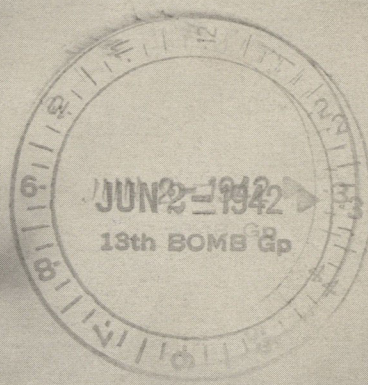
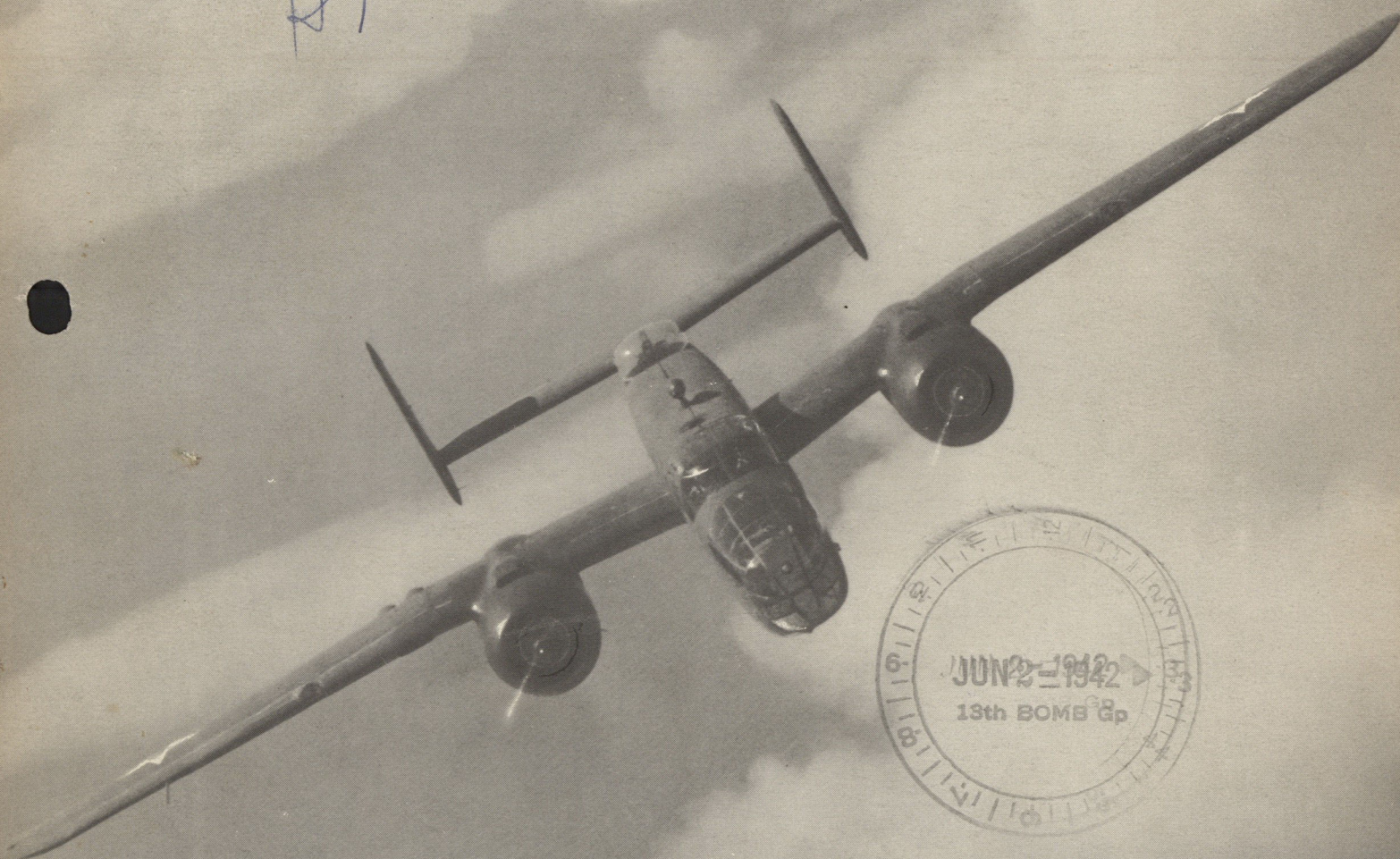


# AIR FORCES NEWS LETTER

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MAY 1942



# AIR FORCES NEWS LETTER

PUBLIC RELATIONS DIVISION, PUBLICATIONS SECTION  
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VOL. 25

MAY, 1942

NO. 3



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*Technical and Art Director—James T. Rawls*

## FRONT COVER

*The airplane pictured on the front cover is the North American B-25. Famous for participating in General Royce's Australian based raid on Jap forces in the Philippines, this type of plane was also "blamed" by the Japanese for making the war's first raid on Tokyo.*





# ACCIDENTS

**E**IGHTY PER CENT OF AIRCRAFT ACCIDENTS ARE AVOIDABLE! CALM  
ACCEPTANCE OF ACCIDENTS IS PAST. THE SITUATION IS GRAVE.

PILOTS AND AIRCRAFT NEVER SEEN OVER BURMA, BERLIN, OR  
BATAAN ARE DAILY BEING LOST; UNFIRED GUNS, UNUSED BOMB RACKS--  
THESE ARE BEING LOST--NOT IN ENEMY LANDS BUT IN THE QUIET  
AMERICAN COUNTRYSIDE.

OUR AIRPLANES AND CREWS LOST IN TRAINING ARE A DEFINITE  
GAIN TO THE JAP AND THE HUN--WHILE IF OUR LOSS OCCURS IN  
COMBAT, OUR CREWS HAVE DEMONSTRATED THAT THEIR LOSS WILL BE THE  
GREATER ONE.

AIRPLANES MUST FLY--ACCIDENTS WILL HAPPEN, BUT THOSE  
CAUSED BY FOOLISH, CARELESS, DISOBEDIENT, COCKY OR GRAND-STAND  
PILOTS CAN AND MUST BE STOPPED. SAVE THE COCKINESS FOR COMBAT.

PILOTS, CREWS, AND AIRPLANES MUST BE DELIVERED TO BATTLE--  
NOT LEFT SMOKING HEAPS IN CORNFIELDS FROM CALIFORNIA TO MAINE.

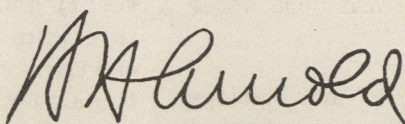
TO COMMANDERS: WEED OUT THE INCOMPETENT AND WEAK, ELIM-  
INATE THE DISOBEDIENT, DISCIPLINE THE CARELESS, RETAIN HARD,  
FEARLESS, DISCIPLINED MEN.

TO PILOTS: SELF DISCIPLINE MAKES MEN--UNAFRAID TO FIGHT,  
DIE, OR TURN BACK. LET THE ENEMY SEE YOUR BRAVERY. THE AIR  
FORCES KNOW OF IT!

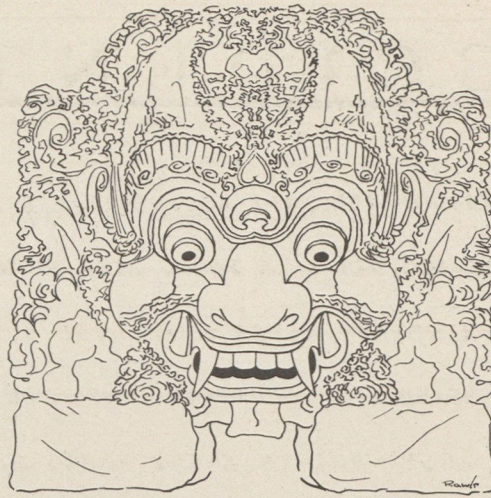
TO CREWS, MECHANICS AND SENTINELS ON GUARD: ONLY THROUGH  
YOUR EFFORTS CAN THIS JOB BE DONE.

TO EVERY MAN IN THE AIR FORCES, I PASS THESE WORDS.

THE RESPONSIBILITY IS YOURS, THE JOB IS YOURS. DO IT.

  
H. H. ARNOLD,  
Lieutenant General, U. S. Army,  
Commanding General, Army Air Forces.





# The Odds Be Damned

## A Saga of the South Pacific

By Lieut. Robert B. Hotz

**I**T was weird and ruthless war over the Indies. Native tom-toms blended with air raid sirens. Idyllic tropical harbors suddenly sprouted mushrooms of flame and steel under the impact of bombs from six miles above. There were long hours of cruising over steaming jungles, jig-saw patterned islands, sandy beaches and watery wastes. There were long hours patching, gassing and arming ships under the pitiless glare of the sun and the flame-spitting snouts of Zero fighters. Long missions wrapped in the softness of tropical moonlight. Brief hours of sleep snatched under wings of grounded ships and meals of bananas, coconuts, chocolate and stale bread.

It was a backyard war. One minute you were over Jap fields giving them hell and then you were back home to find that the Zeros and Mitsubishi's had blasted your hangars and shot up your half-cooked lunch. It was a savage war with an active Fifth Column, faked signals and insignia. Everybody who "hit the silk" was a special target for Jap machine guns.

It was an epic war against heavy odds in which a handful of AAF heavy bombers took on the Jap Air Force, Army and Navy in a battle the Japs will never forget.

Heavy bombers fought the main actions over the Southwest Pacific. Most of them were B17 Ds and Es with a sprinkling of B-24s. All of them flew from the bases in the United States to the Pacific battlefield, some before and some after the outbreak of war.

### *Levin Blasts Haruna*

They blasted Jap landing parties and convoys all the way from Legaspi and Apparri in the

Philippines to Bali and Java in the Indies. One of them piloted by Capt. Colin Kelly gave the American people their first boost in morale when it carried Corporal Meyer Levin over the Haruna 200 miles off northern Luzon and allowed Bombardier Levin to lay his only three eggs obliquely across the battleship from 23,500 feet and sink her. The bombers slowed the pace of the Jap drive southward and when they were pushed from their bases they made long night flights over lost territory to evacuate Air Force personnel from under the noses of the Japs.

Some of those men who fought, flew and serviced that handful of AAF heavy bombers are now back in this country to teach the lessons they learned over the Indies. From them come details of the air saga of Southwest Pacific.

There was that moonlit night off Java when a lone B-17 searched for a Jap convoy. As Capt. H.C. Smelser, pilot, describes it:

"We were cruising over the sea at about 4,000 feet when tracer bullets suddenly danced all around our plane. I ducked into some clouds and climbed to about 15,000. We broke into the clear at about 3 a.m. and there below was the most perfect target I have ever seen—a Jap convoy of 30 ships escorted by four warships all silhouetted in the moonlight.

"They were lined up two abreast and hardly a ship's length apart. They were steaming directly into the moonlight so they couldn't see us coming up behind them. I de-synchronized the engines and Lieut. Marion L. Wheeler, the bombardier, gave me directions for beginning our target run. We came over them and Wheeler



planted eight 600 pound bombs smack in the middle of the column of ships. I counted six ships sinking before we left. With a few more 17s we could have wiped out the whole convoy in two minutes.

"After we got back to Java three Australians flew some ancient crates that looked like the old Keystone bombers over the convoy at 500 feet and sank some more ships. When they landed they looked at all the bullet holes in their ships, laughed like hell, had another drink of whiskey and made another run over the convoy."

#### *Nine For Wheeler*

Lieut. Wheeler, Capt. Smelser's bombardier, sank a total of nine Jap ships in the Indies from his perch in the nose of the B-17. In addition to the six in the convoy, he bracketed a heavy cruiser from 15,000 feet off Bali and destroyed two transports in Macassar Straits from 27,000 feet. Capt. Smelser calls him "the best bombardier in the Pacific".

Bombardiers, navigators and gunners were the unsung heroes of the Philippines and Indies battles. After playing second fiddle to pilots in peace-time practice they came into their own in the battles above the Indies as equal partners in the aerial combat team.

Bombardiers played a particularly important role in the destruction of Jap naval power. In addition to Lieut. Wheeler and Corp. Levin, Lieuts. Cecil Gregg and Ralph Stone and Sergt. William Burke compiled exceptionally accurate bombing records under fire. Lieut. Gregg, in the lead plane making a heavy raid on the harbor of Davao, bracketed a Jap heavy cruiser with four 600 pound bombs from 30,000 feet. Sergt. Burke in the nose of a Flying Fortress piloted by Capt. William Bohnaker got another cruiser from about the same altitude. Four other Jap ships were destroyed by bombardiers in that raid. Lieut. Gregg also sank another cruiser during the battle of Macassar Straits and several transports off Bali.

#### *Captain Wheless*

The successful fight of a single B-17 against 18 Zero fighters over Luzon is the aerial gunners' epic. The lone survivor of Clark Field, this B-17 was on its way to attack Jap landing parties at Legaspi when Jap Zeros made

*(Continued on Page 36)*

*Captain Eugene Vinson, recently returned from the Far East, demonstrates Jap Zero fighter tactics to a group of Key Field pilots.*

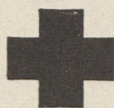




# Accidents Must Stop

By Col. S. R. Harris

Director of Flying Safety



**A** smashed up Army bomber in a midwestern cow pasture is more of a victory for the Japanese than a Flying Fortress brought down in combat over Burma.

Losses of planes and personnel by accident are always worse than losses in battle. A bad accident means one less plane and one less pilot or combat crew to carry the fight to the enemy. When the nearest Zero fighter is some 4,000 miles away from the accident, it means that this country has lost one of the most valuable cogs in its war machinery without a bullet being fired or a bomb being dropped in return.

Accidents will happen despite all of our precautions. We must accept that. But a crackup resulting from carelessness or cockiness is certainly an inglorious end for the pilot who has received the best flight training the world has to offer, and from whom so much is expected in this war. This type of crackup is anything but fair to members of the crew who have worked so hard to qualify for their jobs. It is rank injustice to the ground men and factory workers and designers who labored to place the plane in the hands of the pilot.

## *Accident Rate Grows*

Yet, Air Forces pilots continue to crack up airplanes at a rate which is causing serious concern. This year the rate of accidents to every 1,000 hours flown by military aircraft has increased substantially.

Such destruction of life and equipment cannot and will not be tolerated. This useless wastage can and must be stopped.

An analysis of airplane accident reports shows that 80 per cent of all accidents involving military aircraft are the result of some human failure. This means they are preventable. This means they can be stopped by constant vigilance, by the exercise of common sense and the observance of the fundamental rules of safe flying.

No airplane is so "hot" it can't be safely flown if handled properly.

The number of accidents attributed to errors of personnel is increasing at a rate out of proportion to the increase in airplanes and pilots.

Accidents attributable to materiel failure

remain at a comparatively constant rate. Every effort is being made through research, design improvements, and constant surveillance of equipment to further reduce these accidents.

## *Up To Airmen*

Reduction of the personnel type of accident is strictly up to the men who fly the planes and the men in command.

Accidents can be reduced, but only with the cooperation of everyone—Commanding Officers as well as the greenest Aviation Cadets.

In recognition of the vital importance of accident prevention, General Arnold has set up a new Directorate of Flying Safety as an independent unit in the Headquarters Army Air Forces. It is the job of this agency to see, through directives, publicity, close supervision and disciplinary action, that accidents are reduced. The Directorate has set as its goal a 25 per cent reduction in aircraft accidents during the next 12 months, and is ready to take drastic action to achieve it.

To carry out the program set up by the Directorate, 20 Regional Safety Officers will go out into the field to inspect and report upon local efforts to cut down the number of accidents.

These officers will work directly under the Commanding General of the Air Forces. It will be up to them to maintain close personal contact with each Air Force unit within their region, and to investigate and report to Headquarters on practices, systems, and, in fact, on everything affecting flying safety. They will also make special studies of the causes of accidents and recommend preventative measures. Directives will be prepared and published from Headquarters on the basis of their findings.

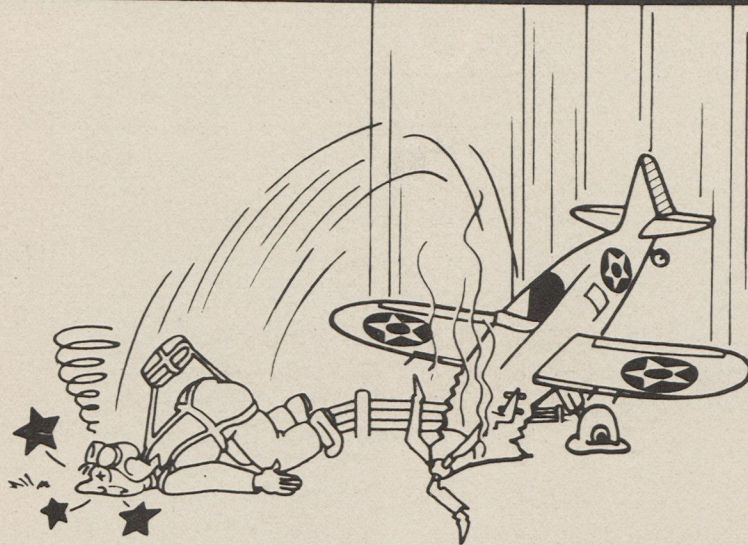
## *Investigations Still Used*

The use of the new Regional Safety Officer system will in no way affect the existing method of investigating and reporting accidents. Under this system the Commanding Officers of all Air Forces stations appoint an Aircraft Investigation Committee, composed of three members, whose duty is to investigate accidents, determine their cause, and to make recommendations upon

*(Continued on Page 6)*

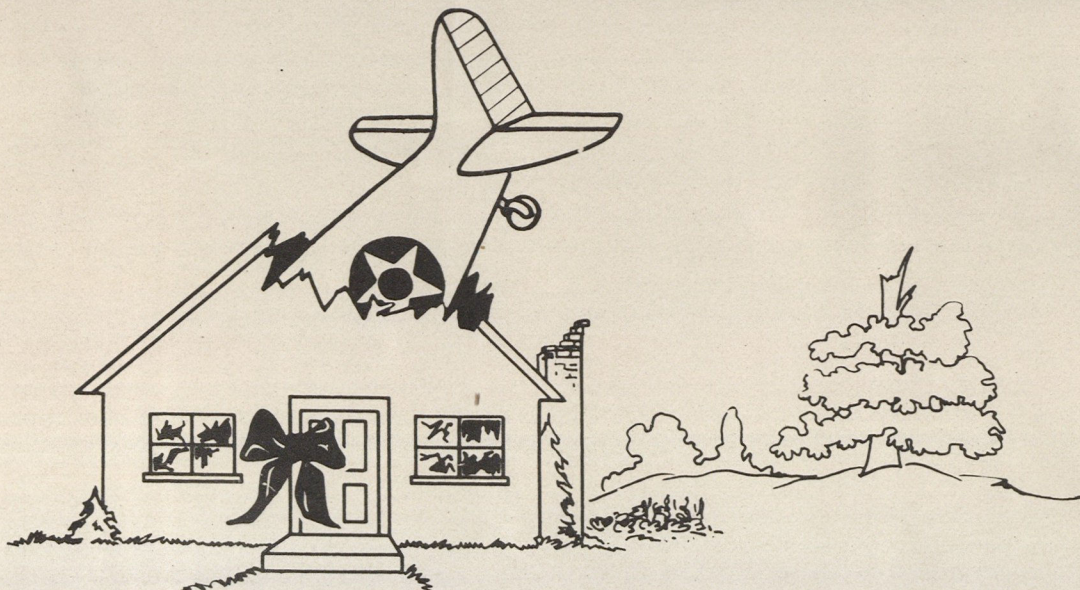


*He mistook . . .*



FOR FERDINAND FUTTS PLEASE LIGHT UP A CANDLE,  
HE MISTOOK THE FLAP FOR THE LANDING GEAR HANDLE;  
HE OVERSHOT, UPPED WHAT HE THOUGHT WAS THE GEAR,  
BUT FOLDED HIS FLAPS AND FELL IN ON HIS EAR.

*A very hot pilot?*



A VERY HOT PILOT WAS HENRY HIGHTOWERS,  
WHO BOASTED OF HAVING THREE HUNDRED HOURS.  
TO PROVE IT HE DOVE ON HIS GIRL'S HOUSE ONE DAY-  
THEY WOULD HAVE BEEN MARRIED THE FIFTEENTH OF MAY.



## The stupid droop...



**GANDER, MY LADS AT THE STUPID DROOP  
WHO KNEW HE COULD MANAGE AN OUTSIDE LOOP ;  
HALFWAY AROUND IT HE CRUMPLED A WING ,  
AND MUFFED HIS YANK ON THE RIPCORDER RING.**

**T**HE cartoons reproduced on these pages are among a set of 12 which will shortly appear as colored posters on walls and bulletin boards throughout the Air Forces. These posters are "brain child" of Captain Willard Van D. Brown, of Wheeler Field, Hawaii. The original drawings were the work of Mr. Jack Ewing, Wheeler Field Fire Chief. They were redrawn for use as posters by an Air Forces artist.

Before Flight Safety had come to the front as a vital Air Forces program and before the directorate of Flight Safety had been established, Captain Brown was pondering what he calls "an original approach to the problem of pointing out and emphasizing to our flying cadets and junior officer trainees the most consistently re-occurring mistakes which they make in primary, basic and advanced flying schools, and continue to make after reporting for duty as rated pilots."

Captain Brown knew what he was talking about. He had graduated from Randolph Field in 1932 and in 10 years he had been through the mill. He had observed, and according to his own reports, had experienced those mistakes in flight.

Captain Brown had seen a few of the Flight Safety posters published by the Royal Air Force, but was more interested in showing cause and effect in typical American fashion. His pondering resulted in catching the slang and doggerel

of the Air Forces and of using it with illustrated cartoons to tell a vitally serious story with a semi-humorous touch.

The three posters reproduced here are good examples of the entire set. Others tell of "unhappy twerps" who forgot about checking their landing gear, neglected to switch to a full tank of gas, forgot the old axiom:

The truest tale a pilot learns, that's known from pole to pole:

"A ship is never landed 'til its wheels have ceased to roll".

Of his project, Captain Brown is deadly serious, and expresses the hope that if the posters can prevent the loss of a single airplane their purpose will have been achieved.

The Director of Flying Safety, whose own report on the accident prevention campaign appears on other pages of this issue, has expressed the hope that Captain Brown's efforts will stimulate others in the Air Forces along similar lines. One of the needs at present is a similar poster set directed toward accident prevention among ground crews and maintenance men.

The *News Letter* is prepared to devote space each issue to the Flight Safety program and welcomes articles and art work on this subject originating in the field. Full consideration will be given every such contribution.



## Accidents Must Stop

(Continued from Page 3)

which to base corrective action. One of these committees goes to the scene of every accident, makes its investigations there, and submits its report to headquarters.

The questions the committee tries to answer are: What caused the accident? How did it occur? How can accidents such as this one be prevented? Statements of witnesses, a close study of the wreckage and the circumstances of the accident, and the pilot's personal, official and medical history form the basis of the report. Sabotage is always considered as a possibility until definitely ruled out by the evidence.

When finished, the report is sent to Washington where it is reviewed and subjected to critical analysis. The information taken from it is broken down under 80 headings and tabulated with other data in the form of charts, graphs and tables. The recommendations of the Investigating Committee are also carefully considered, and corrective action is taken in the form of directives and suggestions to operational units, engineers, training instructors and recruiting officers.

### Educational Campaign

In addition to continuing this report system and setting up the Regional Safety organization, the Directorate of Flying Safety will also conduct an intensive educational and publicity campaign. This will be designed to acquaint pilots with some of the more common forms of accidents, to suggest preventative measures and to warn them to keep on guard against the carelessness that inevitably leads to accidents.

Included in the campaign will be articles, posters, radio programs, motion pictures, photographs and every other kind of informational device capable of impressing upon Air Forces personnel the necessity of keeping a constant vigil that preventable aircraft accidents do not occur. The Directorate is deadly serious in its effort to cut down these accidents, and proposes to use every weapon in its power to achieve its goal.

Experience has always been the direct criterion of safety in flying. A pilot through long years of flying builds up a fund of knowledge upon which he draws automatically in an emergency.

Up until two years ago we had, in the main, an experienced Air Force. It was a small, highly

trained, closely knit group. It was an organization which had been built up slowly over a period of years. Its operations were understood by practically all of its personnel, and it was supervised by a small number of officers of long experience.

### Problems Of Growth

With the declaration of emergency, overnight there was placed upon the shoulders of this small group of experienced officers the tremendous problem of building an Air Force second to none. This meant procuring more airplanes than had ever before existed, of obtaining pilots to fly them, crews to man them and mechanics to maintain them. On top of this was the problem of organizing this vast mass into efficient combat units capable of carrying the fight to the enemy.

In one year and nine months the number of military airplane pilots increased 315 per cent, the number of students learning to fly increased 1,000 per cent, the number of military airplanes increased over 400 per cent and the number of hours flown 800 per cent.

Under an expansion program such as this it was only natural that a large number of experienced personnel had to be taken from the flying line and placed in planning, training and administrative positions. As a result the ratio of experienced to inexperienced pilots dropped abruptly—from one to three to about one to six. Since then, a continuously increasing dilution has been in progress, until today the ratio of experienced to inexperienced personnel in the flying activities of the Air Forces is about one to 50. This is expected to drop still lower, to one to 150, by the end of the fiscal year 1943.

Under present conditions it is no longer possible to closely supervise the newly-graduated pilot, to build up his experience step by step under ideal conditions, or to substitute close supervision by old-timers for his lack of experience. Today another substitute must be used. It is instruction, and the efficient use by pilots of the accumulated experience of the Air Forces throughout the years, as expressed in directives, posters and other media utilized to disseminate safety information.

Some of the best outlines of what to avoid in flying are contained in the reports of Investigating Committees submitted from the field. A study of these shows that 56 per cent of all accidents occur in landing and 10 more per cent



in taxiing. These above all others can be prevented by the use of common sense, and by the ability of the pilot to stay "on his toes".

These same reports also reveal that a great number of accidents could have been prevented on the ground before take-off—by pilots simply taking the time to get the "feel" of any new or different ship they are going to fly. Ninety-nine per cent of this getting acquainted process can be done on the ground, the rest should be done up about 10,000 feet before any tactical or cross-country flying is done with a new type.

A few of the more obvious lessons to be learned from past accident experiences of Air Forces personnel are the following: (1) Get thoroughly acquainted with your airplane so you will instinctively go for the right controls in case of emergency, (2) Don't be foolish, cocky, or careless, (3) Don't let your mind wander, but concentrate on flying your airplane, and (4) Don't disobey instructions and directives.

Flyers who hedge-hop into high tension wires, come in with the landing gear up, fly into thunderheads and collide with other planes do not belong in an air force faced with the serious job of conducting a life and death struggle with the Luftwaffe and the Japanese.

This is war. Our purpose is to win it. But we can't win it with airplanes that are strewn in pieces over the countryside, and with pilots who crack up before they even see a Jap simply because they are too careless, too cocky or too disobedient to observe the fundamental rules of flying safety.

We need the cooperation of every officer and man in the Army Air Forces to put this program across. Without it we must fail. With it we can reduce our accident rate much more than the 25 per cent set as our goal. The builders, the maintenance men and many others are doing their job to get the planes flying, its the pilot's job to keep 'em there.

### Safety is Possible

**M**ORE than a year of accident-free operations under pre-war and war conditions which required flying in all kinds of weather has been completed by pursuit squadrons under the command of Captain Mervin L. McNickle, Army Air Forces, according to War Department records.

Captain McNickle was in command of the 39th Pursuit Squadron of the 35th Pursuit Group from January 15, 1941 to January 25, 1942, and has been in command of the 307th Pursuit Squadron of

the 31st Pursuit Group from February 1, 1942, to date.

During the period in which they were under his command, these two squadrons have completed 2,393,745 miles of flying without a casualty.

The record is regarded as the more remarkable in view of the arduous service performed by the squadrons during these many months. The 39th Squadron made its record of perfect safety under Captain McNickle's command while engaged in the Louisiana maneuvers, the 1st Interceptor Command Exercises, the 3rd Interceptor Command Exercises, the North Carolina maneuvers, several demonstrations including exercises at Fort Belvoir, Va., and war-time service in the Pacific Coast theater of operations.



### REVENGE FOR TOM YOU QUON

**R**EVENGE will be sweet for Tom You Quon.

His wife and three sons were killed by fire from Japanese warships while attempting to escape from Hong Kong. His country has been ravaged by Jap troops. And he himself has a few accounts to square as a result of two years' experience battling the Japs as a member of the Chinese Air Force. Now Quon is in the U.S. Army Air Forces, stationed at Jefferson Barracks, Mo., waiting for his opportunity to help his adopted Uncle Sam.

In 1932, Quon, who left China at 14, took a course at the Alford Flying School, LeGrange, Ill. By 1937, when the Chinese war began, he had 200 flying hours to his credit and returned to China for active duty. There he was assigned to pursuit squadrons and flew several makes of American planes.

"At that time," Quon said, "we were fighting the Japs at Kwangsi Province near Canton. I got a good deal of combat experience, even though we often fought against terrific odds, since the Japs had 50 planes to our one. I was never wounded, although two of my planes were destroyed and I had to bail out. We didn't have any flying conveniences, either. We had no radio and we had to determine our course by landmarks".

Quon's qualifications are now being studied for disposition. One possibility is that he may be assigned to the Air Corps Ferrying Command because he ferried Russian planes from Moscow to China during one period of his Chinese Air Force experience.







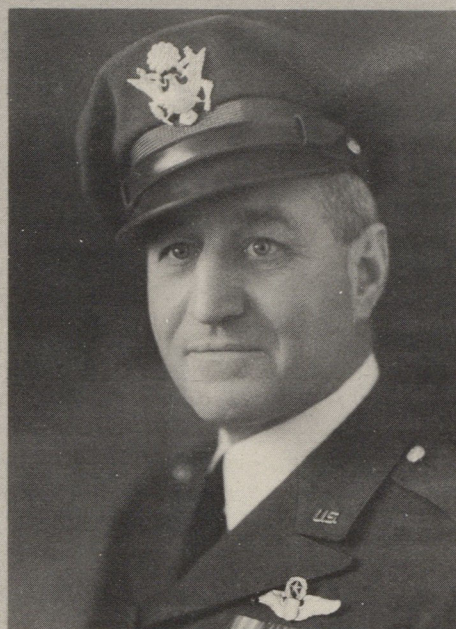
COL. JOHN HUBERT DAVIES



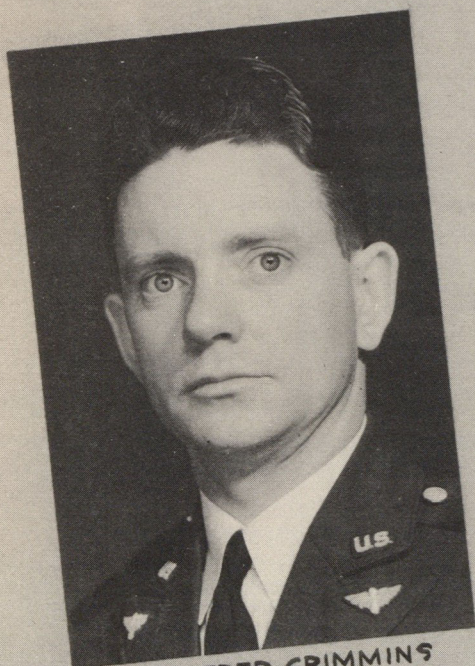
CAPT. FRANK BOSTROM



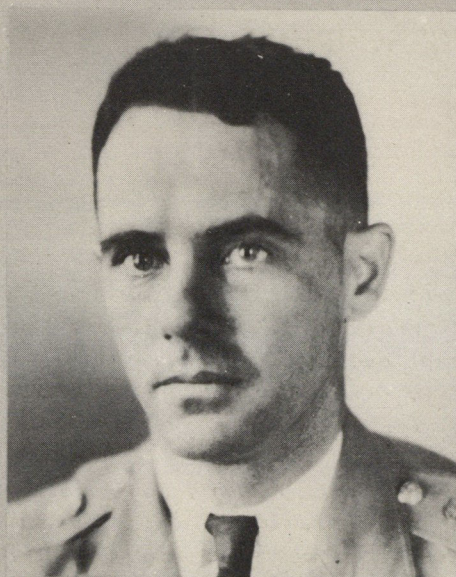
LIEUT. RUSSELL M. CHURCH



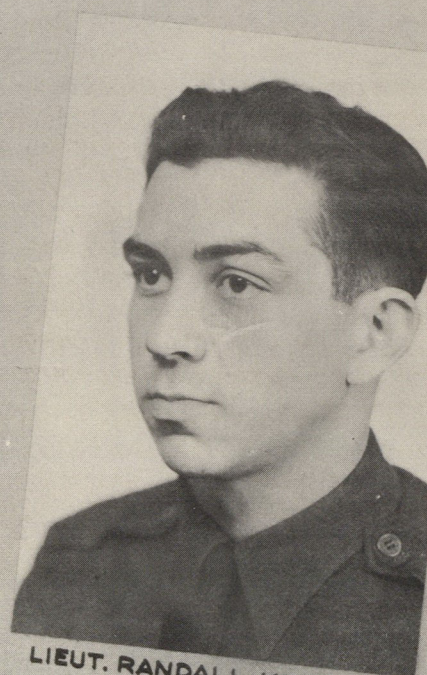
BRIG. GEN. RALPH ROYCE



CAPT. FRED CRIMMINS



MAJ. DAVID GIBBS

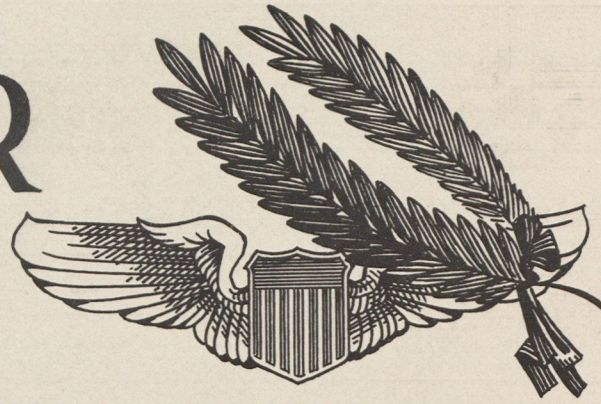


LIEUT. RANDALL KEATOR





# HONOR ROLL



Dispatches from the war fronts bring a steadily growing list of Army Air Forces Heroes, and while the editors of the *News Letter* hope to print each month in this space the names of all those who have been decorated for outstanding achievement in action, the pace of combat activity makes it extremely difficult to present complete reports. The *News Letter's* Honor Roll will always include complete coverage of all Air Forces citations made or confirmed by the Adjutant General's Office in Washington. Last month's Air Forces citations featured these names, although the individual action was not always described in cable dispatches.

BRIG. GEN. HAROLD H. GEORGE, who was killed April 30th in a plane crash, was posthumously awarded the Distinguished Service Medal--"for exceptionally meritorious service to the government in a post of great responsibility. General George served as Chief of Staff, Far Eastern Air Force, as Commanding Officer, Fifth Interceptor Command, and from Dec. 21, 1941, to March 11, 1942, commanded all Air Forces troops in the Philippine Islands. In this capacity, he had full responsibility for all Air Forces operations in the defense of the Bataan Peninsula, Corregidor and the other fortified islands at the entrances of Manila Bay. He had brilliant strategical and tactical concepts, and under continual attacks by hostile aviation in greatly superior numbers, demonstrated outstanding capacity for command, operating weak forces in such manner as to fulfill the urgent needs of the command and to strike the enemy effectively when opportunity offered. His personal courage and unceasing devotion to duty, his ingenuity in improvising when normal means were lacking, and his inspiring leadership in the execution of seemingly impossible tasks kept his force intact and effective in spite of all enemy efforts and contributed immeasurably to the defensive effort of the entire command".

## DISTINGUISHED SERVICE CROSS



BRIG. GEN. RALPH ROYCE--chief of staff of the American Army Air Forces in Australia--"for heroism and extraordinary achievement in aerial flight against an armed enemy". Gen. Royce lead a 4,000 mile flight of three B-17 bombers and ten B-25 bombers in a daring raid on shipping, airfields, and other installations at four Japanese-held points in the Philippine Islands on April 13 and 14. As a result of the raid, the bombers sank four enemy ships, probably sank another, hit an additional airfields and troop concentrations. For this same achievement, the Distinguished Service Cross was also awarded to LT. COL. JOHN HUBERT DAVIS, squadron leader of the B-25s, and CAPT. FRANK P. BOSTROM, pilot of one of the B-17s who saved himself and his crew despite destruction of his plane.



MAJOR DAVID GIBBS—for extraordinary heroism in action in the Philippines and Dutch East Indies. (No details available.)

CAPT. RAY COX and CAPT. FRED CRIMMINS—for entering burning hangars on Clark Field during the first Japanese attack on the Philippines, calmly starting the engines of many planes and taxiing them to safety. (Due to an error in the cables, Capt. Crimmins was listed in the March-April NEWS LETTER under the name of Cummings.)

LIEUT. RUSSELL M. CHURCH—(Posthumous)—for conducting an attack on 25 airplanes parked on a hostile airfield in the Philippines in the face of heavy anti-aircraft fire. Although his plane had been set on fire, he dived more than a half mile to release his bombs with marked effect, and died in his crashing airplane.

LIEUT. CARL P. GIES—for extraordinary achievement during an attack on Del Carmen Field, P.I. With complete disregard for the personal risk involved, he engaged 20 hostile craft and brought down one enemy plane, and later upon rejoining a companion airplane, was attacked by three enemy fighters. His furious attack sent one raider crashing and dispersed the two remaining enemy planes.

LIEUT. JOSE P. GOZAR—for heroically fighting off Japanese planes over Zablan Field, P.I. When his guns jammed he continued the attack by attempting to ram an enemy plane. By his display of courage and leadership and after a series of such maneuvers he forced the enemy to flee without further attacks against the airdrome.

LIEUT. RANDALL KEATOR—for outstanding achievement in attacking three enemy planes and bringing down the first hostile plane destroyed in air combat in the Philippines. He was joined by other American aircraft and in the ensuing combat two more enemy planes were shot down. While returning to Clark Field, he pursued an enemy plane and engaged it until it plunged in flames. (Lieut. Keator was erroneously listed as Randall Preator in the February NEWS LETTER.)

LIEUT. JOSEPH LAFLEUR—for extraordinary achievement in action in the Philippines. (Details unknown.)

LIEUT. GRANT MAHONEY—for volunteering for an extremely dangerous aerial reconnaissance mission over Luzon in early December. He secured vital information needed for a subsequent successful bombing attack. Next day, upon returning from a bombing mission near Legaspi, in which he destroyed an enemy flying boat, he displayed exceptional courage in landing his airplane with bombs dangerously hanging from their racks in preference to bailing out.

SERGT. ANTHONY HOLUB—for his display of personal heroism and devotion to duty. When a heavy aerial bombardment began on Clark Field, he ran to his airplane and returned the machine gun fire of attacking planes from the top turret guns of his craft. After his ammunition was exhausted, he ran through heavy strafing fire to a nearby damaged plane, removed as many ammunition cans as he could carry and returned to his guns, defending his aircraft from serious damage.

(Continued on Page 33)





*Before - Camouflaged Airdrome - After*

## Swivel Chair Bombardier

By Thomas O. Milius

Photo Interpretation Unit, A-2

**W**HETHER you read Shakespeare or the comics, you know about camouflage—the fallen log that gets up and runs away carrying a rifle, the haystack that skips over the brook and up the opposite bank in high gear.

Camouflage was old stuff when Birnam Wood went to Dunsinane in Shakespeare's sneak attack on Macbeth.

The aerial camera has put old-fashioned camouflage on the spot. Sleight-of-hand concealment has been forced into new techniques for deceiving the bombardier up above and the behind-the-lines observer who wasn't there—the photo interpreter.

Whether flying at high altitudes beyond anti-aircraft range or hedge-hopping at 300 miles an hour, the bombardier still has his troubles in spotting any highly camouflaged target in time to bomb it accurately. In fact, flyers often find it difficult to locate their own highly camouflaged bases when returning from a mission; in some cases they have to be "talked in."

### *"Secret Weapon"*

The photo-interpreter has been this war's secret weapon on the anti-camouflage front. Furnish him with clear photographs and he will

analyze the pictured landscape in detail, clearing up at his leisure all the mysteries that escaped the above-the-spot observer.

The photo interpreter is the swivel chair bombardier. Like the armchair general, he never misses. A reconnaissance pilot speeds over his target on the lookout for enemy interceptors, flak, his predetermined course and altitude. A photo interpreter, back at base headquarters, studies the still, flat surface of a pair of aerial reconnaissance photographs under the stereoscope, and sees the colorful landscape in a kaleidoscopic pattern of gray tones before him.

The stereoscope gives the photo-interpreter a third-dimensional view. This compact device of magnifying lenses, adapted from Grandma's parlor stereopticon, in the hands of the photo interpreter becomes as tidy a lethal weapon as the Garand rifle. With it he can locate not only the camouflaged target, but make a reasonable conjecture as to the next enemy move. He can identify the number and types of aircraft, for example, and read all the vital statistics of an enemy area from the picture.

The primary objective for the photo interpreter, as for all other participants in total



air war, is the enemy airfield. Now that the sky is a front line trench, the vulnerability of the airfield to attack—both by bombing and by aerial photographic reconnaissance—has assigned camouflage to extra heavy guard duty around such vital areas.

The value of camouflage for known airfields is to puzzle the bombardier, delaying his recognition of his target for the split second that may determine success or failure of the mission. For new and secret installations or airfields, the aim is to conceal them as long as possible from photographic reconnaissance and interpretation. Thus, delay may be caused in the recognition of new buildings, new runways, unaccustomed activities, preparations for a campaign, or extension of the size and strength of known fields.

The photo interpreter has three camouflage nuts to crack—concealment, disguise and decoys.

The best way to keep an interpreter from drawing the right conclusion about what goes on at an airfield is to keep him from seeing anything. To this end, the enemy will adopt the most rudimentary form of concealment—just plain hiding. The pilot will park his aircraft under trees out of sight, in tents covered with foliage, or under elaborate structures of netting. Supplies are similarly kept under cover, in every sense of the word.

#### *Tricks Of The Trade*

Another device for keeping installations out of sight is simply to bury them. This is often a means for protecting fuel stores and personnel shelters. Their presence may be revealed to the photo interpreter, however, by small mounds of earth which are given a startling third dimension of stereo vision, or by truck tracks or footpaths leading to the mounds. This type of concealment may nevertheless be very difficult to spot unless located during construction. By comparative photographs, the photo interpreter may find a clue in the personnel activity or in the aircraft habitually parked near the suspected areas.

Instead of hiding the installations, it is possible for the enemy to copy some of nature's woodcraft tricks and make the whole field blend with the landscape—not enough to conceal it, but enough to delay recognition on the part of the bombardier. This protective coloration technique takes a tip from animals that wear vertical stripes to harmonize with the tall jungle grass they live in, or those dappled with

spots like the patches of light and shade in their forest lairs.

The camouflaged airfield will have an outline to conform with the pattern of the landscape—a straight and decided outline in an area of geometric farm patterns, an irregular and indefinite outline in a region of unbroken, unfenced wooded areas. Installations are sited so as to take advantage of natural cover such as woods and contours of the ground; aircraft may be parked in gaps cut in hedges so that their wings will carry on the line of the hedge. Sites are avoided if they have geographic cues, such as lakes, river forks, monuments, or other landmarks that may help a bombardier quickly identify the location. The installations are toned down by darkening roofs, runways, and taxi ways with paint or cinders or some other medium which will make them photograph the same tone as the surrounding area. Disruptive painting, however, if done inadequately, is worse than useless, both for runways and buildings.

#### *Disguise Is Best*

Airfields located in mixed open and wooded areas, with natural avenues of approach, are easier to blend into the existing landscape pattern. The wooded areas are therefore especially subject to the photo interpreter's suspicion as is any unaccountable traffic on highways. In either heavily wooded areas or flat open country, blending would be less successful for concealment than other devices.

The type of camouflage that poses the most difficult problem for the photo interpreter is disguise. The suspicious elements may be plainly seen, but how can he tell whether they are what they seem? The answer is found through judgment rather than through direct recognition.

The photo interpreter may find that furrows, canals, hedges, fences and other apparent obstructions are merely painted on an airfield to make it seem to be unusable. (on one field the German Air Force painted a lake). Roads, avenues of trees, orchards, and regular patterns of subdividing farm fields are painted across the airfield as a usual practice. This artificially projects the pattern of the landscape upon the field. Each installation of the airfield may have its own disguise, appropriate to its size and situation, in keeping with the surrounding countryside. The hangar may look like a barn, with an adjoining orchard painted beside it. Personnel huts may masquerade as cottages with garden patches, arranged along their appropriate village streets, like the layout used at Dekooy.



Another sector of the field may be planned to resemble a churchyard. (The German Air Force does not limit itself to any standard type of structure, but follows the policy of using the obvious but innocent-looking structures characteristic of the area). Every building big enough to be useful should, in such excessively innocent areas, be suspect.

#### *Fooling The Shadow*

Another element of disguise is the technique of altering the shadow pattern and the apparent outline of an installation. On German airfields, netting and built-up camouflage structures are extensively used to cast an irregular shadow pattern and disguise a building's outline. The interpreter can circumvent these wiles with the aid of stereo vision's third dimension, looking for the contours of the structure within the pattern rather than the general shape.

A neat Nazi stunt for camouflaging an airfield is to duplicate all installations in a decoy field, to draw enemy fire, and with no other operational use. When night bombing is the threat, a mock airfield is set up some distance from the actual field. The shape of the runway is duplicated and treated so that it gives off a faint glow, or at least is discernible at night. The type of decoy field designed for protection against day bombing is generally set up nearer the real field, complete with runways, taxi tracks, dispersal areas, dummy aircraft, and in some cases even the field markers.

On these dummy fields the photo interpreter's close scrutiny uncovers a conspicuous lack of the usual airfield activity and of minor installations. His responsibility, whenever he observes an apparent duplication of airfields, is to determine which is the decoy, so that the bombardier will be on guard against this deception.

#### *The Stereoscope*

To circumvent these devious aims of camouflage, the photo interpreter has only one basic tool—the stereo vision made possible by the stereoscope, which gives him depth perception. The stereoscope projects the flat surface of the pair of aerial photographs into third-dimensional relief. What had appeared to be a flat rectangle on the picture, when viewed by stereo turns out to be the domed roof of a camouflaged hangar. This third-dimensional relief enables him to determine if the pattern that suggests trees is merely paint on a disguised runway or

actually trees standing out in full relief and casting shadows. By stereo he may recognize the true nature of what appears as a dark irregular shadow pattern on the photograph: it becomes the rectangular roof of a camouflaged aircraft shelter in a disguising clump of shrubbery.

As an aid to rapid analysis, the photo interpreter must develop a sense of texture and depth perception. The texture alone may be the tip-off to a camouflaged field—an airfield must of necessity be firm and hard. A pattern of painted fields stretching across it, even though blending in color with surrounding farm areas, will show by their hard surface that they are not bearing a crop. A sensitive perception of depth—that is, relief, or irregularity in contour—will help him penetrate the disguise that depends on outline rather than height.

There are a half-dozen or so touchstones which serve as clues to the penetration of camouflage, such as roads, taxi tracks, runways, earth scarred from excavations, mounds of heaped-up earth. A methodical procedure for the photo interpreter, in inspecting photographs for camouflaged airfields, could be worked out somewhat along the likes of the following steps.

#### *Procedure*

First, to spot an airfield on a reconnaissance strip of a suspected area, quickly scan the pictures for stretches of level ground or fields without obstruction, or with the least obstructions—large enough for landing aircraft.

Second, having eliminated all except photographs of relatively clear stretches, (which are level and large enough), inspect these for possible hangars and runways—the largest elements of an airfield, and the most difficult to conceal. Any building big enough to house or hide an installation should be open to suspicion. Pay attention to straight stretches of usable road and long stretches of well drained turf that might serve the purpose of a runway.

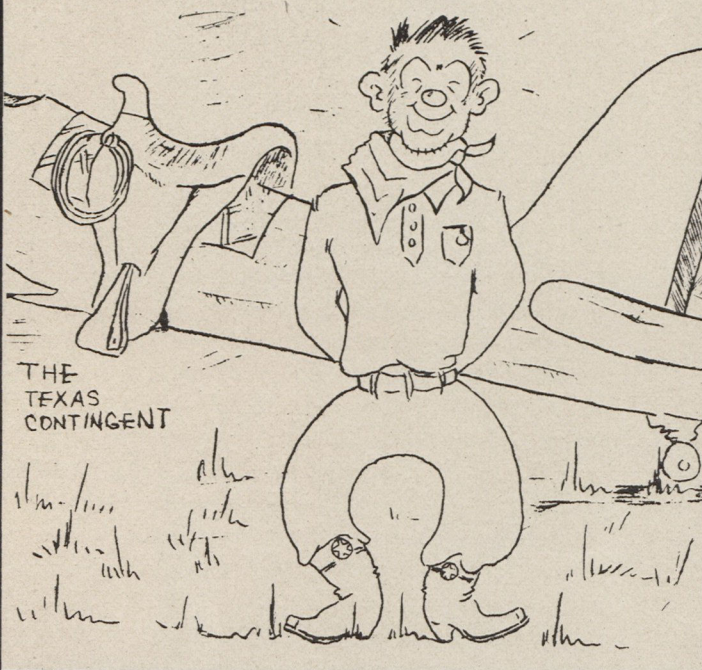
Third, watch for an area in which the texture is definitely flat and bald, in contrast to the velvety fields of growing crops. The flatness may indicate the camouflaged landing field, scratched and packed down with use.

Fourth, watch for slight deviations from the pattern of the landscape. Fields with outlines that are too geometrical, too regular, or too big may be merely painted across the airfield. Roads that are too straight, clean, and sharply defined may be painted dummies; roads actually

(Continued on Page 31)

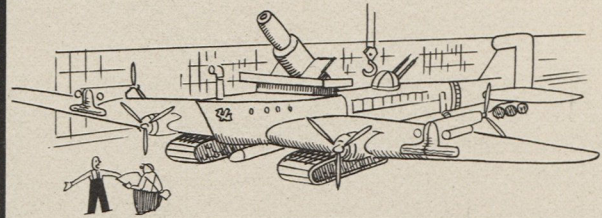


DODO-DOPE --- Jones Field



THE  
TEXAS  
CONTINGENT

WING TIPS --- Mather Field



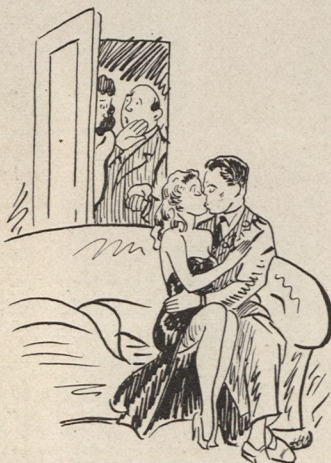
"Fer Gawd's sake, Riley, Can't You Keep Your Blue Prints in Better Order?"

WINDSOCK --- Minter Field

## SPRING FEVER

By Sgt. Karl H. Houston

TEXACTS --- Sheppard Field



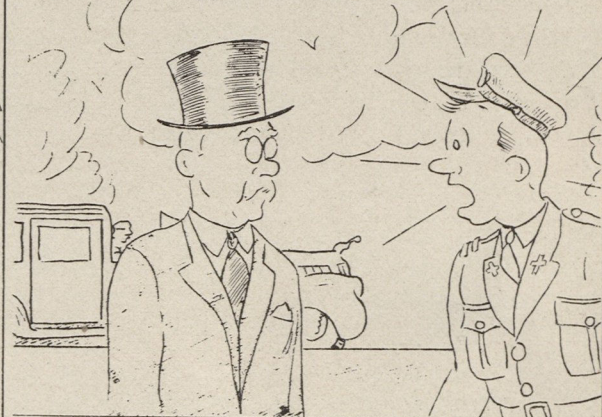
"Don't you think they're carrying this 'Don't Talk' Policy too far?"

RIPCORD --- McCord Field



"...what the hell!!! Can't even an angel fly over McCord Field?!!"

AERO-GRAM --- Gunter Field



"CHAPLAIN, I WISH TO CONTRIBUTE \$1,000 TO THE BLIND FLYERS AT GUNTER."

AILERON --- Lemoore Base

## SPRING



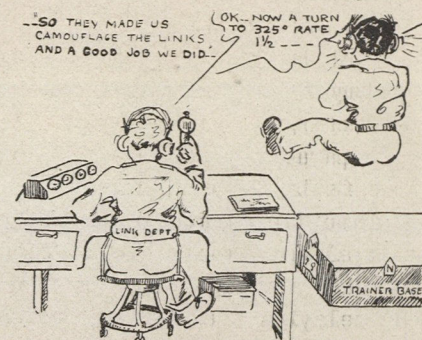
"Junior is trying to imitate one of them gadgets landing at Lemoore base."...

WINGTIPS --- McClellan Field



"MY NAME is a military secret, but my initials are A.W.O.L. McClellan Field!"

Embry-Riddle.FLY PAPER --- Miami Fla.  
The Link School at Clevinston by S. M. Lightholder



HERE are some typical examples of the kind of humor that is growing up throughout the Air Forces. They were taken from representative air base newspapers all over the United States.



# CROSS COUNTRY



*This will introduce Cross Country, a new and informal section of this magazine which each month will feature local news bits. A lot depends on you. We would like to get our local news right from the horse's mouth: so send in your contributions, including snapshots and photographs with a human interest touch. Address your contributions direct to the Editor, AIR FORCES NEWS LETTER, Public Relations Division, AAF, Washington, D.C.*

*---The Editor*

**W**HAT family is "most represented" in the Service? The Jenkins family of Verbena, Ala., has seven sons on active duty with the armed forces. Two are in the Air Forces: Charles, a master sergeant at Duncan Field, and Robert, a staff sergeant at Eglin Field, Fla. The Army Ground Forces and Navy claim the others.....The Watkins family of Washington, D.C. also can claim seven. Col. Dudley Watkins is on active duty at the Air Force Proving Ground at Eglin Field, Fla. and six sons are in service. Lt. John C.A. Watkins, former editor of the *AIR FORCES NEWS LETTER*, is now a student flying-officer at Tuscaloosa; Jack, also a lieutenant has been at Hickam Field since before Dec. 7; two others are in the RAF; another is with the Army engineers in Iceland, and the youngest, soon to be commissioned a lieutenant, is in the senior ROTC brigade at the University of Michigan.....Aviation Cadet Van W. Jones of Kelly's Advanced Flying School has a brother Ted in the Marines, Richard in the Army, Robert in the Navy.....Mothers with four or more sons in the armed forces are entitled to receive the Emblem of Honor, a gold medal which bears a star for each son represented. Information concerning mothers who can qualify should be sent to the Emblem of Honor Association, 60 East 42nd Street, New York, N.Y.....One of the first mothers to be honored was Mrs. Dora Cooper of Samson, Ala., who received the Emblem from Maj. Gen. George E. Stratemeyer, Commanding the Southeast Air Force Training Center, in a special ceremony at which four of her five sons in military service were present. The fifth is

in Basra, Iraq, with the U.S. Military Mission.

Godman Field wants pictures for its Squadron history book of any and all officers and men who have served at one time or another in the 15th Observation Squadron. When sending pictures, please give full name, date of service with this organization, and rank at that time. Pictures should be sent to the Public Relations officer, 15th Observation Squadron, Godman Field, Fort Knox, Kentucky.

"Get 'Em There, Get 'Em Back" is the new slogan of the Navigation School at Turner Field, Ga.....Although he has been flying since 1921, Col. Warner B. Gates, Commanding Officer at Lawson Field, made his first flight in a commercial airplane recently when he flew to San Antonio on a Ferrying Command mission.....The Army's first parachutist chaplain is Raymond S. Hall of Ft. Benning, Ga. After a week of talking to the men he applied for permission to take the five-week training course. He found it rough going but now is a qualified chutist and looks forward to each jump. The men's reaction to his jumping? "It increased attendance at chapel", Chaplain Hall reports.

The President has nominated Col. Claire L. Chennault, commander of the American Volunteer Group in China, to be a brigadier general.....Every time Sgt. Thomas Snow picks up the phone on his desk in headquarters at Camp Blanding, Fla., he has to say, "Special Services Section, Sgt. Snow speaking".....Pvt. David Sackson, former conductor of the Charleston Symphony Orchestra, and a member of the New York Philharmonic and NBC Symphony Orchestras and the Coolidge and Gordon string quartets, recently finished washing spuds, cleaned up, rushed over from K.P. duty to the Service Club, and brought down the house at Keesler Field, Miss. with a Bach violin recital.

Two new service medals, the American Defense Service Medal, first to be awarded by



the Army since the World War Victory Medal, and the Good Conduct Medal for enlisted men have been ordered established by the President. The first will be awarded to all U.S. military personnel for honorable service of 12 months or longer between Sept. 1939 and December 7, 1941. The Good Conduct medal is authorized for award to those enlisted men who on or after June 28, 1941, honorably completed three years of active Federal military service and who are recommended for the award by their Commanding Officers for exemplary behavior, efficiency and fidelity.

Harold Gatty, who flew around the world with the late Wiley Post in 1931 is now on duty with the U.S. Army Air Forces in Australia.....Major Warren Eaton, inventor of the radio compass, is now at Wright Field.

His former co-workers in a plant at Aliquippa, Pa., recently sent Pvt. Ray Reed of Geiger Field, Wash., a 10,000 word letter on a strip of paper 6 inches wide, 40 feet long.....Friends in Bethlehem, Pa., sent Pvt. Raymond Kindt of Mather Field, Cal., a letter 14 inches wide and 9 feet long.....More than half the newest class of navigation cadets at Kelly Field's Navigation School, the largest in the AAF, have had no previous flying experience. They entered the school direct from civilian life or other Army branches.....Gunter Field, Ala., tells of the civilian, invited to visit the field, who wrote: "Maybe I could arrange to fly at Gunter Field if you have a landing field".....Herbert C. Klynstra, who has toured the country with a nationally known circus as a clown, is now at Kelly Field. He has also been a carpenter, acrobat, truck driver, salesman, shipping clerk, and farm hand.

The Navy has been given full command over all anti-submarine activities on both coasts, and Army air units have been allocated to the Naval Commanders of Sea Frontiers.....An Airborne Command has been created in the Army Ground Forces, with headquarters at Fort Bragg, N.C. Several glider units from the AAF will be made available for special training under the Airborne Command.....Great Britain has formed an Army Air Corps bringing all air-borne troops under one unit. Previously all planes belonged to the RAF, but now the Army will have a flying force of its own for closer cooperation with ground units.....Pilots on commercial airplanes now broadcast all weather information in special

code.....Lt. Col. Lester J. Maitland, just returned from the fighting fronts in the Philippines and Australia, and the first man ever to fly from the West Coast to Hawaii, has been named Assistant Commandant of Gunter Field.

Soldiers at Logan Field, Colo., have discovered a law making it punishable to shoot buffalo out of the Ft. Logan barracks windows.....The first group of the AAF's Flying Sergeants have been graduated as military pilots from the Gulf Coast Air Force Training Center. Pilot training for enlisted men was begun last fall and upon completion of training the students are appointed Staff Sergeant Pilots with pay of \$108 per month while on flight duty.....A Flying Sergeants' Club has been organized at Maxwell Field, Ala., and plans are being made to expand it into a national organization.....West Point cadets who take special training for the Air Forces will be graduated with their wings instead of devoting several months after graduation to special training.

Filipinos in the U.S. have been made eligible for enrollment as flying cadets in the Army Air Forces, and Secretary Stimson has waived citizenship regulations in their behalf.....Brig. Gen. William O. Butler is the newly appointed Commanding General of the Eleventh Air Force. Gen. Butler came to Alaska from Wright Field.... The Southeast Air Force Training Center estimates that 500 American Army fighter pilots who otherwise would have been eliminated have been "saved for the service" through the new physical training program.....Maj. Gen. Follett Bradley has been appointed Commanding General of the First Air Force, and Brig. Gen. John K. Cannon is the new Commander of the First Interceptor Command.....The Air Force Basic Flying School at Moffett Field, Cal., has been transferred to Chico, Cal.

Applicants are needed for training at the new Glider Pilot Training School at Twenty-nine Palms, Cal. At present only enlisted men with two months' service are eligible. To qualify, an applicant must either be (1) a power plane pilot, graduate of a CAA primary or secondary course; or (2) a glider pilot who can produce certified evidence of at least 30 hours' glider time or have piloted at least 200 glider flights.....





# Morale Builders

By Lieut. Col. R. C. Jones

Air Forces Morale Officer



**S**PECIAL service agencies are being set up in all commands of the Air Forces to enlarge upon recreational, physical fitness and general welfare activities for all units down to and including squadrons.

The efforts of these agencies will be directed toward improving the physical condition of all officers and men, and toward building up the morale and "esprit de corps" of Air Force units.

The agencies will work under the general supervision of the War Department Special Service Branch, headed by Gen. Frederick H. Osborn. This Branch is constantly studying the factors that influence the effectiveness of military units and aids field commanders in their task of building up morale in their organizations. Activities of the Air Force special service agencies will also be coordinated by the Director of Personnel.

## *Qualifications*

As often as practicable, Air Force special service officers will have physical education and recreation training qualifications. All group special services officers will be especially qualified for these activities. One non-commissioned officer "special services assistant" is authorized for each squadron. These men will be selected for their leadership and personal qualifications. They will assist their commanders and the group special services officer in directing squadron physical conditioning exercises, mass games, sport, recreational activities, entertainments, and in bolstering the general welfare.

Enlisted men with coaching, teaching, recreational, athletic or similar experience will be eligible for these non-commissioned assignments. They may also aspire to the physical training course, AAF Officer Candidate School, if they have a college degree in physical education or comparable training, plus experience in the physical fitness field. Upon graduation, they will be commissioned Second Lieutenants and assigned to duty, either as special services officers throughout the AAF, or as physical training instructors for aviation or technical training students.

Special services activities in the AAF are an outgrowth of the former A. and R. or Morale officer's responsibilities. Development and maintenance of satisfactory morale is a natural by-product of the program. Although the word "morale" has been abused and misunderstood in many quarters, it pertains to a highly important feature of military life and efficiency.

## *"The Old Fight"*

General George C. Marshall recently said, "Napoleon evaluated morale over material as three to one. I believe that recent experiences indicate a re-estimate of these values—the odds being nearer to five to one, or possibly even ten to one, in some instances, in favor of the psychological factor."

"The old fight" has been laughed at for being childishly dramatic, but it is nevertheless true that training alone won't win a war if it isn't backed up by a high degree of morale. Call it what you will—esprit de corps, high spirits, or a cheerful, resolute state of mind—it all adds up to the same thing. All work and no play not only makes Jack a dull soldier, but it also may cause the breakdown of the most highly trained Army.

Play will not be the only activity under the AAF special services program. In addition to the rigorous physical fitness and athletics program being developed by a committee of the nation's leading experts, there are educational opportunities offered to ambitious soldiers, and advice upon insurance matters, personal finances, dependents and other similar problems.

## *Functions*

Special services officers assigned to AAF units will have such varied duties as promotion of athletic contests, direction of calisthenics and mass games, procurement of motion picture service, organization of amateur theatricals, development of libraries, production of radio programs, promotion of crafts and hobby groups, activation of musical organizations, and stimulation of recreational opportunities in nearby civilian communities. In short, they

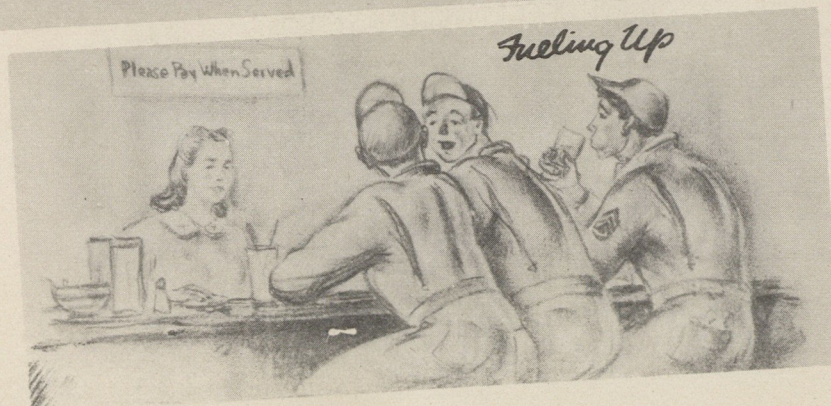
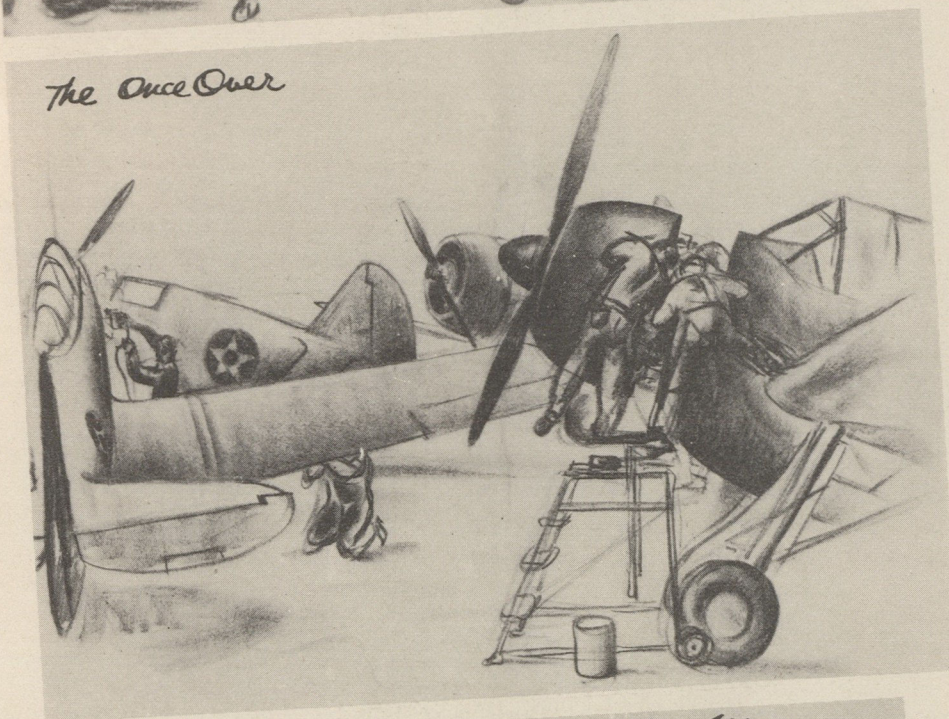
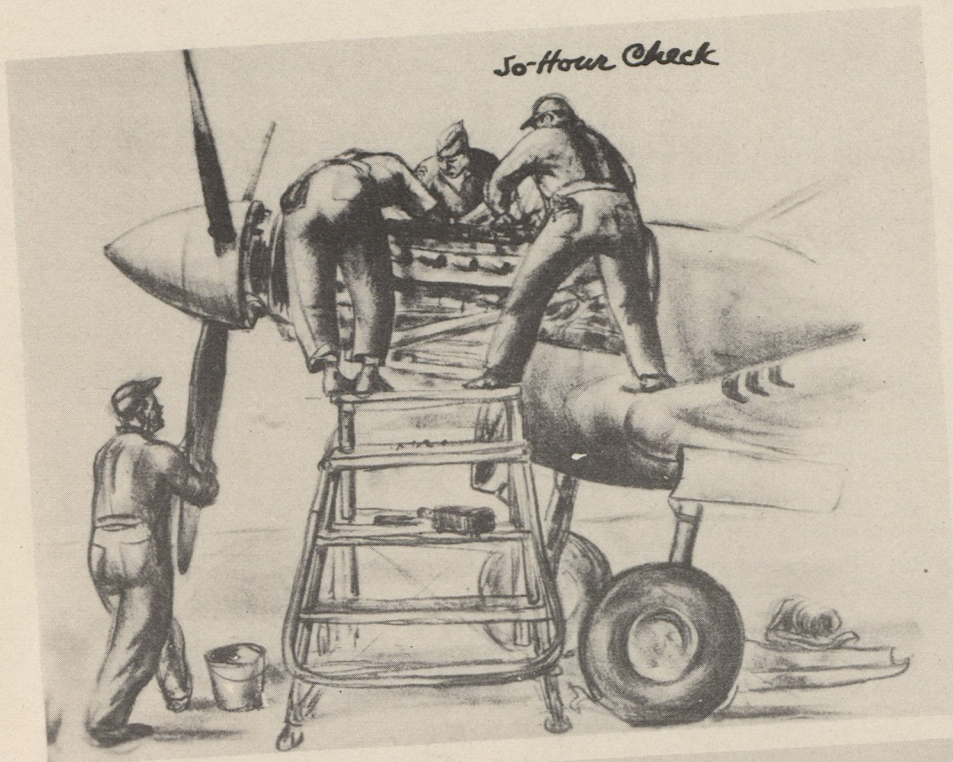
(Continued on Page 34)



# A DAY AT AN A

Sketches made at

Capt. Raymond Cro



*Rolling Your Own*

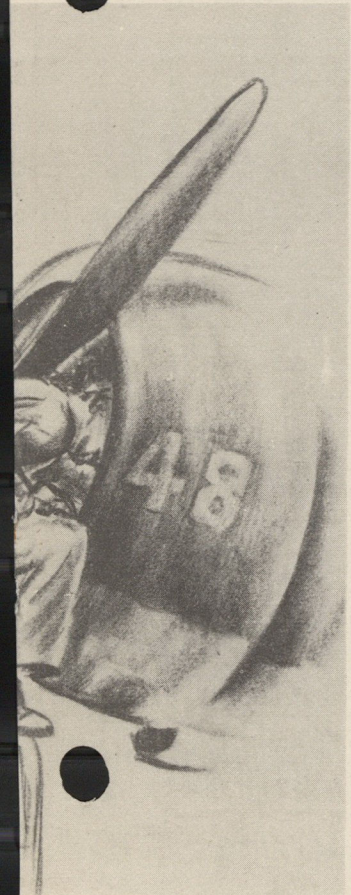




# AIR FORCE BASE

Bolling Field, D. C.

Weekmore, AAF Artist



*House Cleaning*



*Hunting Bugs*



*Loading Ammo*



# Crash Technique

## Russian Ramming Downs Axis Planes



ONE of the specialties of Russian airmen in their battle against the German air force is the tactic of ramming enemy planes. The sacrifice of a dying pilot in a damaged plane by a deliberate collision with his foe is a relic of the First World War but the Russians have developed ramming as a definite tactic from which both pilot and plane may escape undamaged.

Ramming was developed by the Russian airmen after they observed that frequently German multi-motored bombers escaped after being hard hit and seriously damaged by Russian pursuits. Often the pursuit pilot scored heavily, killing part of the bomber's crew and disabling one or more motors. However, these attacks usually exhausted the pursuit's limited ammunition supply, permitting the bomber to limp back behind its own lines. Ramming is designed to destroy these crippled planes. It takes a combination of skillful piloting and utilization of the crippled victim's lack of maneuverability to execute a successful ramming operation with a minimum of damage to the attacking pilot and plane. More often the attacking plane is damaged and the pilot bails out.

### *Three Methods*

Soviet flyers employ three types of ramming according to Major N. Denisov in a recent USSR Embassy bulletin. The most dangerous is the direct blow. Hitting the enemy plane with a part of a Russian plane and clipping control surfaces by slight propeller contact are also used. The latter method calls for the greatest skill and offers the best chance of survival.

Major Denisov points out that the propeller clipping method calls for an approach from the rear with the attacking plane's speed adjusted to that of the enemy. As soon as slight contact is felt the attacker must drop away to avoid crashing with the enemy plane as it falls. If the ramming flyer is too slow he may easily become entangled with the stricken plane and dragged down with it.

American Air Forces observers abroad report numerous examples of the Russians' ramming tactics and there are accounts available from Soviet flyers who have rammed German bombers and made successful landings. Here is the account

given by Junior Lieutenant V. Talalikhin who was awarded the order of Hero of the Soviet Union for his exploits:

On the night of August 6, 1941, when fascist bombers made one of their attempts to break through to Moscow, I was ordered to take off in my fighter and patrol the approaches to the city. I soon spotted a Heinkel 111 at an altitude of about 15,000 feet. Swooping down I managed to get on its tail and attacked.

### *Russian Describes Attack*

"With one of my first bursts I put the bomber's right engine out of commission. The plane banked sharply and set its course for home, steadily losing altitude. I continued to attack the enemy and gave him about six bursts following him down to about 7,500 feet when my ammunition gave out. What was I to do? I could have followed the bomber farther but that would have been useless. With only one engine it could still fly quite a distance and perhaps escape. There was only one thing to do—ram the enemy.

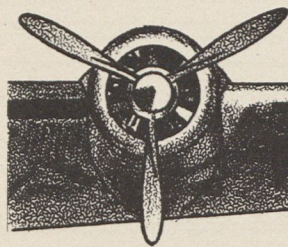
"I decided to chop off his tail with my propeller and opened my throttle. Only about 30 feet now separated the two planes. I could clearly see the armor plating on the bombers belly as I approached from behind and below.

"At that moment the enemy opened fire with a heavy machine gun. A searing pain tore through my right hand. Immediately I gave my plane the gun and the whole machine, not just the propeller, struck the bomber. There was a terrifying crash. My fighter turned upside down. I unfastened my belt and drew up my feet, crawled to the opening and threw myself overboard. For 2,400 feet I fell like a stone not opening my parachute. Only after I heard the roar of my plane to one side did I pull the ripcord. I landed in a small lake and made my way to shore."

### *Landed Plane Safely*

Pilot Mikhalev of the Soviet Fleet Air Service was credited with ramming a Heinkel 126 in one of the first appearances of this new German air-  
(Continued on Page 29)





# TECHNIQUE



**M**ORRIS Field, Charlotte, N.C., has supplemented its supply of expensive wrecking trucks, used for lifting and transporting wrecked planes, with an inexpensive substitute. The new device is a portable hoist which can easily handle an 8,000 pound plane when attached to a truck having a winch in front.

The hoist costs less than \$200 to manufacture and is easily constructed. It consists of a tripod of iron pipes which are attached to the truck bumper. A cable runs from a cylinder at the base of the tripod up through a pulley attached to the top.

This type of construction has been tried before, but the strain has always proved too great for the front springs and axle. This problem was solved by adding a small wheel to support the bumper, thus absorbing the strain.

The new hoist was developed by Major James H. Reed, Jr., Commanding Officer of the Morris Field Sub-depot. Major Reed first made a model in the base hangar and tested it in miniature to prove its effectiveness. Several full-scale hoists are now in use at the base.

Major Reed was recently commended for his ingenuity by engineering officers at several other Air Forces Depots, who have begun to construct hoists of their own.

## ELECTRIC FLYING SUITS ON ORDER

**T**HE Army Air Forces will soon have several thousand electrically-heated flying suits, designed to keep aviators comfortable at 60 degrees below zero.

Many pounds lighter than the sheepskin suits they will replace, the new suits are not nearly so bulky. Pilots therefore will have more room for manipulating instruments, controls and armament. The temperature of the suits will be automatically controlled to adjust to changes in the temperature of the air.

The suit is the result of experiments conducted at Patterson Field during the past winter, and of a test flight to Alaska. Tests were directed by Frank G. Manson, equipment engineer

at Wright Field. General Electric Co. will manufacture the outfits.

## NEW ALLOY USED

**N**ORTH American has developed a new steel alloy that can take the place of aluminum in airplane construction. Use of the new alloy eliminates the necessity of rivets, since spot welding can be used. It is estimated the total weight of planes using the new material will be increased no more than three percent that of aluminum planes. Under the new process approximately 1,250 pounds of aluminum alloy should be saved per plane.

## BRITISH DEVISE NEW DE-ICING APPARATUS

**A** new de-icing apparatus has been developed in Great Britain. It is for use on aircraft having adjustable pitch propellers, and provides improved, controlled delivery of the de-icing fluid at required times.

The new device consists of a prop-nose spinner having double walls that provide a container for the de-icer fluid. The outlet of the container is normally closed by a valve spring, being opened by adjusting the pitch angle of the propeller blade.

Propeller pitch is controlled from the cockpit, the arrangement being such that when ice is forming the pilot can open the outlet valve of the fluid container by adjusting the pitch angle of the prop from "maximum cruising" through an angle of about five degrees. The valve plunger then uncovers the outlet port and the de-icing fluid under pressure is sprayed through holes over the prop blades and other parts of the plane.

## HOW TO "SPOT" BY EAR

**T**HE British Royal Observer Corps has been conducting experiments with the sound of airplanes, and has uncovered some useful facts. A few of the more interesting are as follows:



Unless the plane under watch by the observer passes very near, the sound seems to come from some distance behind it.

Wind affects the volume and intensity of the sound of airplane motors, but not the pitch.

A plane sounds louder behind a cloud than in the open sky. Determination of the exact position under such circumstances, however, is difficult because the sound may be reflected from one cloud to another.

On a hot day sound travels faster than on a cold day, and on a damp day it travels faster and farther than on a dry day. Planes may therefore be heard most plainly on a warm, misty evening, or when there is a haze or the barometer is low. With a dry east wind in winter it is often difficult to hear a plane even two miles away.

The sound of a plane can be heard quite clearly in a stone, iron, thin wood or sand-bagged enclosure; but grass, asbestos boards, etc. are bad conductors.

An approaching plane has a higher note than a receding one. The pitch of this note changes according to the distance of the plane from the observer. The pitch of high-flying planes changes slower than low-flying planes, even though they are flying more rapidly.

## NEW PILOT TESTING APPARATUS

**A**NOTHER step toward the more efficient training of AAF pilots took place recently at Duncan Field when Captain A.F. Constable invented an apparatus to measure the coordination and potential flying ability of aviation cadets.

The machine utilizes the rudder and stick of a regular airplane. Confronting the man to be examined is a panel with three series of lights—red and green. Each time a red light flashes on the cadet must use his instruments to line up a green light with the red. The time required to accomplish a prescribed number of matchings, Captain Constable says, will prove an accurate measure of the cadet's muscular coordination and piloting skill.

The machines are now being manufactured and are being sent to a number of cadet reception centers all over the United States. Captain Constable has been given the job of supervising the commercial production.

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*In the picture below Capt. Constable demonstrates his device for Lt. Col. I.W. Ott and Mr. R.J. Van Horn of the Duncan Field Engineering Department.*





# The Delayed Jump

By Arthur H. Starnes

A two year investigation of free-fall delayed-opening parachute jumps conducted with the assistance and observation of two eminent medical authorities, has convinced me that airmen who must jump from airplanes—and this applies especially to combat air crews—should not open their parachutes until they have fallen to dense, safe air close to the earth. Close is an indefinite word, but it is my opinion that chutes can be opened safely as low as 1,500 feet above the ground by persons who never have jumped before.

The investigation, which delved into the field of physiology and the experience a long-delayed parachute opening has upon the airman's mind indicate that such a use of parachutes can be made with a high degree of safety. Furthermore, these jumps can be made with what I understand is standard equipment for all army airmen—whether they fly at great heights or at altitudes below 10,000 feet. In particular I was interested in problems involving jumps from heights between 25,000 and 30,000 feet. The same conclusions apply for these jumps—except that the reasons for delaying the canopy opening are more convincing than for jumps from lower levels.

## Reasons

Specifically the following reasons for making delayed jumps are found to be valid:

1. Delaying opening of the parachute decreases the likelihood of an airman being struck by a falling plane or its parts.

2. Delaying opening when jumping from a high speed airplane will permit the body to slow down to a safe rate of speed and prevent injury for the airman due to the opening shock; it will also prevent damage to the canopy and harness.

3. Enemy flyers who are known to practice machine gunning of airmen found floating helplessly in parachutes cannot fire on airmen who make free falls. The outline of a falling body merges into the pattern of the earth below making it almost impossible to keep track of a man who makes a delayed opening drop.

4. By delaying the opening one can jump from high altitudes and not become numbingly chilled by low temperatures. A chilled, clumsy body taking a landing shock is more apt to receive injury than an agile one.



*Arthur H. Starnes, just before his historic experimental delayed jump from 30,000 feet.*

5. The oxygen factor is an important one on the side of delayed jumps from high altitudes. If parachutes were opened at heights above 20,000 feet and bottled oxygen was not available a pilot might die from anoxia. If a delayed jump is made he will fall in a matter of seconds into air that is life-sustaining.

Purely as qualifying information I may say that I have made 51 delayed jumps, and more than 300 total parachute jumps. I have made free falls that range from 2,500 to 9,000 feet when



leaving airplanes up to heights of 10,000 feet. My longest free fall was 29,300 feet made last fall when I jumped from a corrected height of 30,800 feet. For the record the corrected air-speed at that height was 165 miles an hour. Indicated outside air temperature was in the neighborhood of 46 degrees Fahrenheit below zero. Weather bureau reports (radio sonde) that morning indicated 48 degrees below at 31,000 feet. Ground temperature was 64 degrees.

The time of that fall was 116.5 seconds. The average rate of falling speed approximated 170 miles an hour. The peak was 230 miles an hour at 26,000 which decelerated to 130 miles an hour when the chute opened at 1,500 feet above the ground or 2,100 feet sea level. Speeds varied considerably with body position in the fall.

I used an oxygen mask, goggles and a bail-out bottle for jumps above 10,000 feet. These are, I understand, being made standard equipment in the Army Air Forces. In low temperatures goggles are essential to prevent injury to the eyes.

#### Conclusions

The conclusions which I believe should be emphasized to all airmen in connection with these experiments follow:

##### A. Preparation.

1. It is not necessary to practice free fall in order to take advantage of it in time of necessity.

2. Standard equipment for airmen is all that is required. (In making my studies I carried 85 pounds of instruments, and my total weight was 285 3/4 pounds. Even so, the long jump was accomplished without injury.)

3. Proper adjustment of parachute harness cannot be too strongly stressed. Improper adjustment may result in injury when the chute opens. The rider strap, or main suspension loop, which forms about the hips should be so adjusted that when one stands erect this strap fits tightly just below the cheeks of the buttocks. The harness should be snugly fitted. One test is that if properly adjusted the harness makes it uncomfortable to stand erect. It is comfortable, however, when seated.

4. Airmen should be instructed that no loss of consciousness occurs during a free fall even of sustained duration.

5. The heart beat rate is not significantly effected, nor is the breathing apparatus. In other words, during a free fall, an airman can breathe, shout and talk.

6. The Eustachian tubes should be opened during the fall. Ear drums can be opened easily by

a lower jaw action as if one were yawning; or by opening the mouth wide and hollowing out, or pushing back the upper part of the throat in a fixed position. All these are adaptable to speeds of descent in free falls.

##### B. Jumping.

1. Jumps should, when possible, be made head first from an airplane.

2. Airmen should remember that if parachutes are opened at speeds in excess of 150 miles an hour injury is almost certain. If time for deceleration is available the speed of fall will decrease to 120-135 miles an hour.

3. The airman need not be concerned with body position in relation to the earth's surface during fall or at the time of ripping the parachute. Of seven known types of body movement during free fall only one type is likely to cause fouling of a properly packed chute. This is somersaulting with the legs drawn up against the belly. This can happen only when the airman knowingly, and with great effort holds the legs in place. Releasing the legs changes this somersaulting motion.

4. A definite warning is available for airmen to announce the approaching of the earth's surface during free falls. This warning commences to occur at approximately 3,000 feet. It consists of a feeling that the speed of fall has suddenly increased. It is accompanied by the visual indication of a spreading of the earth's surface and a speed of rise in the horizon line. The closer to the earth the fall is continued the more definite the warning.

5. The gravity pull during the fall is low. The twisting and turning effect is for the most part comfortable; much more so than acrobatics even in a light, low-powered airplane. Air pressures are felt but are not uncomfortable.

6. It is not necessary to stiffen the body or prepare for the chute opening shock. Relaxation is desirable but a stiffening of the body muscles does not matter one way or the other.

##### C. Opening the Parachute.

1. If the parachute is released while the body is spinning the shroud lines will become twisted. The chute will open nevertheless, and within a few seconds the body will slowly turn and unwind the twists.

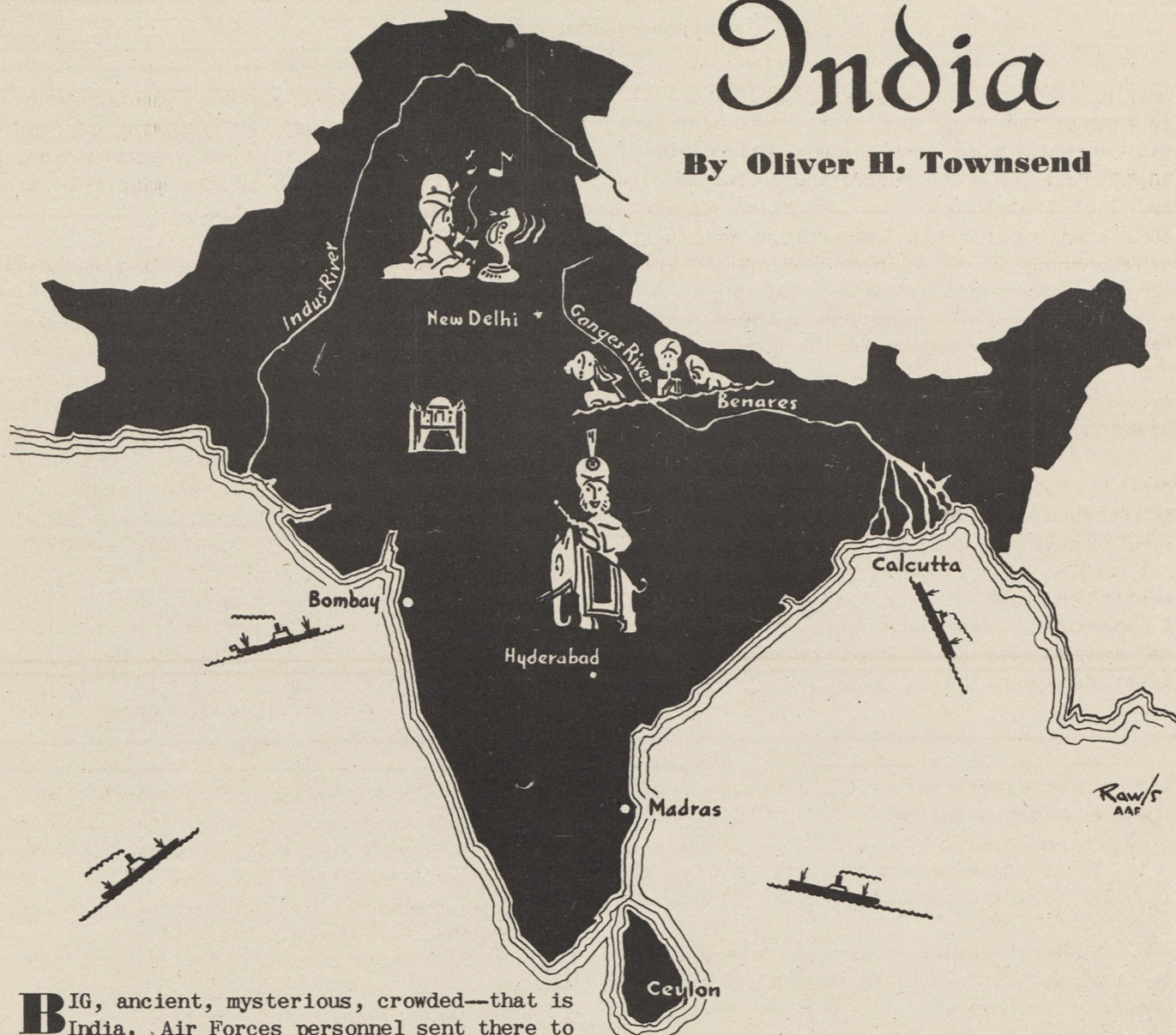
2. At the time of the opening of the parachute after a free fall—after the body has reached terminal velocity—there is a black-out. It comes without warning, pain or reaction. It lasts for from one to three seconds only, and

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# India

By Oliver H. Townsend



**B**IG, ancient, mysterious, crowded—that is India. Air Forces personnel sent there to fight the Jap will find it one of the most "different" places in the world.

Shaped like a huge pear, India begins high in the mountainous regions of central Asia and stretches 2,000 miles southward, splitting the northern part of the Indian Ocean into the Arabian Sea and the Bay of Bengal. As large as that part of the United States which lies east of the Rocky Mountains, it is vastly different. Sacred bulls wander unmolested throughout the land, colorful bazaars line the crowded city streets, and fakirs, yogis and other religious mystics practice their weird rites in the gardens of great-domed mosques and temples.

#### *Nation Of Contrasts*

India is a nation of contrasts. It claims as citizens some of the richest people in the world—and many of the poorest. It has some of the most beautiful palaces in the world—and some of the worst hovels. From the nicely-

turned green of the wealthiest Maharaja's polo field to the squalor of the poorest "Untouchable's" tenement, the contrasts are keenly felt in India's day to day existence.

The climate of this great peninsula, like its other characteristics, also varies from one extreme to the other. Most of the country is low, flat and hot, especially in the southeast. But toward the north as the land rises up to meet the lofty peaks of the Himalayas the temperature sinks in inverse proportion to the altitude. Highest point in the Himalayas—and in the world—is Mount Everest, rising to the Flying Fortress height of almost 30,000 feet.

Most of south and central India is one vast plain with a hot season that chases white residents to the cool heights of the northern mountains during at least part of every year. The heat extends as far north as Delhi, the capital, on the northern plain. During this season, which begins in March, the government packs up



and moves to cool Simla, 7,000 feet high in the southern foothills of the Himalayas. The rainy season, lasting from June through October, brings relief from the heat to most of India. Cool weather usually prevails from November to February.

Americans will not find the average Indian town to be especially enticing. Sewage, drainage and sanitary facilities are something that have yet to be "sold" to most of India. Many of the smaller towns lack transportation facilities, and it is usually necessary to sleep under mosquito netting in order to avoid the insects, which in some sectors are not killed because of the reincarnation beliefs of the natives.

A number of the big cities, however, have been at least partly modernized. In these it is possible to ride in streetcars and taxicabs, see electric signs, buy occidental food and American cigarettes, and generally feel more "at home". Many Indians in the larger cities and on the excellent railroads understand and speak the English language.

#### *Plenty To Do*

There are many interesting things to do and see in India during free time. The Taj Mahal at Agra, one of the seven wonders of the world, has been a tourist mecca for decades. So has Benares, the Hindu holy city, where thousands of people go each year to wash their sins away in the sacred waters of the Ganges—or to die on its banks in order to guarantee their souls a place in heaven.

Among things to buy in India are brassware, ebony miniatures, Kashmir shawls and tapestries. These can all be obtained very reasonably provided the visitor isn't averse to the ancient and honorable art of haggling.

The monetary system of India is based on the rupee—worth about 30¢ in American money. Money is uniform throughout the whole country, and is composed of both coins and paper currency. "Small change" consists chiefly of annas—each one worth about one-sixteenth of a rupee.

One of the most progressive features of India is its railway system, which provides good service between most populated areas. On these railroads there are three classes of travel: first, second and third. Second class is almost as good as first and costs much less, and for this reason is very popular with foreign visitors. The trains themselves are unlike the trains in this country in that they are divided into completely separate compartments, each one

opening directly on the outside. There are no aisles running from car to car, or even between compartments, which are completely isolated while the train is in motion.

Roads generally are poor, although there are a number of automobiles in the centers of population. It is virtually impossible, however, to travel from one side of the country to the other by auto. This explains in part why the railroad system has been developed to its present degree of excellence, and why most travel is done by train.

The fact that India has been a British colony for so many years has made the English language fairly common among railroad people, merchants and hotel clerks. In most cities and travel centers it is not possible to go long without coming across someone who can speak or at least understand English.

The native food is very much unlike American food—with strange names and stranger tastes and smells. But most railroad stations, hotels and big cities have restaurants which serve western dishes at varying prices and varying degrees of quality.

Just as "different" as their country are the Indian people.

Crowded into India's ancient provinces are almost three times as many people as there are in the United States. This makes it the second largest populated country in the world, with well over one-half the people of the British Empire.

India has 16 cities of more than 200,000 population, the two largest being Calcutta and Bombay. Calcutta, with over a million and a half people, is the second largest city in the British Empire. Other great cities are Madras, Hyderabad, Delhi and Lahore. On the great plain outside of the ancient city of Delhi is New Delhi, India's modern capital. New Delhi is the home of the government and nothing else. It is a "made-to-order" capital, with miles of great gardens and boulevards. These make it the most beautiful, clean and modern city in all India. Hub of New Delhi's spokes is the British Viceroy's House, a magnificent palace surrounded by government buildings and gardens, and with a 177-foot copper dome which can be seen for miles.

Enjoying a civilization that was old when Columbus set sail for America, the people of India present a very confusing picture to the average occidental. They are composed of more than 45 races who speak over 200 different languages.

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# World War Aces Meet the Cadets

By Maj. Falk Harmel



*General Frank O'D. Hunter, at the controls of a P-40, and Col. E.V. Rickenbacker (in civilian clothes) are greeted by pilots of Harding Field during their recent tour of Army Air Forces Fields. Col. L.L. Koontz, Commanding Officer of the field, is at right.*

**T**WO American aces of World War I—Brig. Gen. Frank O'D. Hunter and Col. "Eddie" Rickenbacker—have just completed a 15,000 mile nation-wide tour of Air Forces stations during which they told Army airmen how they did it in 1918, and how "we can do it again" in 1942.

Upon his return to New York, Colonel Rickenbacker, who won fame as America's outstanding World War aerial hero, was officially commended on the success of the trip by Lieut. Gen. Henry H. Arnold, Commanding General of the Air Forces.

Speaking at Mitchel Field, where the tour ended, Colonel Rickenbacker stated that "man for man and plane for plane, Uncle Sam has the greatest aerial fighting machine in the world today." He predicted a long war, and added that we will need at least 300,000 pilots to achieve victory—100,000 as instructors and 200,000 as combat pilots in all parts of the world.

He asserted that the men of the Air Forces are as "full of fire and spirit today as the Minute Men of Concord were," and told them they will be flying planes "that are the last word in per-

formance and armament. No force in the world can lick you."

## *Rickenbacker Cautions*

Cautioning against over-confidence, he said, "I am not underestimating our enemies and their equipment. Never underestimate your enemies. But, on the other hand, let's not get a frame of mind that he is the top dog."

The heroic exploits of both Colonel Rickenbacker and General Hunter in World War I helped them make a profound impression upon young Air Forces pilots now undergoing training. Both have had extremely narrow escapes, and on more than one occasion have been almost on speaking terms with the Grim Reaper.

In one of Colonel Rickenbacker's numerous combats over the front lines in France, a bullet passed through the fuselage of his plane less than three inches back of his head. Time after time he came back to his home airdrome from patrol with numerous bullet holes through his airplane. Another close call was his remarkable



recovery from the severe injuries he received in the crash of an airliner on February 28, 1941, near Atlanta, Ga., which exacted a toll of seven killed and nine injured.

It is not a matter of general knowledge that Colonel Rickenbacker achieved his 25 victories despite the fact that sickness deprived him of more than three month's service at the front. Shortly after May 30, 1918, when he downed his fifth victim, the one entitling him to the unofficial designation of "Ace", he was ordered to a hospital in Paris to recover from a fever which for a time threatened to put him out of the war altogether.

He had hardly recovered when he heard that the First Pursuit Group was about to be supplied with the new French Spads to replace the old Nieuports. Thereafter he stuck close to the Spad depot in Paris until the first of these new airplanes was ready for the American flyers. Seizing it when the mechanics pronounced it fit, he flew it to its new airdrome early in July. He was made flight leader of his squadron, the 94th, and carried out his customary patrols for a few days only to be bested once more by fever. It was not until September 14 that he was credited with his sixth victory. During two weeks in September, Rickenbacker got six more enemy planes and 13 in October.

Most of his victories were achieved at altitudes of about three miles. He was accustomed to going out on early morning patrols when the cold is very intense. Even so, he put in more flying time over enemy lines than any of the pilots under him. He was a great believer in the efficacy of surprise attacks, and in launching these he took advantage of the protection afforded by the blinding glare of the sun, the shelter of clouds, and moments of inattention on the part of his quarry.

#### *Awarded Croix de Guerre*

It was due to these precautionary methods that he achieved more victories than any other American pilot, and remained alive to tell of them. His first victory on April 29, 1918, resulted in his being awarded the Croix de Guerre with palm by the French. During this encounter his machine gun jammed and he had to repair it himself, immediately returning to attack his adversary. The Distinguished Service Cross was awarded him after his fifth victory, and to this decoration were subsequently added nine oak leaves.

General Hunter also received many decorations

for his outstanding exploits of World War I. During his activities over the front lines in France, he was outnumbered by the enemy in every combat in which he was credited with shooting down one or more of his adversaries. In his first victory during a patrol flight he attacked two biplanes, destroyed one and forced the other to seek a healthier climate. In his next encounter, accompanied by one other plane, an attack was made on a patrol of six enemy planes. General Hunter destroyed one of them, and with the aid of his companion forced the others to retire within their own lines.

On another occasion, when he was leading a patrol of three, the American airmen attacked a formation of eight planes. In the dog-fight which ensued, four of the enemy bit the dust, and General Hunter accounted for two of them.

#### *Most Exciting Moment*

Perhaps his most exciting moment came when, while separated from his patrol, he observed an allied patrol of seven Breguets hard pressed by an enemy formation of ten Fokkers. He attacked two of the enemy that were harassing a single Breguet and destroyed one. Meanwhile, five of the enemy approached and concentrated their fire upon him. Undaunted by their superiority, he attacked and brought down his second plane of the day. By this time he had been awarded the Distinguished Service Cross with three oak leaves. He received his fourth leaf for his eighth victory. In this action he encountered alone an enemy formation of six monoplace planes. He immediately attacked and destroyed one of the enemy and forced the others to disperse in confusion.

General Hunter, now with the Eighth Air Force at Savannah, Ga., also had his share of "narrow squeaks" in peace as well as war. Once he was wounded in the forehead during aerial combat, but managed to return to his home airdrome. In peacetime he became a third degree member of the mythical Caterpillar Club. His first recourse to the silk occurred on March 20, while flight-testing an experimental pursuit plane at McCook Field, Ohio. During a series of acrobatics the entire adjustable stabilizer broke away from the fuselage and control of the plane was lost entirely.

#### *Injured In Crash*

Some eighteen months before this initiation. General Hunter was returning to Selfridge Field, Mich., from Mitchel Field, N.Y., where he had

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## Russian Ramming

(Continued from Page 20)

craft on the Russian front. Mikhalev dived on the bomber after exhausting his ammunition. His propeller ripped the Heinkel's stabilizer and rudder. A flying piece of wreckage struck Mikhalev on the shoulder but he managed to bring his plane down safely. The Heinkel crashed and burned.

Pilot Vinogradov did his ramming in the old-fashioned way. Fighting a single Nazi bomber over a vulnerable Russian target he exhausted his ammunition without getting a decisive hit. Meanwhile a bullet punctured his gas tank and his ship burst into flames. Vinogradov hurtled into the Nazi bomber and both planes were destroyed.

Another Soviet pilot who rammed and lived to tell about it is Alexandrovich Kiselev. He escaped with only a scratch on his cheek after bailing out. His plane was lost.

"It didn't come off very well," said Kiselev describing his ramming. "I am sure it is possible to ram an enemy ship without losing one's own machine. I was a bit excited and I suppose that is why I muffed the job.

"My ammunition ran out. The enemy had hit my oil tank and radiator and my engine was just about giving its last gasp. I didn't want to let him get away so I went at him from below to get at his tail with my propeller. It was possible to calculate the movement so as to clip him with the tips of my propeller. But a stream of oil messed up my windshield and I couldn't see very well.

"Just as I was approaching him the suction of the air whirls caused by the Nazi plane swept my machine upwards. I got mad then and rammed him from above digging into his left side. I knocked my face against my stick. If I had figured it out properly that wouldn't have happened.

"The enemy plane disappeared. My own plane went into a spin. I tried to pull out but it was no use. I took my feet off the controls, stuck my head outside and was knocked back into my seat by the air blast. I pushed off with one foot, counted to eight, ripped and floated down."

Lieutenant Katrich of the Soviet Air Force relates another ramming incident:

At about 10:00 a.m. I was told that an enemy plane had been sighted heading for Moscow. I took off at once and soon spotted a vapor trail at about 18,000 feet. The enemy was above and ahead of me. I put on my oxygen mask and picked

up altitude. I drew up to within 300 feet of the Nazi plane. I sprayed him from stem to stern. It was only then that the Nazi crew noticed me. The cabin gunner returned fire. I gave them another long burst until I saw flames streaking from their port engine. After the third attack my ammunition gave out and their tail gunner was silent. The left engine was burning but the plane continued to fly. The pilot was apparently counting on my fuel supply being exhausted. It was then I decided to ram him.

### Thought Of Ramming

"I had thought a lot about ramming. The first reports of ramming by our flyers interested me but in most of them the planes had been lost. I thought it would be possible to ram without sacrificing one's own plane and here was a chance to test my theory.

"I approached the bomber from the left of its stern and aimed my nose at its tail, calculating my attack so as to clip its stabilizer and rudders with the tips of my propellers. My calculations proved correct. There was a slight jolt. I throttled back and banked. When I came out of the turn I saw the enemy gliding sharply downwards. I glided after it. The Nazi pilot made several attempts to level off. By gunning his motor he managed to fly level for a few seconds before dropping off again. He finally lost control and dove into the ground. The ship burned. I landed at my home airdrome. My plane was undamaged except for a dent in my propeller which caused heavy vibrations."

One of the most spectacular instances of ramming which throws an interesting sidelight on the combat psychology of Russian airmen was told by eyewitnesses at the airdrome over which the battle occurred. Sergeant-Major Nikolai Totmin took to the air as his home field was attacked by eight Ju-88 dive bombers escorted by a pair of Me-109 fighters. Totmin set one bomber's port engine afire with his first burst but was attacked by the Me fighters before he could finish the bomber. Totmin banked sharply to battle the fighters. One Me followed the bombers but the other stayed to take on the Russian.

Totmin and his Nazi opponent went into a tight circle trying to turn inside each other. The Nazi went into a quick climb and Totmin followed him. The Nazi then turned to attack and Totmin banked sharply to bring his plane hurtling head-on at the Nazi. Both planes sped toward each other but at the last moment before collision the Nazi heeled his plane over. At that instant



Totmin banked in the opposite direction and drove his plane into the Nazis wing.

Totmin's plane staggered under the shock and both planes spun earthward. Totmin twice tried unsuccessfully to bail out but the air pressure forced him back into the cockpit. The third time he got out but he was only 120 feet from the ground and his chute didn't have time to open. He fell not far from the wreckage of the plane he had rammed.



### The Delayed Jump

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there are no noticeable ill effects.

#### D. Final descent and alighting.

1. So-called slipping or guiding of the standard round type of parachute should not be attempted. Airmen should chiefly be concerned with damping oscillation as quickly as possible and centering themselves under the silk canopy. Damping swings beneath the chute is accomplished exactly as the damping of swings in a child's rope or chain lawn swing.

2. Every effort should be made to turn the body—by gripping the riser straps and giving the canopy short twists to turn it in the air—so that the airman is facing in the direction of drift upon making contact with the ground. It also is highly desirable to reach upward, grip the riser straps or shroud lines and pull up as much as possible with the arms at the instant of alighting, thus reducing the landing shock.



Color photography is being used to detect installations in camouflaged areas. Enemy air fields, and other important bases which are carefully disguised and remain hidden in black-and-white reconnaissance photographs, stick out like the well-known sore thumb when they are reproduced in good color photographs. It is practically impossible for camofleurs to reproduce the natural colors with such faithfulness that the counterfeit will not be exposed by the color picture.

The Rip Chord, post publication at McChord Field, Wash., is participating in the "Don't Talk" offensive on the home front with a series of articles and cartoons urging the men at the field not to divulge military information.

Every issue of the paper contains warnings that fifth columnists are carrying on subversive activities which should be fought with a policy of strict silence.

## WEATHER SERVICE

**D**UE to the expansion of the Army Air Forces Weather Service, there are opportunities in this organization for properly qualified enlisted personnel.

A high school education, with a background of mathematics and physics, is essential. In exceptional cases, a basic knowledge of mathematics will satisfy these requirements. The Weather Officer at each station is empowered to determine the ability of the candidate with an I.Q. test and an investigation into his mathematical qualifications. If accepted, the candidate is placed in training for duty as a Weather Observer and goes through three months of training, either at the Weather Observers School, Chanute Field, Ill., or at one of the various stations throughout the Air Forces. Upon completion of this training, he is rated as an observer and is eligible for promotion.

A field training of from 1 to 6 months follows, whereupon the candidate is eligible to take entrance examinations for the Weather Forecaster's Course. This course lasts 6 months and the graduate is rated as a Forecaster. He is then sent to a field for duty and, provided his military record is satisfactory, he is rated as a Staff Sergeant and he receives flying pay.

Interested personnel may apply to the Weather Officer at their local stations for assignment with the Weather Service.



The RAF has a one-arm fighter pilot—22 year old Flight Lieut. J.A.F. MacLaughlan. In combat over Malta last March he had his arm shot off. While convalescing in Africa he obtained permission to fly with an artificial arm. By the time he reached Britain a medical board passed him as fit for operational duty.

**T**HE two boys who took the old time Stinson plane "Ole Miss" aloft and kept it there for more than a month in 1935 are now "keeping 'em aloft" over the southwest Pacific for the Army Air Forces.

They are Capt. Al and First Lt. Fred Key, brothers who at one time set a heavier-than-air endurance record by flying for 653 hours and 34 minutes over their home town of Meridian, Mississippi in a low powered Stinson monoplane.

The Key brothers in the Pacific are flying Flying Fortresses over Jap troops, ships and bases, for only 8 to 10 hours at a time—which is a cinch to them. They have dubbed their planes the "Ole Miss II" and the "Ole Miss III".



## India

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guages, practice scores of religions, and divide themselves into 2,400 completely segregated castes and tribes.

Most Indians—240,000,000 in all—are Hindus. This still leaves room for about 80,000,000 Mohammedans (more than in any other country), 12,000,000 Buddhists and several million each of Christians, Sikhs, Jains, Zoroastrians and worshippers of local tribal gods.

During the course of its more than 5,000 years of history the Hindu religion has produced the most clearly-defined caste system. There are four of these: Brahmans (priests, government officials and educators); Kshatri (warriors); Vaish (business), and Shudra or "Untouchables" (laborers and beggars). These are subdivided into innumerable classifications, each with its own set of codes and restrictions.

Much of the internal turmoil of India has not been due to this great intermixture of religions, but also to the fact that the country is divided into two sets of governments: the native states and the British provinces. Although by far the most people are located in the 11 British provinces, there are still enough left outside (63 million) to support a large number of semi-autonomous Maharajas. These, although they have pledged allegiance to the King of England and pay an annual tribute to his authority, retain a large amount of local control.

### Rich Prize

The biggest of the native states is Hyderabad, half again as large as England. It is ruled by a Moslem "Nizam" famous as "the richest man in the world". The ruler of Hyderabad, like the rulers of the other native states, maintains a private army, levies taxes, and accepts the feudal oath of fealty from his subjects. The British government exercises authority only in matters of communication, currency and collection of customs, and occasionally in cases of flagrant misrule can demand a ruler's abdication.

The British provinces have provincial governments responsible to the Governor-General at New Delhi. They constitute by far the greatest area of India, and contain most of the people, big cities and vital coastal areas.

India throughout all history has been one of the richest prizes in all the world. Its vast reservoirs of labor, its great untouched natural resources and its productive soil have been the

foundation of many of history's great Empires. Right now the Jap wants them badly as a foundation for his own empire. Lying in his path are the Eastern "gateways" to India: Calcutta, Madras and the tropical island of Ceylon. Air power more than anything else will influence the outcome of the battle for these gateways, and for the rich hinterlands beyond.



## Swivel Chair Bombardier

(Continued from Page 13)

in use will have blurred outlines. Paths, truck tracks, and diggings isolated from routine activities; roads or paths without any apparent logical destination—these may indicate camouflaged installations. Earth that has been tampered with, either excavated or scraped, shows some activity disrupting the area; it is usually quite apparent to the photo interpreter as either lighter or darker than the solid earth. Any installation larger than would be normal for local uses may be a hangar in disguise. Any disruption of the local pattern of land use, such as irrigated land apparently allowed to go dry, canals without traffic, or orchard country without trees, may indicate that the land has been turned into an airfield. A metal roof in a thatched-roof district may be the tip-off to a new and alien structure serving as an airfield installation.

In all, the photo interpreter should be suspicious of these variations in the typical landscape pattern: (1) any deviation in tone from the general color of the ground pattern; (2) any unusual shape of field or type of building; (3) any unnatural texture of ground surface or communications line.

Fifth, look around the edges and corners of fields for possible parked aircraft, with special attention to the edges of stands of woods and to hedges in which aircraft-parking bays might be cut.

At the first sign of a clue the photo interpreter must pounce on the suspicious loose end and unravel it. The success or failure of a mission often hangs in the balance during the unraveling.

• •

A new course including fabric work has been started in Vancouver for women interested in aviation. The class is preceded by elementary ground school training. A course is also being given in parachute packing. The classes have been organized by outstanding Canadian women pilots.



## ARMY EMERGENCY RELIEF

A soldier unnecessarily worried about his wife or family, the Army has long realized, is not the best soldier. In this war, the newly organized Army Emergency Relief intends to see to it that today's Army can go into battle secure in the knowledge that those left behind will be cared for in emergencies.

The Army Air Forces have established a branch of this organization and sections will be formed in each air base for the local administration of this emergency relief program. Under the provisions of Army Emergency Relief, all members of the Army on active duty have equal rights to necessary assistance throughout the present emergency. Rank or service will not influence the amount of aid granted to Army personnel or to their dependents.

Of primary concern to the relief organization are those cases arising from casualties caused by combat or accidents, hardships caused by sudden change of station of units or individuals, and other emergency financial stress. Financial aid will be given by A.E.R. on the basis of actual need. It may be given as an outright grant, or in proper cases, as a loan. No interest will be charged on loans and repayment by installment is authorized. Food, fuel, medical and dental care, hospitalization, assistance in securing pensions, compensation, insurance and allotments may also be given when the need arises.

### *Application Procedure*

Each officer and enlisted man should acquaint his dependents with the purpose of Army Emergency Relief and with the fact that they can obtain emergency aid through the nearest Red Cross chapter or at the nearest Army post. Application for aid should be made to the nearest A.E.R. branch or direct to Army Emergency Relief, War Department, Washington, D.C. Each local branch will investigate the cases and the final determination of the need for aid will rest with the commanding officer of each base.

This assistance offered to Army personnel will not be a substitute for Red Cross activities, but will supplement in certain special cases the aid given by the Red Cross. Funds will be raised through individual memberships, both civilian and military, proceeds from exhibitions, athletic events, entertainments, Army motion-picture showings at posts, gifts, donations, and other contributions. A large donation from the Red Cross will provide for the

initial operation of the relief organization.

Mr. Robert Lovett, Assistant Secretary of War for Air, is president of the Army Air Forces branch of Army Emergency Relief, with headquarters in Temporary "T" Building, Washington, D.C. Other officers include Mrs. Henry H. Arnold, vice-president; Major Wm. H. Garrison, secretary and executive manager; and Mr. Robert Fleming, treasurer.



## World War Aces

*(Continued from Page 28)*

participated in a flying carnival. He ran into snowstorms and fog while over the Alleghenies. When he ascended above the clouds his motor began to miss and then quit altogether. Endeavoring a 90 degree turn to land in an open space, the airplane went into a spin and in the crash which followed his back was severely injured.

General Hunter's second degree initiation was a real thriller. On March 5, 1926, shortly after joining an early morning formation flight and while at an altitude of about 800 feet, a disintegrated piston caused the breakage of the gasoline line, spraying the volatile fluid over the engine and cowling. The plane was immediately transformed into a mass of flames, and General Hunter bailed out in nothing flat. His parachute did not fail and he landed on the ice of Lake St. Clair, some 500 feet from where the flaming plane had crashed through 18 inches of ice. He made his way back to headquarters minus his mustache almost before anyone except the pilots in the formation knew anything about his exciting adventure.

Perhaps his narrowest escape occurred during his third initiation on "Friday, the 13th" of January, 1933. He was then stationed at March Field, Calif., and had proceeded to Wright Field, Ohio, to serve on a board of officers to pass on a new type of pursuit plane for the Air Corps. Flying as observer on a flight test with the late Captain Hugh M. Elmendorf at the controls, the new plane went into a spin from 11,000 feet and never straightened out. General Hunter jumped from about 150 feet and struck the ground before his parachute was completely open. He spent nine months at Walter Reed Hospital before he returned to duty status.

A squadron of P-40s being operated in Russia by Russian pilots reports it has shot down 19 German aircraft while only losing four planes of its own.



## The Honor Role

(Continued from Page 10)

PVT. ROBERT J. ENDRES—for completely disregarding his own safety by running to a nearby abandoned truck on Clark Field, and despite the rain of aerial machine gun fire and bursting bombs, proceeding about the airfield collecting the wounded who were lying in the open. Filling the vehicle with casualties, he proceeded to the station hospital, unloaded the wounded and returned to the field. Seven such hazardous round trips saved many of the wounded from further mutilation and death.

PVT. JOSEPH McELROY—for unusual heroism displayed while on duty at Clark Field. Instead of seeking shelter from an aerial bombardment of his airfield, he ran to his machine gun position in his grounded airplane and shot down one enemy plane and forced two others to withdraw.

PVT. GREELEY B. WILLIAMS—(Posthumous)—for defending his aircraft and opening fire on the enemy during an attack on Clark Field. He successfully and courageously maintained his position behind his gun until killed by a burst of fire from a hostile machine gun.

## SILVER STAR



For bravery in action in the Philippines and Dutch East Indies:

LT. COL. LESTER J. TACY (Also Purple Heart award), Capt. John Daugherty, Lieuts. Francis Cappelletti, Lawrence Gardner, Cecil Gregg, Arthur Hoffman, Douglas Kellar, Malcolm A. Moore, Melvin McKenzie, E. J. Nossun, Robert Perry, William Railing, Robert J. Rogers, Austin Stitt, John M. Thacker, and John J. Webster.

Also Sergts. Max Baca, Clyde Anderson, John Fleming, Edward Hargrove, James Hartzel, Russell Huffman, R. P. Legault, Victor Lorber, Donald Miller, Wilbur McClellan, John Norvell, Howard Randall, William Sage, David Semple, John Sowa, Charles Shellito, Bernard Stroheckler, and C. W. Thrasher; Corpl. Frank A. Have, and Pvts. I. E. Barran, Wilbur E. Brown, J. M. Henderson, John Makela, Kenneth Park, John A. Real, Paul A. Reimer, and Edwin Schaffner.

## PURPLE HEART



Wounded in action in the Philippines and the Dutch East Indies:

MAJOR HAROLD E. DUNGAN, Lieuts. Francis McGiverin, and Harry Schreiber; Sergts. Michael Biben, R. D. Brown, John Cootee, Walter Kolbus, W. E. Manners, Rex Matson, and W. L. Olford; Corpals. William A. Williams, Elmer Connor, and Frank A. Harvey; Pvts. Robert Chopping, E. Jumia, Arvid Negdahl, Edward Olsen, and Edwin Shipley.

## DISTINGUISHED FLYING CROSS



For action in the Philippines and the Dutch East Indies:

LT. COL. EMMETT O'DONNELL, Major Cecil Combs, Capt. Jack Adams, Capt. William J. Bohnaker, Capt. Harry B. Galusha, Capt. Donald Keiser (Also awarded the D.S.C. and the Silver Star), Capt. Colin P. Kelly, Jr., (Posthumous award. Also D.S.C.), Capt. Frank Kurtz, (Three-time winner of the D.F.C., also holds Silver Star), Capt. Clarence McPherson, Capt. Robert Northcutt, Capt. William Patrick McIntyre, Jr., Capt. Elmer L. Parsel, Capt. George Schaetzel, Capt. Edward C. Teats, Lieut. Kenneth Casper, Lieut. Paul Lindsay, Lieut. Philip Mathewson, Lieut. Carey Obryan, Lieut. Harl Pease, Jr., Lieut. Julius B. Summers, Jr., Lieut. Earl R. Tash, and Lieut. Elliott Vandevanter, Jr.

The following officers and enlisted men were awarded the D.F.C. for extraordinary achievement in a flight of bombers from Honolulu to the Philippines in the latter part of 1941. Each of the fliers, the citations read, "displayed skillful airmanship and accurate knowledge of the highly technical details in the successful execution of the flight, which each phase of this flight was accomplished indicated a high quality of navigation. This outstanding achievement reflects the highest credit on the military forces of the United States."

LT. COL. ERNEST MOORE, Major Gordon A. Blake, Major William P. Fisher, Major Alva L. Harvey,



Capt. Donald P. Flickinger, Lieuts. Joe M. Bean, Richard T. Carlisle, Robert S. Clinkscales, Stanley Cottage, Henry Dittman, Carl E. Epperson, James P. Ferrey, Morris N. Friedman, (Also Silver Star), Henry C. Godman, Eddie W. Hayman (Silver Star), Curtis J. Holdridge, Francis K. McAllister (Posthumous. Also Silver Star), Guilford R. Montgomery, Donald D. Robins, Weldon H. Smith, (Silver Star) Paul R. Tarbutton, Frances R. Thompson, Ernest C. Wade, Robert F. Wasson, and John B. Wright.

Also Sergts. George H. Brandes (Silver Star), Glover L. Burke, Jr. (Silver Star), James L. Cannon (Posthumous. Silver Star), John F. Carter, John F. Clark, William J. Delehanty (Posthumous), Edwin J. Dobberpfuhl, William S. Fought, John M. Geckeler (Silver Star), Joseph A. Giardina, Clyal M. Gilbert, William J. Griffin, George A. Heard (Purple Heart), Stanley C. Jackola, Coley L. James, Clevis O. Jones (Silver Star), Thomas E. Keahey, Lester Kramer (Silver Star), Joseph C. Laza, Robert G. McIntyre, Norman P. Michelson, Edward T. Oliver, Walter Partridge, Roland F. Provost (Silver Star and Purple Heart), Armando G. Ramirez, Arthur L. Richardson, Fred D. Secrest (Purple Heart), Vincenzo Spanziano (Silver Star), Roger W. Stephens, John A. Wallach, Herbert E. Wiest, and Perry W. Whitley. Corpals. William F. Johnson, Meyer Levin, Conrad R. Payne (Silver Star), and Pvts. Robert E. Altman, Junior Brooks (Silver Star), Lincoln H. Dapron, John W. Kennedy, William A. Knortz, John J. Labreche, Willard L. Money, John A. Resl, James E. Schoen, and Homer L. Vincent.

For risking their lives in rescuing a marooned Air Corps officer on an ice floe in Alaska, the D.F.C. has been awarded to Lieut. Eugene T. Yarborough and Lieut. Frank L. O'Brien, Jr.



The Chrysler Corporation is building a \$100,000,000 plant at Chicago, Ill., to manufacture 12 cylinder air-cooled Wright engines.

A new device by which aerial torpedoes, bombs and shells can steer themselves to a target under their own power has been patented at Great Britain. Launched by a catapult, the new shell is really a tiny pilotless airplane, complete with engine, propeller and gyrostatic control. When over the target, the device sheds its wings and drops—according to the inventor—right on the objective.

## Morale Builders

(Continued from Page 17)

will make available to every man in the AAF the comprehensive program being developed by the War Department Special Service Branch and the Special Services Section of the AAF Director of Personnel.

The Army Motion Picture Service, an agency of the Special Service Section, operates the largest single chain of theatres in the United States. The latest Hollywood pictures are shown at the same time they are released in civilian theatres. It is the function of the special services officer to complete arrangements with the Army Motion Picture Service to provide for exhibition of the motion pictures at each base.

Units on overseas assignments are being supplied with selected current films. Prior to departure, units receive sound and projection equipment for 16 mm films as well as supplies and repair parts. Enough films are issued for either eight or twelve weeks, depending upon the requirements in each case. At certain tropical bases, open air programs will be organized wherever the climate is suitable for outdoor showings.

### Capra Directing

In addition to arranging for the showing of "civilian" movies, Special Service will produce their own news and documentary films dealing with the background of the war and pointing out the hazards faced by the United States. This function is under the direction of Major Frank Capra, former Hollywood director, now on duty in Washington. The first series of pictures will be finished soon and will be shown only to military personnel.

Through the cooperation of Camp Show, Incorporated, traveling shows with professional talent are "playing" at certain bases. Twelve such shows are now operating on a major circuit and fourteen shows on a minor circuit of the smaller camps. Under the direction of the Hollywood Screen Victory Committee, a "talent pool" has been organized. Stars who are "between pictures" or who have free time are being assigned by the pool to play convenient dates and supplement the regular camp units as added attractions. In addition, popular bands and concert artists are contributing their services. A similar Broadway talent pool uses "name stars" who are available.

Provisions have been made to take theatrical units outside of the United States to various outposts within safe flying distance. One group

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## War by Moonlight

### RAF "Fly-By-Night" Brings Down Jerry

*Of the 33 enemy raiders destroyed last night it is now established that four were brought down by A.A. guns. The remaining 29 fell to the guns of the R.A.F. night-fighter pilots. . . . our night-fighting forces took full advantage of the brilliant moonlight. (Air Ministry Bulletin.)*

**T**RY to imagine the moonlight sky, with a white background of snow nearly six miles below. Somewhere near the centre of a toy town a tiny flare is burning. Several enemy bombers have come over, but only one fire has gained a hold. After all the excitement of my two combats, I can still see that amazing picture of London clearly in my mind.

It was indeed the kind of night that we fly-by-nights pray for. I had been up about three-quarters of an hour before I found an enemy aircraft. I had searched all round the sky when I suddenly saw him ahead of me. I pulled the boost control to get the highest possible speed and catch him up. I felt my Hurricane vibrate all over as she responded and gave her maximum power. I manoeuvred into position where I could see the enemy clearly with the least chance of his seeing me. As I caught him up I recognised him—a Dornier "flying pencil". Before I spotted him I had been almost petrified with the cold. I was beginning to wonder if I should ever be able to feel my hands, feet or limbs again. But the excitement warmed me up.

#### *Big Moment Came*

He was now nearly within range and was climbing to 30,000 feet. I knew the big moment had come. I daren't take my eyes off him, but just to make sure that everything was all right I took a frantic glance round the "office" and

checked everything. Then I began to close in on the Dornier and found I was travelling much too fast. I throttled back and slowed up just in time. We were frighteningly close. Then I swung up, took aim, and fired my eight guns. Almost at once I saw little flashes of fire dancing along the fuselage and centre section. My bullets had found their mark.

I closed in again, when suddenly the bomber reared up in front of me. It was all I could do to avoid crashing into him. I heaved at the controls to prevent a collision, and in doing so lost sight of him. I wondered if he was playing pussy and intending to jink away, come up on the other side and take a crack at me, or whether he was hard hit. The next moment I saw him going down below me with a smoke trail pouring out.

I felt a bit disappointed, because it looked as if my first shots had not been as effective as they appeared. Again I pulled the boost control and went down after him as fast as I knew how. I dived from 30,000 to 3,000 feet at such a speed that the bottom panel of the aircraft cracked, and as my ears were not used to such sudden changes of pressure I nearly lost the use of one of the drums. But there was no time to think of these things. I had to get that bomber. Then as I came nearer I saw he was on fire. Little flames were flickering around his fuselage and wings. Just as I closed in again he jinked away in a steep climbing turn. When he got to the top of his climb I was almost on him. I took sight very carefully and gave the button a quick squeeze. Once more I saw little dancing lights on his fuselage, but almost instantaneously they were swallowed in a burst of flames. I saw him twist gently earth-

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## The Odds Be Damned

(Continued from Page 2)

an interception. Capt. Hewitt T. Wheless kept his plane on course and made a run over the targets while the gunners fought off the Zeros and the bombardier planted his bombs on six transports. By this time Wheless's plane was the target of 18 Zeros blasting with cannon and machine guns. For 75 miles the B-17 gunners stood off the Zeros, shooting down six while bits of B-17 flew around their ears. Private Killim, the radio operator manning one waist gun, was killed by a burst from a Zero. Sergeant Brown was shot through the wrist while manning the other waist gun. When Killim was killed Brown manned both guns alternately and shot down five Zeros. Other members of Capt. Wheless' crew included 1st Lieuts. Raymond G. Tebored, co-pilot, and William Meenaugh, navigator; Sgt. Schelotte, bombardier, Sgt. Gootee, engineer and Corp. Williams, gunner.

The battle ended when all planes exhausted their ammunition. Then the astonished Japs flew close formation with the Fortress and peered into the cockpit to see what was still keeping it in the air.

After the Japs departed Capt. Wheless flew the plane 400 miles to his base with all but four control cables shot away, two engines dead, the front wheels flattened, the tail wheel demolished and a leaking gas tank. Of the crew, one was killed, three badly wounded and all grazed by Jap cannon shell fragments.

B-17 gunners accounted for more than one third of all attacking Jap pursuits over the Indies and stirred the Tokyo radio to announce: "The American B-17E is a four engined pursuit plane used for all purposes and proved to be very effective".

To meet the changing tactics of Jap fighter pilots B-17 gunners shifted their armament constantly, strapping guns with improvised mounts in new and unorthodox positions to surprise the attackers. Tail gunners in the Es took a heavy toll of Jap pilots who hadn't heard about the "stinger" and attacked from the rear.

### Navigators Role

Navigators played an important role in the long and accurate aerial thrusts against the Japs and the nocturnal evacuation of airmen from the captured Philippines. Lieut. Fred Rowan, Jr. navigated the Flying Fortress piloted by Capt. James Connally on a long and difficult mission through tropical storms. Jap ships were bombed and sunk and stranded Air Force personnel

rescued during this mission. Rowan's job was particularly important in the location of secret Philippines bases at which the B-17 refueled. When the navigator brought the ship in the vicinity of the target he acted as fire control officer and directed the work of the gunners in actual combat.

Chief opposition to the heavy bombers came from Zero fighters. Airmen back from the Indies and Australia report that the Zero looks like an AT-6 with a slimmer fuselage. They are reported to be fast and maneuverable with a fast rate of climb. Armament ranges from six machine guns to four machine guns and two cannon firing explosive shells. They are not armored and appear to be much lighter than most pursuits.

### Japs Smart

Air Force men who have fought the Japs report that their formation flying and tactics are excellent. The Japs are quick to ferret out weaknesses in their opposition and then attempt to press home their advantage with numerical superiority. Jap fighter pilots are reported to be extremely aggressive, but no fanatical "suicide" attacks have been observed by our airmen. In bailing out combat crews use a delayed parachute opening to plummet out of Jap fighter range since machine gunning of dangling parachutists became a standard Jap tactic.

However, despite the famed Zero fighter and overwhelming numerical superiority, most of the Jap pilot's successes have been scored on the ground. They are expert ground strafers, using incendiary bullets and fragmentation bombs in low diving attacks preceded by bomber attacks from higher altitudes. Early morning hours, during meals and dusk are their favorite times for airdrome strafing. Fighter patrols spotted Army bombers coming in to refuel and re-arm and then strafed them on the ground with too much success. Natives co-operating with the Japs often made camouflaging ineffective.

Capt. Algene Key told of the Fifth Columnists' work in Java:

"One morning in Java I led a formation of three planes into the air and our crew noticed three puffs of smoke nearby. Three more planes took off and three more puffs of smoke went up. We flew over the spot where the smoke was rising and bombed it with good effect."

A flight of pursuits with U.S. markings circled an American base in Borneo. They called the control tower in perfect English and received permission to land. As they came in they sprayed the field with incendiary bullets,



dropped light bombs on the hangars, shot up the field again and departed.

### *Yankee Ingenuity*

Some of the tricks work the other way. The late Brig. Gen. Harold H. George, for instance, immobilized a field full of Jap bombers on Luzon with nothing more than a field radio.

"Just after we lost our last plane on Bataan", the general related, "the Japs established a heavy bomber base 20 miles from our lines. I knew they always listened to our field messages.....so the minute I heard the Japs had come down, I sent my wireless sergeant to one end of our drome with a field radio and told him to send six P-40s immediately to attack Jap bombers at their advance base. He protested that one of the ships had engine trouble. I said 'Okay, then send them five'. Of course we had none.

"Immediately after the Japs intercepted the message, they ordered their heavy bombers to take off without bomb loads. We kept up this variation for four days running before the Japs caught on. On the fourth day we had a couple P-40s sufficiently repaired to fly and we caught their bombers flatfooted in the midst of loading on the ground. They had decided they wouldn't be fooled anymore."



### **Morale Builders**

*(Continued from Page 34)*

of motion picture stars has already entertained troops in Cuba, Puerto Rico, Antigua, Santa Lucia, Trinidad, British Guiana, St. Croix and St. Thomas. This is being continued whenever existing conditions permit.

Libraries are being established in AAF stations and even in squadron dayrooms. They are stocked with books ranging in interest from light fiction to important technical subjects. Traveling libraries, made up of small collections of new books, are regularly transferred from one small station to another in all corps areas. Every overseas unit takes its own collection of books, provided by the special services section, consisting of one hundred paper bound volumes. Reading material on the various transports is also provided. Arrangements are being made to supply overseas units with current magazines and newspapers.

"A singing army is a fighting army", and music is recognized as an important element in practically every phase of Army life. Swing bands furnish jazz for dances and social func-

tions. Regimental bands provide the musical setting for parades, ceremonial functions and concerts. Pit bands play for amateur theatricals. Morale is never low when there's music in the air, so Special Service provides song books and encourages the organizing of barber shop quartets, choirs, and choruses for both formal and informal singing.

Among the most important functions of Special Service is the organization of sports activities. Complete athletic equipment is being provided for thirty-five different kinds of sporting activity, ranging from indoor games to mass demonstrations. There is a systematic effort to develop intra-mural activities as well as inter-post, inter-camp and inter-station contests. Competition with civilian organizations is also encouraged.

Radio activities have not been overlooked. The Red, White and Blue network has over 300 stations dedicated to spreading good will in the service. Programs consisting entirely of enlisted talent are organized and broadcast over conveniently located stations. A plan similar to Camp Shows, Inc., has been organized to have network radio programs originate at the various bases.

A weekly tabloid size periodical called "Yank", written by and for enlisted men, will be published for certain overseas forces. The first issue is expected shortly.

Special Service is directing the correspondence courses offered by the Army Institute at Madison, Wis. Complete information concerning the details are available at the Special Service office at each AAF unit.

### *U.S.O.*

But no matter what the camp itself may offer, enlisted men inevitably want to get off the post in their leisure hours. In this regard, Special Service cooperates with the U.S.O. and other civilian organizations to provide adequate recreational facilities in communities near the bases.

Special services officers accompany units assigned to duty overseas and continue the performance of the function wherever possible. Detachments leaving for overseas duty are provided with a combination radio-phonograph, complete athletic kits and sports equipment.

Under current war conditions, the Red Cross is the only non-military organization permitted in the combat zone. The functions formerly carried on by the Salvation Army, the Y.M.C.A., the K. of C. and other civilian agencies are assumed by Special Service.



### Fly by Night

(Continued from Page 35)

wards and there was a spurt of fire as he touched the earth. He blew up and set a copse blazing.

I circled down to see if any of the crew had got out, and then I suddenly remembered the London balloon barrage, so I climbed up and set course for home.

I had time now to think about the action. My windscreen was covered with oil, which made flying uncomfortable, and I had a nasty feeling that I might have lost bits of my aircraft. Anyway I soon landed, reported what had happened, had some refreshment and then up in the air once more, southward ho! for London.

Soon after I was at 17,000 feet. It's a bit warmer there than at 30,000. I slowed down and searched the sky. The next thing I knew, a Heinkel was sitting right on my tail. I was certain he had seen me, and wondered how long he had been trailing me. I opened my throttle, got round on his tail and crept up. When I was about 400 yards away he opened fire—and missed me. I checked my gadgets, then I closed up and snaked about so as to give him as difficult a target as possible. I got into a firing position, gave a quick burst of my guns and broke away.

I came up again, and it looked as if my shot had had no effect. Before I could fire a second time, I saw his tracer bullets whizzing past me. I fired back and I knew at once that I had struck home. I saw a parachute open up on the port wing. One of the crew was bailing out. He was quickly followed by another. The round white domes of the parachutes looked lovely in the moonlight.

It was obvious now that the pilot would never get his aircraft home, and I, for my part, wanted this second machine to a "certainty" and not a "probable". So I have another quick burst of my guns. Then to fool him I attacked from different angles. There was no doubt now that he was going down. White smoke was coming from one engine, but he was not yet on fire. I delivered seven more attacks, spending all my ammunition. Both his engines smoked as he got lower and lower. I followed him down a long way and as he flew over a dark patch of water I lost sight of him.

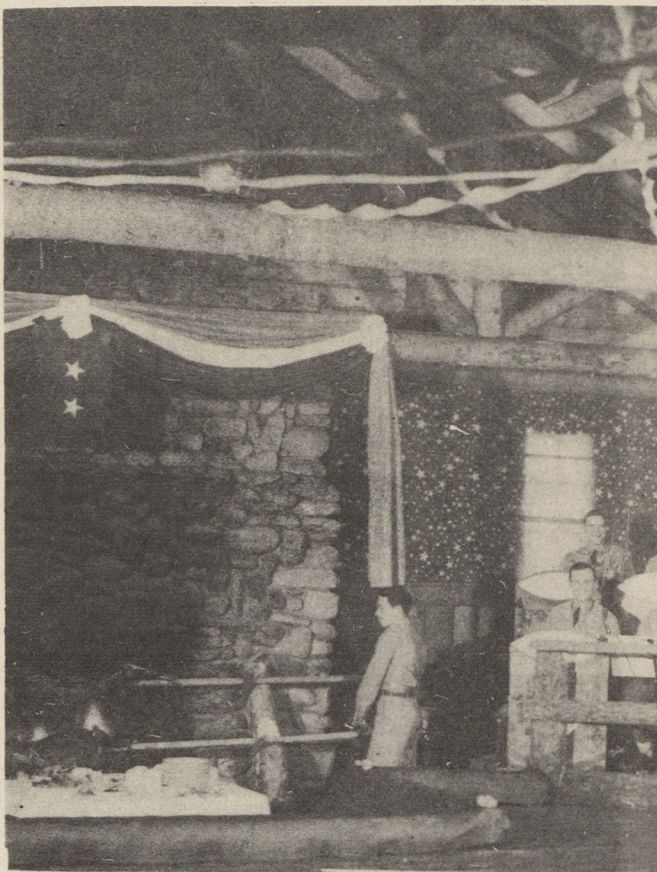
But I knew he had come down, and where he had come down—it was all confirmed later—and I returned to my base ready to tackle another one.

But they told me all the Jerries had gone home. "Not all", I said, "two of them are here for keeps".

--From RAF broadcast "We Speak From the Air"



### Alaskan "Kashim"



Here is an inside view of the new "Kashim", built by the men of Air Base Headquarters, Fort Richardson, Alaska. "Kashim" is the Eskimo word for a "Clubhouse for Men" to which women are admitted by invitation only. Taking the recreation problem in their own hands, the 685 men of Fort Richardson, working in their spare time, felled the trees, hewed the logs and built the entire building according to their own design. It contains a huge fireplace for barbecues, a bandstand and one of the most elaborate sandwich bars in Alaska.



A gun camera has been developed to train pilots in the use of machine guns and aerial cannon. In mock "dog fights" the pilots "shoot" their gun cameras and the resultant photographs show where hits would have been made if real ammunition had been used.





# Tale of the Gremlins

*This is the tale of the Gremlins  
Told by the P. R. U.  
The incredible tale of the Gremlins  
But believe me, you slobs, it's true.*

*When you're seven miles up in the heavens  
(That's a hell of a lonely spot)  
And it's a fifty degrees below zero  
Which isn't exactly hot.*

*When you're frozen blue like your Spitfire  
And you're scared a Hurricane pink  
When you're thousands of miles from nowhere  
And there's nothing below but drink.*

*It's then that you will see the Gremlins  
Green and Gamboe and Gold  
Male and female and neuter  
Gremlins both young and old.*

*It's no good trying to dodge them  
The lessons you learnt on the Link  
Won't help you evade a Gremlin  
Though you boost and you dive and you jink.*

*White ones will wiggle your wingtips  
Male ones will muddle your maps  
Green ones will guzzle your Glycol  
Females will flutter your flaps.*

*Pink ones will perch on your perspex  
And dance pirhouettes on your prop  
There's a spherical middle-aged Gremlin  
Who'll spin on your stick like a top.*

*They'll freeze up your camera shutters  
They'll bite through your aileron wires  
They'll bend and they'll break and they'll batter  
They'll insert toasting forks in your tyres.*

*That is the tale of the Gremlins  
Told by the P. R. U.  
(P)retty (R)uddy (U)nlikely to many  
But fact, none the less, to the few.*

*--RAF Coastal Command*