plight. No glass window, not even a nail file. He laughed grimly, then opened the cockpit hatch to get some air. He was covered in perspiration, as he let "George" carry on.

Now he climbed up higher in his seat and put his elbows outside the cockpit, wondering whether he dared climb out on the wing—wondering what he could do if he did.

He could not see the snake now. It had gone behind his seat. But the vibration of its movements, its interlacing in and out among the conduits could be sensed by the fear-drenched Carringer.

Now it came out again, drew its head back as if set for a strike. Crash watched it, his eyes streaming in the slipstream, for he was wearing no goggles or helmet. Thing was harrying slow in its movements, but certain as Death in its deliberation.

Crash came down a trifle, tried again to figure a way out. The Hellion meanwhile continued its prescribed course, true as steel. But Crash wondered how long it would fly after he was struck.

The thing hissed draw back—and Crash kicked out at it. It struck out, and Crash felt a sickening, dull thud on the bottom of his shoe.

It recoiled, hissing again. This time, Carringer knew it had no intention of missing. It feinted once, twice, then drew back again. Crash shot his foot out, but the viper drew off, let the thrust pass. Crash could see its eyes flickering the strange lights again. Surely he was doomed.

Crash kicked back again, tauntingly, and Crash could see one eyelid draw down as if the devilish thing were taking aim at his middle. He drew his stomach in, and his belt slipped down. He struck out again—only to watch the coiled killer dodge, hiss, then poise to strike once more.

Crash figured nothing short of a miracle could save him now. He pulled up, his eyes wide with horror and fury, and awaited the finish. The viper's neck drew tense.

Crash wanted to close his eyes, but the fascination of the thing held him spellbound. The deadly devil seemed to know it had outwitted its prey. This next blow of its fangs would be final. It poised and:

Crack! Cr-r-rack!

He kicked at the writhing mass at his feet. Then it all came to him! A glance upward explained what had saved his life. A gleaming Messerschmitt fighter was slashing down at an acute angle!

He watched it, fascinated with a new degree of excitement. This was something he could fight—something he could handle in a man's way!

He jerked the lever which released "George" from his duties and took over. The writhing, tangled coil at his feet meant nothing now.

The Hellion came back with a scream, and Crash precariously top rudder and shot her up in a climbing turn that left the German fighter apparently standing still. Crash brought her around, avoided a wild burst that scattered smoking tracers all over the sky, and climbed again. The Messerschmitt tried to turn inside and under him, but Crash was in full control now.

The next few minutes saw an amazing picture of (Continued on page 65)
WHILE the eyes of the rest of the world are focused on the continued crises which bid fair to boil Europe into an infernal cauldron of international strife, few have given thought to the fact actual warfare has frequently broken out between the armies of Soviet Russia and Japan in Eastern Asia.

Some weeks ago, an undeclared Russo-Jap war raged along the border of Manchuria. Troops fired on each other, big guns hammered, tanks rumbled into action, and fighting planes met in those Asian skies and exchanged bursts of machine gun fire.

The "war" continued unabated for more than a week—until Japan, taking inventory of her position in China, hastily called a truce. They left the Russians retaining their grip on a small village that figured in the fighting.

As far as the general news was concerned, this ended the latest "undeclared war". The newspapers turned their attention back to China, Spain, and Czechoslovakia.

But slant-eyed brown men still eye gruff Cossacks across the border; and Japan, realizing that she had "lost face" in the northern campaign, has undoubtedly decided that she should do something to nip in the bud this newest threat to her bid for Asiatic supremacy.

While it is obvious that Japan has all she can take care of in China, international experts declare that she hopes conditions in Europe will give her an opportunity to take revenge for the recent border fiasco. The Nipponese, they say, would like to see the Czechoslovak crisis bring Russia in against Germany—thus distracting the Soviets from the Oriental front.

But on the other hand, the Russian Bear has been waiting more than thirty years for a chance to wipe out the defeat suffered at the hands of the Japanese in 1904. And now that Japan appeared to be swamped down in China, the Reds naturally see a splendid opportunity to win back their former power in Eastern Asia.

Russia especially objects to the prospect of having Japan plant a million Japanese families in Manchukuo, as is now scheduled. That would place a dangerous number of Japanese in a position that would tend to cut Vladivostok off from the western terminals of the Trans-Siberian railroad—the main artery between Moscow and the East.

Glance at a map of Asia and note how the northern tip of Manchuria noses deeply into eastern Siberia. It offers jumping-off places for dozens of raids on the Trans-Siberian railroad, and Japan is in the right spot to conduct them—if she dares to make the move.

Admittedly, Japan may quickly make that move—if the situation in Europe breaks her way. Thus, if she realizes that her campaign in China is not satisfying the people, she may decide on such a bold step in the north. Conditions in China might even compel her to withdraw for a few months, or at least dig in for a time. And so it is perfectly reasonable to assume—knowing the Japanese point of view—that she may distract attention from her China "let-down" to fight on this new stage closer to her northern position.

Vladivostok, Russia's main eastern terminal of the Trans-Siberian railroad, is only 475 miles from the Japanese mainland and only 100 miles from Rashin on the northern tip of Japanese-owned Korea. Assaults of various kinds could be made on Vladivostok from the decks of aircraft carriers steaming through that narrow portion of the Sea of Japan. Bombers could take off from Korea and within forty minutes could rain down tons of explosive on the city. Indeed, troopships might maneuver out of the fog of the north, land soldiers just outside of Vladivostok, and perhaps capture the city in a surprise move and hold it for some time.

Such a blow as the last named would go far in erasing Nippon's disappointments of the China campaign. And possibly Japan would not have to bear the brunt of the burden alone. One Dictator in Europe would gladly assist with the donation of several bombers, big guns, and the like, to help assure success. Yes, we mean Hitler. And it would be worth it to him to keep the Russian Bear occupied while the Nazi war machine handled matters in Middle Europe.

It is, then, no purely imaginative scene that our artist, Mr. Schomburg, depicts on this month's cover of FLYING Aces. Instead, it's a scene which promises to become reality, should Europe be gripped by a new war—for it would be the soundest scheme Japan could engineer, both to consolidate her holdings in the East and retain the good will of her European ally, newly-powerful Germany.

This Russian port on the shore of what is known as the Golden Horn, is of decided importance. It boasts a harbor four miles long and a mile broad kept open all winter by ice-breakers. Thus, it is strategic as a naval and commercial station. There are two dry docks, one floating dock, and storage capacity for more than 500,000 tons of produce, the car turnover ever running between two and three million tons. Nor can Vladivostok's value as a colonization base be ignored.

Should Japan attack Soviet Russia, there is no question but that she would first attempt to take or destroy Vladivostok. Here she would be in command of an important transportation terminal. What's more, the harbor could shelter her navy and transport ships, and she would thus gain a strong foothold on the mainland from
Taxi in on this runway and pick up a plane load of laughs! In this department, we present a collection of jokes, cartoons, and humorous verse. For all original contributions which we can use here, FLYING ACES will pay $1. Contributions cannot be returned. Address all letters to WISECRACK-UPS.

---

**SAFETY FIRST**

_Pilot_ (worried): Careful! Careful! One single move and this crate'll collapse!

_Passenger:_ Y-y-yes—but can't I move my chewing gum over to the other side of my mouth?

_Pilot:_ Heavens, no! Center it!

---

**BAD MANNERS**

_Kiwi:_ Say, Buddy, can you tell me the name of that Italian plane over there?

_Sky fan:_ Cant.

_Kiwi:_ Well, at least you might answer politely.

---

**IN 2038**

His face beaming, the professor climbed into the pit of his sleek new sky craft.

"At last I have finished my new rocket ship!" he said, addressing a nearby spectator. "I'll now make a 'round-the-world test hop—and I'll travel faster than any man has ever dreamed of traveling!"

The bystander listened with a bored air. Then, after a pause in which he swung around to bum a cigarette from a friend, he turned back to the rocket savant and said, "Well, why don't you start?"

At this query, the professor looked at him blankly. "Start?" he said. "Why I've just been!"

---

**BAD MEMORY**

_Father:_ I've got a surprise for you, Johnnie. Today I'm going to take you for your first ride in the air!

_Little Johnnie:_ First, nothin'! I been up before.

_Father_ (confused): Why, I'm sure you haven't, son.

_Johnnie:_ Gosh, pop, d'ya mean to say you've forgot how the stork brung me?

---

**ANOTHER WORRY**

_Scared airline passenger:_ The weather's getting worse. Good lord, we'll go to our doom!

_Fatalist friend:_ Aw, why worry? Destiny isn't ready to call your number.

_Scared passenger:_ Maybe not. But what if She calls the pilot's number?

"Flying that Seeing Eye dog east in the airplane was the pilot's idea, I'll bet," says Dick Jackson, of Empire, Ore. "You see," cracks Dick, "the pilot probably wanted him along in case of bad weather in which he'd have to fly 'blind.'"

---

**NO ARGUMENT**

_D. of C. Inspector_ (roaring mad): I tell you that any mug who flies as bad as you do shouldn't have a license!

_Crack-pot flyer:_ That's okay, then. I haven't got one.
Crack-up, huh? But that's not what happened here at all! Instead, this picture shows the Navy's new Douglas TBD-1 with its wings all tucked in nice-like for storage in its battle-steel nest aboard ship. This folding wing monoplane is the first of its type to be accepted by Uncle Sam's admirals. Its routine job is to tote a half-ton torpedo for attacks on enemy surface vessels.

Blow, winds, blow! Only this time it's a man-made blower that supplies the wind. Actually, what we're looking at here is the compactly-cased rotary blower fitted on the cooling of an Army P6B-A. Its use, of course, is to 'wup up' the Curtiss Conqueror engine with the extra airs the power plant needs for more efficient operation at high altitudes.

Ever stick your head over the side of an Army 0-14A Douglas observation ship? This is what you'd see if you did. We'll grant there aren't so many instruments here as there are, say, in the office of a DC—but who wants to watch a hundred-odd instruments when there's enemy gunners to keep your eye on? The 0-14A, you know, is one of our first-line Army ships.

Here's one for you modeling kids who've been writing in for more close-up details on the 'Flying Fortresses'—the Army's Boeing B-17's. This shot shows the nose of ship all shined up for a Saturday morning inspection. From it, you can get a good idea of the nose turret construction.

This strange contrivance is not a meteorological balloon but a striking head-on shot of the nose turret and bombight window of the new Douglas B-18 bomber. Quite a working office, huh? And that's a .50 caliber Browning machine gun pointing menacingly out of the lower part of that slot—something our sky enemies of tomorrow will do well to keep clear of.

Boy, it seems as though our Air Corps paint daubers are well on their way toward making planes almost invisible! Anyhow, this is how a beautiful "Flying Fortress" can be made to look like nothing at all by spreading on brown, green, and white splotches in the right places. They tried the idea out on this big bomber for the Northeastern States-war games last summer, and this camouflaging business may become a permanent feature. And will this mean that the planes in the next war will fly without insignia?
All Questions Answered

This section of FLYING ACES is at your service. So if you have an aerodynamic query, fire away and we'll answer it here. All questions will be considered in the order they are received. For a personal reply, send stamped, self-addressed envelope.

Bob Quick, West Camp, New York:—Yes, you can buy the Grumman G-21 as a personal plane—if you have the price. But of course you cannot fly it equipped with guns or military equipment of that sort. I have no idea of the actual cost of such a ship, for you would have to place an order stipulating the equipment required and the engine used. For this reason, set prices on any such planes are seldom quoted.

Fred Baker, Atlanta, Ga.:—I suggest that you get in touch with Bannerman's Curio Shop, 601 Broadway, New York City, for information of military souvenirs and curio bullets. For fifty cents they will send you a very complete catalog of their stock.

Joseph McGuirl, Jersey City, N. J. :—A really good model maker—if he learns how to manipulate models, you can make quite a little money. Many of the airlines for instance, are interested in models for their ships for advertising and exhibition purposes. The Army and Navy train men for duty with the Air Service, and the fleet, but not as aeronautical engineers. They can get all of those they want out of the better technical colleges.

Kenneth McDonald, Granby, Quebec:—To obtain an appointment to West Point you must be an American citizen. A few foreign students, recommended by their respective governments, are sometimes accepted as students for the four year term—but only under a special exchange system. I do not know whether any Canadians have ever gone to the Point under this arrangement or not.

D. P. Connor, Wellington, New Zealand:—Will you get in touch with John Meyers, 2540 S.10th Street, Philadelphia, Pa.? He wishes to get your address.

Pat Blackledge, Laurel, Miss.:—Yours is probably the most startling question of 1938! You want to know where you can get balsa seeds so you can “grow your own.” And that’s a swell idea, too. But unfortunately the balsa tree is a tropical plant, and I have no idea where it would grow in the U.S. Fact is, I don’t think it would. Your idea does excite the imagination, though. Why couldn’t a person get seeds of the common, garden variety of plane tree, graft ’em onto balsa seeds—and grow a plant that would blossum out with models ready to fly. And maybe by painting the grafted seeds the regulation U.S. Service colors. Anyhow, the scheme has great possibilities—or are we carrying this thing too far? As for the Waco Model-D, that’s a two-place, high-performance military biplane using the 420-h.p. Whirlwind. It comes in several types, mounts four light machine guns, and can be flown as a light bomber. Its span is 39 2/4 ft., length 25 ft., and height 9 ft.

William R. De Tarble, Chicago:—The details of the folding wings on the Blackburn Skua are apparently on the secret list at yet. None of the reports we have on the ship carry any details on the mechanism. I suggest that you write to the National Aeronautical Association, Washington, D.C., and ask for their booklets on folding wings. I am sure you can get much information in that way.

Robert Marsh, Chicago:—Thanks for your kind letter on Kerry Keen and Crash Carringer, but aren’t you a little harsh on poor Beanie Bishop? He’s really a swell guy, and I like him—because I can blame all the dumb things on him.” The fictitious Black Bullet has cannon mounted in the wing roots, and Crash Carringer’s Hellion has two in the nose. The Keeen stories began in June, 1935, and have been in FLYING ACES every other month ever since.

Ray Lober, Salem, Ore.:—There are persistent reports that Douglas is building a large bomber, yes. But we know very little about it as yet. It is supposed to be designed to have six engines and to be the “greatest of its class.”

John McQuiston, Toronto, Canada:—The initial S.E.5 stand for “Scoutwing Experimental, type 5,” and this plane was built by the Royal Aircraft Factory. The address of the Koolhoven company is Koolhoven Vliegtuigen, Rotterdam, Holland. The Dornier firm’s main plant is Dornier Metallbauten, Friedrichshafen, Germany.

Robert Boyd, Dallas, Tex.:—Sorry, but I can’t answer such a technical question as that. I suggest that you write to Prof. Alexander Klemm of the New York University School of Aeronautics. That one is too far ahead for me.

Johnny Kissinger, New Castle, Pa.:—We have a few back numbers of certain issues of FLYING ACES available. Let us know which ones you desire, then we’ll check back with you. Such copies are sold for twenty cents each.

Bill Eaton, St. Louis, Mo.:—Both the Army and the Navy have training schools for mechanics and riggers. The Coast Guard I believe has a special school at New London. An ordinary public school education is enough to get you into these services as an enlisted man.

Bob Service, Seattle, Wash.:—Your water color painting is particularly good—and I hope to add it to my personal collection, if I have your permission. You have a fine sense of action. The Hawker Fury is at present the fastest service squadron plane in the Royal Canadian Air Force, although they will soon be replaced by Canadian-made Grumman.

Robert Eberhart, Lake Worth, Fla.:—There is no reason why a plane could not be flown around the world at the equator, providing suitable refueling operations could be carried out. I believe there are plenty of aviation engines both here and abroad that are capable of running those 25,000 miles without burning out.

S. Kaczmarski, Astoria, L. I.:—I do not think your plan is feasible. You do not realize the extensive work and business arrangements involved in such an undertaking, and you certainly do not know the grim business of publishing today. The idea is good—from the publisher’s point of view—but it would be very hard to put over.

Fred Lewchik, New Britain, Conn.:—There appears to be no law that prevents any U.S. aircraft manufacturer from selling the manufacturing licenses on any plane at the present time. For that reason, then, Boeing could sell some (Continued on page 62)
That "Two Years of College" Hurdle

Do you think it's unfair that many physically-fit young Americans are barred from getting into our Air Services by stringent educational requirements? If you do, then read this revealing, straight-from-the-shoulder editorial by Arch Whitehouse.

A

VERY AMBITIOUS, but bitter, young man living in Detroit has written me a letter complaining of his lot. The criticisms he makes are not new; we get them in letters from other readers on average of two or three times a month, and we answer them as they come in. But now let's sit ourselves down and thrash this thing out once and for all.

The young Detroiter writes:

Dear Arch:

I do not believe the U. S. Air Services are giving us air-minded boys a "break." I am 18 years of age, have managed to get in two years of high school, and very much want to become a military pilot. But with circumstances at home preventing my getting any further education, I'm stuck.

Yes, it's that "two years of university training or its equivalent" clause that gets me down. Under the present set-up on that education business, my only chance is to enlist and try to work my way up from the private or seaman class—and HOPE to learn to fly in some non-commissioned rank.

And yet, Arch, if war breaks out tomorrow, lads like me will be run through a quick six-weeks training course and then sent into the skies to defend our homeland. That's the sort of thing we face without giving us an opportunity to learn the game beforehand. No, until war actually comes along they'll simply keep telling us that we must have those two years of college.

Meanwhile, however, we read that out of 740 college men who took the physical exam recently, only 165 managed to pass. Well, if that's the brand of men the universities turn out, what are the hopes for our military aero future, if they keep demanding this two years of college business?

Why, I ask you, can't fellows like me—who have fair education and can pass the physical tests—be given a chance to take military flight training?

Those were only a few passages of this fellow's long letter, and I admit to having erased the bitterness he expressed. But from what I've given you of his slant on the situation, you can readily appreciate the argument.

Practically, I feel for him—and for all the rest of you chaps who are in his boots—for I was in the same jam myself. I had no university education. But I did have luck, because there was a war on in my day, and I made the most of my opportunities.

But even so I want to point out that my correspondent is mistaken in believing that a perfect body is all that's necessary to make a good fighting pilot. Oh, yes, everything being equal, the average man or woman can learn to fly. But it's not necessarily true that the average athlete has, by the same token, got what it takes to become a good military flyer. The World War proved that wasn't so, time and time again.

There is much more to military flight training than simply learning to take a Boeing P-26a off the ground, put it through a series of modern maneuvers, and bring it back to earth again right side up. I believe the average high school senior could be taught that much in a few weeks. But that wouldn't make him a military pilot. He would not yet be an efficient unit in formation flying, a working member of a fighting team, or a worth-while officer in charge of observation schools.

Meanwhile, we grant the truth of our Detroit friend's statement that once hostilities begin, candidates fitting a certain category will be drafted into our air services and taught to fly in short order. But they'll be taught by the same men who today are leaving our colleges to take up military flying. Few of the Randolph Field boys of today will ever see active service flying. They'll form the Staff crew engaged in shaping the men in the street into an air force. They'll be the lads who will be the heart of a fighting team, or a worth-while officer in charge of observation schools.

AERIAL BOOK REVIEW

"Wings In the Night," by Willis Fitch, is a swell World War volume revealing the true experiences of a group of Yank flyers on the Austro-Italian front.

At last we've found a book about World War flying that has a new slant—Willis Fitch's Wings In the Night, which is being published by Marshall Jones, of Boston. Fitch was one of a small band of Americans who, through the twists of fate, found itself brigaded with the Italian Air Service during 1918. Also among this light-hearted band was a somewhat chunky young Italian-American by the name of Fiorello H. La Guardia, a man who has since won his way up to become Mayor of the City of New York.

Wings In the Night portrays in grand detail what the air war was like on the Austro-Italian front. This is a setting new to most readers; the characters are likewise new and the action is different. The old Spad-versus-Fokker story does not fit in here, nor does the German spurtling fire and brimstone have a place in this volume.

Instead, we read of the true feeling of (Continued on page 79)
were very nice to us. But instead of doing 50 hours over the line as gunners or observers and then going to England for flight training and commissions, most of us were kept out there flying every day for more than a year.

Nevertheless, a few of us lived through it and eventually got back to the flying schools. And once I got into the School of Military Aeronautics, I knew why they had asked about my education. I was licked! I didn't know what the instructors were talking about, even when I had logged hundreds of war-air hours!

How I got past it all, I'll never know. Sure, guns, motors, bombs, and cameras were a cinch; and with all my air experience, I learned to fly solo with less than fifteen minutes on an Avro. But I was still a dud. And the lack of the formal-type savvy, particularly in mathematics, almost ruined me.

I plugged, I battled, I sweated at that math stuff. And still, more often than not, it stumped me. You see, I had never had enough training in the grand old art of studying. Why, I took three times as long as the other cadets to conquer the measly Morse code requirement of sending six words a minute, and that nearly resulted in my being booted out. I didn't know how to concentrate, and the things I did have on the tip of my tongue were of little credit to me because I didn't know how to express myself. Yes, with all my air experience, I was a dud in the classrooms.

Today, I point to my wartime notebook as a classic of positive ignorance. How did I ever pass my aviation, my wireless, and the ground subjects so necessary if I was to become an officer? Don't ask me, but I still believe I was "shoved through" by a couple of kindly officers who felt sorry for me.

In short, I knew the observation game, the gunning game, and after my new training, the flying game. But I didn't have the right background fitting me to take even the most limited command. I had to be led, and all because I lacked that certain something in educational experience. I do think that I had the native ability, all right—and very likely our young Detroiters has it, too. But there's still that lack of educational training to be considered.

So there you are, and you can't duck it. Physical fitness isn't the whole story. The fact is, that in all the years I watched flyers out there in France, I do not recall one single instance of Apollo-like physique being responsible for the careers of the great World War pilots.

Guynemer was a consumptive—but he had brains. Ball was small, almost dainty—but he had a marvelous mind. (Continued on page 80)

---

The Airmail Pals

GOOSE CREEK! Now there, airmail missive-makers, is the name of a town the R.H.P.D. had always thought was only a fiction-town, designed and developed by the authors of those woolly western yarns. But sure enough, Goose Creek's a real town! It's two of 'em, in fact—Once-Come's located in Texas and the other in West Virginia.

It's the Texas Goose Creek that interests us right now, though, for that's the home of Don Williams, one of our newest Airmail Pals. Don wrote recently for a buddy in England, and we tied him up right away with Ernest Law, a photo-snapper of Manchester, Ernest, by the way, saw well-shaded Westland "Lysander" and some top-notch dope on the Supermarine "Spitfire," both of items, of course, we forwarded to his new Goose Creek correspondent.

Another Manchester lad is Joe Broadbent, who goes by the peculiar nickname of The Mule! Joe, who's about 18 years old and enjoys dancing, arguing, tennis, and Rugby, wants a pal who must be interested in ballistics and radio. So we'll send his letter to the first suitable applicant.

Sherman "Bud" Jonas, of Tacoma, Washington, comes through with one of the best letters the R.H.P.D. has read in some months. And considering the headlines in the newspapers nowadays, his comments are worth quoting, says Bud:

"I believe that the Airmail Pals idea does more to promote international peace than would a dozen peace conferences. Getting acquainted with other people and learning first-hand about their personalities and ideas is what counts. For instance, when I was in High School I had several Japanese friends. Upon graduation I lost track of them. Now, along with everybody else, I find myself being turned against the Japanese because of the influence of the newspapers. And I'm inclined to forget how swell those Japanese pals of mine were—and how truly enjoyable have been all of my personal contacts with those sons of Nippon."

"And so," continues Bud, "I'm for this Airmail Pals idea—we should all be not only willing, but even anxious to work towards the cultivation of friendships."

---

How to Get an Airmail Pal

First, write the first possible letter you know how. Use your best pen-and-ink handwriting or a typewriter. In your letter, introduce yourself fully—for this is the letter we'll forward to the pal we'll pick out for you. Tell your age, your interests in aviation, your other hobbies, and any additional items that might interest a new friend.

Then on a separate sheet tell the R.H.P.D. what kind of an Airmail Pal you want. Send your letters to Airmail Pals, Flying Aces, 67 West 44th St., New York, N.Y. Be sure to enclose a stamped, self-addressed return envelope, plus five cents in cash per letter (our fee for the air overseas pen pal.)

We'll try to supply you with a pal in line with your specifications, although we can't guarantee to fill all the requests exactly. Your new pal's letter will be sent to you, and yours to him—after which you will correspond directly.

Do not ask for "lists" of pals. We cannot supply them.

Regarding Foreign Pen Pals

Please note that Flying Aces' foreign circulation is only in English-speaking countries (specifically, Great Britain, Australia, New Zealand, and Canada). The R.H.P.D. cannot undertake to supply you with pen pals in Germany, France, China, etc. If you are interested in foreign pen pals, do not write a pen pal letter. Instead, send us a short note telling in a general way what kind of a chap you are and what kind of a pal you seek. Enclose a stamped, self-addressed return envelope and five cents for each pal called for. A foreign writer's letter will be sent to you, then you may correspond with him direct.

If you live outside of the United States and want an American pen pal, write a complete letter as described in the first paragraph of this box, and send it without the return envelope but with an International Reply Coupon worth five cents. Get the coupon from your local postoffice. Your letter will be forwarded to an American correspondent, after which you need only wait for his reply.
MORE POWER TO YOU!

HOW JOHNNIE FLEW THE "Y"

More Power To You

It had to come eventually, of course. In fact, we of Flying Aces have been predicting it for some time. What we're looking at now is that the 80-40 hp. motor, so long the accepted power plant in our light planes, is no longer acceptable.

Some months ago we wrote that the 40-h.p. engine, while efficient within certain limitations, was hardly the class of motor for pilots who desire to make cross-country flights. We mean cross-country hops in the ordinary jaunt classification of the over-land stunts by experienced factory men who do these things just to prove they can be done with their particular ship.

In short, the 40-h.p. motor is not powerful enough to assure real safety on such journeys except under nearly ideal weather conditions. Pilots attempting 300-mile flights have all too often had to land en route because of changing weather conditions or increasing headwinds. This is true for all but the most experienced in light breezes—but not against a 25 m.p.h. wind.

And so, friends, we now note that several small plants may be souped to a 50-h.p. and up (though the 50-h.p. motors now offered by Continental and Lycoming are not cases in point). Meanwhile we note that Aeronea has dropped its own engine to take up the game with the Continental to new Menasco.

Another reason for the additional horsepower is the new swing to side-by-side seating in the cabins; for their is a report that the new Piper Cub using the s-by-s arrangement appears to be a bit underpowered with even the 50-h.p. engine which means that the Piper people will be looking for some plant that'll turn out moreumph.

Needless to state, some one will have to pay for all this. Prices will rise, the running expenses will be greater, and in all possibility the insurance will be jacked up.

The point we object to in a case like this is that some of the motor manufacturers will not be content to bother to design new motors to turn out that extra power. Instead, they'll probably soup up the compression on the engines they already have, or gear them to add a few more kicks per sec. Of course, this sort of thing is all right in large power plants (where they somehow manage to get a 700-h.p. job up to 800 or 850) but to jerk up a 50-h.p. motor almost 30 percent without any material changes in general structure is taking too much liberty with the safety element. The light plane is no place for a juiced-up job. It would be far better to spend a few more dollars in the interest of flying security.

As we said above, we were among the first to suggest that light plane power be increased. But we had no idea that the suggestion might be taken in this manner. We had hoped that the motor manufacturers would increase power by more acceptable means. They should have been prepared to do so, too.

Since it has been obvious for a number of years that eventually the power would have to be raised to meet the new requirements, no such makeshift method of handling the problem was called for. The companies knew that 40-h.p. is sufficient for nominal light plane flying. But they also knew that once a man has logged a hundred hours in the air he begins to seek new fields to conquer. And to do so, he requires more power.

The light plane manufacturers have been doing fairly well in the past few years, because they have been building good 40-h.p. planes. But if they hope to continue to retain the good will of the sport plane flying fraternity, they either should keep their products in this 40-h.p. category, or else turn out a real 75-h.p. job, not just a souped-up version of their lower-powered models.

Everyone knows that the jazzing-up of lighter-powered (Continued on page 76)
The Vultee YA-19

CONSIDERABLE MYSTERY attends this new plane which is to be bought in wholesale lots by the Army Air Corps. Actually, it is listed as the YA-19, but it does not appear to differ much from the V-11-GB model turned out about three years ago, and sold in fair sized lots to several foreign countries.

At any rate, semi-official reports have it that this YA-19 three-place attack plane has passed all experimental tests at Wright Field. It is rated as a 230 m.p.h. job with a full crew and 600 lbs. of bombs and has six machine guns, four in a fixed position in the wings and two that are movable, one being for the observer and one for the bomber. Something like $297,180 is to be spent for the first seven of these planes and $114,097 for extra engines.

The power plant is a Twin-Wasp, giving a take-off rating in the neighborhood of 1,000 h.p. The ship in general is all-metal, the wings being low-wing cantilever with removable outer panels. The fuselage is monocoque of elliptical cross-section.

The pilot sits in the forward compartment in line with the leading edge, the observer-radio man has a high position at the rear portion of the covered cockpit, and a third member of the crew is accommodated in a seat well aft where he can use the prone-position bomb-sights, handle a camera through an aperture in the floor, or fire the undertail defense gun aft.

The under carriage is an electrically-operated retracting job such as has been used on Vultee ships for some time. As for the bombs, they may be carried inside the fuselage or in racks beneath the body or under the wings.

Vultee's V-11-GB three-seat attack bomber, as pointed out above, was similar to this ship. However, the V-11-GB used the 850 Wright "Cyclone" engine, had a much lower cockpit hatch, and carried a rear, tilting turret which was somewhat different in design. A number were sold to Turkey and to the Chinese Air Force.

It is probable that these new YA-19's have been hurriedly ordered to supplement our Curtiss Y1A-18's.

The Praga E-45 Fighter

THE NEWS of the day keeps Czechoslovakia in the headlines and it is natural for us to wonder what aerial defense the Czechs can muster if a fight does come off regardless of the peace pacts.

As we have pointed out before, the Czech plane designers are no slouches when it comes to turning out good fighting equipment. They are excellent workers in metals and intricate mechanisms, and so far their home-developed fighting craft are comparable with the best now being turned out on the continent.

In the accompanying sketch we offer the Czech fighting plane known as the Praga E-45. It is manufactured by the Ceskomoravaska-Kolben-Danek firm of Prague. A single-seat biplane powered with a British Rolls-Royce Kestrel XVI engine, it has a top speed of 254 m.p.h. with a full military load. It cruises at 217 and lands at 63.

The E-45 employs wooden wings covered with plywood. The upper airfoil is built in one piece and is carried at the center section on slightly-splayed N-struts and on upright N-struts between the planes. Aerodynamically-balanced ailerons are carried on the lower wings only. The fuselage is made of chrome-molybdenum steel tubing. Dural plates cover the engine cowl and the front portion of the ship to a point aft of the cockpit; fabric is used on the rest of the body.

The cockpit may be flown open style or with a sliding hatch. The seat accommodates a back-type parachute and is adjustable as to height and distance from the rudder bar. Two fixed machine guns, each carrying 900 rounds of ammunition, are mounted in the nose.

Either the Rolls-Royce or the Hispano-Suiza 12Yhrs engine may be used.
FOUR OF THE LATEST MILITARY MACHINES

In this batch of new war craft, we offer a three-place attack plane, a single-seat fighter, an escort fighter, and general-purpose carrier job. And the nations represented are the United States, Czechoslovakia, the Netherlands, and France.

THE KOLHOVEN ESCORT FIGHTER

Whether the Koolhoven firm in Holland is making bids for some British trade, we're not sure; but most British aviation writers are now sounding off on the sterling qualities of the new Koolhoven F.K.52 biplane, termed an escort fighter.

This plane was recently displayed in England by Heer Dick Asjes, chief test pilot for the Koolhoven concern, and according to reports, she's a beautiful piece of fighting equipment.

The F.K.52 is a two-seater. And viewing the ship from several angles through the means of photographs, we get the impression that the narrow-chord wings of this job don't offer a great deal of wing area.

This new machine carries either two fixed cannon or machine guns in the leading edge of the upper wing outside the prop arc, and the observer has a movable gun in the rear compartment. In addition, the 52 is fitted with under-fuselage bomb racks carrying 254 lbs. of explosive "eggs."

Using the 840-h.p. Bristol Mercury engine, it has a top speed, fully loaded, of 236 m.p.h. and cruises on 65% throttle at 203 m.p.h. For a two-seater of this type and load, this performance is particularly good.

The wings use two wooden box spars, plywood ribs, and what is known as "madapolam" covering. Further investigation discloses that madapolam is some sort of patented fabric. The wings, supported on spayed-out center-section struts and with metal N-type interplane struts, have what one English writer calls "neat leather bootkins" over the rigging points. The ship carries ailerons on all four wings, and the tail unit is of cantilever type.

The fuselage is a welded-steel structure, fabric covered.

THE POTEZ 56-E MONOPLANE

Believe it or not, we have discovered a new military type (see sketch). And it's France that turned it out.

Can you imagine a two-engined, multi-place cabin monoplane being used for a shipboard, general-purpose military plane? Well, that's what this Potez 56-E G-P ship was developed for.

Actually, the plane is a military adaptation of the Potez 56, a light transport monoplane. But it has been completely revamped, and as a Navy type it has been modified to meet certain requirements of the Ministry of Marine. A completely new fuselage is used, and the outer wing panels are detachable so that the plane can be passed down the elevators aboard the French aircraft-carrier Bearn. The wings may be completely detached by four men in 4½ minutes.

The detachable wing sections carry pneumatically-operated, split trailing-edge flaps. The fuselage has been changed so that it has a decidedly pointed nose. Moreover, the body has been strengthened to take the shock of deck-arrester gear.

The pilot is located in the forward compartment. Aft of the control seat is another compartment which may be used as a radio cabin, avigation office, or the main operation point for the bomber-officer. Included are floor traps which may be used for bomb-sighting, photography, or emergency exits. Still another exit has been built into the roof so that the crew may escape in case of a forced landing at sea.

Power is supplied by two 185-h.p. Potez 9Ab engines, which give the ship a top speed of about 180 m.p.h. The engines are fitted with Ratier electrically-controlled props, and fuel tanks are carried in the outer wing panels.

The wheels fold backward and upward into the rear portions of the engine nacelles.

It may be hard for us to understand the actual value of such a plane, but it is quite possible that it provides accommodation for Staff officers commuting between shore bases and the fleet.
Flying Aces Club News

Welcome to our F.A.C. tarmac, new members and old! We have big news to share with you this month—and the biggest of it all concerns that swell new epic air film, "Men With Wings," and the signing of its star player, Fred MacMurray, as an Honorary Member of our world-wide outfit! Read all about it, buzzards—and about all the recent ace-high "doings" of the various F.A.C. skymen and squadrons.

GREETINGS, Clubsters. Yes, Clint Randall's feeling fine, thanks, and one reason for the unusual amount of good feeling is that Ye Editor has just told him that he can spare a little extra space for this month's Club News, so here I am all set to spread over two pages again and chew the rag about which Club members are doing what—and where they're doing it.

And right at the start, I want to mention that you fellows all over the country have helped our advertising department chalk up a nice shiny star. How come, you say? Well, since you all read that swell article, "Hollywood's Skymen Re-Fight the War!" in last month's F.A.C., telling all about the big new dramatic aero movie, Men With Wings, simply scads of you fellows have bombarded both F.A. and Paramount Pictures with letters asking when, oh when, is that picture going to come to your town!

Fred MacMurray, who stars in the picture, was signed up as an Honorary Member of the Flying Aces Club hardly a week after our last issue hit the newsstands. It was F.A.C. Pilot Walt Kennedy, of Jersey City, N.J., who corralled him. Nice going, Walt! But to get on with the facts. Flick the pages of this issue back to Page 3 right away, and read down every single word of the ad you'll find there. It's an advertisement about Paramount Pictures' latest film, Men With Wings and fellows, if you want to see a sky picture that's really a sky picture, you want to see this one!

Honorary Member MacMurray is top man in this production, which is all in technicolor and tells the story of aviation from "Ace to Zoom." Besides MacMurray, there's a whole hangarful of other film favorites of F.A.C. Club Members—Ray Milland, Louise Campbell, Lynn Overman, Kitty Kelly, and our old pal with the pitot throat, Andy Devine.

A sky epic like this seems to be made-to-order for F.A. readers. Clint and others of our staff here at GHQ have seen the previews and we're telling you, gang, that we were mightily thrilled. So here's our suggestion—and it'll be at your risk. So MacMurray know that the Club's back of him 50,000 strong.

Either write, phone, or see your local theater manager and then just rev up to him with this sort of a line:

"I'm a member of the Flying Aces Club, and all of us in this vicinity want to see Men With Wings. Get it for us, huh—as soon as you can book it! Then we'll three-point into your film branch."

And since this picture is bound to play a mighty big part in developing the Flying Aces Club's own platform—the advancement of aviation—why not attend the theater in a body? Tell the manager the local F.A.C. unit is showing up on such-and-such a night, and you'll find that he'll be glad to cooperate with you in such a way that you can't help but enjoy the entire show.

Indeed, we urge that F.A.C. Flights with modelers of outstanding ability—fellows like Wally Bickmire, Eddie Munzing, Jim Hunter, Ace Stromberg, and the thousands of others—might well arrange a model display in the theater lobby. In that way, a lot of real attention will be attracted to the aims and ideals of the Flying Aces Club.

And if you'll send us photographs, news clippings, or statements of the theater managers for whom you prepare your displays, we'll see what might be done in the way of suitable recognition for your work! How's that for a starter?

NOW, to rev right into our regular monthly reports, let me tell you about Howard Goodman, of Cushing, Okla.—an F.A.C. who this summer got himself right into the middle of a stack of sky-fights as Uncle Sam's pilots scrap 'em today. A member of the Oklahoma National Guard, Howard was over in Texas for the Third Army Maneuvers that you read about in your local newspapers.

But Howie didn't have to read about 'em—he hiked, and flew, and sweated, and ate good old Army slum with sand in it all the way through the maneuvers. Anyway, here's what young Goodman says about the big Texas "war":

"It seemed that the air was alive with planes all the time. Quite a bevy of Douglas 0-46A's were taking part. The Brown Army (my side) had planes identified by a blue stripe running chordwise over the wings, while the enemy Blue Army flew ships that bore just the regular Army markings. Seems as though they might have been a little mixed up—for I would think the Blues should have had the blue stripe instead of being unmarked!

"Well, the odds were somewhat even, because both sides had the same number of planes, or approximately so. And one time we were strafed and bombed by a number of low-flying N.A. jobs. I do believe that if they'd lowered their wheels they would have scratched our sandruff for us! And we weren't standing on tiptoe to meet 'em, either!

"I belong to a medical regiment, and this being a sham war, we didn't have much to do in the maneuvers except hide. The ambulance company directly south of us, though, seemingly didn't have time to camouflage their ambulances, and they were completely wiped out—in the official reports, that is. I don't know how many more companies of our regiment were similarly annihilated. But Clint, that one ambulance outfit certainly got a royal rooking!"

"Being a pill-roller, I was attached to an Infantry company part of the time, and got to go right up
into the front-line action. Here, I saw a dogfight between a couple of Douglas ships. Our man dropped on the Blue man's tail, and the pilot couldn't shake him loose with any of his tricks. A Regular Army Air Corps major was referee, and he quickly gave the victory to the Brown pilot—which was us. I heard this same major, by the way, telling of goofy adventures while shooting at towed sleeve targets. And were some of 'em rich!!

'Frisname, I'll never forget the time our outfit was—

( Editor's Note—Two long and wearisome pages of copy had to be tossed into the waste basket at this point to save you readers from being bored stiff.)

A ND so, we'll now pass on to the latest Toronto report sent in by Ross Smyth. Ross, you'll recall, is skipper of one of our most active F.A.C. units. Well, here's a few of the men Ross has lined up as speakers for the big Fall meetings now planned by the Toronto outfit:

Captain Erroll Boyd, first Canadian to fly the Atlantic; George Drew, well known Canadian who has his own cogent ideas about the efficiency of Canada's air defense system; Jim Pollett, aviation instructor at the University of Toronto; Mayor Day, Herbert Hollick-Kenyon, F. L. Cousins, C. Leavens, and several other notables.

Ross, you'll notice, believes in doing things right. And instead of letting the outfit go to pot during the summer months, he's spent hours of time writing letters and memos, in order to keep the crowd together.

A couple of weeks ago, Ross stopped in at GHQ and we all were mighty pleased to see him. He was on his way by air from Toronto to Miami, a trip which he had won through a recent run by Captain Boyd. The Captain accompanied Ross down as far as New York, and while here, they attended a luncheon with Doug Corrigan at the Newark Athletic Club. They were Major Seversky, Roger Q. Williams, and many other aero leaders.

"But the most surprising thing," Ross tells us, "was after I had left you in New York and headed by plane for Washington. Eighty minutes later, I was landing at the Newark Airport. We called down at the Capitol's Hoover Field to find thousands of people jamming the entire area. Even the roof of the Administration Building was packed with people! In fact, our pilot had difficulty keeping away from the crowds as he taxied the ship up the field toward the exit gates.

"Back to New York I boarded a bus and, no sooner had we landed than down dropped an American Airlines' ship, and who was aboard it but good old Doug Corrigan, whom we'd seen in Newark just the day before!"

So now Ross Smyth is back home again in Toronto, with over 8,000 miles of flying under his belt, together with the assignment of airline meals of turkey, chicken, and ice cream, plus! 

U P FROM Melbourne, Australia comes a letter written by Harold Cameron, one of the Flying Aces Club's charter members. Harold does a little reminding for a change, and tells us about some of the other earlier members of the outfit.

"Every bit in residence or work on the part of many of us, our big Sydney Squadron, as you know, has broken up. And now several of us are in the aviation industry. Two of our former officers are now in the Royal Australian Air Force, one training for his wings, and one a qualified Aircraftman. Two more are in commercial aviation here in Melbourne, and others are scattered about the Dominion.

"I have reached my first ambition, for I'm now a fully qualified Aircraft Engineer. Gosh, Clint, it took five years for me to get a long time to study and train, but it sure was worth it, and I'm starting now to reap the harvest. I'm glad I stuck! For now I have a fair knowledge of work in most branches of the aircraft industry. I know air-frames, engine servicing, maintenance, and the like. And I've made a special study of the manufacture of aircraft fittings and components, layout work, templates and jigs, installations, etcetera.

"And in the near future, fellows, Hal will be coming up to the United States. Like scores of other F.A.C. members who have come to know Harold through correspondence, we'll be mighty happy to see him.

And now we hear again from Bob Long, skipper of the F.A.C. unit 'way up in Newfoundland. Bob's been sort of quiet lately, but we haven't worried, for we know the outfit's been active all the way through. Along with his letter, Bob sent us a formal acceptance of Honorary Membership signed by D. M. Martin, president of the Bellanca Aircraft Co.

In his letter to Bob, Mr. Martin spoke very appreciatively of the Flying Aces Club, and closed with these words:

"We are very pleased to encourage anyone interested in aviation to become a member of the A.C. and to carry on with the type of work that you are doing."

And so, F.A. Clubsters, we're mighty glad to welcome Mr. Martin into our world-wide organization. Bob Long also mentioned several other prospective H.M.'s. And from the facts he gave me concerning each, I know the Club will be pleased to act favorably upon their acceptance when Bob "comes through" with their nominations.

Mr. Wilf Mangel, of Woonsocket, R.I., pops in this month with a howl. Accompanying his letter was a series of Woonsocket newspaper clippings describing and illustrating a new plane being built by George H. Armitage, now the manager of the Woonsocket "Pineapple Pete" Bombardment Squadron.

Just read the letter above, fellows, and you'll see how one of our F.A.C. stories appealed to a lad whole in a real position to judge! Jim Gerber, of Langley Field, who was the letter's author, wanted to contact other F.A.C.'s by short wave. His call letters are W6ELJ, and he operates on the 20, 40, and 80 meter amateur bands. And if you aren't a "ham," shoot him a letter in care of the 50th ("Pineapple Pete") Bombardment Squadron.

When's the release test in Woonsocket?" asked Herb. "Because," says he in his answer to himself, "Our local attraction is no better than a wheat field! Phooey!"

And that, it would seem to GHQ, offers an excellent opportunity for Woonsocket F.A.C.-ers to do a little local campaigning toward a more airminded city.

A T LAST we've traced down the ancestry of that Cal-Bred flyer, Doug Corrigan. He's apparently a descendant of Phineas Pinkham! At least, that's the theory. Plane is a block of wood built by Tom Pierce, Fl. Bob clipped a profile picture of Doug from a Fort Pierce newspaper and then said to himself, "Where have I seen that guy before?"

A few minutes thought brought him to his F.A. file. And there, leaping through the pages, he soon discovered a profile picture of another flying lad in Corrigan's exact same pose and attitude! Pasting the two (Continued on page 63)
JOIN THE FLYING ACES CLUB

Honorary Members
President and Mrs. Franklin D. Roosevelt
Vice Pres. John Nance Garner
Casey Jones
Walt Disney
Cal Williams
Col. Stuart
Major J. W. Scholes
Lieut.-Col. Pinnante
G. M. Beiliana
Capt. B. Serigovskiy
Capt. P. D. Stott
Mr. A. W. Stevens
Capt. G. A. Anderson
Mr. Fred Lord
Mrs. Charles S. Bayley
Lieut.-Col. Theodore Roosevelt

Official Charters
F.A.C. Flights and Squadrons are recognized at GHQ only after they have registered with the club, and have the appropriate official charter with them. These illustrated documents, printed on fine paper and gold line, are a symbol of the flying field of aviation, are excellent for framing and display. Their inspirational fact is in keeping with the high ideals and aims of our Club. Each charter application must include a full list of member, group members and addresses. Each of these members holds his own F.A.C. card, obtained by clipping and sending in the membership coupon printed on this page. If applications are approved, Flight Charters are issued for $5.00, and Squadron Charters for $10.00. Send the correct fee with your application. It will be returned if the Charter is not granted.

WIN YOUR WINGS
Save This Whole Coupon for CADET or PILOT insignia of the F.A.C.

Gold Finish

All members with Official Membership Cards are eligible for Cadet Wings, and may compete with two others and 10, entitling Cadets to Pilot Wings. Do not send this coupon unless you have three. Then send them in altogether with a self-addressed envelope and 10c to cover cost of wrapping and mailing.

Silver Finish

All enrolled members who have won their Cadet Wings are eligible for Pilot Wings. The contest with two others and 10c entitles Cadets to Pilot Wings. Do not send this coupon unless you have three. Then send them in altogether with a self-addressed envelope and 10c to cover cost of mailing.

December Membership Application

I, the undersigned, hereby make application for membership in the Flying Aces Club. I agree to live up to the rules, and to assist in the growth and development of aviation; and cooperate with all other members in the work of spreading aviation information, building up confidence in flying for pleasure, and promoting the cause. I will aim to build up the Club and its membership and do my best to win the honors that the Flying Aces Club offers.

My name is ____________________________
Age __________________________
Street __________________________
City __________________________ State __________________________

Do you build models?

Mail this application, enclose the stamped envelope. Canadian and overseas readers send the application, self-addressed envelope, and an International Reply Coupon worth 5c, secured at the Post Office.
With the Model Builders

Left: This Cyclone-powered Sherekan "Cedric" was built by McKinley Allison, of Garnerville, N. Y., from plans printed in our September P.A. Man reports that his model chalked up more than thirty excellent flights almost immediately after it was completed. Yes, he's mighty pleased with his ship.

Right: So successful were additional flight tests on the Douglas 0-141a scale gas job (plans for which you'll find elsewhere in this issue) that designer Frank Roberts, of Jamestown, N. Y., rushed us this extra picture to show how gracefully the craft handles itself in the air. Right now, she's coming in for a slow, safe landing.

Below: You've already seen several model photos by Gordon Sullivan, of Lyndellville, N. Y., on this page. But even Gordon loved he was able to improve his work by following the hints in those photographic articles written by the Camera-Tutsie' Uprahr's, recently printed in P.A. And here's a shot showing a Vought "Corsair," which Gordon sent along to prove that he HAS done a top-notch photographic job!

Right: And here's a contribution from still another chap who's crated this page before—Marcellus Weaver, of Cumberland, Md. Marcell's job is a Newport 17. It has machine guns, movable controls, exhaust stacks, and a prop driven by an electrical rotary motor. And that's a mighty realistic-looking backdrop, too!

Above: Built by Ed Toms, of Paterson, N. J., this nifty gas ship was patterned after "Miss Philadelphia IV," which Maxwell Bassett described in P.A. for September, 1937. Right: Another job from P.A. plans (November, 1938) is this M.A.C. Fighter, built by Jack Brown, of East Palestine, Ohio. It boasts a swirl of miniature-detail features.
Make the Heinkel 64-C Sportster

Comparatively unknown in the United States in the past, the Heinkel He. 64-C has long stood in the forefront among planes of its class in Europe. And now the design promises to prove popular on this side of the Atlantic, too. But here it will appeal to the modeler the most, for these plans show the ship to have everything an American modeler wants—clean lines, simple construction, and speed!

By Nick Limber

WHEN checking over plans of airplanes that were designed several years ago, one seldom comes across ships that can hold their own with the up-to-the-minute aircraft of today. In presenting this article on Germany’s Heinkel He. 64-C, however, we are describing such a ship, one that you will go for in a big way.

Produced by the Ernst Heinkel Aircraft Corporation, the He. 64-C was built to the 1932 competition requirements of the Third International Touring Competition. Entered in this European contest, it was flown over 4,700 miles in three days, shattering all records for planes of its class at that time. Powered with a 150 h.p. Argus engine, the craft will reach a speed of 155 miles per hour, yet it lands at only 32. The He. 64-C is a two-seat dual control low wing monoplane of wooden construction.

The fuselage structure consists of bulkheads and longitudinal covered with three-ply sheets, in which special doors are provided to allow easy inspection of the interior. The engine mount of steel tubing is fastened to the first bulkhead, which is fireproof. Rubber buffers are fitted to reduce engine vibrations.

The 64-C has folding wings, which are designed to operate by a single lever. To “brake” the ship down for landing, its wings are fitted with automatic slots coupled to trailing edge flaps.

The tail unit, similar to the wing and fuselage, is entirely of wood. It, too, is covered with three-ply.

The controls are operated in the usual manner; that is, by stick and rudder bar.

Streamlined braces strengthen the landing gear. A combination oleo-pneumatic shock absorber is used, and the wheels are equipped with brakes operated by a hand lever.

Although the craft is tremendously popular with the European sportsman pilot, its sleek lines will make it even more so with American model builders. In spite of its simplicity, however, much time and effort will be saved if a careful study of the plans is made before actual work is started on the model.

FUSELAGE CONSTRUCTION

Since our model is primarily designed for speed, the fuselage is built of balsa for strength and safety.

Two medium soft blocks, each 13/4" by 3/4" by 121/2" in size, form the fuselage. Trace the side and top views on each half and trim the excess balsa away. A knife and sandpaper are the only help required for this task.

To check the sides, make cardboard templates from the blacked-in sections on Plates A and C. Hold them in the indicated positions on the fuselage sides, and when the sides have been shaped so that the templates fit flush, the correct curve has been obtained.

With a chisel scoop out the excess balsa from the body. Use sandpaper to complete the task, reducing the wall thickness to about 1/16".

Construction of the fuselage is complete when the two halves have been cemented together.

Making the turtleback or headrest comes next. Refer to Sections F to I on Plate C for the correct shape. To make the piece, follow the same procedure as in the fuselage. Carve it from a soft balsa block 3/4" by 5/8" by 7/8", and finish it with sandpaper. If a chisel is not available to hollow out the part, merely sandpaper the bottom surface as shown by the dashed lines on the sections. Cement turtleback to the fuselage and allow to dry.

The construction of the nose block, from two pieces of balsa each 3/4" by 13/4" by 21/2", is also similar to that of the fuselage and turtleback.

When each half has been finished, both inside and out, join the two together and then cement the unit to the fuselage. The block is attached to the fuselage at the station for Template A.

Detail may be added to the body if 1/32" grooves are cut along the nose of the craft as indicated on Plate A. Bamboo strips form the narrow panels on each side of the cockpits.

Left: Unusually interesting is this front-quarter view of the He. 64-C, because, while the model was resting on a white-covered table when the shot was snapped, it now appears to be in flight. Besides being of value to modelers in assembling their models, therefore, the picture affords a good example of what can be accomplished by experimenting with various backgrounds and bases for photomontage attempts. (In general, though, we advise a background that contrasts with the model).
TAIL SURFACE CONSTRUCTION

COMPLETE PLANS for the tail assembly will be found on Plate C. Note that the tail is built mainly from strips of 1/16" sq. balsa, and bamboo. The base of the stationary part of the rudder is made from 1/16" sheet, patterned as in the plan. After cementing each strip of balsa in place on the spar, allow sufficient time for the cement to harden before forming the edges of the unit. It is a good idea to place a heavy, flat object on top of the assembly while drying, to prevent warping.

Thin strips of balsa form the outline of each tail part. Pins pushed into the work-board along the outside of the bamboo edge will hold the correct shape and prevent the bamboo from slipping while cement hardens. The unit is covered with tissue.

BUILDING THE WING

DRAWINGS of the wing structure are found on Plate D. The ribs should be traced onto a sheet of 1/16" balsa. Cut them out and finish off with smooth sandpaper. The openings for the spars are cut out with a razor blade or sharp knife. The spars are made of 1/4" by 3/32" hard balsa strips and tapered to accommodate each rib.

Lay the spar over the plan of the wing and mark off the points at which each rib is located. Then cement each rib in place below the cement to harden before attaching the leading and trailing edges. The leading edge is made of 1/16" by 3/16" strip balsa. Cement it to the nose of the ribs and cover with 3/32" sheet. The trailing edge is made of 1/16" by 3/16" and cemented as indicated on the plan.

Note that all length measurements for wing-stock may be taken directly from the drawing. Trace the outlines for the three pieces forming the wing tip onto 3/32" sheet balsa. Cut them out and finish off according to Sections Y-Y and W-W. A panel sheet of 1/32" balsa is cemented to the bottom of the wing between Ribs 1 and 2.

As shown on the plans, the wing halves are not attached directly to the fuselage but to fillets, the shape of which is shown in Plate B. The side view corresponds with Rib No. 1. Carve the fillets from a medium hard piece of balsa 1/8" sq. by 4 1/4". Make sure that the correct curvature is given in order that the fillet fits neatly against the fuselage. This curve is shown on Sections "a-a", "b-b" and "c-c" on Plate E.

When the fillets have been completed, cement them to the fuselage where they can dry firmly while the wing is being covered. If the fillets have been shaped exactly as shown, the correct angle of dihedral 1/16" will be given. After the wing has been glued in place and the dihedral checked, the landing gear should be next in line. The landing gear struts are made of balsa and bamboo—the latter being used for Strut L. Plate D shows the struts full size. Two of them are made from 1/8" hard sheet balsa.

The wheel pants (See Plates A and B) consist of three pieces of sheet balsa. The outer pieces are carved from 1/8" sheet while the center is of 1/4". Note that the center piece houses the wheel and shock absorbing attachment. The streamliner to which Strut K is fastened is carved from a piece of medium hard balsa 2 1/2" long by 1/8" sq. Cement this in.

The tail plug is made of 1/4" hard sheet balsa. The nose plug is cut from 3/8" stock.

A block of hard balsa 1" by 1/2" by 5" is used for the propeller. Use a sharp knife and sandpaper. In carving the blades of the prop, refer constantly to the drawing on Plate 4. Make the propeller spinner at the same time. A spinner tip is added after the prop shaft has been bent to shape.

The prop shaft and all other wire parts for the model are made of No. 14 music wire.

ASSEMBLING AND PAINTING

WITH the wing already attached to the fuselage, we need only assemble the tail and landing gear unit and the job is practically done. Care must be taken to line up the parts correctly. Make constant use of the drawings and this task will be simplified.

The builder himself can best decide as to color of paint and the number of coats to apply. A well-constructed job with just a couple of coats will look better than a poorly-made model with a dozen coats.

The fuselage of our original He. 64-C is painted a light green, while the wings, tail unit, and wheel pants are yellow. Landing gear and tail-skid struts are painted black. The propeller blades are silver and the spinner is yellow. The word "HEINKEL" is lettered in white.

The insignia and lettering on the fuselage sides are reproduced in black and white as shown on the plan. Details for the stabilizer coloring will be found on Plate C. The Nazi insignia on the rudder is a black swastika in a white circle and white on a red band, which last is indicated by the dashed lines on the plan (Plate C). The bamboo strips supporting the tail surfaces are painted silver.

For flying purposes, use six strands of 3/8" flat brown rubber. Test-glide and balance the ship correctly before flying it under power.

Powered flights should begin with the nose of the craft pointed into the wind. Careful inspection should follow each flight—as a safety measure.

Right: Nick Lomber was particularly pleased with this photo of his Heinkel model, since it shows the various details as well, especially the markings. The wings of Nick's job are painted yellow, while the fuselage is light green. The swastikas are black on white, the emblem on the rudder being superimposed on a red band.
A Rip-Snortin' Stick Job!

Once again comes that pair of "Crazy Ace" models, Al Orthof and Lou Milowitz, with another goofy-looking contraption that actually flies. Yes, it does! We didn't believe it would, either, at first. But Al wound 'er up and turned 'er loose right up here in GHQ, and we were scoffers no longer. What? You're calling us liars anyway? Okay, then—put one together yourself and get the surprise of your life!

---

Fly This

Golliwhopper Tripe

By Alan Orthof and Louis Milowitz

OWIE! How's that for a tongue-twisting title for our latest attempt? We've had the name in mind for some little time, but this is the first model we've produced that really seemed to rate it. So here she is—the Golliwhopper Tripe!

Her span is 12", and the ship is really a swell performer. And despite the fact that she's a "tripe," her construction is quite simple, and the average modeler can turn out her "twin" in just about three hours (not counting time out for supper or trips down to the dealer for forgotten supplies, of course).

On the G.T.'s first flights, she had a little stalling temperament for us to bother with. But this has been ironed out now, and she steadily turns out stable flights seldom running less than 30 seconds each.

As the photographs plainly show, the model is an all-balsa affair. Even the wings are of sheet balsa, thus disposing of the job of cutting ribs or other airfoil necessities. So let's start work—and the first item on our program is the

**Motor Stick**

A RATHER HARD piece of strip balsa 3/8" sq by 8" is used for the stick. Bevel the ends as shown on the plan, then glue a small thrust-bearing to the nose. Don't be tight with the cement (but see that the cement is tight on the balsa—eh? eh?) Bend the rear hook from .014 wire and glue it into the stick as indicated.

The tail boom is made of the same stock as the motor stick and is tapered to 1/32" thickness at the rear. The boom joins to the rudder.

The landing gear has two single struts each cut from 1/32" sheet balsa. They are 5/8" long and taper from 1/8" wide at the top to 3/32" at the ends. Use wood of a "stringy" grain, since this will help the shock-absorbing qualities of the struts. It is not necessary to streamline the pieces other than to round off the front edges slightly. Be sure to make especially good joints where the struts meet the motor stick.

The axles are made from .014 wire bent as shown on the plan. Bend the wire into the struts to insure good joints.

The wheels are 3/8" in diameter and are made from 3/32" sheet. Round off the edges. To make the wheels more life-like, give them a coat of dark-colored dope and then glue a white paper disk about 1/4" in diameter to both sides. A drop of glue at the end of each axle will hold the wheels in place.

**Wing and Tail Surfaces**

These surfaces are made of 1/32" sheet balsa. The outlines may be traced onto the wood directly from the plans. After the stock has been cut to outline shape, (Continued on page 78)
HERE ARE THE PLANS FOR THE GOLLWHOPPER TRIPE

Plans Full Size.

Stabilizer

All surfaces 1/4 in. sq.

Prop. Block 1½ x 6.

½ sq. Bamboo

Wing Templates

Struts shown in full length.

Dihedral 1° under all fins

A FLYING ACES MAGAZINE PLAN

[41]
By Frank Roberts

Good news, modelers! Here comes another nifty gas job by Frank Roberts, who prepared that fine Fairchild 24 printed in last February's F.A. This time, Frank gives you an excellent scale model of the Army's Douglas 0-41A gull-wing observation plane. Except for minor changes, the model follows the strict scale of the big ship—and it's a sure-fire flyer! So now—take it away!

Reduced and must be enlarged to twice their size. Of course, only the outlines actually needed in shaping need be enlarged. To build the wing, for instance, the only "blow up" needed is the main outline on Plate 6.

When the enlargements have been made, fasten the sheets down to a suitable work-board or table top on which they can safely be left between working periods. Cover them with heavy waxed paper to protect them from cement, for much of the assembly work is done directly over the drawing.

And now if you'll take the Bill of Materials down to your nearest dealer and get the necessary supplies, you'll be all set to start work.

CONSTRUCTION OF WING

Since it's a good idea to do the hardest work first, I like to begin with the wing. The ribs may be traced directly from the plate onto the 3/32" sheet by means of carbon paper, or the patterns may be traced and cemented to light cardboard and then cut out for use as templates.

The ribs are of accurate Clark Y section. Care should be taken to cut them accurately, cutting the notches to the exact depths indicated.

The trailing edge is cut from 1/8" by 2" sheet and the tips from 1/4" sheet. Spars are made from 1/8" by 1/4" and are pinned directly over wing drawing. The ribs are lined up on the spars before cementing them in place. Accurately cut, the notches in the ribs automatically give the wing the correct taper (when viewed from the front). Any slight adjustment in the ribs should be made now.

Trailing and leading edges can be installed as soon as the ribs have been cemented to the spars. Spars are trimmed flush with the bottom of the ribs after the wing is assembled.

After the wing is dry, cut in the ailerons and cement the aileron spars in place. Spars and leading edges are joined at No. 3 rib. Do not cement these joints until the wing has been assembled and the proper dihedral is given the wing. Note the brace blocks on each side of the spars.

See the front view on Plate 5 for dihedral angle. The amount given is only the scale amount, which I believe to be enough. However, some modelers may prefer to
Bill of Materials

(Complete plans will be found on the following pages)

All wood is hard balsa unless otherwise noted

Six pieces ¾" by ½" by 24" for wing spars;
Two pieces 3/32" by 3" by 24" for wing ribs;
Two pieces ¾" by ¾" by 24" for leading edge of wing;
One piece ¾" by 2" by 24" for trailing edge, etc;
One piece ½" by 2" by 18" for wing tips;
One piece ¼" sq. by 36" for leading edges, tail;
One piece ½" by 3/16" by 18" for trailing edges, tail;
Three pieces ½" by ¾" by 18" for tail spars;
One piece 3/32" by 3" by 18" for formers;
One piece ¾" by 3" by 4" plywood for No. 1 former;
Eight pieces 3/16" sq. by 36" for main frame;
Thirty pieces 1/16" by 3/16" by 36" for fuselage stringers;
One piece 3/8" by 3" by 3/4" for motor cover cowl;
One piece 1/32" by 2" by 6" for radiator sheet wrapping;
Two pieces ½" by ¾" by 24" for wing struts;
One piece 3/16" by ¾" by 12" for center-section struts;
One piece ½" by 3" by 4" for nose block;
One piece 1¼" by 1¼" by 6" for radiator block;
One piece 1¼" by 1¼" by 2¾" for fuselage end block;
One piece ⅝" by 1" by 2¾" for fuselage end block;
One piece 1/16" by 3" by 18" for cockpit cover;
One piece ¾" by 3" by 24" for landing gear struts;
One piece 3/32" dia. music wire, 36" long for landing gear;
One pair 3½" Marpall "Superior" wheels;
One 1¼" Marpall tailwheel;
One Austin-Craft flight timer;
One Austin-Craft battery holder;
One-half pint model cement;
One-half pint paper cement;
Four oz. yellow dope;
Four oz. blue dope;
One and a half yards of silk 36" wide;
Two feet soft iron wire;
Two feet 20-gauge music wire for wing strut braces;
One piece ½" by ½" by 8" Pine for motor base;
Pins, sandpaper, good workboard, etc.

increase the angle according to their own ideas.
The leading and trailing edges and spars should now be trimmed down to a neat streamlined finish and taper.
Use a block of wood, say 1" by 3" by 12" wrapped with fine sandpaper. Finally, cover the wing with silk or heavy tissue. Silk is not only the easiest to use, but it is the strongest of all coverings, too.

TAIL SURFACES

The tail spars may be tapered before the ribs are cemented in place. However, I prefer to build the tail units with the spars as wide as the widest part of the structure (center rib on stabilizer, bottom rib on fin), and all the tapering done with woodplane and sandpaper after assembly.
Hinges for the tail—and also for the wing ailerons—are short pieces of soft iron wire. Insert them at the center line of the spar and cement them at each rib (refer again to Plate 6).
Insert the stabilizer into the fin before hinging the two elevators onto the stabilizer.

FUSELAGE

On Plates 1 and 2 you'll find the main frame of the fuselage indicated on the side and top views by shaded lines. This frame—with its uprights, crosspieces, and diagonal braces—forms the box-like skeleton on which the formers are cemented. It takes all the strain of motor, landing gear, and struts.
The main frame is built of 3/16" square hard balsa. Build two sides exactly alike. Complete the frame by cementing the top and bottom cross-pieces in place, starting at Station No. 2 and working toward the rear. Rubber bands and pins are used to hold the sides together while the cross-pieces are being cemented in place.

No. 1 former is cut from ½" plywood and cemented in place first. If you intend to use a motor other than either of the two mentioned, you will have to change the motor bearer notches to suit.
Check the frame for squareness and true curve of each side. Any irregularities may be taken out by holding the frame in the steam from a kettle for a few minutes and then blocking the frame in the correct shape and allowing it to dry.
Make and install the landing gear at this time. Music wire of 3/32" diam. forms the basis; bend it as shown by the sketch on Plate 5. The joints are bound with soft wire and soldered. The assembly is cemented to the fuselage frame and cross-braces, then wrapped with thread and given a second coat of cement.
The ¾" wood is cut to the shape of the pattern and each piece is grooved 3/64" for the wire. The strut halves are cemented together with the wire sandwiched between them. The wooden part of strut is not cemented to the fuselage or wing strut. Instead, a slight space is left clear to allow the gear to flex for landings.
The former patterns are used in somewhat the same manner as the wing rib patterns. Do not cut out the notches at this time, but mark the places where they should come. As the formers are cut out, they may be cemented in place on the top, bottom, and sides of the fuselage frame. When the formers are all in place the stringer notches may be cut; a piece of fine hacksaw blade answers very well for this job.
Check the frame again for squareness and accuracy.
(Continued on page 64)
News of the Modelers

LATEST CONTEST ANNOUNCEMENTS

SCHEDULED for Sunday, November 6, a gas model meet staged by the Sportsman's Aero Club, of San Francisco, will be held at Moffit Field, Cal., fifty miles south of San Francisco.

Prizes will be offered for entries in both large and small bore classes. Full particulars may be obtained from R. A. Walker, president of the S.A.C., at 1553 Page St., San Francisco (Phone Hemlock 0732).

Another November meet will be the Fifth Works Progress Administration Scale Competition at Pittsburgh, Pa., which is planned for November 12. All scale models entered in the affair must be in the hands of Harry G. Vogler, director of the Aircraft Division, Boys' Club of Pittsburgh, 4412 Butler St., by November 9 at 9:00 P.M.

HOLD FIFTH N. Y. POLICE CONTEST

The fifth annual air meet of the New York Police Athletic League and The Airplane Model Builders' Exchange (TAMBE) was held recently at Marine Park, Brooklyn, N. Y., with enthusiasts from the Metropolitan area and New Jersey participating in the five-event program for rubber powered and glider models.

The hand-launched glider event came first on the program. H. Schindelman, of the Bronx, N. Y., was declared winner with a time of three min. Alvin Felmeister, of Jersey City, N. J., was second with two min. 54 sec.; Morton Cooperman, of Brooklyn, was third.

A twin-pusher-built and flown by Isaak Schaffer of Brooklyn, won the stick event with a time of eight min., 44 sec. out of sight. Morton Kaufman, of Brooklyn was second with six min. 33 sec. out of sight, and Howard Beitchman also of Brooklyn, was third with a six min. out of sight flight.

Gordon Murray, president of TAMBE, won the cabin event with a flight of six min. 41 sec. out of sight. Schaffer was second in this event and M. Singer, of Coney Island, third. Schaffer's plane did 6:02 and Singer's, 4:10.

Herb Friedlander, of Brooklyn, took the towline glider event with a 6:02 out-of-sight flight. Gus Jung was second with a flight of four min. 15 sec., and E. Powell, of Jersey City rated third with a flight of 3:06.

The speed event was won by Jack Minnassian of Long Island City. His craft covered the 120-foot course in one second flat, Henry Struck, Maurice Schoemhann, and Howard Beitchman tied for second honors, and in a tie for third were Louis Garami, Morton Kaufman, and Gus Berger.

Herb Friedlander took major high point honors for the day with a total of 28 points, gained by his first, a fifth in the cabin event, a fourth in the stick event and a sixth in the hand launched glider. Morton Kaufman was second high scorer. Jack Minnassian was third.

Although the meet produced several record-breaking winners, few innovations were noted among the planes entered. Folding and free-wheeling propellers were used to a great extent by all powered entries, with a few using one-bladers. The towline gliders which placed in the upper brackets were, for the most part, quite small with wing spreads of two to three feet. They had standard balsa framework fuselages. The Friedlander winner was wrecked the night previous to the contest but was rebuilt in time to win. Speed models seemed to stress the importance of a fine finish to the craft and enough strength of fuselage to avoid buckling under power.

The police Department was represented at the meet by Lieut. Murphy of the 60th Precinct. Dave Lynn, Director of TAMBE, acted as Flight Director for the day, with timing being done by eight recreational project directors of the W.P.A.

Prizes awarded the first place winners were a Comet Clipper Gas Kit for the hand launched glider event, a Brown, Jr., motor for the stick event, a Dennymite motor for the cabin event, the Flying Aces Trophy for the towline glider event, an Imperial Gas Kit for the high point scorer, the Edward A. Lynn trophy for the speed event, and the Sears Roebuck Trophy for the P.A.L. high scorer. The latter event was also won by Herb Friedlander.

Carroll Moon reported the meet for FLYING ACES.

THANKSGIVING MEET FOR FLORIDA

GLIDER, rubber, gas endurance, and 30-second engine run events will be featured in the State-wide meet to be conducted on Thanksgiving Day by the Lakeland High School Model Airplane Club, of Lakeland, Fla.

For full details, Floridian modelers should contact Walter Seegmiller, 921 E. Oseola St., Lakeland.

WOMEN WIN GAS EVENT

COMPETING against 30 other contestants in the gas model event at the recent Southern New York Outdoor Model Meet, Binghamton, two women—Ruth See, of Binghamsville, N. Y., and Emilie Guth, of Syracuse—took first and second places respectively. Mrs. See's time was 2 min. 47 sec. and Mrs. Guth's was 1 min. 52 sec. Interesting indeed is the fact that both of these flights were made after the ships had been soaked from "landings" in the Susquehanna River in previous flights the same day!

Fred C. Cooper, of Cortland, N. Y., was third "man" (actually he was first man and third placier) in the gas event.

In the hand-launched stick tournay, the honors were taken by Raymond Darling, Jr., of Utica, with a flying time of 2 min. 48.8 sec. He was followed by Robert Townsend, Charles House, and Norman Alderman, all of Binghamton.

Kale Harden, David Cramer, Richard Barber, and Donald Pratt, were the first men to place in the Fuselage R.O.G. event.

Mr. R. N. McColloch was chairman of the Aviation Committee, Exchange Club of Binghamton, which sponsored the meet.

PEORIA HOLDS TEN-HOUR TOURNAMENT

DESPITE a gloomy, misty day on the occasion of the recent Star-Junior N.A.A. contest at Peoria, Ill., the affair turned out to be the finest contest ever held in the vicinity. There were more than 5,000 onlookers and over 100 contestants.

Three events were run off. These were glider, stick fuselage, and gas. So many modelers were entered in each that it took ten hours to complete the meet. Among the prize winners were Jack Davis, 17, of Peoria; Burnett Brumms, 15, of Pekin, and Gene Swanson, 18, of Kewanee, all in Illinois. These three lads each won a year's subscription to FLYING ACES together with a F.A. Aviator's Positive Identification Bracelet.

Ralph H. Lewis, vice president of the

What Do You Say?

Here's your corner, buzzards, and it's open to all readers who have a model argument they want to get off their respective chests. Make your comments short and snappy, and we'll try to squeeze 'em in.

MORE ON THE "F.A. MOTH"

Editor, FLYING ACES:

I built an F.A. Moth from the plans by Herb Spatz in the August 1937 issue of FLYING ACES. It did 3 min. 28 sec.

I also built the F.A. Glider and it made 37 sec. before crashing into a tree. A man tried to stop it on another flight and wrecked it.

I think that F.A. should publish more plans for ships like the Moth and the Glider.

IRVING FRIEDMAN
Brooklyn, N.Y.

Editor, FLYING ACES:

I built the Flying Ace Moth from F.A. plans and won the Brandon contest with it. The first prize was a four-dollar airplane ticket, so I get my first ride upstairs next Sunday—thanks to Herb Spatz for designing that swell model. How about publishing some other jobs like it?

DAVE CARLE
Brandon, Manitoba, Canada

[ 60 ]
Peoria N.A.A. Chapter, served as F.A. reporter.

N. Y. MODEL CLUBS UNITE

A. Association of model airplane clubs in the New York metropolitan area was formed recently when representa-
tives of eleven leading model clubs met in New York City for the purpose.
Irwin S. Polk, Director of the Metropolitan Model League and active in the promotion of model aviation for some twelve years, was elected Chairman of the association. William Effinger, of the Majestic Aero Club, was elected secretary.

The purpose of the association is to guide and direct the interest and activities of the air-minded youth in the metropolitan area through proper leadership and supervision.

Model aircraft activity in the New York area is seriously handicapped by the lack of a proper flying field, and one of the most important objectives of the association will be to obtain a place where model builders can fly their miniature aircraft away from congested or restricted areas.

Many countries abroad subsidize model aircraft activity, which is an important source of future pilots. Thus modeling plays a valuable part in the future of national defense, and it is hoped that the united activities of the New York clubs will help focus national attention on this hobby.

The Association hopes also to enlist the support of all interested individuals or organizations. All model clubs in the area are invited to affiliate.

"JUNIOR AVIATOR" RESULTS

WINNERS in the Junior National Air Races held recently at Akron were as follows: Junior Fuselage (Vincent Bendix Trophy)—Robert Pfeffer, of Cleveland, and William Kaiman and Mike Gadges, both of Akron. Senior Fuselage (Peerless Trophy)—Anthony Kazlouskas, of Akron; Ted Just, of Pittsburgh, and Arthur Walsh, of Cleveland.

FLYING ACES

Open Fuselage (Goodrich Trophy)—Mike Karlak, of Cleveland; Arthur Eek, of Johnstown, Pa., and Henry Thomas, of Akron. Speed Race (Thompson Trophy)—James Smith, of Cleveland; Edward Smith, of Pittsburgh, and Richard Korda, of Cleveland. (Since this was a three-way tie with each contestant’s ship making exactly 60.2 (Continued on page 62)

The Market Log

(Readers desiring further information on any of the items described in this department are invited to write direct to FLYING ACES Magazine, mentioning the items in which they are interested and the names of the manufacturers. And companies adding new goods to their line are also invited to notify Mr. Limber, who will be glad to describe the products. Send him full facts in care of this magazine.)

Berkeley Model Supplies now has six model kit in its line, the newest ship being the four-foot spanned Buccaneer 48. This craft recently won the “small gas championship” at Philadelphia with a flight of 2 min. 16 sec. following a 19-second motor run. The engine used on this flight was the new Ohlsson 23, which is distributed in the Eastern states by Berkeley.

Other ships in this company’s gas line range from four- to nine-foot spanners. Berkeley-designed gas craft have won more than 1000 prizes since the original Buccaneer was introduced three years ago.

International Models has been appointed sole distributor for Pervel, a new “wonder fabric” said to be the ideal covering for models of all kinds and for making parachutes, kites, or boat sails. It can be cemented, doped, or sewed. The company guarantees satisfaction in the use of this paper-fabric, which is an American product. Price—three $10” by 36” sheets for 25c postpaid.

WATCH FOR THE NEXT GREAT FLYING ACES

FACT—Many a plane built for our sea arm didn’t have what it takes! Now it can be told—and Dave Cooke tells it in a revealing, photo-packed article titled: “—So They Went to the Navy Boneyard!”

"Clash Over the Carpathians"—a dramatic cover painting and article forecasting a new mailed-fist drive by the Nazis.

And the peppy eighth lesson of our fast-revving Jack Conroy flying course.

FICTION—Dick Knight grapples with the war-makers of Europe. A smashing novel of 1938 battle skies. Your favorite trio—Keen, Lang, and O’Dare—in the latest “Griffon” corks.

Plus another swell Phineas Pinkham funnybone tickler.

MODEL BUILDING—How to make the Navy’s brand-new Brewster Scout-Bomber. Orthof’s ornate holiday whatisit—“The Xmastick.”

McCullough’s “Kayo”—a gas job for beginners.

In January FLYING ACES • On Sale November 28th (Canada One Week Later)
CHAPTER II

THE BLUE SKULL

BROWN jumped from his ship, ran to the wreck. The broken wing hid him from view as he bent over the cockpit, but as the ambulance pulled up he turned toward the machine. His face was ashen white, and there was a look of horror in his eyes.

Kane was the first to reach him. Brown pointed a trembling hand toward the battered cockpit.

"Look!" he said hoarsely. "There—by the pilot's body!"

Kane's slitted eyes passed over the limp form of the pilot, then he stiffened. Leering out at him was a blue skull!

It was wedged between the edge of the cockpit and some tangled flying wires. Beside the pale, dead face of the pilot, it was like some mocking symbol, its weird color only adding to the horror of its appearance.

Without a word, Kane bent and opened the pilot's coat. He turned to the medical corpsman who had followed him.

"Yuh can't help him now, son. Five of them bullets went right through him."

The corpsman slowly nodded, then his eyes fell on the skull.

"Good Lord!" he whispered. "Was this thing—?"

"It was wedged there—just like that!" Brown broke in, his voice shaking. "It must have fallen into the wing from—from whatever got him."

The ambulance crew stared at the skull with wide eyes. Kane carefully lifted it free of the wires and stepped back. The crash-truck roared up, followed by a Headquarters car containing Thorne and Jordan and the Jay twins.

Then Kane's probing fingers touched something within the skull, and he shot a quick glance inside it, as Brown and the ambulance men made way for the approaching Staff officers. The interior of the skull was old and yellowed, except for a smear of blue varnish, to which a torn fragment of paper adhered. Kane turned toward the wreck, and when he pivoted back, the bit of paper was palmed in his left hand.

Brown was tensely explaining what had happened as he followed Jordan toward the JN. The G-2 colonel glared at Kane.

"Give me that!" he barked. He snatched the skull from the other man's hand. "You keep out of this—we don't need any amateur Hawkshaws around here!"

Kane silently stepped back. Thorne brushed past, his shaggy brows drawn together.

"A blue skull!" he muttered. "Where in Heaven's name could it have come from?"

"Brown says it was caught in the wings," Jordan replied in an undertone. He turned the skull over. "Blue varnish—it's been painted recently. Must have been some crazy Boche using it as a symbol."

"You mean he tossed it into the JN's wings?" demanded Thorne.

"What else?" Jordan said acidly. "You don't think there was a blue skeleton flying around up there?"

"Doubt it very much," rasped wings Thorne. "This makes the sixteenth—"

He stopped, staring at the wreck. "A Jenny! This poor devil wasn't an ace—he didn't even have any guns. But what was a training-plane doing up in this area?"

Colonel Jordan motioned to Noisy Jay.

"Take the number of this plane and have it checked up at once. Find out where it came from, when it took off, and who the pilot was."

"Beggin' yore pardon, colonel," interposed Kane, "but maybe if you want to search him yuh might find out right now."

Jordan's face turned beet red.

"I told you to get out of here!" he roared. But wheeling to Tom Jay he barked, "See if there's anything to identify him. Lieutenant Brown, take off and see if you can spot any Boche ships above those clouds."

The courier pilot was already on the way to his ship. He jerked around, saluting.

"I was just going to do that, sir."

He hurried on toward the Nieuport. Kane started after him, then changed his course and crossed to the waiting Staff car. The driver had joined the crowd at the wreck. Kane calmly climbed in, sent the machine rolling toward the hangars. In the mirror he saw the Nieuport swing into the wind to take off. He shoved the accelerator to the floor, raced to where he had left his Spad. Jamming on the brakes, he jumped out and strode to the cockpit.

"Twist her, son," he told the nearest acheman. "I'm on business for th' general."

The mechanic sprang to the prop, and the still-warm Hisso thundered. Kane leaned out as the man pulled the wheelblocks.

"Yuh might take that car back an' tell General Thorne I shore appreciate th' loan."

He touched the throttles, sent the Spad trundling briskly into the wind. The Nieuport was at a thousand feet and climbing fast. As thebullet-marked Spad lifted, he banked steeply, wings almost scraping the ground, and pointed the ship in the direction of Chaumont. Engine wide open, he kept the Spad nosed up until it reached the clouds. The instant they closed about him he turned and headed East.

IN ANOTHER MINUTE the Spad broke through into clear sky. Kane shot a quick glance about him, saw the Nieuport half a mile distant, flying southeast. There were no other ships in sight. He eased the throttle slightly, so that he would not overtake the slower plane, and then, keeping in the top of the clouds, he turned carefully away.

The sun was bright, and Kane's face was reflected clearly in one of the glass dials before him. If General Thorne or the Jay twins could have seen that reflection they might have been more than startled. For a subtle change had come over the corpulent, bald, blue-lantern-jawed, but the mouth half open, the slitted eyes wider open, and an expression of faintly whimsical humor had replaced the dry manner of the laconic cowpuncher-pilot.

It was as though another man looked out behind the weatherbeaten features of Tex Kane. But perhaps not even the Jays would have guessed—who the eyes were those of a man they thought dead—the eyes of Captain Philip Strange! For a moment, Strange's whimsical smile rested on the reflection in the glass.

"You can take a rest now, my friend. I think we've established Tex Kane pretty solidly."

Not even Colonel Jordan had guessed—and the chunky little G-2 colonel was the only man, except the two at his new hideout, who knew he was alive. He chuckled as he remembered Jordan's wrath at his suggestions, though his eyes flicked ahead to the Nieuport and his face sobered.

Perhaps he had made a mistake, not seizing "Brown" back at the field. He had recognized the spy instantly as Hans Schweinheit, one of von Zenden's special men, with whom he had tangled several times. Both the Jays had seen a picture he had sketched of the man, but his broad hints had failed to arouse their memory. It was probably just as well now, for it was obvious that the spy knew the answer to the riddle of the blue skull, and by following steps unlooked for, he might learn something of value before he darted in to force the Nieuport down.

Strange had no intention of letting the pseudo-courier pilot cross the Front, but by learning his course he hoped to determine his destination. There was a danger that Schweinheit might destroy the paper he had evidently taken from the skull, of which Strange had retrieved but a torn fragment. But the German would probably have been able to rid himself of it back at the field before he could have searched. Armed with the unknown Tex Kane would have been ridiculed unless he had identified himself—and that would have ruined the purpose of his carefully planned masquerade.

Strange took out the scrap of paper he had found in the skull. It was, roughly, a triangle about two inches across its longest side, and on it several groups of figures had been scrawled. There were four groups in the first line, three in the next. But neither line was com-
December, 1938

THE NIEUPORT suddenly began to circle. Strange swung in a wider swing, keeping down in the clouds so that he could just see the other ship.

There was a powerful field-glass in a zippered pocket below the throttle. He took it out, focussed it on the Nieuport. Schweinhart was bending over in his cockpit, but in a moment he straightened up, something in his hand. Strange looked hastily around the sky. The thing in the hip's hand was a canvas message bag of the type sometimes used for dropping orders to infantry at advanced positions. But one had a large ring at one end, and he realized at once that the German intended to meet another Bock pilots and transfer the message he had taken from the skull.

The Spad’s circle had taken it around to the east of the Nieuport. With swift decision, Strange shoved the fieldglass into its pocket, charged his guns, and shoved the throttle full open.

The American’s fighter shot out of the cloud, and Strange’s sight was not in time. He was within half a mile of the Nieuport when the Spad saw him and zoomed. Strange tripped his guns, stabbed a burst past the Nieuport’s left wing. The spars kicked away, tried to reverse. But Strange drove him back with another burst into a tight turn.

Schweinhart pulled into a wild Immelmann and blasted out a flash of tracers that missed the Spad by a hundred feet. Strange followed through, the Nieuport’s tail almost in his sights. He shifted the rudder, was about to fire past the Spad’s wingtip and try to force him down when a sudden burst of chaff sent him whirling off to one side.

The next instant, two streams of tracer smoke shot into the space where the Spad had been. Three red-nosed Fokkers had plunged headlong out of the sun!

Spandaus blazing, the three-D-7’s hurled after the G-2 ace. Strange rammed the stick forward, dived into the clouds. The steamy white masses had barely closed about him when he pulled back and headed up. With a screaming, the Spad shot out of the clouds a quarter of a mile from where it had disappeared—to see one of the Fokker pilots lowering a weighted cable with a hook at the end and Schweinhart trying to seize it and transfer the message bag.

A burst from the Spad’s guns sent the Fokker pilot into a hasty climb. Schweinhart dropped back into his seat, charged furiously at Strange. The G-2 ace rolled tightly out of range, crouched as the second red-nosed fighter drove a fusilade into his wings. The acrid smell of phosphorus was in his nostrils as he whipped back at the D-7, and a fresh pattern of bullet-holes lay across the fuselage. The third Fokker was darting in, Spandaus winking, while the first Boche hurriedly began to wind up the dangling cable.

Strange clamped his trips and raked a red-painted tall that swung into his sights. His bullets smoked above the pilot’s head, thudded into the Mercedes motor. The Fokker staggered, fell off and dived away to the east, a thin plume of smoke betraying its crippled engine. Schweinhart plunged in with redoubled venom, and a hail of slugs from his Vickers gouged the Spad’s tilted left wing. Strange gave the Fokker a tremulous shot under the lash of pounding Spandaus. Bullet-holes marched in along the right wing, smoking toward the cockpit. Strange lunged on the stick, dived under the plane with the cable, barely missing the hook.

Above the Hisso’s thunder he heard the faint crash he expected. He turned, but instead of the pursuing Fokker it was the Nieuport which he had trapped! Racing in from one side, Schweinhart had cut off the D-7 pilot and flown into the hook. With its tail torn clear off, the Nieuport whistled past him nose down and wing down the sky.

With the Nieuport’s broken rudder flapping from the hook, the Boche in as it fell. Strange looked away, fought back the sick feeling that always came when he saw a flamethrower.

The contact-plane was fleeing, part of the Nieuport’s rudder still hanging from the cable. He watched it vanish as the pilot glided into the clouds. It might have been an easy victory—but he dare not waste time on victories. He must find an additional clue, beside the paper which Schweinhart had taken—and now he had it.

“That’s what you get for being a pig,” he muttered to his reflection.

“Should have forced Schweinhart down as soon as he was out of sight of Third Wing.”

He closed the throttle, spiraled down, and finally located the smouldering wreckage, a hundred yards to the right of the second river. The American floundered along, but the pilot had clearly flown over it. Strange drifted closer, and finally located the smoking wreckage of the second river.

“FIVE HUNDRED FEET above the chasm Strange opened the throttle and headed South, climbing above the increasingly rugged slopes. Ten minutes later, after a quick glance about the sky, he nosed the Spad down into a desolate-looking canyon. The frowning rock walls pressed in closer as he neared the bottom, until there was barely a hundred feet between the wingtips and the rocks. He kept the Hispano revving up slightly, until a zigzag, yellowish mark appeared on the right-hand cliff. As the ship passed the mark, he cut the throttle, and the Spad settled to the canyon floor.

A tiny stream ran along the left side of the improvised landing-space, and on the right the wall rose sheer for two hundred feet, where a ledge jutted out partly hiding the sky. Extending up from the ground-level, almost directly under this ledge, there was what appeared at first glance to be a slight, rugged outcropping about sixty feet wide and somewhat over twenty feet high. Only a closer inspection would have shown that it was papier-maché molded in the shape of rocks and cleverly painted to match the surrounding walls.

Strange ruddered the Spad toward this spot, switched off the motor, and climbed out. He waited a moment, but nothing happened.

“Okay, Mike!” he said, lifting his voice. “What are you waiting for—an Open Sesame?”

A few seconds later, the camouflage section slid sidewise, pulley wheels creaking on a wooden overhead track. A red, good-humored Irish face appeared around the edge, followed by the thickset body of Sergeant Mike Muldoon, who, as he himself modestly admitted, was "the best damned mechanic in the A.E.F."

“Sorry, Captain,” Muldoon grinned,
German planes—a Fokker D-7, painted dead black, and a checkered Halberstadt two-seater. Drums of gasoline and oil were ranged along the wall, beside stacks of boxes including engine parts, ammunition, and his supplies in amounts planned to last at least three months without replenishing.

The lead-in of a wireless set ran out through the crevice to concealed antenna. Thus far, Strange had refrained from using the transmitter, his agreement with Jordan being that the Muldoon should remain in at prescribed times for code messages. These messages, Strange had suggested, would be ostensibly sent to some G-2 agent hiding in Germany, so that no one at Chaumont would guess the truth. Only in emergencies would he transmit an answer or question on their specially assigned wave length.

Unbuckling the six-guns, Strange took off his leather jacket and helmet and went into the mess. In a short time, Ling Foo appeared with bacon and eggs, toast and coffee.

"If the gendarme captain will forgive monotony of second breakfast," he said apologetically, "Ling will make extra effort for dinner. There was soup, stew and potatoes, but—"

"This will be all right, Ling," said the G-2 ace. "But I think it's about time colonel Strange had another foraging expedition to that little farm down in the foothills."

He had finished eating and was lighting a cigarette when Muldoon hurriedly entered.

"Captain, there's a D.H spiraling down over the canyon! You must've been followed!"

"No," said Strange, "I took good care of that. I've a hunch I know who it is, but we'll take no chances."

He buckled on his guns, followed the Irishman out to the entrance, and in a few minutes was distinguishable in the shadows. Lifting a small hinged panel, he looked up through a peephole in the camouflaged door. The D.H. was gliding down between the rocky walls. It leveled off, bounced on the canyon floor, and came to a stop about two hundred feet from the secret entrance. The pilot leaned out, threw his goggles on, and Strange recognized the grizzled features of General Thorne. Colonel Jordan stood up in the rear seat, motioning the Air Service chief to taxi ahead. Thorne compiled, then switched the engine off and glared back at his companion.

"Now, colonel," he said, "I'll explain all this mystery business! What the devil's the idea of landing in this God-forsaken spot?"

"Just a second," chuckled Jordan. "I've got a surprise for you."

Strange motioned for Muldoon to open the door. As it slid back, the colonel sprung in, Ling Foo's rifle at his hip. The G-2 acestepped into sight.

"Hold yore horses, General," he drawled. "I'm amin' to be friendly."

Jordan's amused look had changed to one of stupefaction.

"Kane!" he spluttered. "What the devil are you doing here in—"

He stopped, as sudden comprehension dawned on him. "Strange! You idiot—why didn't you let me know it was you?"

All the color went out of General Thorne's face.

"Strange!" he whispered, then grasped at the cowling to keep himself from falling. "You mean—Strange isn't dead?"

"No more than you are," said Jordan. "That's what I—"

"Look out!" said Strange. He sprang to the side of the D.H. as Thorne tumbled down in his seat. "For Heaven's sake, Colonel, didn't you break it a little more gently?"

"I never thought a tough old bird like Wild Bill Thorne would pass out," mumbled Jordan. "Guess it was a jolt, at that—he thought a lot of you."

In a few moments the general opened his eyes. How the devil unsteady hand and touched the G-2 ace.

"Strange—is it really you?"

"No one else, General," Strange said huskily. "Sorry it gave you such a shock."

Thorne's fingers closed on his arm.

"That's all right—now."

HE PULLED himself up in the seat, sat gazing for a moment at Strange's made-up face. Sergeant Muldoon, who had watched open-mouthed, disappeared and returned in a minute with a glass of cognac. Thorne tossed off the brown and the color came back into his cheeks. He gloved at Jordan with a return of his usual spirits.

"You numbskull! Why didn't you tell me Strange was alive?"

Jordan flushed, and Strange quickly interposed. "It was my fault—I told him not to tell anyone until I'd worked out a scheme for covering everything."

"Then that cock-and-bull story about the fake in your basement was all a fake?" Thorne snorted at the G-2 chieff.

"No, it was just as I told you—except that Strange got out alive," replied Jordan.

Strange's eyes sobered.

"Every one else was killed by the cyanide gas, General. I was partly stunned in the fight, and they thought I was unconscious. When I heard von Zenden tell them that he was out in fashion as fast as I could, I could hold my breath for three or four minutes. The Germans cleared out as soon as the gas-grenade went off, and I managed to crawl upstairs to an open window. When Colonel Jordan found me later, I told him to pretend I'd been killed with the rest, so that von Zenden wouldn't be murdering any more agents trying to get me."

"But the burial—I've talked with five or six men who told me they saw you in your coffin," Thorne said dazedly.

"Strange managed that with a wax mask of his face," explained Jordan. "I put it on an unidentified soldier killed at St. Mihel, a man about Strange's size. I knew that von Zenden would have some one watching to be sure he was dead, and I checked every one in the group that came to pay their last respects. I found two cases of faked identities, so it's obvious the Germans
weren't just taking von Zenden's word. Later I let the spies go so the Boche would be certain to learn that Strange was finished."

Thorne climbed out of the cockpit, staring into the gloom of the secret cavern, back at Strange. "And you've been hiding in this damned hole all the time?"

"It's not so bad as it looks from here," said Strange. "Come on in. You can leave the ship here temporarily—that leaves you free to fight." The general looked around in astonishment when the lights were switched on.

"How'd you get all this stuff down here?" he demanded.

"Colonel Jordan had it left at the Q.M. depot in Toureville on special assignment for von Zenden. Sergeant Muldoon here brought it in through a road that leads into the canyon. Each load was assigned to him on confidential G-2 orders; both G-2 and the Quartermaster Department were told it was for some scheme the colonel had up his sleeve—and not to talk."

"I flew the ships here. You see, I'd go out on the truck with Muldoon, make up enough to get by, and bring a ship back while Muldoon brought in supplies. Colonel Jordan and I worked out the plans where he smuggled me out of Chatmont."

"I've covered it all up pretty well," said the G-2 chief, complacently. "That's one good thing about Intelligence—you don't have to account for what you do. But we'd better get down to business. I guess you know why we're here, after thatconfounded Kane trick. What was the idea of that, anyway?"

"I got tired of waiting to be used," said Strange. "I've been catching those code reports about all the aces being killed, and the information leaks. So I thought I'd poke my nose into it."

"Well, you did that, all right," growled Jordan. "If it hadn't been able to catch you when you made off with that Staff car, I'd have had you locked up."

STRANGE led the way into his quarters, which had been furnished with most of his possessions from his former retreat. Light shone down from a cannibal tom-tom drum suspended from the ceiling, reflecting from the bowl of a Turkish water-pipe which stood beside a huge carved chair. A Moorish scimitar and a Moro kris stood crossed in one corner, and a captured Spandau gun hung over the doorway.

A wooden floor had been laid, and up on this was stretched a thick Persian rug. A well-filled bookcase stood against the wall, from the top of which a jade Buddha smiled down benevolently. An open violin case lay on the study table, in it a worn Stradivarius. At any rate, the souvenirs and mementoes of his wanderings through the Orient and other parts of the world gave the room a colorful appearance.

"Incredible!" Thorne said, half under his breath. "If I didn't know better, I'd think we were back in your old place. I've a good notion to move into this cave myself, and get a little peace and quiet."

"You'd find it pretty lonesome, General," Strange answered. "It's not the most pleasant thing in the world, being a living dead man."

"At least you can take off that make-up while you're down here," said Thorne. "I'd like to get a good look at you once more."

The G-2 ace shook his head.

"This isn't make-up, unfortunately. I'm taking no chances of the Nachrichtendienst's finding I'm alive. The role of Tex Kane isn't one that can be exposed by any slip in make-up. This baked look comes from a sun-lamp and special oils. With my eyes protected, I've quilted into the lamp for hours, to get these creases at the corners. I've an overlay fastened to my lower molars, to give that lantern-jawed look. My hair's dyed this sandy color, and so are my eyebrows. I've even injected a little paraffin into the sides of my nostrils to change their shape. The rest, of course, is a matter of altering my expression and my voice and walk."

"But, good heavens," expostulated Jordan. "you'll ruin your face with that stuff. You'll get it all out of shape."

Strange laughed.

"I don't sleep with the overlay in place and the paraffin can be squeezed out quickly, using heat. But let's forget Tex Kane for a minute. How much have you learned about the blue skull affair?"

"Mighty little," Jordan said grimly. "That's why I wanted to see you. Why did you run off and come back here just when things began to break?"

"I was chasing an old friend of mine—Hans Schweinhart, the fellow you called Brown."

"What?" howled Jordan. "You knew he was a spy, and you let him go?"

"I had a reason," Strange explained, describing the fight which had followed his pursuit of the spy. "I'll admit it was a mistake—I should have tried to get the drop on him there at the field. But you'd probably have had me seized before I could explain—and somebody might have taken a shot at me."

"Probably would," Jordan said gloomily. "But if we'd only got hold of that paper you've just told us about, it might have explained everything."

"I've an idea that—" Strange broke off as Muldoon appeared at the door. The sergeant was holding out a scribbled message.

"Just caught this over the air, Captain," he reported. "It's in our special code."

CHAPTER IV

INTRIGUE AT ISSODUN

"IT'S PROBABLY the name of that Jenny pilot," exclaimed Jordan. "I told Noisy Jay to send it on the special wave-length and in that code, as soon as he got it. He doesn't know, of course, for whom it was meant."

Strange took pencil and paper, swiftly deciphered the message. "It's a pilot, a Lieutenant Benny Todd," he told Thorne and Jordan. "Student in the primary school at Issodun. He had forty-three hours in the air. Came from Omaha. Nothing unusual in service record. Took off without permission at 10:17 this morning before anyone could stop him. Appeared upset about something, according to mechanic's report relayed by phone to Toul."

"A green kid from Omaha, muttered Thorne. "Why would the Boche have been after him?"

"He must have stumbled onto important information," said Strange. "The key to this thing is evidently at Issodun, and it must have a strong link with German espionage; for Schweinhart was one of von Zenden's pilots in the group that corresponded to our G-2 air unit, and he was obviously tipped off by his fellow."

"Then von Zenden himself must be mixed up in it!" rasped Jordan. "I've suspected his hand in these information leaks, and now it looks as though they're tied in with the killing of those aces."

"What about the blue skull?" Thorne said bluntly.

Strange gazed absently at the rug.

"Schweinhart tried to steer us toward the idea that it fell into the Jenny's wings from some mysterious source. I'd say that Todd had the skull with him and was bringing it to Third Wing. For some reason he was afraid to reveal his information at Issodun."

"That settles it!" Jordan said fiercely. "I'll find the answer if I have to tear that place wide open."

"Issodun's a big post," said Strange. "It would take a dozen agents a week to comb it thoroughly in regulation fashion, and the fish might slip through your net. Give me twenty-four hours to prowl around there, before you start a dragnet. Nobody would suspect Tex Kane of being connected for G-2."

"But what excuse will you have for being there?"

"I'll report in as a combat instructor," replied Strange. He went over to a typewriter desk. "Here's an Air Service order. General Thorne can sign the order, so there won't be any question about it."

"All right," said Thorne. "But what about your medical and service and pay records?"

"I'll take care of those," interrupted Jordan. "They're often delayed a week or more after a man reports at a new post, so there'll be plenty of time to fix up some fake ones and send them to Issodun."

Strange typed out the order, then watched Thorne sign it.
"Thank yuh, General," he drawled.  
"I shore do appreciate it. As I was tellin’ th’ Colonel here, I always sort of hankered to be a spy."

THE LAST VESTIGE of color was fading from the clouds beneath the Spad, as the twilight slowly deepened. Strange glanced at the clock, peered down through breaks in the clouds. By dead reckoning he was within ten miles of Issoudun. He eased the throttle half-way back, shoved the stick forward, sending the fighter down in a fast glide.

A gap in the clouds appeared about a mile ahead. He rudderred to pass through, then reversed course and shoved the throttle open again. A plane had just emerged from the cloud beneath him, was scudding along to plunge into the concealment of the next one. It’s wings were gray so that it almost merged with the dusk, but Strange recognized the fluttering white on its tail.

He nosed down, Hisso wide open, charging the Vickers as he dived. The Albatros was within two hundred feet of the cloud for which it was racing when the pilot jerked around in his seat. A freezing sensation went through Strange.

In place of a head there was only a ghastly blue skull upon the pilot’s shoulders!  
Weirdly luminous, it was as though some unearthly flame played around that leering horror. For a space of a second, the G-2 ace sat paralyzed at the stick, watching his own reproduction of itself soar away.

He booted the rudder, snapped around in a vertical bank that threw him inside the other ship’s turn. Vickers rapping, he hauled back on the stick, trying to bring the Albatros’ tail in his sights. With incredible speed, the blue-skulled monster reversed. A zigzag line of holes shot along the instrument board of the Spad, and shattering glass blew back at Strange! He threw his arm up in an attempt to shield his face, felt warm blood spurt as he yanked the stick hard back. As the Spad stood on the Albatros zoomed steeply. He waited a taut instant, with the grim realization that the tracerless guns might strike him down before he could finish his trick. Then the Spad’s nose snapped down in a furious windmill. It was only a fraction of a second that the other plane was under his guns, but he saw the tracers leap to the crouching thing in the cockpit.

With a surge of triumph, he watched them strike into the hideous blue skull. But to his amazement the figure did not fall. The leering skeleton face jerked about as though to mock him—then with a sudden plunge the Albatros vanished in the clouds.

Motor roaring, Strange went after it. The Spad burst through, five hun-

dred feet below, and he cast a quick look about the graying sky. There was no sign of the mystery ship. He was about to zoom back through the clouds, to see if it in turn emerged above them again, when it pitched into sight three hundred yards away.

Below and to the west, the four-stage field of Issoudun spread out vaguely in the twilight. Several planes were in the air, the nearest being two Spads which flew side by side toward the pri-


testive, but a swift turn, dived after them. Strange followed, wings screeching, his skilled fingers taking up the slack of the Vickers trips.

The two Spads abruptly split and zoomed, as the pilots saw the descending Albatros. The blue-skulled figure hurtled after the one on his right, and the Spad he pursued reversioned wildly. Strange jumped as the other Spad pilot raced past him to aid his comrade. It was one of the Jay twins!

A burst flamed from the first Spad’s guns, but it went wide of the Albatros in its trip, and shoved the rudder. His ship jumped sidewise in its screaming dive, and two cherry-red streaks lanced over the tail of the German ship. The blue skull twitched around frenziedly, and its hideous eye-

less sockets glared from Strange to the Jay twin’s ship. Before it could turn back, the other twin was charging in, Vickers clattering fiercely.

In a lightning turn, the blue-skulled figure plunged between the Jay twins’ ships. Strange whirled with a tight split-S, as the Jays were forced to cease fire at the end of their range. His guns, the Albatros was three hundred yards away, hurtling down at the advanced-stage field.

PHILIP STRANGE followed, holding his fire until he could get closer. Men were darting about on the field below, and the planes were scattering madly or trying to land. Like a hungry hawk, the blue-skulled horror pounced on the nearest plane. It was a Nieu-

port, a trainer devoid of guns. Strange saw it stagger in mid-air as the tracer-

less bullets of the masked Spandaus struck it.

The Nieuport plunged to the ground and burst into flames, and an ugly gne-

ssed, the Albatros above the burning ship, banking in a vertical turn. For an instant the blue-skulled killer seemed to leer down at the pyre of his victim. Then his right arm flashed up to his hideous head, and with a savage pull he jerked it free from his shoulders.

Leaning out, the headless figure hurled the blue skull down into space. The men who had run toward the flamethrower broke and fled in panic as the skull struck in their midst. Crouching over the controls, the headless killer fled away from the glare and into the shrouding gloom.

Strange had loosed a burst at long-range in a desperate attempt to save the man in the Nieuport. As the ship crashed and blazed, he had banked away to keep out of the geyser of flame which spurted up. By the time he could see past the inferno, the Albatros was zooming into the night. Hisso blazing, Strange raced after it, but the Albatros was too great. In another minute the killer’s ship was swallowed up in the clouds, and he now knew further pursuit was useless.

The Jaya were landing, and after waiting to be sure they would not be attacked again he flew for home base. Most of the crowd had gathered near the burning Nieuport, but a small group began to cluster around the Jays’ Spads as Strange taxied in and switched off his motor.

Both the Jays shoved through the gate and ran over to Strange as he climbed down.

"Thanks a lot!" exclaimed Noisy. You certainly saved our—" he stopped, as he recognized the supposed cow-puncher pilot. "Kane! How did you come to be here at Issoudun?"

"If you got eyes in yore head," Strange said, "I reckon yuh can see I come here in a Spad."

"Did you see what happened when that ship flew over the wreck?" Tom said excitedly.

Strange nodded. Tom stared toward the blazing Nieuport.

"Strange had it," Noisy said in an undertone. "I motioning to include Tom.

"We were sent here to check up on the Todd Case—and this blue skull devil is certainly hooked up with it some way."

Denton’s fat face was a trifle pale.

"Of course, it must be some horrible trick," he mumbled. "I saw the whole thing. He stuck her in the head!"

"If yuh don’t mind, Captain," drawled Strange, "could we adjourn this here meetin’ to th’ dispensary? This cut on my arm don’t hurt much, but it’s sort of leaking—an’ my extra duds won’t be here for some time yet."

"I didn’t notice you were wounded," said Denton, stiffly. "Come along—all three of you!"

As they went toward the dispensary, the Jays hurriedly described to Denton what had happened, including the puzzle at Toul that morning.

"The report we got didn’t mention any blue skull in connection with Todd," said Denton. "All we heard was that
he'd been shot down mysteriously."

"We reported it that way so the story of the blue skull wouldn't get around," explained Tom. The assistant chief of G-2 sent us here to check up on Todd's background. If anyone asks, tell them we're just a couple of combat pilots sent here for instruction duty."

"What about you?" Denton said to Strange. "Are you with G-2?"

"Nope, I ain't smart enough for 'em," Strange said dryly. "I offered my services to the head mogul, an' all I got was a kick in th' pants."

"Then what were you doing this far from the Front?" demanded Denton.

"I was aimin' to report, peaceable-like," replied the G-2 ace. "Th' name's Cap'n Tex Kane, just up from th' Casu- 

"I thought you were ordered to the ace patrol," Noisy broke in sharply.

"That was afore I took a notion to borrow th' general's car this mornin'," Strange said ironically. "You 'an' some has got th' same habit of gettin' riled up, you'll be lookin' for a minute or two, you'll be goin' to send me packin' off to Blois, but he finally said he reckoned this place would take th' starch out of me."

"You'll soon find yourself in Blois, if you start any trouble here," Denton said disparagingly.

THEY had by this time reached the dispensary, and Denton turned to dismiss the two lieutenants, who had followed them.

"Wait," said Tom Jay. "They might be helping us check up and find out who knows Todd."

"That's a big order," the other man said dubiously. "There are several thousand men on this station. But I'll see what I can do. You go ahead, and I'll join you inside."

Strange ambled into the hall-way, with the Jays behind him. As the door closed, he shot a quick look around to be sure that no one was near, then turned to the twins.

"Yuh may not want my advice," he drawled, "but if I was aimin' to get th' lowdown on this fellow Todd, I'd sort of nose around private-like an' find who's packin' up his stuff to send home. Ten to one, it's th' sky-wrangler what was his buddy."

"That's a good idea, Kane," said Tom Jay. "I'll duck out that side door and see what I can learn. Noisy, you stay here—I'll call or meet you here in half an hour."

A few moments after he had gone, Denton came in. The fat captain looked around the hall.

"Where's your brother?" he said to Noisy.

"He went to look at that blue skull," Noisy told him.

"I saw what was left of it after it hit the ground," said Denton. "It was just an ordinary skull, painted blue on the outside."

He led the way across the darkening field to the office, where a sallow Medical Corps lieutenant stood gazing out of a window toward the burning Nieu- 

"Fix up this man's arm," Denton said curtly.

"What happened out there?" exclaimed the lieutenant, as he motioned them into the first-aid room. "Does the crash-squad need any more help?"

"No, the Nieuport pilot was trapped in the wreck," Denton said gruffly. His eyes shifted toward the top of a medic-

"The medical officer started to sterilize the cut. He was almost finished when the roar of a fast-descending ship made the windows rattle. Denton peered out toward the field.

"Looks like Doctor Murdock's S.E.5. I suppose he's been making another experiment."

"Some fool test about night-vision," said the lieutenant irritably. "If it isn't some freak idea like that, he's always puttering around with that new ambu-case. I do all the work and he hogs the credit."

"He's your superior officer," snapped Denton. "Keep your tongue in your head, or you'll find yourself in trouble."

In sullen silence, the medical officer began to bandage Strange's arm. A minute later, he was lacing up the boot with heavy flying-cost entered the room. There was about him the crisply precise manner of a surgeon, and his carefully trimmed graying Van Dyke beard completed the picture. But not even his coolly profes-

"That's what I was drivin' at," Strange said mildly. He leaned against the table, fished out his tobacco and papers with his free hand. "Yuh get any other news?"

Noisy hesitated, turned to the flight-

"Since you're in on part of this, you might as well know all of it. I've ex-

"Murdoch!" exclaimed Denton. "What's the matter? You look as though you'd seen a ghost."

"I've had an incredible experience," said the flight surgeon in a low voice. He hesitated, looked from Strange to Noisy Jay. "It was near Bourges, about forty minutes ago. I was flying just under a cloud, making a night-vision test, when a gray ship glided down almost in front of me. Denton, you think I'm stark mad—but the pilot of that ship was a blue skeleton!"

His assistant gaped at him, but Den-

"You're not mad. I already know about that—the thing struck here about half an hour ago. The story will be all over Issoudun by midnight. You saw that flamer out there?"

"Yes, said Murdoch, "but I didn't stop to find out what happened. You mean—?"

"Your blue skeleton brought it down," said Denton grimly. "It's ob-

"Murdoch drew a long sigh of relief.

"I thought for a while I was losing my mind." He picked up a scalpel, absentmindedly toyed with it while he watched his assistant bandage Strange's arm.

"The ship zoomed back into the clouds as fast as I could look back. I think I'd imagined the whole thing."

"I reck'n yuh wouldn't have had no doubts if yuh'd been in my Spad," Strange said drily. "Th' critter could shore gallop a sky-buggy."

Murdock gestured to the Medical Corps lieutenant as the man finished the slings for Strange's arm.

"Wait in the front office," he ordered. As the officer departed, Murdock turned to Strange. "You can come back tomorrow for another dressing."

His glance of dismissal included Noisy and Jay, but Noisy did not budge.

"I'm from G-2, sent here to investigate this blue skull affair," he hold the frowning surgeon. "Captain Kane, you'd better wait a minute. There are some points in your story I'm not clear about yet."

A'S STRANGE halted, the telephone rang. Murdock put down the scalpel and started toward it, but Noisy reached it first.

"I'm expecting a call," he said. He answered, and by his expression Strange knew it was Tom who was calling. After a minute, Noisy put down the phone, a queer look on his face.

"Top that one!" he muttered. "Thiers just reported that a blue skeleton flew over the drill-field in a gray ship, twenty minutes ago and also threw its head down at the crowd."

"But—sort of cuss, ain't he?" said Strange. "This is no time for jokes!" Noisy said angrily. "Do you realize what it means? There's more than one of those devils. He couldn't have been all three places in the last forty minutes."

"That's what I was drivin' at," Strange said mildly. He leaned against the table, fished out his tobacco and papers with his free hand. "Yuh get any other news?"

Noisy hesitated, turned to the flight-

"Since you're in on part of this, you might as well know all of it. I've ex-

CHAPTER V

DOUBLE MASQUERADE

"Murdoch!" exclaimed Denton. "What's the matter? You look as though you'd seen a ghost."

"I've had an incredible experience," said the flight surgeon in a low voice. He hesitated, looked from Strange to Noisy Jay. "It was near Bourges, about forty minutes ago. I was flying just under a cloud, making a night-vision test, when a gray ship glided down almost in front of me. Denton, you think I'm stark mad—but the pilot of that ship was a blue skeleton!"

His assistant gaped at him, but Den-

"You're not mad. I already know about that—the thing struck here about half an hour ago. The story will be all over Issoudun by midnight. You saw that flamer out there?"

"Yes, said Murdoch, "but I didn't stop to find out what happened. You mean—?"

"Your blue skeleton brought it down," said Denton grimly. "It's ob-

"Murdoch drew a long sigh of relief.

"I thought for a while I was losing my mind." He picked up a scalpel, absentmindedly toyed with it while he watched his assistant bandage Strange's arm.

"The ship zoomed back into the clouds as fast as I could look back. I think I'd imagined the whole thing."

"I reck'n yuh wouldn't have had no doubts if yuh'd been in my Spad," Strange said drily. "Th' critter could shore gallop a sky-buggy."

Murdock gestured to the Medical Corps lieutenant as the man finished the slings for Strange's arm.

"Wait in the front office," he ordered. As the officer departed, Murdock turned to Strange. "You can come back tomorrow for another dressing."

His glance of dismissal included Noisy and Jay, but Noisy did not budge.

"I'm from G-2, sent here to investigate this blue skull affair," he hold the frowning surgeon. "Captain Kane, you'd better wait a minute. There are some points in your story I'm not clear about yet."

A'S STRANGE halted, the telephone rang. Murdock put down the scalpel and started toward it, but Noisy reached it first.

"I'm expecting a call," he said. He answered, and by his expression Strange knew it was Tom who was calling. After a minute, Noisy put down the phone, a queer look on his face.

"Top that one!" he muttered. "Thiers just reported that a blue skeleton flew over the drill-field in a gray ship, twenty minutes ago and also threw its head down at the crowd."

"But—sort of cuss, ain't he?" said Strange. "This is no time for jokes!" Noisy said angrily. "Do you realize what it means? There's more than one of those devils. He couldn't have been all three places in the last forty minutes."

"That's what I was drivin' at," Strange said mildly. He leaned against the table, fished out his tobacco and papers with his free hand. "Yuh get any other news?"

Noisy hesitated, turned to the flight-

"Since you're in on part of this, you might as well know all of it. I've ex-

"Murdoch listened with an expression of amazement. "I remember Todd," he said, when Noisy had finished. "He had trouble with the hearing test. I had him in the 'dark room' for an hour before I decided to pass him. But he seemed a harmless youngster—I never dreamed he could be linked with any kind of intrigue."

"We'll probably know a lot more in a few minutes," said Noisy. "My brother's found Todd's closest buddy, a fellow named Boone, and they're on the way over here in a car. From what I could make out, Boone knows something. He got scared when the blue skull was mentioned—and he hadn't had time to hear about these other things."
"Well, I reckon yuh won't need me any more," said Strange. "I better be moseyin' along an' findin' me a bunk.

"Hold on," interrupted Noisy. "I want to know why you took off so sud- denly this morning at Toul."

"I've got a sort of notion maybe if I was to get above them clouds I'd find me some Boche," drawled Strange.

"You were gone at least five hours," Noisy said suspiciously. "You hadn't come back when we took off. Where were you all that time?"

Strange shifted awkwardly from one foot to the other.

"Yuh shore can pin a man down. If yuh got to know, I was huntin' around down by them foothills beyond Lune- ville, till my gas was about to give out. Then I spotted three Fokkers an' if my tank had been close to empty I'd've barged into 'em."

"Where did you land?" Noisy demanded.

"Down to the Frog drome, at Epinal. Had some chow, gassed up, an' came back to Toul. Reckon yuh must've just took off and run smack into th' general an' after lambastin' me for takin' his car he sent me kitin' over here."

"Let's see your orders," said Noisy. Strange produced them. Noisy read them carefully, looked at the signature, and handed them back.

"If you can go," he said in a disgruntled tone. "After this, I'd advise you to keep out of things that don't concern you."

"Reckon maybe I will," said Strange, and started out. But before he could reach the doorway, Tom Jay burst into the room, his face bruised and his uniform disheveled.

"They got Boone!" he shouted.

"Who? Where?" demanded Noisy.

"I don't know who—they jumped me just as the car stopped—slugged the driver and dragged Boone out. It was too dark to see their faces clearly—but they waited till the car was gone."

"Come on!" snapped Noisy. "We've got to find him. What's he look like?"

"Kind of skinny—he's got light hair and he's not very big."

Noisy whirled around at the door.

"Captain Denton, we'll need your help for a minute or two."

"I'll get some men," Denton said hastily. And he ran to the phone.

Strange had pushed by Tom and was already in the outer hall. He opened the door, stepped out into the gloom and jerked the notched pistol from his right-hand and opened fire. The trio raced out, he jumped in front of them, the six-gun grimly aimed.

"Keep quiet!" he rasped. "Get back over there behind that hangar!"

C O M P L E T E L Y S T U N N E D; the twins backed away, their hands raised. Strange drove them swiftly out of sight from the dispensary, keeping his gun lifted so that its blued steel shone dimly in the darkness.

"You'll hang for this, Kane!" Noisy said in a voice hoarse with fury, as they stopped behind the hangar.

"Brace yourselves for a shock, you two!" Strange said tensely. "I've got a message for you from Colonel Jordan—it's about Captain Strange."

Both the twins were leaning forward startled by the sudden absence of his cowpuncher dialect.

"Jordan? If I lie to you about Strange, the G-2 ace rushed on. "He was hurt—but he wasn't killed that night at Chaumont. He's been hiding—"

"Phil!" gasped Tom Jay. "Phil—it's you—you're alive!"

Noisy gave a cry that was almost a sob, and caught Strange's arm.

"Lowered the gun. And he was moved by the tears that came to Tom's eyes.

"Sorry I had to do it this way," he said huskily. "But those devils forced my hand."

"Why didn't you let us know you were alive? "Noisy asked in a shaken voice.

"All this time—"

"I know, old fellow—but I can't explain now. We're in a tight spot, all three of us. Noisy, I want you to get to Communications as fast as you can. Show your G-2 credentials, and get a priority-rush phone call to Thorne or Jordan at Toul. Tell them to have the entire ace-patrol concentrated at Third Wing, as fast as possible. Give them this number—R-964—then they'll know who you're working with. After you get the call through, have a Communications wireless operator tune in on G-2's 'C' wave length and be ready to relay a code message to Tom."

"Tom, you'll have to work fast. I want you to get a ship with wireless equipment and take off at once. Circle at five thousand feet and follow the ship on which you get a signal. Noisy will be back here as soon as he gets the call through and the other part arranged. Now, Noisy, get this straight: Some one will come out of the dispensary and take off in the next hour, but not before the next thirty minutes. There may be one man—or several, in which case they'll have to use a large ship, or some two-seaters. No matter who it is—stay out of sight and wait until they're off, then phone Communications and they'll flash a code signal to Tom."

"You'll have to fly like the devil himself to keep in sight and not let your ship be seen—but you've got to find where those men land. As soon as you're sure, head toward Toul. Wait until you're at least thirty miles away before you use your transmitter. Then send the location of the place where they land, using the 'C' wave length and 'E' code. Jordan will be listening in, and as soon as he gets that signal, he'll flash word to the ace-patrol. They're to wipe that place off the map!"

"But if you know this much—" protested Tom.

"I don't know. I'm only guessing—but if my guess is right, there'll be no time to work it any other way."

"You're taking some big risk—I can tell it!" Noisy said anxiously.

"I'm okay," Strange smiled crook- edly at them in the darkness. "Now remember, I'm counting on you. Sneak along behind the hangar and keep in the shadows until you're well away from the dispersal. Get a sort of last look."

He silenced their whispered protests, waited until they had vanished in the darkness. Creeping back to the end of the hangar, he watched until he saw a figure stealing along toward the rear of the dispensary. Without a sound, he followed the tiny shape. The man before him halted, but before he could whirl around Strange jammed the gun in his ribs.

"Reach for th' sky!" he grated. "Turn around—slow an' easy!"

Kane spluttered a voice, and Strange recognized Denton's fat face, a round blur in the dark. The captain had a .45 at his hip.

"Reckon I'm a mite off-base," Strange said sheepishly. "I took yuh to be one of them polecats what made off with Boone."

"I was looking for them, too," Denton said, breathing hard. "You certainly startled me. Where are those twins?"

"Huntin' down along th' ackemmas bunkhouse," lied Strange. "If yuh ask me, they could poke around all night an' not find th' orneray coyotes. Funny thing is, what they 'em out, if th' one that tagged along with me hadn't given me such a goin' over."

"What do you mean?" Denton said quickly.

Strange hesitated a second or two.

"Reckon I can't wrangle it alone," he mused. "But if I was to tell yuh, how do I know yuh won't try to grab all th' glory?"

"If you can straighten out this mystery, I'll see you get full credit," Denton said hurriedly. "You've found out something, then?"

"I shore have. But let's go inside, so we can talk private-like."

M U R D O C K met them as they entered the dispensary. Denton looked questioningly at Strange. "We'd better have Doctor Murdock in on this, Kane, since he already knows so much about the situation."

Strange scowled. "I wasn't aimin' to tell th' whole Army. Howsoever, maybe it won't hurt none."

"Kane has a clue to the blue skull mystery," Denton hastily explained. "If we can talk without being overheard—"

"Yuh was right—" said crisply. He led them back into the first-aid room, closed the door. "Now, what is it? Did you find out who seized Boone?"

"Nope," Strange said laconically.

"It's about this kid Benny Todd. Like I told yuh, I was at Toul when he cracked up. Fact is, I was th' second party to get to th' wreck. First one was a sky-hand called himself Brown—but I got a notion it weren't his right name."

"Why?" demanded Murdock.

Strange started to roll a cigarette, ignoring the surgeon's impatience.

"Main reason is, he was a Heinnie. I spotted him sneakin' a paper out of th'
blue skull, an' I figgered right off he was a spy when he stuck it in his pocket. Like I told them smart-aleck Jay sprats, I always sort of hankered to catch me a skulker.

"Never mind that!" snapped Murdock. "What happened to that paper?"

"Hold yore horses," drawled Strange. "I'm a-comin' to it."

Dragging out every detail, he described how his suspicions of the courier-pilot had led him to follow to the hope of establishing himself in the good graces of G.H.Q. Beads of sweat were standing out on Denton's forehead by the time Strange got to the contact with the folkers.

"What happened to the message?" he broke in hoarsely.

"Well, he was spucked up, an' he had th' paper on him—but don't worry, th' message weren't lost. That's what I was doin' all th' afternoon—I put down in a meadow close as I could get, an' went down into th' canyon. Mighty near broke my fool neck—" said Denton rasped Denton. "Let's have it!"

"Not so fast, pardner," said Strange. "I aim to be certain I'm not lost out of—" he stopped, gaping at the automatic which had almost miraculously appeared in Murdock's hand.

"That's the message!" snarled Strange. "I've gotcha!"

"Keep still!" Murdock reached out and unbuttoned Strange's six-gun belt. "Now, I'll give you five seconds to hand over that message."

"I know the cards, mister," Strange said grimly. "It's hid in a safe place—an' I ain't tellin' where."

"Search him," Murdock ordered, and Denton hastily went through Strange's clothes. Eyes slitted, the G-2 ace watched the face of the man called Murdock. The searcher was perfect. Unless he had been on the lookout, he would never have guessed .

Denton swore under his breath as he turned the last pocket inside out. "It's not on him, Karl.

Strange felt his pulses begin to pound. The false surgeon was Karl von Zenden—the Ace of a Thousand Faces!

"It must be hidden in his plane," the Prussian said in rapid German.

Strange let a look of ludicrous amazement come into his face.

"Heinheels! Why, yuh dirty sneakin' coynot!"

"Be still, Schwein!" von Zenden said furiously. He looked around for the spalpeil he had towed with before, and then, failing to find it, lifted his gun ominously. "Another shout like that and you will be dead."

"Shout, damn yuh!" grated Strange. "Yuh don't care—them Jay kids'll be back here pronto, an' a corpse'd be kind of embarrassin' to have around."

"He's right, Karl," moaned Denton. "And there's Boone, locked in the dark room. When he recovers his senses—"

"We'll have to get them both away from here," snapped von Zenden. "Send in Schneider and Brucken, and then order the ambulance plane started. Most of the crowd will still be at the wreck. We'll take this blundering fool and Boone out on stretchers. While the folkers search through his pockets and look for Kane's Spad and search for the message. If you can't find it, put a time-grenade in it so it will blow up and burn the plane after we take off. We can't risk anyone's decoding that list—it had the name and present station of every agent-pilot we have—enough to unhinge a whole school."

Denton disappeared, and in a few moments two taut-faced second lieutenants entered. They were the same ones who had been with Denton before.

"Gag this stupid pig and tie him to a stretcher," von Zenden ordered curtly. "Then do the same for Boone. We're taking them to the old field at Geranne."

Ten minutes later, covered with a sheet, Strange was carried out through what he guessed was the rear door of the dispensary. The stretcher was roughly shoved into a plane, pulling the sheet partly off. As his eyes became accustomed to the gloom, he saw that ambulance ship was a converted Handley-Page bomber. Another figure in a stretcher lay beside him, and there were two spy-lieutenants were seated nearby.

"I can't find the message," he heard Denton say anxiously, then he saw the fat spy start forward with von Zenden. "So I set the grenade as you said."

"This peasant swine may have lied to us," von Zenden answered. "I'll get the truth out of him after we land."

He climbed into the pilots' compartment, and the Rolls Royce motors revved up for the take-off. Strange felt a shiver run down his spine as the ambulance ship swung into the wind. He had deliberately put himself into von Zenden's hands in order to ferret out the secret, relying on his wits to extricate himself. But if the Prussian ever penetrated his cover, he knew this time he would be finished.

The ambulance plane soared into the air, climbing steeply. Strange gazed up at the dark-shrouded windows. Somewhere above Issoudun, Tom Jay would be circling, waiting. But even if Noisy had carried out orders precisely, it was going to be difficult for Tom to follow the converted bomber. It was a hundred and sixty miles to Geranne, and if von Zenden suspected he was being followed he could easily shoot off pursuit by flying in the clouds for a while.

To get his mind off Tom's problem, Strange forced himself to recall what he knew of Geranne. Von Zenden had undoubtedly referred to the old drome before 135th Beaucillon, ten miles from Geranne, which the French had abandoned a year ago. A hangar and two or three shops had been left there, and occasionally the field was used as a reserve drome during an offensive, but the Allies had not occupied it for at least two months. It was evident that von Zenden had selected it as a secret meeting-place for the spy-pilots he and Denton had "graduated" from Issoudun into various American squadrons.

CHAPTER VI

THE TRAP

On the basis of what he had learned, Strange could fit in most of the Germans' scheme, though the blue skull angle still puzzled him. Obviously, von Zenden had managed to remove the real Murdock and had taken the flight-surgeon's place, delegating most of the work to junior medics to hide his presence. Murdock had probably been planted at Issoudun in the same manner, so that he could issue false service and pay records to cover the spies entering Issoudun as rookie pilots, while von Zenden handled the medical-record phase. During physical examinations, it would be easy for the Prussian to slip any necessary information to the German entrants, who would then go on through the training course.

Once graduated from the school, the spy-pilots were sent to various places where they could absorb information, drop messages across the lines, and shoot down Yankee flyers when safe from observation. This was undoubtedly the answer to the killing of the American aces, as well as the leaks of information.

But something had slipped—and the key to it was the blue skull which Todd had been carrying to Toul.

Strange had a vague idea of what had happened, but that part was not important now. It was clear that the other blue skull incidents had been created by the Germans in a desperate attempt to do a bum rap before the Todd case and make it seem just one of several attacks by some Boche playing a fantastic role.

After a futile test of his bonds, Strange gave up any idea of trying to free himself while in the ship. The big sky pilot saw that the timeout to do a brave-act-on-an-interminable time. Boone recovered his senses, began to tug against the ropes which held him. The Boche named Schneider kicked him savagely, and Boone groaned, ceased to struggle.

Soon afterward, the motors died to a rumble, and the Handley-Page went down in a slow spiral. As the ship landed Strange caught the fitful blink of a light outside, then the big plane came to a stop. Several men appeared at the door of the cabin, but Strange could not hear what they said above the noise of the engines. Two of the spies dragged out his stretcher, carried him into a shop which had been converted into temporary quarters. A candle was burning, and he saw that the windows were heavily covered with canvas and burlap.

In a moment, Schneider and Brucken came in with the other stretcher, von Zenden and Denton behind them. At the Prussian's elbow was an ugly Boche who looked more like a dressed-up gorilla than a human being. Boche was the only one who wore a German uniform. Strange saw that his collar bore the stars of an Ober-Leutnant.

"Don't bother to explain, Leutnant Munck," von Zenden was saying lofty,
“Save your breath for the court-martial board. I told you to drop the skull at St. Pierre—not Thiers. Instead of leading them to think the ‘blue skull ace’ was heading for the Front, you proved they were at least two of them. If their Intelligence gets to thinking very hard, they may guess it was a trick to draw attention from Todd and Issou- dun.”

“But the order said Thiers, Excellenz,” groaned Munck. “Some one else may have stayed behind.”

“I’ll look into it later,” rapped the Prussian. He motioned peremptorily to Schneider. “Untie Kane. I want him searched again. Cut the lining of his clothes and rip open his boots, also that gun-belt I took from him. The fool may have sneaked it up inside.”

Strange went cold as he listened. There was one place von Zenden had overlooked—his bandaged arm, evidently because he had been there while the bandage was being put on. If the Prussian found what he had hidden there, his chances of escape would be reduced to zero.

Schneider knelt and made quick work of the knots.

“Hoch!” he said gruffly. Strange gave him a blank look.

“He’s only an illiterate swine,” sneered von Zenden. “How do you expect a Prussian to understand when you say Hoch?”

“I forgot, Excellenz,” said Schneider. He prodded Strange with a Luger. “Stand up, dumb-head!” he said in English. “Take off your jacket.”

THE G-2 ACE gingerly unfastened the buttons, took his arm out of the sling. The Boche roughly pulled the coat off. Strange winced, though the pain was not severe. If he could keep them thinking there was no danger from that arm . . .

“Leutnant Munck,” von Zenden’s sharp voice broke in on his thoughts, “have you the duplicate of the code list which was lost this morning?”

“Ja, Excellenz,” replied the ugly German. “I am ready to return to Strasbourg with it.”


“Feldwebel Heintz, from the wireless post, Herr Oberst!” said an excited voice. The Prussian opened the door, and a thickset man in khaki burst in.

“I just caught a message from Z-33, Herr Oberst. The American air force is being concentrated at Toul.”

“Himmell!” Denton exclaimed. “They must be up to something. Karl, could those verdammten twins have tricked us?”

“Impossible!” snarled von Zenden. “They never had enough brains to trick me—and since Strange was killed they have been worse than ever. However, that is a chance we won’t overlook. Brucken, have the bomb-racks of the Handley-Page filled as fast as possible. Gott sie Dank, their Air Service refused to remove the racks when I converted the ship for our special use.”

Brucken dashed out, two or three men at his heels. Von Zenden whirled to one of the other spies.

“How many pilot-agents have been able to get here for the conference?”

“Seventeen,” answered the Boche. “The Handley-Page will approach Toul at dawn. He’ll have lights on it, they’ll never suspect an ambulance plane. The fighters will approach at high altitude, and glide with motors throttled until in attacking range. The Handley-Page will drop its bombs, and the fighters will follow up with a strafe of the Third Wing headquarters. That’s where the ace will be having the meeting with General Thorne and that pig of a G-2 colonel. We’ll get them all at once.”

Strange gave no hint that he understood von Zenden’s rapid German, but his heart was like ice. If Tom Jay had failed, then Thorne, Jordan, and the entire patrol would be caught in the trap he had planned for Von Zenden’s spy-pilots.

“Munck, you’ll stay here,” von Zenden said curtly, as the ugly Boche started out with the other pilots. “You can help Schneider guard the prisoners. I don’t want any of them having a searchlight on them. I want them forced down with that uniform on. The whole scheme might be given away.”

“I could wear the gown with the eyes,” said Munck eagerly. “The one I used in the skeleton trick.”

“You heard my orders!” rasped the Prussian. “Be back here before dawn and strout out the night. Munck glowered at Schneider.

“Fine business, doing jailer’s duty.”

“Keep this Dumkopf Amerikaner covered,” responded Schneider, “while I go through his coat.”

“Why not shoot him and be done with it?” demanded Munck.

“Der Oberst wants to question him,” said the other, tartyly. Outside, motors roared, settled into a steady thunder.

Strange stood against the wall where he had been shoved, his slitted eyes fixed on the six-gun belt. It lay on a table beside Munck, twisted so that one of the pistols was uppermost.

His bandaged arm hung limply at his side. Twice when Munck’s eyes shifted to Schneider, he gave it a twitch, and each time he could feel the hidden scalp slide under the loosened bandage. He had stolen it from the dispensary to get von Zenden’s fingerprints, before he was sure that it was really the Prussian. Months before, he had obtained a thumb-print left by the impersonator, and this had afforded a quick check-up. The quick change in events at Issoufond had made the check-up impossible, but he had kept the knife hidden in anticipation of its use in his desperate plan.

The gorilla-like Munck stood facing him, a Luger in one hairy hand, while the other hand clung to the other man’s jacket. After a moment, Munck’s eyes flicked to the stretcher on which Boone lay. The rookie was still covered by a sheet, and he had not moved since he was brought in. Munck leaned over suddenly, jerked the sheet off. The gagging spirit startled up, his thin face white with terror.

The instant Munck bent over, Strange reached behind him and snatched the scalpel from under the bandage. Slight as the movement was, the Boche caught it. He jumped around, whipping the scalpel back. Strange jumped aside as Munck fired, and like a flash of light the scalpel went hurtling through the air. There was a horrible, gasping sound as the whizzing knife buried itself in Munck’s throat. The German’s body twitched. Then he staggered and fell to the floor.

Schneider had sprung around as the Luger crashed. He sprang frantically for the fallen gun, but Strange was on him in a split-second. A terrific right hook sent the spiky thudding back against the wall. Strange slammed another blow to the point of his chin and Schneider toppled beside the dying Munck.

PULLING the scalpel from the German’s throat, Strange hastily cut the ropes that held Boone. As he untied the gag, the younger shrank back. Strange smiled. “I didn’t do anything. Benny only swiped the skull from the dispensary for a joke—he was going to paint it and put it in our instructor’s room to scare him when he came in from a binge—”

“I ain’t goin’ to hurt yuh!” Strange cut off the torrent of words. “Get on yore feet—we’ve got to move fast.”

He buckled on the six-gun, wheeled and thrust Munck’s Luger into Boone’s hand.

“Todd must’ve found a spy-message in th’ skull, while he was paintin’ it,” he told the fretful Gentleman. “I reckon he doped it out Murdock and Denton was spies, and they got wise an’ was after him. That’s why he lit out for Toul.”

“Where are we now?” Boone said fearfully.

“Old Frog drome, near Geranne.” Strange blew out the candle, took Boone’s arm. “All yuh got to do, once we’re outside, is sneak into them woods back of th’ hangar. Work along the edge to th’ road, then make for th’ village an’ tell th’ M.P.’s what’s happened.”

He opened the door cautiously, saw the flare of exhaust stacks three hundred feet away. Boone scurried away in the darkness. Strange worked the fingers of his stiffened left hand as he stole toward the nearest ship.

His hands were on the butts of the six-guns when a flash of light abruptly halted him. Some one was illuminating the ground for the Handley-Page to take off. In the edge of the beam he
could see von Zenden preparing to don a hooded blue robe. Another Boche stood by him, holding a blue skull, with a strap-harness to hold it in place on the Prussian's head.

The spy-master slipped the robe over his head, adjusted it so he could see through the eye-holes. Climbing into an idling gray Albatros, he reached out for the skull.

Meanwhile, Strange had crept toward the nearest ship, a khaki-colored Nieuport. The pilot was a few yards away, talking with Denton and another spy.

The Handley-Page lumbered across the field, soared into the gloom. Strange was within ten feet of the Nieuport when the in-flight beam swerved to aid von Zenden in taking off. Denton jumped back in consternation as Strange was revealed in the light, and both the spy-pilots snatched at their pistols.

Fast it was almost a blur, Strange whipped out the six-guns, Flame streaked from both muzzles, and the two pilots fell. One wild shot blazed from Denton's automatic before the crashing six-guns ripped him in his tracks.

Strange holstered the guns, made the cockpit of the Nieuport in a flying leap, and sent the fighter roaring after the Handley-Page. Close behind him came von Zenden's gray Albatros, leading the spy-pak.

Strange climbed at full speed. The next minute would hold the answer, for there was only one way he could stop the Handley-Page. One hand on the flare-toggles, he watched the altimeter. Tracers shot past his wingtip, as von Zenden aimed at his glowing stacks. Strange flung a hasty look over the side, jerked both flares loose and dived.

Dazzling light burst out above him, and he saw the ambulance ship.

Wings screaming, he hurtled after it. A furious burst gouged his left wing, sent him careening into his cowl, and crouched behind his thrashing guns. The red-crossed wings of the ambulance plane were coming into his sights—but the whole spy-pak was at his back!

But suddenly more flares bloomed overhead, and into their white brilliance hurried the ace patrol! Like demons, the infuriated Yanks dropped on the panic-struck Germans. With a gasp of relief, Strange jerked his eyes back to his sights. His spraying Vickers drilled through the red-crossed wings, and with a violent detonation one of the bombs blew up. The shattered wreckage of the Handley-Page went flaming to earth.

Strange channeled, shot back at the Albatros. Von Zenden was clawing at the blue skull, trying to rid himself of its betraying presence, as he raced toward the darkness beyond the flares. Strange whirled after him, the memory of that murder-night in Chaumont hot within him.

Von Zenden jerked around, the blue skull bobbing on his head as the Vickers poured their fiery burden into the gray ship's tail. Strange eased the stick back, guns blasting. The Prussian gave a wild leap and crumpled over his controls.

For a moment Strange thought he was finished, but with a mighty effort the wounded spy-master pulled himself up and fled into the night.

The receding stoked above the flares, but the Albatros was gone. He turned, saw the last battered spy-ships trapped under the guns of the ace patrol. The Yanks had no need of him now. Banking quickly he flew South toward his lonely Vosges canyon.

National Air Race High Spots

(Continued from page 11)

one in the ship.

Steve Wittman and his "flying barn-door" had no difficulty in staying in third place at any time. As for Joe Mackey, he flew Roscoe Turner's Weddell-Williams right behind Chester's Goose for 18 laps without being able to pass Art. Beginning the 19th, however, he finally managed to whiz by Chester to take fifth place. Then he started after Leigh Wade, flying fourth. Wade, buzzing along quite high in the Military Aircraft Special—the rebuilt and remodeled version of Frank Hawkin's Time Flies—saw Mackey pass him on the 24th lap, and he was forced to stay behind Joe. With the last lap, then, suddenly making a sensational bid, he passed Mackey by coming down lower and putting on a real burst of speed. Thus he regained fourth place, and roared over the finish line in that position.

After being passed by Mackey, Chester's Menasco began to circle the Menasco to overheat and miss. This forced him to land after 20 laps. Joe Jacobson and his & Ball then attained sixth place, which was conceded to him after 27 laps when all other ships were down. Crosby, the only remaining competitor, caused much trouble to the other flyers, since he did not even take off until the leaders had completed their first lap. Even then, landing gear trouble forced him to fly with his right wheel fully down. And when on top of it all exhaust gas started to get him, he landed after 10 laps.

A very fine looking plane that did not make an attempt to qualify was Mr. Smoothie. A great deal of money had been spent in its construction. But being completed just a few days before the races, it was not in readiness and so remained idle. It shows promise, however, and should be heard from again later.

When the Thompson contest began, the sun was very bright. But a bank of clouds soon took away the glare and reduced the temperature several degrees as well. This undoubtedly aided the pilots and prevented an occurrence such as happened last year when blinding light kept Turner from knowing whether he had rounded one of the pylons or not. To be sure, he went back. But this lost him time in the closing minutes, and being too much to overcome, he lost.

The Bendix cross-country dash was rather true to form, and complete results are shown in our accompanying table of events. Facing all kinds of weather and terrain, the Bendix flyers always find things quite different from those problems encountered by the closed-course racers. It may be added as a new thing this year prevented the same ship from flying in both the Bendix and pylon races, as was previously done by some pilots.

Roscoe Turner was the winner of the Henderson Merit Award, based on points won in the racing events. His total was more than that of Jacqueline Cook, who, because of extra points he garnered for himself by setting a new Thompson record. Crowds at the field set a new record also, with 110,000 in the stands on the final day. An extra crowd well over even that number saw the races that day from vantage points outside the fenced-in enclosure.

H o s t s of stunter and parachute jumpers entertained the crowds during the early part of each afternoon. In one spot-jumping contest, the winner,
Johnny Dunkle, came within 10 inches of the center of the circle—a very spectacular drop! Faye Lucille Cox and four men jumpers gave delayed drop exhibitions. What’s more, special mass jumps by groups of some thirty “silk hoppers” literally filled the sky with chutes.

The German, Count Otto Hagenburg and Roumania’s Capt. Alex Papana each performed in a Buckler Jungmeister. Another foreign ship—the queer Fieseler Storch—boasted several groups of slots and flaps, some even being on the tail surfaces. Aided by these devices, it duplicated, with Emil Kropf at the controls, the antics of an Autogiro flying close to it.

Harold Johnson went through his popular bag of tricks in a ponderous Ford trimotor, then duplicated these stunts in a little Continental Special he built from a Laird biplane. Tex Ran-kin, in his Menasco-powered Great Lakes special, operated a novel apparatus which ejected pink smoke. Thus he duplicated the dives of flaming ships as portrayed in the aero movie epic, Men With Wings.

On hand again, too, was Mike Murphy with a new show—that of landing and taking off from the dirt field in an Edo-float equipped Piper Cub! He also flew in a dual “crazy flying” exhibition with Capt. Dick Granere, who also did a solo act. Murphy’s other duty was to lead the four Linco Aces each day in their intricate sky-writing.

Gilding was likewise on the program, with a champion trio—Ted Bellak, Emil Lehecke, and Chester Decker—putting on a motorless flight display in sleek soaring craft. In addition, a German girl, Hanna Reitsch, stunted close to the ground in a specially constructed Habitch sailplane. And another German visitor was the four-engined Hamburger seaplane which flew across the field, then moored later in nearby Lake Erie. Had Mike Murphy been flyin’ that ship, he would have tried landing it on the field, no doubt!

Army Seversky P-35’s and Marine Corps Grumman F4F-2’s pirouetted in concise military formations, but the Navy was not represented, unfortunately, because mechanical trouble that could not be immediately corrected kept their ships at the home field.

Thus, the Air Races provided a thrilling exhibit for all comers, still holding their eminence as America’s premier aviation spectacle. And next year will again see the Cleveland Municipal Airport as the stage for the National Air Races. So until then, fellows—Happy Landings!

News of the Modelers
(Continued from page 51)

JUNIOR STICK (Goodyear Trophy)—Don Kovalick, of Rockford, III.; Edwin Istvan, of Cleveland, and Arthur Beckington, of Rockford. Senior Stick (United Air Lines Trophy)—Edward Smith, of Washington, Pa.; Edward Naudais, of Cleveland, and Martin Prue, of Rock Creek, Oh. Open Stick (Aero Industries Technical Institute Trophy)—Len Becker, of Lakewood, Ohio; Leo Bailey, of Akron, and John Wullschlager, of Cleveland.

Senior Gas (Stinson Trophy)—Jack Deitz, of Cincinnati; Robert Todyoyer, of Akron, and Edward Naudais, of Cleveland, Open Gas (Tezaco Trophy)—Walter Good, of Kalamazoo; Carl Goldberg, of Chicago, and Len Becker. Original Design (L. W. Greene Trophy)—Tasso Pappas, of Akron; Ray Campbell, of Cleveland, and William Gusky, of Pittsburgh. Exhibition Scale (Energy Trophy)—Peter Zaleski, of Cleveland; Max Sokol, of Hamtramck, Mich., and Kenneth Bonesteel, of Kent, Ohio. Flying Scale (“Men With Wings” Trophy)—Richard Korda, Tofu Petraitis, and Chester Lano, all of Cleveland.

More than 500 competitors participated in the Junior Nationals this year, and the affair was voted the most successful in the five-year history of the Junior Aviators.

WINNERS IN N. Y. STATE MEET HELD recently at the Syracuse airport in connection with the New York State Fair, a model meet sponsored by the Syracuse Model Airplane Club and sanctioned by the N.A.A. drew a crowd of more than 5,000 people. Winners in the various events were as follows:

Gas—Roger Desbrosses, of New York, N.Y.; time 3 min. 10.8 sec.; Larry Low, also of New York, 2 min. 11.8 sec.; Kale Harden, of Binghamton, 1 min. 31 sec.

Stick Event (Senior)—Robert Dillman, of Syracuse; Kale Harden, Robert Tracy, of Schenectady, and Phillip Fritz, of Hornell. Stick Event (Junior)—Donald Pratt, of Bainbridge, N. Y.; Patsy Flammo, of Syracuse, and Donald Johnson and Edward Izzo, also of Syracuse.

Cabin Model (Senior)—Clement Buell, of Binghamton; Raymond Darling, of Utica; and Robert Tracy and Robert Fritz. Cabin Model (Junior)—Patsy Flammo, Edward Izzo, William Feuerstein, of Watertown, and Donald Pratt.

Exhibition Scale (Senior)—Max Sokol, of Hamtramck, Mich.; and Charles Hawley, Jean S. Chadwick, and Charles Cole, all of Syracuse. Exhibition Scale (Junior)—William Lacey and Jack Daugard, both of Syracuse.

The senior high point winner was Kale Harden. Patsy Flammo was the juniors’ top man.

Entered in the contest were 64 stick models, 69 gas jobs, 68 cabin craft, and 16 scale ships. Harry C. Copeland, of Syracuse, was contest director.

ALLENTOWN FAIR ATTRACTIONS 3,000 SPONSORED jointly by the Lehigh Aeronautical Society and the Lehigh County W.P.A. Recreation and Education Program, the annual gas model meet held recently at Allentown, Pa., was attended by a crowd conservatively estimated at 3,000. Nine different items were on the program which, besides the usual events, included awards for the workmanship of the entries, best flying demonstration, stunt, or “circus” staged by an individual or a group, best club demonstration, and the individual or club traveling the greatest distance to the meet.

Mr. W. N. J. Weland, N.A.A.A contest director, directed the meet. The county recreation supervisor is Fred F. J. Wawerek.

All Questions Answered
(Continued from page 24)

foreign manufacturer the rights to the YB-17—if such a purchaser appeared on the horizon. — Robert D. Dennis, Elmira, N. Y.:—Both companies you inquire about are now out of business.

Robert Entwistle, Brighton, Mass.:—To make a statement on the salaries of airline pilots would only be making a wild guess. But the average wage seems to lie between $4,500 and $6,000 a year. On some lines the pilots are paid a base pay of about $250 a month and in addition get so much per daytime mile and so much per night flying mile. I believe United Air Lines pays its pilots a standard salary of something like $650 a month no matter what number of miles they fly or how many trips they make. This regular rate is paid whether they take out a trip or not; indeed, this scheme was devised to stop pilots taking out trips under bad weather conditions simply to get in more mileage pay. Thus the plan makes for safer flying.

Elise Richter, Philadelphia:—Sorry, but we know of no one, off hand, who would give you those Howard Hughes pictures “free gratis.” Still, there might be some of you readers who have a few duplicates, and if so you can contact Elsie at 334 Passmore Street, Philadelphia, Pa.

Edward Zimmerman, New York City: The Seversky Convoy-Fighter is an export type and, in my knowledge, has not been accepted by the United States Government. It is fitted for virtually any type of fixed gun, but the weapons used for demonstration were American Brownings of .30 caliber. The Seversky
Company plant is at Farmingdale, Long Island. There is no set price on the Convoy-Fighters, since they are usually sold under contract in group lots.

Robert McCaughin, Mercantville, N. J.:—You honestly believe that glass windows in gun turrets would keep out the dust, as explained in our dust-bomb article? Don't you realize that there can be little or no glass aboard a battle ship when the big guns are fired? The confusion is so great, no ordinary planes of glass would remain intact after the first salve. I am afraid you will find no glass windows in gun turrets aboard any modern battle ships.

Arthur J. Martin, Williamstown, Mass.:—Thanks for the clipping of the new MAC-1, formerly the Time Flies originally owned and flown by Frank Hawks. That was the first we had learned of its new design.

Robert Heaslett, Green Bay, Wis.:—There appears to be no law forbidding American manufacturers from selling military planes abroad. Amateur flyers can buy plans of planes and build them themselves. The problem is to get such a plane passed for a license.

Ross Hicks, Ft. Gibson, Okla.:—A few enlisted men in the Navy are selected each year for flight training, and as gunners, radio operators, and flying machinists. Plans of the Northrop A-17 appeared in the November, 1936, issue of FLYING ACES.

John Perkins, Costa Mesa, Calif.:—We cannot give out the particular details on the new Boeing “Flying Fortress” which you request. We suggest you write to the company or to the War Department for that information.

Eric Waller, 35 Stockton Road, Darlington, Co., Durham, England:—Many side by side, Bob mailed them in to F.A. And sure enough, we found them almost identical—except that one bore the name of Douglas Corrigan and the other bore that of—hold your breath, gang—the other was captioned Phineas Pinkham!

—Said Bob in his letter, “Pinkham and Corrigan are both of the leather flying coats that look alike. The grins and the eyes are the same! Corrigan is a living characterization of Joe Archibald’s hero!”

Can you tie that?

THE THREE-BLADED PROPS—Sam Pawlowski, Don Burkhart, and Charlie Margelewick, of Nanticoke, Pa., recently had a swell time in connection with a Soap Box Derby held in their town. Profiting by their aero knowledge, the lads built a racer on the airplane framework—idea—for lightness. They spent a full month putting it together, and she was a real zinger.

Walt was to be the pilot—I mean the chauffeur—and the prophets were bettin’ on him. They were right, too, since Walt won the semi-finals by three-and-a-half feet.

Walt and Alackaday (Oh yes, Clint once upon a time had a speaking acquaintance with Shakespeare!) poor Walt lost out in the finals by just about that same small distance. Anyway, as Number Two man, he was presented with some nice prizes, including a watch fob, a medal, and a swell lamp that the Three-Blaeded Props now have in their P.A.C. club rooms.

These lads, by the way, added a few more names to their club roster. The latest ones being Joe Bendock, Fran Murdock, and Marian Wilson.
We'll close by telling you that one of our new Canadian members—Marcel Frantis, of Montreal—is a lad who should know all the answers. For he claims to have the largest aviation scrap book in Canada. He has 2,550 pages of material collected in 21 different books, and it all deals with various phases of aeronautics. He's planning on starting an F.A.C. Flight in his locality, too, so if any of you Montreal lads would like to tie up with a chap like Marcel, write him in care of Q.H.Q and we'll forward your letters. And now—

Happy Landings!

Construct Our Gas-Powered Douglas O-41A

(Continued from page 43)

Trim off when the adhesive is dry, and lightly sandpaper the edges. Spray with water and allow to dry before doping.

The model is doped with two or three coats of model dope. Correct colors are yellow for the wing and tail, and blue for the fuselage, landing gear, and struts. Airplane and insignia are standard army colors and may be bought as transfers.

When assembling the model, cut the covering away wherever any strut or other part must be attached. The center-section struts are cemented to the fuselage, and will take three 1/8" brads or two 1/32" music wire supports that run across the fuselage and up the struts to the spar or ribs, where they are cemented.

The wing is cemented on the center section struts. Care must be taken to install it at right angles to the fuselage. See that the angle of incidence is shown on the side view. Cement wing struts in place. The windshield is made from celluloid over wire supports.

And now, if you have carefully followed these instructions and have used your best workmanship on the job, you will have produced a first-class flyer of great stability. However, if you should run into any difficulties during construction or flying, I'll be glad to help you with them. Write me in care of FLYING ACES Magazine, 67 West 44th St., New York, N. Y. And be sure to enclose a stamped, self-addressed return envelope if you wish a personal reply.

“Landing Fever”

(Continued from page 17)

A TOUCH OF THE FEVER

Five landings they shot, but each time it was the same story. Jack’s air work was reasonably good. His glides weren’t bad. But when he got close to the ground, ready to land, Macklin invariably made a fine-appearing flyer of landing fever. It wasn’t that Jack made the wrong move—he simply did nothing.

When it was all over and they had climbed out of the plane Macklin said calmly, “Well, for a first session at shooting lands that was pretty fair.”

Jack shook his head miserably. “Don’t kid me, Mac. It was terrible! Why, every time we got close to the ground, I was scared out of my suit of froze up. Not scared exactly, but just tight—all over!”


At that moment, Mr. Conroy walked up. “How did he do?” he asked, catching Macklin’s eye. “Looked fine from
FLYING ACES

where I stood.”

“Okay,” declared the instructor gen-

erally. Of course, learning the actual landing takes time. No one gets one

without a lot of work and practice.

But his air work was swell—his turns,
glides, and approaches, you know.”

“My air work?” echoed Jack heavily.

“What do you mean ‘my air work’?

Why, you practically told me every

move I made. That flying wasn’t mine,

it was yours. I was just a pair of hands

and feet that you operated through

that Gosport!”

The older men exchanged swift

glances.

Then Macklin quickly laughed and

clapped his student on the shoulder.

“Ridiculous! It’s one thing to tell a

person what to do—and quite another
to have him do it correctly. Now, listen
to me: Cut out this silly worrying. You
can master this landing business as

easily as the next one. Why, just look

at all the dubs who have caught on
to it. But it takes time and practice.

I warned you once before not to expect
too much of yourself to start off with.

You must simply do the best you can;

keep plugging away at it and you’ll have
time enough to get the hang of it.

But, fume, and fuss, and worry about it,

BERKELEY GAS MODELS

Custom-built kits to construct the most famous gas models in the field. You want one of these ships for your own pleasure and thrill.

“BUCCANEER-48”

FOUR-FOOT WINGSPAN. Small-bore Champion, specially designed for the Olsom “23” Motor. Suitable for the 40-40 class. $16.50 P.P.

“OHLLSON ‘23’ MOTOR

The motor that is used in the 1/2 h.p.

class. 3/4 H.P. 1/2 Stroke. Starts as

easily as any of the larger engines... $5.50 P.P.

“BUCCANEER-STANDARD”

5 1/2 Foot WINGSPAN. For 1 1/2 H.P. motor. Limited engine run champion and best Junior N.A.A. Record Holder. Everything you desire in a model. Beautifully finished, snappy performance, and priced with the low-
est mass production kits. $5.00 P.P.

“SUPER-BUCCANEER”

The fast WINGSPAN. Winner of over 100 contest prizes. The hint of the future builders in America. $8.50 P.P.

“AVALIARD-STANDARD”

6 Foot WINGSPAN. The latest full-size gas model kit on the market, designed to outclimb any other ship. Will give you clean, crisp take-off, and its looks take flying. $5.95 P.P.

“CUSTOM-CAVALIER”

6 Foot WINGSPAN, Monocoque Construction. The aristocrat of model airplanes. Almost the most complete kit ever offered to model builders. Suitable for radio-control. $15.00 P.P.

ALL KITS INCLUDE:

Free: Full Size Plans

Wooden Parts Printed Out

Hardware and Igniton Equipment

Cork and Colored Dope

(Kits do not include wheels or power plant.) All kits can be obtained thru your local dealer or mailed direct from us, Postage in the U.S.A.

BROWN JR. MODEL "D" MOTOR $10.00 P.P.

COMPLETE—READY-TO-RUN

Built 1/2 H.P. with power to spare, with the only exceptionally guar-

tiited motor in its price class.

SEND: For the big Berkeley Catalog with all the latest designs. Please include

10c to cover handling and postage.

BERKELEY MODEL SUPPLIES

“First in Gas Models”

230 Steuben St. Dept. F2 Brooklyn, N.Y.

Aces of Iraq

(Continued from page 20)

combined speed, dazzling color, unbelie-
vable curves involving intricate maneuver-
ners—and sudden death.

The Hellion, wild with the chase and the
fight, was opened to her fullest. Crash
took his places on this new menace. His
opponent knew how to fly. Twice, Crash
only just evaded snap-shot bursts that fanged across his wing-tips or
rudder. Again he made an effort to get
to his nose on the German fighter,
but it eluded him like a side-slip. The
man knew his stuff.

But skill and courage, combined with the
superb flying mechanism which was the
Hellion was to take its toll. Crash
swung in hard, drew the stick back,
drew a lever over a few notches—and
held her there. The Messerschmitt was
doomed!

The Hellion turned tighter and tight-
er, finally gathered the German low-

wing fighter into its mas. Crash now

pressed a cable trigger.

Two flaming streams of fire shot out,

sending thunder vibrations

along the metal longrons of the na
celle. The 20 mm. stuff slammed into the

all-metal fighter and like a Damascus steel

blade hacked it into wreckage.

“Sorry,” muttered Crash, as the Me-

serschmitt’s gas tank exploded. “You

saved my life in an effort to take it,

if you get what I mean. But you stayed

around too long.”

The Messerschmitt plummeted down,

its wings wrapped in flaming fluid

and its fuselage disgorging black mushroom

pillars of smoke. With a resounding

crash, it slammed into the desert.

CARRINGER did not go down imme-
diately. He sat back exhausted, now

feeling the full effect of the double dash
terof. First a Syrian sniper loose in

his cockpit, then an attack from a gun-

british fighter!

“That guy at Bushire must have

known something,” he muttered. “When

their smoke failed to get me, someone

else had a smash at me.”

And that pilot firing off dots and dashes

in funnel smoke? Could they have been
tipping someone off about him? It

seemed reasonable.

He wiped his forehead. There was no

way like finding out for sure. He’d

land on the desert and see what there

was to that wreckage. There was no

anywhere near the crash. Nothing

but mile after mile of wide rolling desert

land.

He selected an even rolling stretch

that ran toward the wreck of the

Messerschmitt, and soon the Hellion

was swishing across the sands. With a light

pressure of the brakes, he drew up

in ten yards of the piles of twisted dural.

Crash sat there a minute, his elbows

racing, his head down, his breath count-

ing. Then, remembering the viper, he
disgustedly leaned down, drew the foul thing out,

and hurled it away. It was fully five

feet long. The battered head was

in another corner and he forked it out with

two Rivers cartridges and dropped it over the side.

Then he peered inside again, wonder-

ing how they got the viper there in the

first place. And soon he spotted a small
decorated basket fitted with a loose lid. It

had been placed between his seat

and the forward oil tank.

He drew out the basket, studied it.

The lid fell back, hinged on a strip of

raffia. Inside was a small nest of

stringy hay mixed with grayish horse-

hair.

TNT ADVERTISEMENT—LET’S PATRONIZE—
The decorations around the sides of the basket intrigued Crash, for they were well done, evidently the work of an expert desert craftsman. The design took the form of a cobra—enormous which com- pletely circled the widest portion of the side, and in the open mouth of the ser- pent was a strange, double-curved blade—sword or scimitar.

"Very interesting," agreed Crash, putting it back. "And I wonder what all it means? I've never seen a snake quite like that before. Very interesting!"

He climbed out and walked over to the wreckage which had struck hard. Part of one wing still remained, the other had floated fully a quarter of a mile away.

Crash was not able to get very close to the fuselage, owing to the heat, but at once he noticed that along the twist- ed portion of the remaining wing was exactly the same design that he had noticed on the snake basket!

He whistled under his breath, and turned his back to its fangs. A large shot mark inside would be burned to a cinder, and there could be no hope of getting any- thing that would help in solving this new mystery. There was nothing except the strange design of a Syrian viper carrying that strange double-curved sword.

"What the deuce do they call those swords?" Crash asked himself, trying to fathom the significance of the strange insignia. "They do have a name, and I think I've heard it. But somehow I can't put my tongue to it."

As he turned, the sun was getting past noon fast and that he had better hurry on toward Baghdad if he hoped to make Rutbah Wells that eve-

ning.

With a last glance at the burning Messerschmitt, he climbed in again and got the ship under way. The Hellion took off smartly, sending back a giant plume of sand, and climbed away fast. Crash tucked her wheels up, hooked "George" in again, once he was at 4,000, and set her for Baghdad.

The famous Persian airport came in to view, and with him came the activities of native desert-bred basketry, the dirty freighter in the Persian Gulf, and the skulking Messer- schmitt pictured in the figure.

THE AIRPORT at Baghdad West is unusually modern for one set so far away from the teeming of western civilization. It has a long administra- tion building housing airline offices, waiting rooms, a small but efficient hangar, a Customs depot, and a central Control office with a radio station set into the tower.

The runways are composed of packed sand in which a certain amount of pow- dered cement has been sprinkled. There is plenty of room to get in, and Carr- ringer had no trouble in putting the Hellion down. He taxied the plane past a small out of Karachi and another out of Rome. The usual amount of in- determine activity went on without pause on the apron.

Carringer finally ran the Hellion up to the railled-in portion to check with the Customs officials. A group of men gathered about and the owners of Iraq Air Force men uncomfortable in European breeches and stiff military caps moved up to inspect the machine. Crash "signed in" with the airport deputy and gave orders to a mechanic in a greasy K.L.M.L. jacket to see that the Hellion was properly fuelled. Then he headed for the Customs Office to have his papers stamped.

"They've certainly made a neat place of this," Crash agreed staring about.

"Baksheesh! Baksheesh!" a scruffy looking mendicant wailed, holding out a tattered hand and chanting the alms wail of the East. "Baksheesh from the gen- erous airman. Baksheesh for a humble Moslem. Baksheesh!"

The beggar's hand came over the rail and followed Crash as he went toward the shed. "Baksheesh!"

"Baksheesh?" Crash asked. "This is a beggar? Crash who was used to this sort of thing.

"I shall be waiting for baksheesh near the watering tank at the far end of the aerodrome," the man said in a low firm voice. Then he walked again aloud: "Baksheesh!"

At this Crash slowed up, glanced out of the corner of his eye. The beggar was eyeing him under a shaggy turban. The eyes were pleading, yet strong in character.

"What's the idea?" Crash said out of one corner of his mouth.

"Baksheesh!" the man alound again. Then he added under his breath.

"It is about the Yatagan of the Desert. You have escaped him."

"Who the devil are you talking about?"

"You still have the basket? The bas- ket in which they placed the viper?"

"What do you know about it?" whispered Crash, fumbling with some change so as not to attract attention.

"The basket! It is still aboard your ship! It is most important. I am Burge—Captain Burge of the British Foreign Legion. I am one of the most impor- tant, since the Yataghan and his Vipers of Vengeance are about to strike. The whole of Iraq may be a shambles within a week."

"I'll be right out," Crash whispered.

"You go over to my ship. The basket is still behind the seat; see that no one takes it. . . . Here, buzz off," he added in a louder tone as he dropped a couple of coins in his alms cap and walked away.

The disguised British intelligence man shambled off, holding his stained claws before him and bowing as he backed away.

THE IRAQ Customs man was pleasant, but it was obvious that he was worried about something. He went through Carringer's papers in a rou- tine manner, stamped them with but a few questions.

He spoke perfect English and was obviously a cultured man. "Have you met any other machines of a military type since you left Bushire?" he asked in a friendly tone, giving a quick glance about the room. A sloe-eyed sentry stood at the door, a Martini-Henry carbine cradled in his arms.

"What answer do you want?" asked Crash cautiously.

"I have met some," he replied. "You have seen foreign military planes in this area?"

"I've seen a Messerschmitt—and a freighter that sent out signals with its funnel smoke," Crash said then, hard- ly allowing his lips to part. "That was near Banda Dilam."

"What about these?"

"Go take a look at my bus."

"You drove the plane off?"

"Down! It had the insignia of a snake with a sword in its fangs. Mean anything?"

"You know more?"

"I burned. Nothing left to get at."

"Good. I'm glad you escaped. Only one, you say."

"That was enough. And what's the story? Something wrong up here?"

"Well, we are not sure of the real story. Still, something is wrong—something we can only, sense, not feel or see."

"Well, I'll be shining on. I'm heading for Rutbah Wells. How's the weather?"

"The Meterological Office will be glad to accommodate you on that. I'm simply Customs. You'll find them upstairs."

"Thanks! I'll show off them. Everything all right?"

"Everything in order. Thank you and a pleasant journey."

Crash gave him a friendly salute and wandered out. The Hellion was drawn up to a portable sleeping car which was covered with wads of wet burlap for protection against the hot sun. He stared about and saw the beggar guy squatting on his heels near the ship. He wandered over to it and casually climbed in, as if to check the refueling.

The basket was where he had left it. He took it up, dropped down on the wing, then started to saunter across to the beggar. The instant the man saw him, he arose, turned, and walked away toward the arched entrance to the main hall. Crash followed him.

Theincerely was drawn up near the front door, and the beggar headed for one of them and quietly slipped into the front seat. Crash, with a non- chalant air, followed and took the other side of the car seat.
Without a word, the beggar grabbed for the basket. He studied it a minute, then smiled.

“The Yataghan’s insignia, all right! You were lucky. How did you get away with it?”

“Look here,” argued Crash. “All this may be interesting to you. But me, I’m out on a limb. What the devil are you talking about?”

“See that sword?” the Englishman said pointing to the design on the basket. “That's a Turkish Yataghan—a double-curved sword. They call Rasheb Bey Hasnahi, the ‘Yataghan of the Desert.’ He’s the head of this new ‘Vipers of Vengeance’ order, a Nationalist Fatwa mob which is trying to overthrow the present government and bring back a sort of Arab-Moslem regime with all the old tribes, customs, and general desert foods. A lovely prospect!”

“More bomb throwing in the bazaar?” asked Crash.

“It’s much worse than that. Petty riots can be handled by the constabulary. What this may turn into will take an army—and an air force to stop.”

“Who is this sword guy? This Yataghan bloke who has his friends bumped off with snakes in baskets?”

“He happens to be a warrior of considerable experience. He fought with the famed Colonel Lawrence, figuring that he could make certain land grabs for his people, but the Treaty of Versailles let him down and he now plans to take it out on the British via an Iraq revolt. He’s mad enough to believe he can take control of Iraq, make a tie-up with Turkey, and eventually provide an air route from Berlin to Baghdad and perhaps even to India and Malay. Actually, he’s one of the world’s greatest menaces—as far as the peace efforts of the British are concerned.”

“Crash was studying the basket now, and he could see how the lid fitting tight when it was damp and cool, would curl up and open once it became dry as the result of the heat inside a cockpit.”

“And the message? Is it important?”

The Englishman was reading it carefully, plucking at his lips with his forefinger. Abruptly his stained brow furrowed, and he became tremendously excised.

“Good Lord!” he said. “They evidently plan a raid on something—somewhere—today! Or tomorrow? This damned desert Arab is worse than a mixture of Cockney and Lancashire.”

“Anything I can do?” asked Crash.

“I don’t know—wait a minute.” The Englishman sat bowed over the strange message. “I think I see it now. I think it means that the Yataghan is to strike from—”

Before the Intelligence man could finish his sentence, something crashed out behind them. Crash ducked but sensed that the Englishman had fallen forward.

Crash looked at it, turned it over, and handed it back. The disguised Englishman, smiled and explained further:

“You are not the first who has had a Syrian viper planted on you. The idea is to get these vipers out of Bushire and into the desert. The basket is planted in your cockpit and it is made so that certain temperature changes cause the woven lid to contract and leave the top open. Then out comes the viper who gives you a nip when you’re not looking. You have only lived long enough to snap the switch and go down. The Arab flyers come along in time to see you crash. They then land, take out the basket, and send the information on through.”

Crash quickly sensed what had happened. Enemies had recognized Burge, had trapped him from the car behind! The Englishman lay in a heap under the steering wheel of the car. Car- ranger forced the battered door open, lugged the wounded man out.
Crash nodded, and by this time a crowd from the Administration building was gathered about the dying man. A siren screeched, and an ambulance came crashing out of somewhere behind the big building.

Crash tried to explain to the men what had happened. Finally, a British airline official saw that the best medical attention available was administered, but they all knew the unconscious Burge could not survive.

It was some time before Crash could get clear of the circle of excitement and stand off. The babble of tongues, the heat, and the pungent mixture of tropical desert smells only added to his problems.

What was he to do about all this? How much of Burge's story could be accepted as authentic information? How much had been devised in a shot-shocked brain? Machine gun slugs thudding into a man's body are not conducive to clear thinking.

They were still asking Crash ques-

YOUR Bracelet is Waiting!

Yes Sir, Fellows! We Want to Give You an F.A. Aviators' Identification Bracelet
With Your Subscription to Flying Aces
Greatest of ALL Aviation Magazines

NOT a day passes but that we receive a flock of letters from readers not only praising FLYING ACES to the skies, but expressing their appreciation of this swell official-type Aviators' Positive Identification Bracelet, pictured above. And you can't blame the chaps for writing—for the bracelet is a mighty handsome piece of masculine jewelry, sturdy and wearproof, and just like those worn by our flyers during the World War.

You can have your Bracelet absolutely free with a yearly subscription (new or renewal) to FLYING ACES. And what's more, you'll be registered by number in our confidential files, so that in cases where prompt identification is needed, a mailing list will bring the necessary facts.

Skysters, if you haven't already taken advantage of this offer, do so at once. Make sure of getting every copy of this great aviation magazine, with its large and unequaled model department, its thrilling stories, timely features, rare photographs, and other valuable data. An annual subscription costs $1.50—about 1½c per copy, and delivered by the mailman to your door! And the bracelets FREE!

Jot down your physical description—age, height, weight, and color of hair, eyes, complexion, etc. Add your occupation and address, and the name and address of your guardian or nearest relatives. Then pin the sheet to the coupon below and send in for your own subscription and bracelet.

THIS OFFER GOOD ONLY IN U.S. AND POSSESSIONS

Subscription Dept. I, FLYING ACES, 67 West 44th St., New York, N. Y.

Please send me the P.A. Aviators' Positive Identification Bracelet and enter my subscription to FLYING ACES for a part of this Year. I enclose my (check) money order for $1.50. Start my subscription with the 

Name

Street and No.

City and State

I have attached the sheet giving my physical description for the Bracelet free.

December, 1938

"Sorry," the Englishman said. "Sorry to get you in a mess like this. I'm done, I'm afraid. My own fault, not the— on the alert!"

"The message!" husked Crash. "What did it say?"

"The Yataghan!" muttered Burge. "He's going to attack Rhtubah Wells... attack it from Thumail Najaf... that hellhole of the desert. I should have remembered that spot. Might have..." might have known..."

"What do you want me to do? Warn the men at Rhtubah Wells?"

"You can't—unless you can get through yourself. They have all the telephone lines."

"Radio?"

"They'll jam it from Thumail, the swine!" the Englishman growled weakly. "But you might get through... about 300 miles. You might..."

"Where's this Thumail Najaf you mentioned?"

"Directly on your course... if you go. On your course... to Rhtubah."

"Better come over to my rabbit hutch and have a spot. You probably need it."

"Thanks, I will. I'd like to talk to you anyway."

They passed around the main building, crossed a concrete path, and entered a stone shack that flew the Imperial Airways pennant. Inside, Crash nodded at the usual British smartness, efficiency, and Empire-building stolidness. A neat office, a telephone, a calendar, a few old but still smartly dressed files banking one side.

"That bloke was an Englishman, wasn't he?" the Imperial man said, pushing a whiskey and soda toward Crash.

Crash nodded.

"Queer. I've seen him around here for weeks. They've kicked him off the aerodrome several times. Must have been waiting for you, eh?"

"Perhaps," said Crash, trying to figure the new interrogation. Then he decided to try a new tack: "Ever hear of a guy by the name of Rasheb Bey Hasnabi?"

"Rasheb Bey Hasnabi?" the Imperial guy broke in—his florid face turning gray. "You think he was after Rasheb?"

"No. I guess it was this Hasnabi guy who was after him—and got him." Crash said coldly. "The devil who killed him thought that ought to be strung up!"

"I agree! Terrible thing!" the Imperial Airways man said quietly as he studied Crash. "Here, let's have another drink."

He reached his right hand forward and clasped the brandy bottle—good as he did Crash started. The forefinger of the man's hand! It bore a narrow, oil-blue mark between the first and second joints. Not only that, but tiny pitted spots of gray-blue were burned into the flesh between the base of the thumb and the base knuckle of the first finger—the trigger finger.

"Carringer knew that only one weapon in the world left its tell-tale mark like—"the German Krupp-Mauser automatic riot gun. The "spitting bull-whip of the Black Shirts!"

IN THAT SECOND, Crash Carringer knew who had killed Captain Burge! And in that same second, the Imperial Airways man knew he had been discovered.

The two men sat staring at each other through slitted eyes, the brandy bottle pouring over a glass in bubbling gushes over the edge of Carringer's glass. Meanwhile, the man's left hand was fumbling with another drawer. So Crash quickly reached forward, grasped the glass—and threw the brandy full
into the man's face, sending him reeling, choking and half blinded.

CRASH When Crash, his battered features twisted into an even more distorted mask of hatred. "You killed that guy. You've still got the marks on your hand where that riot gun back-fired through the trigger aperture!"

Rubbing the fiery liquid out of his eyes, the exponent of the man backed away, crouching, and Crash vaulted the desk to get at him. For the first time in his life he wanted to murder a man.

They slammed together, and Crash took a thumping blow on the jaw. But the Briton charged back like a bull and threw Crash over the desk with a thud, knocking the bottle, glasses, and soda siphon to the floor.

Crash came up gasping, hurled himself back across the desk at his still half-blinded adversary. Quick action was necessary. The airways man was fumbling wildly for something in the desk drawer, and Crash knew too well what he sought.

They came together again and went down in a corner, breaking a chair and upsetting a typewriter stand, with both instinctively reached for the other's neck.

Both found it—and like raging bulldogs they hung on!

Crash felt his senses slipping, lost all track of time. His reeling brain was tortured by the hellish, vice-like pressure at his throat. He seemed to see a million dollar Broadway electric sign toppling into the street on top of two hundred gaudy taxicabs. But he, too, held on with all the strength he could muster into his brawny hands.

Finally, he came to—and found himself in a prone position across the body of the treacherous Englishman. He gasped for breath, grabbed the brandy bottle that still rolled back and forth under the desk, and there was still some liquor in it, and it burned a Grand Canyon down his throat.

He got to his knees, groggy, bleeding, and every limb in his body wasaching.

He staggered to the overturned desk, leaned against it, then looked at the man on the floor. But the Briton never moved. There was no heaving of the chest, no spasmodic jerking.

"Well, that's that!" said Crash. "And it's tough trouble. I'll have to get out of here!"

He quickly swabbed his face and straightened his collar. Then he drew the key from the inside of the door, went out, and locked it. He tossed the key into some bushes near the K.L.M. hangar, and went across to where his Hellion was standing.

No one said anything to him. No one was near his ship. They were all too interested in an Imperial Airways liner, one of the new A.W. Ensigns making its first landing at Baghdad. It was a huge, dull grey monstrosity.

Crash climbed into his pit, sat watching the four-engined monster come in like a flying houseboat. He smiled grimly, realizing that a dead body would greet the crew when they forced the entrance to the Imperial Airways office.

He stepped on the starter, listened as the Allison caught, and let her warm up. He did not wait for any signal from the tower but slammed away into the dust-fllecked air, climbed toward Al Palu ya, and hurtled over the old Euphrates that wriggled its way through the desert like a giant snake seeking the warmth of the sun.

HE SAW it all, but his mind was on what might lay ahead. He wondered by what stroke of Fate he had flown into this newest of his wild adventures. He set "George" to work, again racked his brain over the situation. A mad Arab about to incite a nation-wide revolt... desert raids... Arabian attacks on the border... sand-dunes... men shot down to die of heat and thirst, blinded by the sun, tortured by flies and poison-tipped insects...

He pondered on what might happen if it were actually true. If this maniac, Rasheb Bey Hashabii, was really leaving Thumail to massacre the men of Rubah Wells.

Crash's guide book carried a photograph of Rubah Wells. A desert outpost 300 miles from anywhere, it was built around the remains of an old Arabian village. It was hot, sunny, and God-forsaken despite its modernized hangars, huts, sunken fuel containers, and zig-zag white-walled buildings for the heat-ridden staff. Just another outpost, but actually the key to the Middle East. It might be found two squadrons of the Iraq Air Force, a splendid organization trained by the British. But it was so small in the face of the menacing opposition. They had only a few Savoia-Marchetti S.79B bombers, and a handful of the old Audax Air Corps' airplanes, Gladiators, and Breda fighters.

Crash snuffed as he glanced through the much-thumbed booklet. Just how much could they take if they were suddenly pounced upon by an armada of Messerschmitts and possibly Arados and —THEY ADVERTISE—LET'S PATRONIZE—
Heinkel two-seat fighters.
Crash mumbled to himself: "Perhaps I'm a sucker for staying in this. One adjustment on 'George,' and I can cross into the Trans-Jordan area—and safety!"

But he sniffed again, sucked his bruised knuckles—and remembered the events that had just happened at Baghdad. He hated treachery and bullets in the back. He hated the force of mad midgets who had destroyed the bloodshed of wild desert tribesmen.

Making a quick decision, he headed straight for Ruthab Wells! He'd told that devil at Bushire that he was going through. He'd promised Burge he would try to get through. He had to get through to save Ruthab Wells from the raid of the Yatagan of the Desert and his Vipers of Vengeance.

He squinted his eyes through his gunport slits. And soon he saw the vengeful army of death—the Yatagan's camel corps threading its way through the undulating dunes, a half armed parade of warriors, definitely fully two miles long! The sunlight flashed off their sword blades, glinted from the polished tripod mountings of their gun teams.

"Judas!" gasped Crash. "They're on their way. Thousands of 'em!"
He watched as the cavalcade of doom pressed on, the opium strides across the blistering sands. It wove in and out like a monster snake, threading through the palms, over the mounds, and down the blinding white valleys.

"Crash knew something had to be done—but what? And how?"

Those thoughts swung into Ruthab Wells by nightfall," he muttered as he checked the position. "They'll speed up, too, when it gets dark. I'll bet they'll time it perfectly so that their aircraft will arrive to batter the Iraq flyers just as they get into the air for action."

"Something had to be done!"

CRASH CARRINGER decided upon a bold plan. He cut out "George," took over, and turned back. He knew he had to work fast; for the present favorable conditions would not last long. He studied the ground below and took up the trail of the camels. With luck, he might be able to follow it all the way back to their hidden base. If only the wind would hold off until sunset, he might get away with his scheme. He picked it up.

Then, as he roared back over the trail of the desert devils, he grabbed his radio head-set, plugged in, picked up the hand mike, and began calling:

"Ruthab Wells . . . Calling Ruthab Wells! Is there an Emergency call to R.L.A.F. at Ruthab Wells. Can you give me QTE?"

Getting a quick reply, he hurriedly started to tell of the camel corps movement. But before he had uttered ten words a terrific "jamming" filled the air which almost deafened him. He hung up grimly, but kept his switch in, hoping to catch something through. The Ruthab Wells operator had heard his QTE—his request for his true compass bearing from the Wells. If the operator caught that, he'd be able to direct the Iraq flyers to where he was. He waited, tried again, but the jamming was in hot now. Disgusted, he finally gave up and bent his full attention to following the tracks of the camel corps.

The trail wound tortuously over the dunes and through the folds of desert. At times, it was difficult to follow in the uncertain afternoon light, but by careful S-turning back and forth to study the ground from various angles he was able to make progress.

Then, twenty miles from where he had picked up the camel corps, he sighted a raised something that glowed with a strange, grayish tinge. Rocks? A thicketed slope? It might be anything.

Before continuing, he tried the radio again, but no answer. A careful inspection, he saw, broke in now, more, this time louder than ever. He ripped the earphones off with a growl, stared ahead again.

Ruthab Wells must be at least fifty miles away. And Palestine, where hope might be found in the concentration of Arab Air Force Squadrons, was fully 350 miles off. The chances of help were not even slim.

"I'm crazy! I'm a sap!" Crash argued with himself. "Why should I get mixed up in this trouble? A lot of dirty Arabs and desert tribesmen holding their annual feast! What in the world do they want to do to me? I'm an American, and—"

That got him—the reminder that he was an American. Americans weren't quitters—and he couldn't quit now, after that struggle in the airways at Baghdad. Crash glanced over the Hei- ler in his lap. He had at least 500 rounds of .20 caliber in the fixed cannon and plenty of .50 and .30 caliber stuff in his wings for emphasis. And hadn't he always philosophized that people who sought security usually wound up in convalescent homes or in charge of mules? He tightened his belt, made certain that everything was ship-shape and ready for action—and plunged on!

The strange something ahead now turned out to be a curious, and particularly ugly rock formation. It was flanked and tufted with scraggy palms and desert shrubbery. Crash, however, brought out certain details to Carringer's trained eye—the narrow engineer's poles, probably stolen from some British outfit during a raid, the glint of stranded copper wire, where radio aerials had been strung up, and circular ditches, which he figured must conceal guns. These and a dozen other details evidenced that this was a large native stronghold.

"I get it," muttered Crash. "Caves sheltered by palms. Sure! And there are several planes in there, too. Maybe ten. I picked something here, it all right?"

He circled over the desert fortress to draw their fire and get his excuse to open hostilities. Now he saw a couple of planes being drawn into position where they could be run out of the narrow gorge between two main projects of rock. Carringer's eyes glinted here. He had his opportunity!

A chatter of gunfire \spattered up from one of the circular holes below, and Crash could see the spitting muzzle of a snub-nosed Vickers. He circled tighter, alid into a wing-let, and over them they have fairly long burst.

Then all hell broke loose!
A dozen concealed A-A guns opened fire, and it was too late to do anything. Ideas Carringer may have had about trapping the planes inside that shelter were quickly battered out of him. He had to race away to set himself again for a smash at them from another angle.

Two Messerschmitts were now crawling into the gorge to do whatever he had decided for a take-off, and Crash quickly thundered across the desert fortress and poured a long retching burst at them. The first got into the clear. But the second, its cockpit shattered, stopped half way out and a number of natives rushed toward it.

"There's one," snorted Crash. "About nine more to go, I suppose."

But his elation was short lived. "I'm afraid I stepped into something," he reflected a moment later as the gunfire from the ground got hotter. But there was nothing he could do whatever. He could only hope that he could hang on, praying meanwhile that the Ruthab Wells operator really had made something out of his radio attempts.

That thought brought him to consider another try at the radio. The Yatagan's hirings were so busy getting the planes out and manning guns against him they might even be using the guy who was jamming the air.

Crash snapped in his radio switch as he watched the men in the gorge run the second Messerschmitt out of the circle. As the mike he barked:

First Messerschmitt was climbing toward him, and Crash had to give his attention to the attacker, who was now trying to stand on his tail and pepper him with short snap shots.

The Hellion nosed down, and Crash, drawing a smart bead, pulled the firing lever like it.

BR-R-R-R-RONG! BR-R-R-R-RONG! Crash's thudding burst of 20 mm. stuff caught the fighting craft full in its Yatagan insignia. The fusilage broke the fuselage in two, and the front portion seemed to leap away from the stuff. The plane twisted, however, spun flat on its back, and finally broke up in mid-air with a terrific explosion.

"Two finished off!" checked Crash, nosing over and again flailing the gorge with .30 caliber stuff.

There was plenty of action now. But the bitter gunfire from the rock emplacements continued to be too heavy for comfort. Crash had to swish back and forth awaiting a chance to get in a decisive blow.

Indeed, he looked too long—for before he knew what was up, three more Messerschmitts rolled out of the gorge, took off on the run, and screamed into the air in a fleur de lis fighting formation.

Crash realized he was in for it now!"
Without further investigation, he thundered into action and blasted away at the center ship with a whiff of .50 caliber stuff. Meantime, the right-hand ship pivoted on its wing-tip and came careening right at him, danger sign clearly marked.

Crash quickly pressed his rudder pedal, yanked his cannon lever—and the oncoming Messerschmitt disintegrated in mid-air! Before his eyes, a gigantic handful of broken members, parts, and bits of metal sprayed against the low glare of the setting sun.

"Three to my credit!" muttered Crash, whipping over smartly to avoid the battering directed at him from the other side.

But directly beneath him two more Messerschmitts now slithered into the sky. "Guess I bit off more than this Hel-lion can chew," Crash growled. And knowing that he now had to work faster than ever, he slammed in and out, opening fire on every Yataghan insignia that came into his view.

One Messerschmitt wobbled down as with a heavy burst of fire he played Hell's Anthem through his wing near the root. But how long he could fight off such a powerful opposing force was a question. For what seemed hours he kept on pumping down, the stick well back, thus flying in an ever-tightening circle. The Messerschmitts, which seemed to have multiplied into an Armada of more than a dozen, were equally as frantic in their efforts to shoot him to pieces. Only the terrific speed of the Hall Hellion kept it in the sky at all.

But Carringer had the sense to know that sooner or later two of the enemy would converge on him, and by the law of averages, a burst would find a vital spot either in the ship or in his own tense frame.

From below, heavier stuff was being flung up at him. The sizzle of machine gun fire was now souped up with three-inch high-angle explosives whose detonations bounced him from one circle to another.

He gasped, fought for breath. He ached from the base of his skull to the calves of his legs. He perspired in rivulets that coursed down his spine and drew murky marks across his chest. But somehow he managed to keep fighting back, pressing trigger controls and cannon lever every time a taper-winged fighter crossed his line of flight.

Then a new menace thundered into the picture! Three particularly gaudy Messerschmitts came out of nowhere. Flying at him like three automatic weapons, he pulled hard and, sprayed the path of the Hellion with streams of zipping slugs.

Crash swore. He knew that this was the Yataghan of the desert himself!

For only a leader would fly a ship decorated like that. Only a leader could command the respect of two wing-men to stay with him through the cruelty of streets of enemies and fighting fields, that now vengefully evolved before his eyes.

"I guess I asked for this," muttered Carringer. And he drew his homely features into a terrible mask of hatred—

—THEY ADVERTISE—LET'S PATRONIZE—
I wish to report that the camel corps of the Yataghan is heading for Rutbah Wells. I can lead you to it. Can you do anything, Heljon?"

"The Yataghan's camel corps? ... You can lead us to them? Just a minute."

The Bombay bombers then answered an unseen signal and re-formed for another flight.

"Hello, Hellion!" the British voice came back again, "We have fuel enough to detour for about sixty miles. Think that'll do the trick?"

"Sure! And are you loaded?"

"Rather. And we're all top hole; in fact, we're all top hole."

"They'll get it. Now follow me."

"Take it easy. We can only do about 220 top with this load at this altitude."

"That's a shame. You'll be practically standing still, eh?"

The Britisher laughed as he rose with his Marcon set, then gave the advice to the other planes to "carry on."

Crash slowed the Hellion up—and was glad to. He had taken a bad beating and hoped no important part of his craft had been shattered. Then he took the lead position in front of the Britsh, pausing only to glance back over his shoulder and smile—a real broad smile.

"Six trip planes!" he beamed. "And six times twenty-four," he figgured quickly, "makes 144 men. That's ought to do, then."

Crash and the Brits caught up with the camel corps at the double fold of the Al Wadyan ridge. Then the Bomays quickly split up and Crash could hear the crisp, workmanlike orders radioed from the lead ship as they swung about and dipped down for landings at six points around the moving camel caravans.

The camel corps of the Yataghan opened fire immediately. Meanwhile, the Bomays stopped rolling, and from their branches and sides shot bare-knuckled British troops, their topees glistering and blue streaks flicking off their Bren machine guns and Lee Enfield.303 rifles.

"Break them up, Hellion!" called the British Squadron-Leader. "Bring them out into the open."

Crash dived down, splashed bullets into the mob in the sand ridges. He quickly broke up their teams, and the camels went loping out into the open.

Up the dunes crawled the khaki troops, holding their fire. Yard by yard they advanced; insistently they came on, even though now and then one of their number rolled over on his back and lay still. That made Crash swear, and he went in hard again to forky the rebels out with his gunfire. Once he brought the desert devils to the edges of the ridge, the Britons' Brens and Lee Enfields picked them off.

And so, within four minutes, the Yataghan's men were flying dirty white sand up the upraised barbells of their desert muskets amid cries for mercy.

"All right, Hellion," the British commander broke in over the air suddenly. "I'm leaving one unit of troops to dis arm them and march them into Rutbah Wells."

---THEY ADVERTISE—LET'S PATRONIZE---
"A nice job you did," answered Crash. "But tell me one thing, will you, before I go on to the Wells.

"What mean where did we come from?" the Englishman queried.

"That's it!"

"Well, we were simply on our regular twice-a-year troop-transport show from England to India. We picked up your message, and I saw an opportunity of giving my men a taste of real warfare."

Crash answered gratefully: "I'd never have gotten out of that mess if you lads hadn't come along."

"Oh, I don't know. You seemed to be doing a pretty handsome job of it. You certainly didn't do the old Yataghan any good."

"That swine! He deserves all he got. And when you get to Baghdad, you can let it be known that the bird in the Imperial Airways office—who'll they find dead—was the mug who was tipping the Yataghan off to all his tricks. But don't tell them I told you. They might ask too many questions when I get to Rubah Wells."

"They'll ask one question, anyway," the Englishman replied. "And that's how much you'll take for about one hundred of those Hellions. You see the British won't be able to supply the Iraq Air Force with fighters from their own factories for some time, and meanwhile they've heard some very flattering things about the Hale Helion. I can say plenty, too, when I get in. And I'll see to it that you do not have to answer too many questions."

"Thanks! You're a swell guy!"

"Same to you. And now, so long, Helion—and Happy Landings!"

---

If Japan Bombs Vladivostok
(Continued from page 21)

which further moves could be made westward.

In painting we witness an attack on the city by Japanese bombers of the new Junkers Ju. 86 type—big craft equipped with three gun turrets (a new automatic type turret in the nose and two more aft of the trailing edge of the wing, one above the fuselage and one below). Either German B.M.W. or Bristol Mercury engines can be used in these planes, which have a top speed of 202 m.p.h. fully loaded.

In opposition, the Russians have flung single-seat fighters of the Chato type (actually listed as 1.18's) into the air. These fast scrappers are similar in design to the early Boeing biplane fighters. Faster than their prototype, some of these use Soviet-built Wright "Cyclone" engines, others French Gnome-Rhone engines can only be a temporary proposition, as under some circumstances aircraft engines are souped-up for races or faked "performance" trials. When this sort of thing certainly has no place in the light plane game as we know it. We mean well in this matter, so this is only an attempt to hand out a little sincere advice to the manufacturers—who we hope will accept it in the same spirit in which it is given.

HOW JOHNNIE FLEW THE "Y"

O ur two-buck prize this month goes to a 15-year-old reader who lives in North Hollywood, Calif. His name is John Silletto, and he has sent in as good a letter as we have had in months. Here he goes—

Light Plane Editor:

This isn't going to be a tale of exciting adventure in the air, but merely the story of a dream that came true—a dream I've had ever since I was old enough to tell an airplane from a baby rattle.

I am only fifteen, but I have just had the thrill of actually taking-off, flying, and landing the Stearnam-Hammond "Y" at Burbank. True, I've been up several times in planes, but this was the first time I had had my hands on the controls. As you know, the Stearnam-Hammond is a two-place, pusher monoplane controlled by an interchangeable wheel and two floor pedals.

Believe me, I was scared when the pilot pulled the throttle out and we soared down the runway. I'd been told that the ship was fool-proof, but I couldn't help being a little leary.

"Ease the wheel back a little, now," the pilot said as we gained speed. I did so, and up off the runway we shot. It was almost as easy to fly that ship as it is to steer a car! We soon gained a height that was fool-proof, and with the tension of the take-off over, I began to sit back and enjoy myself.

We flew straight on for several minutes, and the longer we flew the better I liked it. "Nothing to it!" I told myself. "If one wing drops, turn the wheel in the opposite direction. If the nose drops, pull the wheel back."

Boy, this was the life. I'll never be contented tied to the ground again! "Bank around and head down that flying, and landing the Stearnam-Hammond "Y" at Burbank. True, I've been up several times in planes, but this was the first time I had had my hands on the controls. As you know, the Stearnam-Hammond is a two-place, pusher monoplane controlled by an interchangeable wheel and two floor pedals. Believe me, I was scared when the pilot pulled the throttle out and we soared down the runway. I'd been told that the ship was fool-proof, but I couldn't help being a little leary.

"Ease the wheel back a little, now," the pilot said as we gained speed. I did so, and up off the runway we shot. It was almost as easy to fly that ship as it is to steer a car! We soon gained a height that was fool-proof, and with the tension of the take-off over, I began to sit back and enjoy myself.

We flew straight on for several minutes, and the longer we flew the better I liked it. "Nothing to it!" I told myself. "If one wing drops, turn the wheel in the opposite direction. If the nose drops, pull the wheel back."

Boy, this was the life. I'll never be contented tied to the ground again! "Bank around and head down that flying, and landing the Stearnam-Hammond "Y" at Burbank. True, I've been up several times in planes, but this was the first time I had had my hands on the controls. As you know, the Stearnam-Hammond is a two-place, pusher monoplane controlled by an interchangeable wheel and two floor pedals. Believe me, I was scared when the pilot pulled the throttle out and we soared down the runway. I'd been told that the ship was fool-proof, but I couldn't help being a little leary.

"Ease the wheel back a little, now," the pilot said as we gained speed. I did so, and up off the runway we shot. It was almost as easy to fly that ship as it is to steer a car! We soon gained a height that was fool-proof, and with the tension of the take-off over, I began to sit back and enjoy myself.

We flew straight on for several minutes, and the longer we flew the better I liked it. "Nothing to it!" I told myself. "If one wing drops, turn the wheel in the opposite direction. If the nose drops, pull the wheel back."

Boy, this was the life. I'll never be contented tied to the ground again! "Bank around and head down that flying, and landing the Stearnam-Hammond "Y" at Burbank. True, I've been up several times in planes, but this was the first time I had had my hands on the controls. As you know, the Stearnam-Hammond is a two-place, pusher monoplane controlled by an interchangeable wheel and two floor pedals. Believe me, I was scared when the pilot pulled the throttle out and we soared down the runway. I'd been told that the ship was fool-proof, but I couldn't help being a little leary.

"Ease the wheel back a little, now," the pilot said as we gained speed. I did so, and up off the runway we shot. It was almost as easy to fly that ship as it is to steer a car! We soon gained a height that was fool-proof, and with the tension of the take-off over, I began to sit back and enjoy myself.

We flew straight on for several minutes, and the longer we flew the better I liked it. "Nothing to it!" I told myself. "If one wing drops, turn the wheel in the opposite direction. If the nose drops, pull the wheel back."

Boy, this was the life. I'll never be contented tied to the ground again! "Bank around and head down that flying, and landing the Stearnam-Hammond "Y" at Burbank. True, I've been up several times in planes, but this was the first time I had had my hands on the controls. As you know, the Stearnam-Hammond is a two-place, pusher monoplane controlled by an interchangeable wheel and two floor pedals. Believe me, I was scared when the pilot pulled the throttle out and we soared down the runway. I'd been told that the ship was fool-proof, but I couldn't help being a little leary.

"Ease the wheel back a little, now," the pilot said as we gained speed. I did so, and up off the runway we shot. It was almost as easy to fly that ship as it is to steer a car! We soon gained a height that was fool-proof, and with the tension of the take-off over, I began to sit back and enjoy myself.

We flew straight on for several minutes, and the longer we flew the better I liked it. "Nothing to it!" I told myself. "If one wing drops, turn the wheel in the opposite direction. If the nose drops, pull the wheel back."

Boy, this was the life. I'll never be contented tied to the ground again! "Bank around and head down that flying, and landing the Stearnam-Hammond "Y" at Burbank. True, I've been up several times in planes, but this was the first time I had had my hands on the controls. As you know, the Stearnam-Hammond is a two-place, pusher monoplane controlled by an interchangeable wheel and two floor pedals. Believe me, I was scared when the pilot pulled the throttle out and we soared down the runway. I'd been told that the ship was fool-proof, but I couldn't help being a little leary.

"Ease the wheel back a little, now," the pilot said as we gained speed. I did so, and up off the runway we shot. It was almost as easy to fly that ship as it is to steer a car! We soon gained a height that was fool-proof, and with the tension of the take-off over, I began to sit back and enjoy myself.

We flew straight on for several minutes, and the longer we flew the better I liked it. "Nothing to it!" I told myself. "If one wing drops, turn the wheel in the opposite direction. If the nose drops, pull the wheel back."

Boy, this was the life. I'll never be contented tied to the ground again! "Bank around and head down that
er heard of soap, an—"

"Who’s that, Garrity?" a gruff voice blustered. "Who—?"

The Old Man’s nerves were singing. "Maybe it’s mice," he ground out sarcastically, "If I get my hands on that baboon, I’ll—er—what was it we were saying? Where were we, gentlemen? Er—yes, I agree with you. If the Turks are after us, I think we should bust out of range of the Major’s wrath, wondering how the Krauts’ morale was holding up.

Phineas should have been given a chance to look in on a pow-wow of Prussians that was going on near Metz. The concave wall of the skull practice on the drome of Staffel 6, Imperial Heinkel Air Force. Three Vons sat in listening to what they were going to do about the coming of the Red Men to palpitating Europe. "Imperstoff idt ist, chentlemen," boomed a big Kraut general, "dat ve gedt proof uf de Indians hein across der lines already, ja! Der books idf I haft read what says der Indianer liff by der vigvarms und cook outside der doors yedt. Der fazes dey paint und put der feathers in der hair yedt. Findt idt der drome where ist der Amerikaner savun yedt. Der yellow bomb drop der bombs down yedt already."

"Ja Woolf!" a tall, bony Von said shakily. "But idf idt gedt der engine trouble und we haft to land behind der lines—we gedt burnt op by der stake yedt. Ah, Gott! Against der rules of war ist, is dey? Der scaling und—"


"H-h-hock!" tremored the assemblage.

In his HUT at the Ninth Pursuit, Phineas was fiddling with a bunch of yellowish hair. It was hair that might well have adorned the head of a well-born Junker. Phineas was sewing it to a square of old felt that he had stained with dark, evil-tasting medicine that his Aunt Carrie had sent him from Waterloo, Iowa.

No sooner had he completed the job to his satisfaction, when the call came to go up in the scrapeshop with Captain Howell. On his way to his Spad, Phineas tied a large iron bolt to the object he carried and then shoved it into the pocket of his leather coat.

"Spotted Elk he come," the pilot mumbled. "Big Chief take up thunder under the Huw-w-w-w! Now when I get back, if ever, I will go to work with that cognac I have been savin’ up."

Before the Spads took off, Garrity drove off the drome in the Squadron car. Sergeant Casey, told Lieutenant Pinkham that the Old Man was going to Chaumont for a day or two and that Captain Howell was in command until the Major got back. And Phineas found that out for sure when Howell roared at him: "Hop into that bus, Pinkham, or I’ll break you down to a mule and put you behind the wheel and if you just talk back to me once—"

"Yessir," Phineas said aloud. To himself he grumbled. "The big bum! Oh well, cognac will soften him up."

The object of the patrol was well

But I’ll remember it for the rest of my life. And Dad has promised that maybe, in the not so far distant future, I can take some regular instruction.

Yes, the private flying game has gained another staunch and loyal booster. And if you ask me, no truer words were ever spoken than when Chet Macklin, George Lyle’s swell character, told Jack Conroy that it’s “the grandest game in the world!”

Meanwhile, I sincerely hope that my experience may stimulate other ambitious fellows to get started on their way to a pilot’s ticket—the same as it has me.

John Sillste
North Hollywood, Calif.

We don’t doubt that it will, Johnnie. So we thank you for your swell letter—and we’ll have a $2 check on the way to you right away to put toward your first hour of instruction.

Happy Hunting Grounds

(Continued from page 14)

Ten minutes later the three crawled out of a bomb-proof dugout and Howell quavered: “Pinkham, you s-said y-y-you had s-some e-e-coneyac. Wh-where is it? I am in c-ch-charge here. I d-demand you sh-shell out and—and—"

“I am goin’ to stay booted for a while,” Bump quaked. “When I t-think of wh-what th-them H-Heinies are d-doin’ t-to S-Slim Elliot about n-n-now, I—I—”

They followed Phineas to his hut and set about destroying the Pinkham supply of Frog giggle juice. Not too obviously the Boontown pilot steered clear of the drinks himself, but when the session was in complete charge of his faculties. Captain Howell and Lieutenant Gillis, however, were changed men.

"Bring on the Boches!" Howell
PRESENTING THE "G9" MOTOR
UNEQUITIVELY GUARANTEED MECHANICALLY PERFECT

$10.00
P.T. PENO
U.S. ONLY

Complete with
Spark Plug, Oil, Coolant and all
necessary mounting on test
hard-earned ingraci-"ations
for its effi-
cient operation.

N.O.C. SHIP-
MENTS unless accompanied by or-
der post.

THE G-9
The new Wonder Motor

This motor will be on sale in New York City at R. H. Macy & Co., Bloom-
ingdale Bros. and Patterson Bros. and at all IMP Dealers throughout, New York City.

INTERNATIONAL MODELS
Dept. F, 251 W. 55th Street, New York City

ripped. "We'll tear'em in lil' p'shtes. Hic!"

"Whoa! frad of Hunsh?" Bump wanted to know—and thereupon Phine-
eas lost no time in expounding a plan to his mates that he figured would knock the wind out of linden trees. He talked fast, then pulled some blankets out of his trunk. He also showed Bump and the acting C.O. three small pails of paint. Red, white, and black. He finally produced three clumps of coarse black hair and a dozen feather-
plucks from the tails of the Frog's cacklers.

"We'll fight fire with fire!" Phineas grinned. "We will show the Heinkles that the Red Men have come to fight for the Great White Father in Washington. Hic!"

"Yeah," Howell agreed bulingly, "but how'll we do it?"

"Yesh--go on," Gillis hiccuped, "go on--hic--shoundsh great!"

Phineas told them. Moreover, he paint-
ed both their faces, then put horse hair over their heads and held it in place securely with big rubber bands. He stuck feathers in the elastic and stood back to get the effect. Then he made the two inebriated flyers wrap themselves in blankets and held up a mirror for them to have a look at themselves.

Howell swayed, yellow bloody muddle,
and tried to jump out of the window.

"Indianah!" he hollered. "Hic—run for your livesh! Hic!"

"Hic—w-w-w-w-w-w!" Phineas chortled with glee. "It's on you an' Bump, How-
ell! And now I will get fixed up. I am Chief Spotted Elk."

Captain Howell and Lieutenant Gillis
watched Phineas paint his face white
and then bisect it with lurid streaks of black and red. When Phineas got through, Bump wanted more cognac.

"No more fire water for now," the Boontown coniver ordained, grinning. "You will be no good on the war path, Big Chief Tight-in-the-Fist! Haw-w-

"Oh yeah? Nobody can insult me. I will—"

"Awright, awright," Phineas said hastily. "We have got to work fast, now, as the Boche will come on before dark. I bet we have got to put up some wigwams over in the field. There's a lot of old canvas behind "A" Flight's hangar. We will cut some poles. Come on, as it is for the Allies. Them Vons will scare us with pictures, huh? Well, when they find that scalp I dropped down be-
hind the lines—haw-w-w-w!"

Bump Gillis gurgled with delight: "Lotsh fun, huh? Let's play Indian!"

Sergeant Casey was walking across the field when he saw the three horrible specimens file away from the Pinkham cubicle. He jumped two feet into the air
and ran to the groundmen's barracks. From a window he watched Phineas Pinkham and his flying mates put up three wigwams. Half a dozen goggle-
eyed groundmen pressed close to the sergeant and wondered audibly if the officers had gone nuts.

"Wait'll the Old Man comes back," Casey ground out. "He'll throw a fit. Whatnill are them crackspots dah' huh?"

Nobody could venture a guess.

MEANWHILE, things were happen-
ing fast. The Heine two-seater that had dropped bombs on the Ninth had been knocked off on the way home. Yankee doughs pulled out one of the crew alive. And finally the Kraut, as
scared as a dormitory beauty cornered by a rodent was brought to the drome of the Ninth Pursuit Squadron.

In the interim Major Rufus Garry was
shunted back home by a sudden change of mind on the part of a high Chaumont official, and he arrived on the outskirt's of his flying outfit at five in the afternoon to see three wigwams pitched in a nearby field. In front of them, open fires were burning, and three figures were circling about and setting an awful hullabaloo. Major Garry and a Brigadier nearly fell out of the Squadron car.

"What in—?" the Old Man gulped and stumbled forward a fence. There he propped himself up and stared. "Indi-
an!" he muttered, looking at the saving symbols painted on the canvas tepees and glimpsing the flash of a hatchet in the beams of the waning sun.


-H-H-H!"

EMBARRASSED BY HORRID PIMPLES?

Help protect your skin against intestinal waste poisons

Ridicule and shunned because of ugly, pim-
ple-blemmed face? Get right at a common
cause of the trouble—guard against intestinal
waste poisons.

Between 15 and 25, the skin is apt to be oversecretive. An over-secretive skin means that diges-
tion and elimination often throw waste po-
isons into the blood stream... that may be carried to the skin and cause repulsive, ugly pimples to break out.

Many people help solve this problem—
singly by eating Fleischman's Yeast. Each cake of this famous fresh food helps eliminate intestinal waste poisons from your body before they can enter the blood stream; and so gives your pimples a chance to clear up. Don't run the risk of perma-

EMBARRASSED BY HORRID PIMPLES?
“G-Garry, the Brigadier choked out. “Wh-what’s the m-meaning of this? They’re painted up like—Major, there aren’t any Indians in France. This is—"

Ignoring him, the Old Man climbed the fence and hurried across the field. There one painted figure wrapped in a blanket stood war dancing and stood eying him. Major Garrity felt his spine curl up and his hair stand on end—until he saw a double row of teeth flash.

“Pinkham—you——"

“How!” Phineas replied. “What does Pale Face want? Have a care, as we are as many as the trout in the streams, Ugh!”

“You'll get shot for this,” the C. O. bellowed. “And who are those two fatheads with you? What? Listen here—oh-h-h-h, cripes! Pinkham, I'll—"

“Shh-h-h-h,” Phineas hushed him, looking toward headquarters. “There is a Kraut over there that has been brought in. We are goin’ to scare the liver out of the bum, Major. Don't you see? It is to break down Heine morale that we are doin' this. We will tell him he is going to be scalped an' burnt at the stake if he don't own up about the Russians. The Krauts have been scarin' us with pictures an’—"

“Ah—er—I will not be a part to such a—you are all under arrest—you an’—"

“Tight-in-the-Wad and Sour-in-the-Puss. They are heap brave warriors,” Phineas said seriously. “Look at the Heiney over there, as he is so scared he can't stand up. Come on, Bump, Wha-a-a-a-hoo-oo-oo-wah! Yee-e-e-e-e-e-e-o-o-o-o-o-o—"

The Bridgadier, who had come up meanwhile, scratched his head. “Pinkham, I know you are crazy now,” he declared. “But—er—confound it, man, I think it's not a bad idea. Ha! Ha! Major, if this will get us the information we need regarding the Russians, I believe it is worth it.”

“Ugh!” Phineas grunted. “We go an’ get pale-faced Heiney bum. Get butcher knife, Bump, ugh!”

“I go,” Bump Gillis said, shocked cold sober. “Ugh! Pinkham, I am goin' to get bunk! You got us boiled, an’—"

Captain Howell picked up a rock, but the Old Man took it away from him. “You started this Wild West show, Cap-tain,” he said. “Let me see you finish it, ha-a-ah!”

“I'll kill him yet,” Howell promised. But he wrapped his blanket around him aga—"

The three painted buzzards went over to Headquarters and grabbed the little Von.

“Himmel—Kamerad! Nein—nein! Gott, der scalp you want, ja! Ach, Gott! In der name of—you would not burn me yedt, hein? Das ist barbarous. Das ist—Kamerad!”

“Ugh!” grunted Phineas and he flourished his butcher knife. “Take pale face to stake an' build heap big fire. I get scalp before he go happy hunting ground. Chief Spotted Elk has spoke!”

TWO HEINIE Pfalz ships dropped over the Indian Reservation just as the captive Von was being tied to an improvised stake. And they swung back home in a hurry after one look at the layout downstairs. “Ach, der Indians have come! Donnerwetter!” one of the Von young snaked, almost shaking out of his pit. “Burnink oop der brizzer vonce. Himmel! Der army I will leaf and go home. Mit der top off mein heidt, mein Fraulein runs off from me yedt und—Ach Gott!”

“Look at pale face eagles go!” gloated Phineas, pointing up at the sky. “Ugh! Heap afraid of Spotted Elk's braves. And how!” Then he stepped close to the C. O. and whispered: “You tell the Heiney you can talk Indian— and if he will tell about the Russians you will tell me to let him go.”

The Old Man gave Phineas, but he walked to where the Teuton was bound to a stake. “Open up, Fritz,” he said. “How many Russians are behind the lines? I can talk this Indian gib-berish. I’ll have Big Chief Spotted Elk let you go if you will spill all you know. Fry up or you'll be barbecued by sun-down.”

“Ja wohl! Der Russians ist—”

Phineas was getting up after placing an armful of dry wood at the feet of the little Heiney. His Indian looks caught on a snag sticking out from the stake and were torn loose—revealing the rusty Pinkham thatch. The Kraut spotted it and he let out a yelp of joy and relief.

“Zo! Das ist der trig, hein? Ho-ho! Amerikaner flyers mit der Indian paint vunce. Bah-h-h-h! I would nolt tell about Russia now. I bet you I am lookin'g at Herr Leutnant Pinge-ham, ja!”

“Ah—er—” Phineas gulped. “Awright, you Kraut bum! I—"

Major Garrity gave Chief Spotted Elk a swift kick in the slats. Phineas said “Ugh,” and he meant it. “You fathead!” roared the Old Man. “Messed it up, huh? You're through playing Indian, you freckled baboon. Get out of here! Get to your hut and stay there! You, too, Gillis! And, you, Howell! I thought you two had more brains than to let this halfwit—"

“We got dr—"

Howell kicked Gillis' shins and from deep down in his throat boomed: “Shut up, dope! Do you want to make it any worse?”
FIVE MILES away Heinies were scheduled to take off in a Gotha to bomb a Yankee ammo dump that night. Heinie, as the crew got hold of some cordite and cloth and formed a smoke grenade, then reported to Kraud medicos and showed unnatural heart actions. The jitter Juns were excused and the bombing was delayed. Near Mont Sec, in a duguwt, a Jerry Ober-Leutnant stared at the blond scalp that had been brought to him earlier in the day. He looked at the dark stains on the dried hirsute object and shuddered.

"Some brafe Cheman," he groaned. "D'ich dast agat de ruls of var. Seems me the whole brafe Cheman will make der protest, ja! Already yedt der men by der trenches is afraid of der Amerikaner Indians. Mit der morale uf der army gink oop to liddle lieces—Himmel!" He reached for his phone and his pugish fingers shook on the instrument.

The combination of the coming of thousands of Red Men to France was spreading over the Heiney sector like fire in a celluloid factory while Phineas Pinkham brooded in his Nissen. All the next day the Teuton troops huddled together and complained of the whole business. The Kaiser could not shoot a million men, they told one another. Getting shot was one thing. Getting scalped alive was another.

By dusk of that day, the morale of the Jerryes was as low as a duck's vest. Boche planes shied from Allied skies and Heiney brass hats gnawed their fingers to the bone.

Phineas Pinkham, charged with raiding a Frog peasant's farm among a dozen other things, decided to take the bull by the horns. He vowed that he would turn his mind things over while being glued to the ground, and he had come to the conclusion that those things were not half as bad as they seemed. He bearded Garrett in his den, his face still wearing its war paint, and he did not give the C. O. a chance to open his mouth for fully ten minutes.

"Just because one squarehead knows we are fake Indians, it is no sign the other squareheads of the lines know us. Did you see them Heinie Pfalz jobs turn tail yesterday, huh? Anyways, if we do not find out about the Russians, the age limit for the draft will be raised over in the United States. And that will mean that more of me and these kids I am volunteerin' to go over tonight an' risk my life to find out for sure if the Krauts are doin' a Russian business. Chief Spotted Elk has spoken. He will take war path and—"

Old Cheminot thought it was a good idea. And there was a swell chance that the Boonetown pilot would get tagged for the Happy Hunting Grounds. "Go ahead, Pinkham," he said. "What can I lose, huh? One thing I do know—"

"I am getting out of the Order of Red Men as soon as I get back to the States. Now get out of here."

"All I ask is for you to have some Allied crates ready to hop off about four in the A. M.," Phineas said. "Have them meet me over Savant, as I will lead the pale faces from Potsdam into an ambush."

The Major threw his hands up in the air. But Phineas, satisfied, went to his hut and prepared for action. He put a fresh paint job on his face, covered his hands in gauze bandages, and fashioned a more convincingly Indian coiffure. Then he went over to the hangar and called for Sergeant Casey. The non-com came out from behind a Spad and eyed Lieutenant Pinkham slyly.

"Paint me a thunder wagon," Phineas grunted. "Ugh! Make it heap snappy, compreny—Spotted Elk has spoke."

"Spotted Elk is heap nutty," Casey snorted. But he obeyed the Pinkham order. Half an hour later, the Spad was ready for the air. He was decorated with pictures of animals, wigwams, and war hatchets. Lieutenant Pinkham walked to his thunder bird wrapped in a horse blanket and the buzzards of the Ninth crowded around to see the take-off.

"You've got everythin' you need but a straight jacket, you crackpot," Howell told him.


Major Garrity sat on the doorstep of the Frog farmhouse wondering at his own mental status. As he watched the Spad take off, the Equipment Officer came up and asked him a question.

"Ugh! What do you do, mister?"

"What does pale face w—er—er-li-eps! He's got me doing it. Shut up and leave me alone!" He got up and tramped inside yelling for Glad Tidings Goomer. The Old Man felt very much in need of his bottle.

NEAR CHEMINOT in Alsace there was a Heiney Gotha outfit. Just a half mile from that drome there was a flock of Kraut infantry having a recess from the shell-shelaked advance.

---THEY ADVERTISE—LET'S PATRONIZE---
ditches. Phineas Pinkham, alias Chief Spotted Elk, spotted the enemy concentration just as two bat flyers spotted him. The sun had not quite knocked out the vision with the horribly painted physiognomy he himself in the pit and point down at the ground, signalling for a fair catch.

Boche Gotha workers swarmed onto the drome to watch the Spad nose down. A Kraut anti-aircraft crew were called American works if the strange air wagon made a hostile move.

A big Herr Oberst, wearing a spade beard and a monocle, stood in the doorway of the Gotha front office. "Dornervetter," he bellowed. "Look out vanne, Das ist der trick maybe yedt. Das ist!" The Spad hit the field, rolled to a stop. Pinkham quickly yanked off his helmet and stuck a feather in the band encircling his head. Then he climbed out of the pit, taking his big horse blanket with him. He wrapped it around his frame with a grandiloquent gesture and strode majestically toward the Herr Oberst while scared Krauts gaped like surprised goldfish.

Phineas stopped raising his arm aloft.

"How!" he said.

"Was ist!" queried the surprised squarehead.

Chief Spotted Elk comes to see pale faces from Potsdam. For many months he has waited. Many summers have been mopped up by Manitou since American pale faces with long rifles stole cornfields from my people. Spotted Elk wants to help great Krau—or—White Papa in Potsdam. Spotted Elk's forecasted history at Munich and he had read all about Kit Carson and Daniel Boone. He chuckled and stepped out of the doorway. Twenty feet from Chief Spotted Elk he lifted his own hand.

Ach, I bid you by Carlisle you haff coot. Spotted Elk turned to Von Sprudel. "You vant you should get squaare mit der Amerikaner, ja? Welcome, Chief Spotted Elk, und cumst du in vunne, hein?"

Fighting off spasms in his backbone, Phineas shook his head. "Chief Spotted Elk cannot breath in white man's tepee. Stay outdoors!" Then he went on: "Over on American side an eagle's flight from here—is great pale face wig-wam full of thunder and lightning. Spotted Elk show white friends who hate pale faces from across water where wind tears through their big wig-wam. An hour before Great Manitou pushes sun up, Spotted Elk has spoke!"

Phineas squatted down on the ground, pulled a long-stemmed pipe from his pocket, touched a match to the filled bowl, and soon was puffing contentedly at the weed. Herr Oberst and lesser officers huddled inside Gotha head. Herr Oberst could not konck the Yingling over the Kraut reservation. A car rolled onto the drome and five men got out of it. Phineas Pinkham saw that three of them wore Russky uniforms. For a minute his blood hit sub-zero. Then one of the visitors spoke to a Master Hug, who was the interpreter for the British exchange.

"Wie Gehst. How ist der black mostachte Ich haben, heim? Ich ben Herr Oberst Nicholas Alluvantiac, ha! For der Vaterland I get tooken der prisoner und—"

"Why the big bums?" Phineas grunted to himself. They are no more Russian than a crock of baked beans. Why—haw-w-w-w!

Meanwhile Herr Oberst von Sprudel told his mates all about American his- tory. He had no doubts about the fact that Chief Spotted Elk had seen a chance to avenge his ancestors' diff- culties with the old pioneers. But he was not taking any chances. Chief Spotted Elk would fly in the Gotha and not in his own thunder wagon. Von Sprudel admitted he was pretty smart.

And Chief Spotted Elk felt like going into a faint when the Herr Oberst gave him his word. "Tryin' to keep his teeth from clattering, Phineas nodded his dome and said: "Ugh! Anyway Chief Spotted Elk will not ride thunder bird of pale faces across big pond any more. He make present to Big White Father in Potsdam. He have much wampum, too!"

The Krauts the Indian from Boonetown, Iowa, hove up in a makeshift tepee under a big tree almost a mile from the drome. Curious, albeit nerv- ous, Boche doughs ventured close to look at the Amerikaner aborigine. Some went to see Chief elk. Chief Spotted Elk made an angry gesture with a hatchet and the squareheads stamped.

"Chief Spotted Elk wantem sleep!" Phineas roared at them.

But there was no chance of Garrity's going to strong Indian sleeping. It was pretty plain to him that if he went to sleep it might be a permanent snoze. He had gotten himself into as pretty a kettle of smelt as he had ever imagined.

"Well," he sighed, "it is for the dear old U. S. A. I will be in all the history of the war. I am Han—ugh! It is a long sermon that doesn't end, an' nobody can expect to live forever. Addo, bums of the 9th. I will see you all in the Happy Huntin' Drome."

FATHER TIME put on a sprint that night. They staggered until at three-thirty-five A. M., Herr Oberst von Sprudel and a Boche Gotha jockey came over and called to Chief Spotted Elk. They told him that it was time to go over and knock the Allied powder wig-wam for a row of Indian totem poles. Chief Spotted Elk said: "It is well. I am Han and Black.

Five minutes later, Chief Spotted Elk was squatted down Indian fashion on the catwalk of a droning Gotha. Sweat was oozing through the Pinkham war paint and making tiny rivulets down his face. It occurred to him that even if the Boche bomber was not shot down, it would take him back to the Heine go. He felt that the hunt job would hold out. A good rain wouldn't do it any good. Yes, Phineas had to think faster than he had ever thought before.

He crawled back to the tail of the ship where a Boche machine gunner was crouched. He drew a Frog peasant's hatchet out of his belt and banged the Heine over the scalp with the flat of the blade. The Boche went to sleep without a fuss. Quickly Phineas took a wad of yellowish hair out of his war bag. It had been well smeared with mutton grease.

Then, with the fake scalp in one hand, the cooked gunner's Luger in the other, Spotted Elk crawled back into the bowels of the ship. The Heine at the bomb racks turned—and then let out a blood-curdling yell. He saw the gory trophy in Chief Spotted Elk's hand, jumped to conclusions, and tried to jump through the side of the Gotha.

"Gott in Himmel! Ha-a-alp vunce. Der Indian!—"


"He has scalped der gunner, Otto. He is maddt by all der pale faces und—ach du Lieber!"

Meanwhile, Phineas took a hunk of potato and made a little kit bag and plastered it on the end of the hatchet. He set the goofy stuff afire and panic grabbed the Gotha flyers. "Spotted Elk wantem fire," he roared. "Cold up in clouds. Ugh! Wa-a-a-o-o-o-a-o-a-a-ah!"

"Now down vunne Otto. Der bombes vill—" "Gott!"

"Jaf! Before ve ged itd der scalps kaput!"

BLAM! BLOOEY! KERWHAN-NG! Bombs left the racks and went down to dig huge divots out of Frog fairways. The Heine at the toggles dropped like an inanimate thing and leaped at the aborigine from Iowa. Phineas slapped him and dragged him back toward the tail of the ship. Then he let out another warwhoop and took another fake scalp out of his bag.

"Chief Spotted Elk havem two scalps. Getem hoo morn. Seztem thunder bird on fire. Getem all pale faces!"

ALLIED ambushing pilots were only five hundred feet up when they heard the double-yoked Kraut eggs break up three miles from Savant. They saw the Gotha heading for the linoleum in a hurry, and they knew they had saved a lot of work for some reason as yet unexplained. When a Yank motor-bikeman reached the scene of the Gotha's St. Vitus crackup, he found a Heine
walking around in circles as if he had lost something. Chief Spotted Elk was sitting on the Goat’s tail smoking a Calumet pipe.

"It’s an Injun!" sheppled a doug.

"Cripees!"

"Don’t be silly!" Phineas chided him.

"Haw-w-w-w-w-w! Get me an auto, as I want to get word to Chaumont about the Russians. Getem pale face pep-water buggy head up out of my face. Did I see these squareheads, oh boy! Tricks they want, huh? Well, a Pinkham—"

The cat was out of the bag. A half hour later, Chaumont’s braintrusts were here to the Heine trick. The Bocks had planted in Russia scouting squareheads where they would be taken prisoner. The Potsdam Kommand had figured that the Allies would pull men out of one part of the line to put them into the sector where Russians were believed to be heavily concentrating.

PHINEAS PINKHAM arrived at the Ninth still wrapped up in his horse blankets. They were slightly frazzled, and one hung away over his face. But he was in high spirits. The Old Man and visiting brass hats wanted to know his desire. Just ask, they beams.

With Captain Howell, Lieutenant Bump Gillis, and the other pilots stood open-mouthed, Chief Spotted Elk struck a dramatic pose and grunted: "Want two months wampum in advance. Take trail to Peree. See squaws. Ugh! May—be drinkem frog sparkler water. Spotted Elk,"

Major Rufus Garritt fell into a chair and held his head in his hands. "I want to resign," he moaned. "I can’t stand any more."

### Aero Book Review

(Continued from page 25)

The next comparison we have found to this fine work is Night Raiders of the Air, by A. R. Kingsford, an Australian who told of his experiences with No. 100 Squadron on night raids into Germany. But this is Italy and Austria, not France and Germany; and there is a great difference—the difference between the Alps and the rolling terrain in front of Metz. Everything is different—the names of towns, the types of ships, and the day-by-day patter of the Italians who flew with these American lads.

Here, new scenes are in store for you from the day they start taking solo hop (don’t do it! Caudrons, and test their nerves on S.A.I. two-seaters, to eventually go "first-line" in two-engined Caproni bombers. They lived and died the same as the Spad flyers in France. Their raids from Italian points out across the Piave were thrillers, and practically all their attacks were carried out in the moonless dark of night.

Bombing . . . night raids . . . machine-gunning enemy fields! Night after night, it goes on. And what is lost by lack of enemy competition from single-seat fighters is more than made up in the terror of getting lost, seeking searchlight beacon markers, and remembering the nightly code signal before one dare land back on his own drom.

Willis Fitch tells his story well. You quickly grow to like him, particularly through his frank companionship with his father, via letters back and forth from America. Fitch goes through the whole show, getting wounded, lost, and eventually decorated. Like you and me, he’s a fellow who has his own ideas. And that makes for good reading.

Pages In the Night should be put on your Christmas gift list, bузards, for it’s swell wartime stuff. And we hasten to mention the fine book jacket by Clayton Knight and the many revealing photographs. The book sells for $2.00 and it’s worth every cent of it.

### Fly This Golliwopper Tripe

(Continued from page 40)

a slight sandpapering should be given, especially on the top surfaces of the wings to improve the lift.

For the tail surfaces, light 1/32" sheet should be used to keep the center of gravity around the wing position.

The wing mount is made of 1/32" sheet. A line is drawn at the center and the balsa is cut along the line to give the same amount of dihedral as the center wing (see plan). Glue securely in place with the motor stick. Refer to the photograph at the head of this article for pointers.

At this stage the builder should also check the drawings to help clear up any difficulties.

The wing struts are made of 1/32" bamboo. They are forced through the wings at the designated places. A drop of cement at each joint will suffice. Remember that all horizontal surfaces should be parallel to the motor stick (which happens to be the most convenient thing to measure by).

A good prop can be carved from a block 9/16" by 7/16" by 4". The Gollihopper will perform with most any prop of that diameter which may happen to be lying around. At least two washers should be used between the prop and the thrust-bearing. It is a good idea to put a drop of oil between the washers. The prop shaft is bent from .024 wire.

### Adjusting and Flying

BROWN RUBBER—the flat 1/4" test kind is used as power. Two strands will be plenty. Lubricate it slightly, and use a winder.

---THEY ADVERTISE—LET'S PATRONIZE---
If the ship stalls—which is a habit common to many small models—try bending in the thrust-bearing slightly or adding a little weight to the nose. If the model decides to dive, warp the trailing edge of the elevator up a little bit more.

Rickenbacker in those days was no physical giant—but he had a cool-calculating intellect.

McCudden, a former gunner, also had a good mind and knew how to use it. Mickey Mannock had the good old gray matter Umph! regardless of the fact that he had a bad lung and but one good eye. Bishop was highly educated in mathematics as well as the German of Von Richthofen, Boelke, Wolff, Schaefer, Immelman, and Voss—they, too, were of the highly-schooled types. Then there's the case of Luke, the Balloon Buster. He was a college man with a brain that—if he'd played it right—would have made him the greatest air fighter of them all.

ALL THIS adds up to the undeniable fact that while you may boast of an exam-passing body and are capable of learning the fundamentals of flying, you couldn't pass the grade in one of our Service schools unless you can think, can think quickly, and have the educational background providing the factual and systematic medium in which to do your thinking.

As for the less stringent educational requirements, the powers-that-be do not demand “two years of college or its equivalent” because they want college material. No, that's not the point. The thing is that they have to have men of that caliber to form the comparatively small nucleus which is our peace-time Air Force. The perfection of the draft flyers in time of war depends on the perfection of this nucleus of top-notch skymen—these men who are well-educated, who are leaders, who are decisive in their thinking both in the air and on the ground.

What's more, thousands of dollars of tax-payers' money must be spent in training each and every one of these super-expert airmen. You can't blame them if they don't make the decidedly speculative and uncoordinated move of lowering the entrance barriers to allow the fellows with only “fair educations and who can pass the physical tests” to get in. That would amount to lowering the standards—and certainly none of us want that.

Nevertheless, the case of our letter writer still remains a problem. We wish something could be done for lads of his type. We wish our modern society was geared to provide the necessary extra educational training for these youths who can prove they have the requisite native ability. And meanwhile, we hope that the recently publicized American “youth air movement” (see your April Flying Aces) really gets going and gives all our air-minded fellows a “break.”

Other countries have faced this difficult problem, too. In the British service, they are continuing the experiment of taking worthy lads and training them as sergeants-pilots. It's not too surprising that R.A.F. reports indicate that sergeant-pilots are all too frequently deemed responsible for miscalculations and crashes. The “Flying Accidents” columns in the British aero weeklies tell the story, and we'd say this supports the argument that the high-education requirements are plenty important in military flying.

The only answer is to make the needed preliminary educational training more blankety available to our 'teen-age youngsters.

Perhaps these few words will help many of you readers to consider the situation in its true light. Knowing the thrill of the military cockpit and the pride of wearing "wings," we truly sympathize with those lads to bring his ship educational opportunities. But the men who draft our Air Service requirements do know what they are doing. And you'll find your greatest pride in getting in by mastering those requirements rather than by having them cut the hurdles down to your size.

Answers

TO QUESTIONS ON PAGE 24

1.—Mickey Mannock, had sight in but one eye. He was the most noted of several war-time airmen who had defective sight.

2.—The Frenchman, Guynemer, and the German, Wolff, both were killed in different battles when they were at the height of their war careers.

3.—Regular British .303 caliber is 320 whereas American .30 caliber is bored for the .30 calibar bullet.

4.—E. T. Willows was an expert British airship builder of which very little has been written. He was killed in a crash of the "Goliath" airship.

5.—Precipitation is the weatherman's term for the forms in which water may fall after condensation from the atmosphere. It actually means rain, drizzle, hail, snow, or sleet.

6.—Re-ignition is the re-ignition of a charge before it is fired by the spark plug. It is usually caused by some overheated part, such as the base of the spark plug or the exhaust valve.

7.—Howard Hughes used a Lockheed 14—the special form of the Electra—on his "round-the-world flight.

8.—A spot-landing is in landing in which the pilot attempts to land the plane upside down and to stop within a small circle, or near a marked target, on the ground.

9.—The Lewis gun originally used a light, shallow drum carrying 47 rounds. The air-version weapon was equipped with a deeper drum carrying 97 rounds.

10.—The "Gnome "Lerac" last flown by Frank Hawks was powered by the British Pobjoy radial engine developing 55 h. p.
THE NEVER-TO-BE-FORGOTTEN Gift...

LONGINES
World's Most Honored Watch

TEN WORLD'S FAIR GRAND PRIZES
TWENTY EIGHT GOLD MEDALS

MORE OBSERVATORY ACCURACY
AWARDS THAN ANY OTHER WATCH

USED EXCLUSIVELY TO NAVIGATE AND
TIME HOWARD HUGHES' WORLD FLIGHT

EXCLUSIVE OFFICIAL WATCH OF
UNITED AIR LINES COAST TO COAST

THE WATCH OF THE WORLD'S
FAMOUS EXPLORERS AND AVIATORS

WORLD'S LARGEST FINE WATCH FACTORY
WHERE LONGINES WATCHES ARE MADE

AUTHORIZED LONGINES
JEWELERS FROM COAST-TO-
COAST ARE DISPLAYING
THESE AND MANY OTHER
NEW LONGINES WATCH
STYLES PRICED $40 TO $4000

LONGINES-WITTNAUER WATCH CO., INC.
New York • Paris • Montreal • Geneva
LONGINES WATCHES • WITTNAUER WATCHES
AGASSIZ WATCHES • TOUCHON WATCHES
**SCIENTIFIC MODELS ARE HARD TO BEAT!**

**The EAGLET**—Designed for Use With Small Gas Engines

Wingspan 44", Length 32", Flying Weight with Motor 17 oz.

Finest small gas model in existence. 1/3 of building time of large models. Kit is 100% complete including M & M pneumatic wheels; 19" semi-finished prop; ribs, bulkheads, fairings, etc., printed on balsa; tail wheel; battery box; etc.; full plans for building and flying the Eagle. On test flights flown successfully with Brat and Trojan engines.

**BRAT**
- Ht. 3¼"; 15/32" Box: 3/32 H.P.
- Approx. 3 oz. $1.50 Postpaid

**TROJAN**
- Ht. 3½"; 5/16" Box: 3/32 H.P.
- Approx. 5½ oz. $1.50 Postpaid

**SYNCRO BEE**
- Ht. 3½"; 5/16" Box: 3/32 H.P.
- Approx. 4 oz. $1.50 Postpaid

**M & M MOTOR**
- Ht. 3½"; 21/32" Box: 2/32 H.P.
- Approx. 4 oz. $1.50 Postpaid

**THE STREAMLINER**

Wingspan 48", Length 29", Weight 2 oz. motors. An advanced type of gas, gas powered, complete from the most modern materials. Complete with motor and wheels. $2.50 postpaid or at dealers' prices.

**Valley**
- Ht. 3½"; 15/32" Box: 3/32 H.P.
- Approx. 4 oz. $1.50 Postpaid

**RED ZEPHYR**

Gas Model

This model holds the championship of France with a flight of 1 hour, 59 minutes. Complete Kit, including 3½" Pneumatic Rubber Wheels.

$5.95 Postpaid

**MISS AMERICA**

De luxe gas model, formerly sold for $9.50. Now $7.50 P.P.

**SCIENTIFIC GAS MODEL SUPPLIES**

**RUBBER WHEELS 3½"**

Valvoline Motor Oil

S.A.E. 70, large 15c 1 bottle—

Add 15c postage on orders up to $1.50, and 10c postage on orders over $1.50. Orders over $4.50 are sent postpaid. Kits and motors are sent postpaid.

**STORAGE BATTERY**

 criminal goods (cans) are generally included in postpaid orders. A complete set includes 2000, 200, 300, 100, 50, 20, 10, 5, and 2. $2.50

**GAS TYPE RUBBER POWERED MODEL AIRPLANE**

THE "FIREFLY"

- Wingspan 30"; Length 24.5" Weight 4 oz.

For kit. Complete with 30" wings, wheels with inflated tubes, rubber engine, motors, rubber bands, struts, 10" high semi-finished prop; ribs, bulkheads, fairings, etc., printed on balsa; tail wheel; battery box; etc.; full plans for building and flying the Firefly. On test flight flown successfully with Brat and Trojan engines. Postpaid, including M & M pneumatic rubber wheels.

$195

**VALKYRIE**

Gas Type Model Airplane

Wing. 24"—Wt. 1½ oz.

This model is a miniature duplicate of an actual contest winning gas model. Designed by Indoor Champion Carl Goldberg. Kit is 100% complete, including full size plans.

$1.00 Complete, Postpaid

**The FLEA**

Gas type, rubber powered. Real model sound.

James Clark's Flea flew 10,000 ft. $1.95

**SCIENTIFIC’S WORLD-FAMOUS “SCIENCE-CRAFT” GUARANTEED KITS**

These are the most complete and detailed models on the market. Complete with all finished parts.

$1.00 Postpaid

**BROWN Jr. ENGINE-D**

**DENNYMITE**

DE LUXE MODEL. Aluminum exhaust, dual mounts, etc. $17.85, P.P.

**STANDARD MODEL**. As illustrated, plus hot spark coil and condenser. $15.85, P.P.

**UNIT D U N I T**

Less coil and condenser $12.35, P.P.

For any items advertised in this page, see your local dealer or order direct from Scientific.

**NEEDLE VALVES**

All series: X, A, B, C & D. Each 50c

**BOEING FIGHTER**

Add 15c postage on orders up to $1.50, and 10c postage on orders over $1.50. Orders over $4.50 are sent postpaid. Kits and motors are sent postpaid.

**BASSWOOD**

5 foot lengths

4¼" $1.03
4¼" $1.05
4¼" $1.07
4½" $1.09
4½" $1.10

**BUNCH MOTORS**

Mighty-Midget Trig. Asbl. $9.00
Mighty-Midget Inbl. Asbl. $9.50
Mighty-Midget Inbl. Asbl. $10.00
Mighty-Midget Trig. Asbl. $10.50
Mighty-Midget Inbl. Asbl. $12.00

**WACO F-5**

50c

**CURTISS HAWK**

50c

**CURTISS HAWK P-E-5**

50c

**MR. MULLIGAN**

50c

**ROBOT TIMER**

Small size, only 1½ oz. Setting of a knob gives the desired time, 100% accurate and guaranteed. See the new Scientific Robot Timer at your dealer or order direct. $2.50 Postpaid.