

# AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION, JUNE, 1947



*A F A Convention City*



# Out of some cold figures, came a story to warm merica's heart

**N**OT LONG AGO, the Secretary of the United States Treasury studied a figure-covered sheet of paper.

The figures revealed a steady, powerful upswing in the sale of U. S. Savings Bonds, and an equally steady decrease in Bond Redemptions.

**But to the Secretary, they revealed a good deal more than that, and Mr. Snyder spoke his mind:**

"If you give them the facts," he said, "you can always depend on the common sense and long-range judgment of the American people.

"The last few months have given us heart-warming proof of that.

"After the Victory Loan, sales of U. S. Savings Bonds went down—redemptions went up. And that was only natural and human.

"It was natural and human—but it was also dangerous. For suppose this trend had continued. Suppose that, in this period of reconversion, some 80 million Americans had decided not only to stop saving, but to spend the \$40 billion which they had *already* put aside in Series E, F & G Savings Bonds. The picture which *that* conjures up is not a pretty one!

"But the trend did NOT continue.

"Early last fall, the magazines of this country—nearly a thousand of them, acting together—started an advertising campaign on Bonds. This, added to the continuing support of other media and advertisers, gave the American people the facts . . . told them why it was important to buy and hold U. S. Savings Bonds.

"The figures on this sheet tell how the American people responded—and mighty good reading it makes.

"Once more, it has been clearly proved that when you give Americans the facts, you can then ask them for action—and *you'll get it!*"

## **What do the figures show?**

On Mr. Snyder's sheet were some very interesting figures.

They showed that sales of Savings Bonds went from \$494 million in last September to \$519 million in October and kept climbing steadily until, in January of this year, they reached a new postwar high: **In January, 1947, Americans put nearly a billion dollars in Savings Bonds. And that trend is continuing.**

In the same way, redemptions have been going just as steadily downward. Here, too, the trend continues.

Moreover, there has been, since the first of the year, an increase not only in the volume of Bonds bought through Payroll Savings, but in the number of buyers.

---

**How about YOU?** The figures show that millions of Americans have realized this fact: there is no safer, surer way on earth to get the things you want than by buying U. S. Savings Bonds regularly.

They are the safest investment in the world. They pay you \$4 for every \$3 at the end of 10 years. And you can buy them automatically, almost painlessly today, through either of two plans:

If you are eligible for the Payroll Plan, for your own sake and your family's sake, get on it . . . and watch your savings mount up.

If you are not eligible for the Payroll Plan, but have a checking account, see your banker and get him to tell you about the new Bond-a-Month Plan.

Either of them will set you on the road to financial security, and the happiness that comes with it.

## Save the easy, automatic way—with U. S. Savings Bonds

Contributed by this magazine in co-operation with the Magazine publishers of America  
as a public service.







# Chemical Tools!

**3**  
**TYPES...**  
**EACH BEST**  
**FOR CERTAIN**  
**ASSEMBLIES**

Just as you have a favorite wrench that is "tops" for a certain job, each one of these chemical tools is "tops" for a particular type of assembly.

**FORM-A-GASKET No. 1** (a paste) sets fast but not too fast for use on large surfaces. It dries hard but does not become brittle. It's a swell product for making pressure-tight, leak-proof unions . . . even when the surfaces are warped.

**FORM-A-GASKET No. 2** (a paste) sets slower than No. 1. It dries to a tough, pliable layer with plenty of "cushion". It resists high pressures, continual vibrations and disassembles very easily.

**AVIATION FORM-A-GASKET No. 3** (a brushable, self-leveling liquid) sets into position and dries to a tacky paste. It will not run, even when heated to 400° F. . . nor will it become hard or brittle down to 70° F. below.

ALL TYPES OF FORM-A-GASKET PRESERVE ALL TYPES OF GASKETS!

**PERMATEX COMPANY, INC., BROOKLYN 29, N. Y.**





**NORTH AMERICAN P-51K-10-NT**  
Typical of 440 illustrations in

"The Little Gray Book"

# U.S. ARMY AIRCRAFT

**1908-1946**

By James C. Fahey, Editor  
"The Ships and Aircraft of the U.S. Fleet"

## Contents:

Signal Corps Airplanes .....	1908-1917
American-built Airplanes .....	1917-1918
A. E. F. Foreign Airplanes .....	1917-1918
Numbered Types .....	1919-1924
Modern Models .....	1924-1946
Special Type Airplanes—Gliders .....	

## CONVERSIONS—CANCELLATIONS

MODEL DESIGNATION OF ARMY AIRCRAFT  
AIRCRAFT MANUFACTURERS' CODE LETTERS  
CLASSIFICATION SYMBOLS  
AUXILIARY PREFIX SYMBOLS

Data Covers: Builder and Model Designation;  
Year of First Order and First Delivery; Num-  
ber Procured or Converted; Crew (Or Crew  
and Passengers in Transport Models); Type  
(Biplane, etc.); Gross Weight; Wing Span and  
Length; Engines; Top Speed; Relevant Re-  
marks.

Price: One Dollar

At PX, Book Shops or from the Publisher

**SHIPS AND AIRCRAFT**

1265 Broadway, New York 1, N. Y.

# 12 HOUR

## Recorder

The finest high-  
quality Chronograph  
for the expert.

- Water-resistant
- Shock-resistant
- 17 Jewels
- Radium Dial
- Stainless Steel



**BERYLLIUM  
HEARTBEAT**

**O. MAIRE, INC.**  
45 Lispenard St., New York 13

# AIR FORCE

OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION

## PRESIDENT

JAMES H. DOOLITTLE (Lt. Gen.)

FIRST VICE PRESIDENT  
EDWARD P. CURTIS (Maj. Gen.)

SECOND VICE PRESIDENT

MERYLL FROST (Sgt.)

THIRD VICE PRESIDENT

THOMAS G. LANPHER, JR. (Lt. Col.)

## SECRETARY

SOL A. ROSENBLATT (Col.)

ASSISTANT SECRETARY

JULIAN B. ROSENTHAL (Pfc.)

TREASURER

W. DEERING HOWE (Lt. Col.)

## EXECUTIVE DIRECTOR

WILLIS S. FITCH (Col.)

DIRECTORS: Roy F. Atwood (Col.), H. M. Baldridge (Col.), John P. Biehn (Pvt.), William H. Carter (M/Sgt.), Everett Cook (Col.), Burton E. Donaghy (M/Sgt.), G. Stuart Kenney (S/Sgt.), T. J. McHale (T/Sgt.), Reiland Quinn (S/Sgt.), Rufus Rand (Major), James M. Stewart (Col.), Forrest Vosler (T/Sgt.), Jack L. Warner (Col.), Lowell P. Weicker (Col.), C. V. Whitney (Col.), J. H. Whitney (Col.)

EDITORIAL BOARD: James H. Straubel (Col.), J. Carl Norcross (Col.), Arthur Gordon (Lt. Col.), Corey Ford (Lt. Col.), Eric Friedheim (Major)  
(All military titles in parentheses are wartime ranks.)

# CONTENTS

Project 611 .....	By Ned Root	11
The Flying North .....	By Jean Potter	16
Boswell of the Air .....		22
Operation Wayside .....	By William S. Friedman	24
Convention City .....		28
No. 0-7487, Retired .....	By Howard Wentworth	30
North American XB-45 .....		44
Swivel Landing Gear .....	By Vaughn Monroe	50

## Departments

Air Mail .....	6
This Month .....	8
Plane Portrait: B-29 .....	34
AFA News .....	36
Who's Who in the AFA: E. P. Curtis .....	40
In Reserve .....	42
Tech Topics .....	48
Book Reviews .....	54
Plane Boners .....	64
Rendezvous .....	66

## EDITOR

PHILLIP ANDREWS

Executive Editor, Ned Root (Lt. Col.); Technical Editor, William S. Friedman (Sgt.); Assistant Editors, M. A. Bugnon, Janet Lahey; Personal Plane Editor, Vaughn Monroe.

AIR FORCE is published monthly at 1406 East Franklin St., Richmond 15, Va., by the Phillip Andrews Publishing Co. for the Air Force Association.

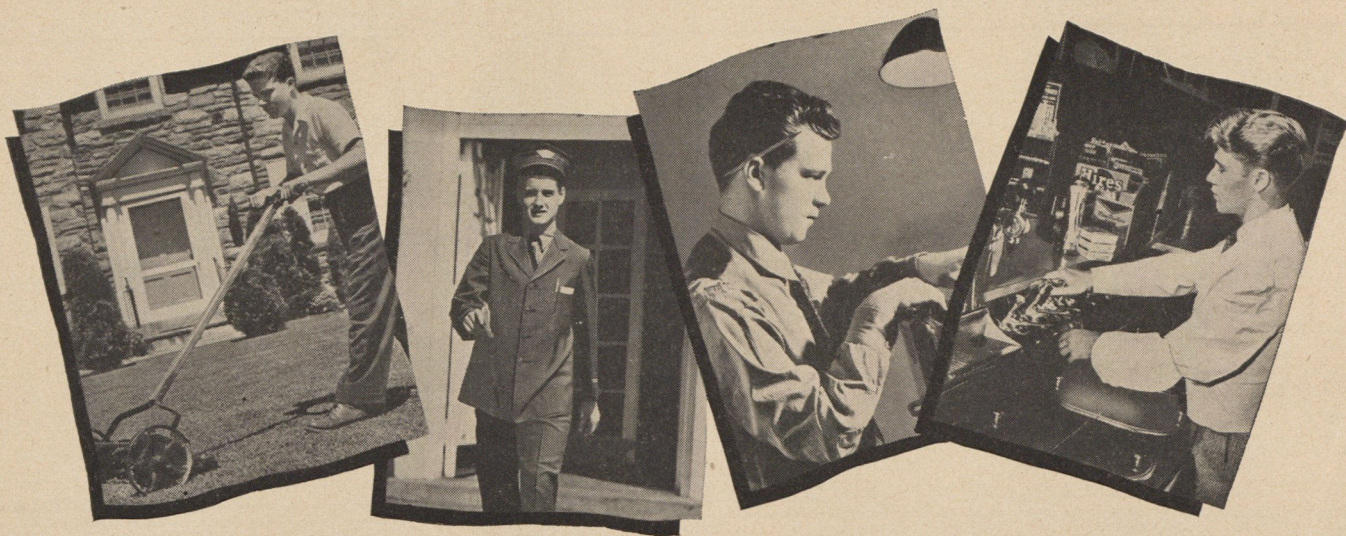
Editorial and Executive Offices: 545 Fifth Avenue, New York 17, N. Y., Murray Hill 2-2643. Publisher assumes no responsibility for unsolicited pictures, artwork or manuscripts.

Advertising Offices: New York 17, N. Y., 545 Fifth Avenue, Sanford A. Wolf, Advertising Manager; Chicago, Ill., 333 North Michigan Avenue, Harvey Hayden; Los Angeles 5, Calif., 684 South Lafayette Park Place, Robert W. Walker Co.; San Francisco 4, Calif., 68 Post Street, Robert W. Walker Co.

Entered as second-class matter, June 17, 1946 at the post office at Richmond, Va., under the Act of March 3, 1879. Membership in the Air Force Association, \$3.00 per year, \$2.00 of which is for 1 year subscription to AIR FORCE. Subscription rate to non-members, \$3.50. Single copies, 35 cents. United Kingdom: 21 shillings, 12 monthly issues, post free; British-American Publishing Co., Ltd., 143 Fleet Street, London, E.C.4. Trade-mark registered by the Air Force Association. Copyright, 1947, by the Air Force Association. All rights reserved under Pan-American Copyright Convention.

All Correspondence pertaining to the Air Force Association with the exception of that which directly concerns the magazine AIR FORCE should be addressed to National Headquarters, 1603 K St., N.W., Washington 6, D. C.





# Who will keep the peace?

- Look around you — at your younger brother, your neighbor's son, the copy boy, the grocer's helper. Upon young men like these rests the job of protecting the peace you won.

- Today, your Regular Army plays a vital role in keeping the nation secure. It needs young men who are willing to devote their time and energy to this important task.

- You are a veteran. Younger men look to you and your experience for advice on their careers. What you tell them may well be more influential than any other counsel they receive.

- Most of the material benefits of Army life are well known. When you talk with young men, you

can help the Army greatly by stressing some of the personal satisfactions that come from service . . . the bonds of understanding and comradeship among all those who wear the uniform . . . the experience of leading and inspiring others in the execution of duty . . . the sense of achievement that comes from having a part in a mission of the highest significance.

- These are among the things that make the Army a valuable and rewarding experience for any man. Tell young men you know. Help your Army attract the kind of men who value these considerations.

**U. S. ARMY RECRUITING SERVICE**

YOUR REGULAR ARMY SERVES THE NATION AND MANKIND IN WAR AND PEACE





# SHORT CUT TO SOLO

**50¢**  
POSTPAID



**HOW TO FLY** is your personal short cut to solo success with small planes—the ideal book for hot pilots now flying low-powered ships and for students who are winning their first wings. Written in easy-to-understand language and profusely illustrated with two-color drawings and photos, it's yours for only 50¢.

Air Force Book Department  
545 Fifth Ave., N. Y. 17, N. Y.

Please send me ..... copies  
of **HOW TO FLY** at 50¢ each,  
for which I enclose \$.....

NAME .....

STREET .....

CITY AND ZONE .....

STATE .....



## Right Off

Gentlemen:

Two questions have arisen here at Clemson during some of our "bull sessions." Since I am a member of AFA, I thought I could get the right answers.

What date was the first B-26 used and when was it discontinued? Why was the P-38 not easily detected on landing, I mean by that, the quietness of the engine.

Howard H. Arnold  
Clemson College  
South Carolina.

*In answer to your questions about the Marauder: The first B-26 was delivered to the AAF in February 1941. The last delivery was made in May 1945. As of February 28, 1947, three B-26s remained in the AAF inventory. Concerning the P-38: The Lightning was quiet under all conditions because it was equipped with an exhaust-driven turbo-supercharger. The exhaust was piped from the engine through the supercharger, which in turn acted as a muffler.*

## Credit Com Car

Gentlemen:

I would like to know why Combat Cargo never got any publicity for its great part in World War II. I served a year in the CBI as a pilot with the 4th Combat Cargo Sqdn.

We flew supplies from India to front-line strips in Burma. The strips were often under Jap fire. We flew missions on instruments when ATC wouldn't even bring in our mail. We flew heavier loads than ATC in our C-47s and C-46s. We took up where ATC left off.

How about an article for the hundreds of men of Combat Cargo?

Fred Burket  
Kingston, Pa.

*A story on Com Car is in the works.*

## F is for our Fault

Gentlemen:

Received February **AIR FORCE** with your article "F is for Fotoplane" and, brother, you'd better check your records.

According to the article, "only foreign designed plane used by the AAF for photo missions was the Canadian-built De Havilland Mosquito."

I was a photo lab tech. in the 14th Photo Recon, Sqdn. of B. G. Roose-

velt's Wing, and for over a year we used Spitfires for recon. work.

Ross Garreth  
Lancaster, Pa.

Gentlemen:

A picture of a De Havilland Mosquito in your February issue is captioned "only foreign design used by AAF for photo missions." You are in error, and to a rather considerable extent. The 14th Recon, Sqdn. of the 7th Photo Recon. Group operated with Mark II Spitfires for almost two years . . . I would appreciate a correction in the interest of accuracy as well as in the nature of a tribute to the men of the 14th.

Robert Dixon  
Major, AC  
Stewart Field, N. Y.

Gentlemen:

In your February issue, you mentioned that the B-24 was used for taking photos, but very little more. You failed to mention that the converted B-24 was designated as the F-7. I flew an F-7 for over fifteen months and feel that we F-7 men were slighted.

Herbert R. Wampole  
Sellersville, Pa.

*We have checked our records and "chewed out" our caption editor for his sin of omission. In his defense, he says that while camera-hauling Spits were operated by American recon. pilots, they were never procured by the Air Force and therefore have no official serial number. These come under the same category as the reversed lend-lease Spitfires which, while they were operated by American crews, were simply loaned to us by the British pending the arrival of pursuit aircraft of American manufacture. Mosquitoes, on the other hand, were purchased by the AAF and designated F-8.*

## Almost Like Home

Gentlemen:

Most of my 39 months in the AAF were spent as a 754 on B-17s—all types from the B-17C to the B-17H.

The picture of the "office" on page 20 of the April issue was very good, but I wish it had been taken with the photographer standing in the Engineer's position. This picture cut off the engine and cowl switches, otherwise it was almost like home.

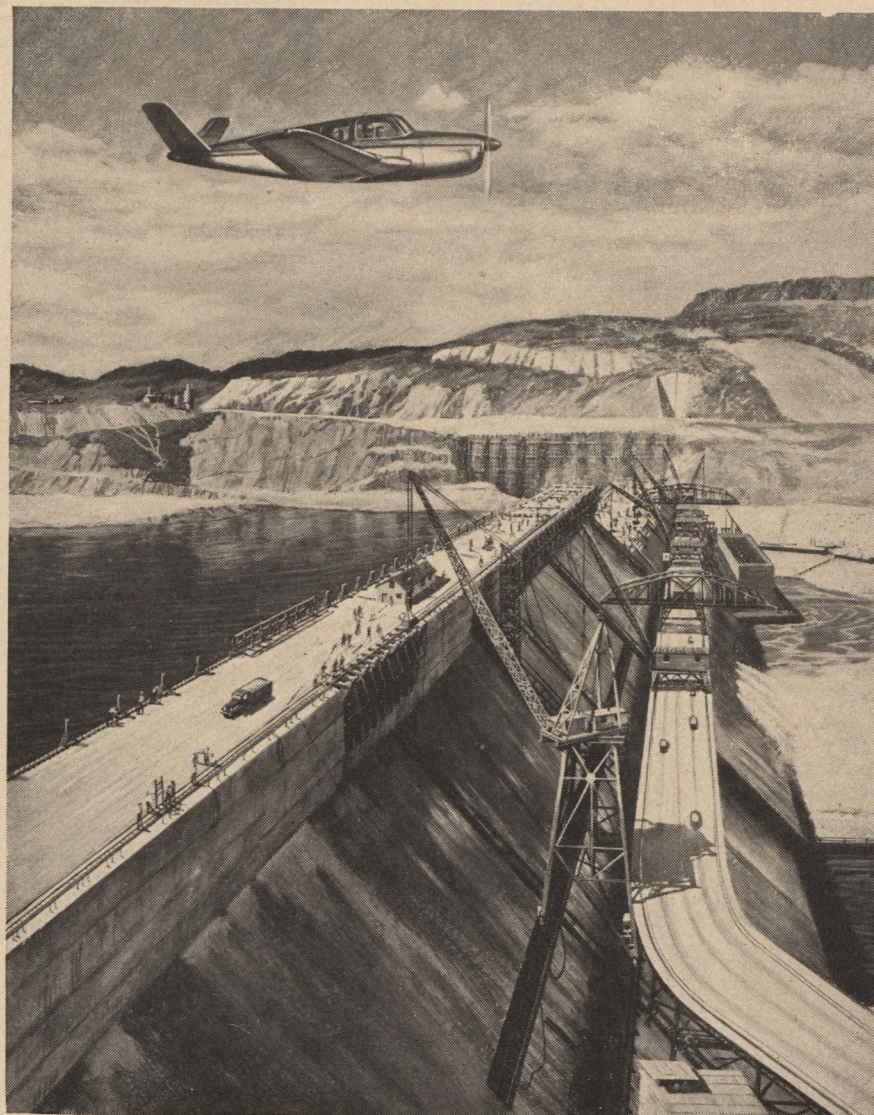
Francis E. Moser  
Springfield, Mo.



**Get Things Going  
Keep Things Moving**

*with a Beechcraft*

**BONANZA**



• Top Speed, 184 mph; Cruising Speed, 172 mph; Range, 750 miles

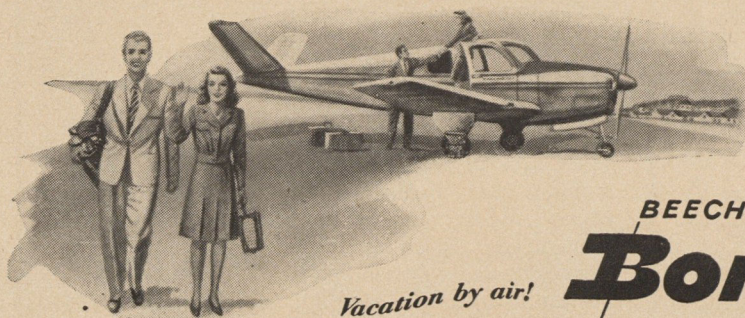
**Q**UICK-ACTING brains and dynamic energy built American business and industry. Beechcraft now makes a major contribution to that formula—a business airplane that helps American industry's men of action get things going *in half the time* and keep things moving *faster!*

The Beechcraft Bonanza qualifies as an indispensable business tool. It provides high speed and high

payload with the economy of only 165 hp—a performance heretofore unmatched with less than 330 hp! Result: the Bonanza whisks four passengers and their luggage on business errands at a cruising speed of 172 mph in commodious comfort at a cost as low as one cent per passenger mile!

Day in, day out, in all seasons—and free from the limitations of

scheduled transportation—the Bonanza saves man-hours and money that add up to many times its cost in a year's time. It is a fully-equipped plane—two-way radio, landing lights, instruments, heater, retractable tri-cycle landing gear, landing flaps, controllable prop and scores of other refinements, including a sound-proofed cabin as quiet as an open car traveling at 55 mph!



*Vacation by air!*

**BEECHCRAFT**  
**BONANZA**  
MODEL **35**

There is a Beechcraft distributor near you ready with other facts and figures. We are now delivering Bonanzas on the large backlog of firm orders created by the heavy demand for this airplane. Additional orders will be filled in the sequence received. Beech Aircraft Corporation, Wichita, Kansas, U.S.A.



# This Month

## The Cover

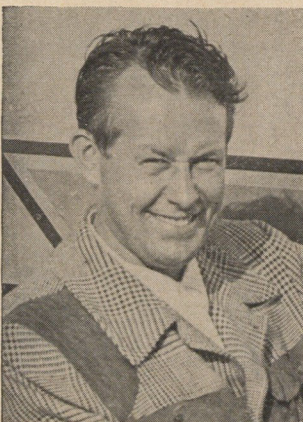
When the Army Air Forces closed its B-17 transition school at Lockbourne, Ohio, sometime ago, the pilots at the field asked the C.O. for permission to make one final formation flight over near-by Columbus as a parting salute to a town which had earned the reputation throughout the AAF of being one of the most hospitable and "GI minded" cities in the country. The permission was readily granted and the next day thirty-six Flying Forts climbed into the sky, circled the Buckeye Capitol several times, dipped their wings over Columbus' most handsome building, the LeVeque-Lincoln Tower (foreground), and then returned to their base.

Naturally every photographer in town—professional and amateur alike—took pictures of the event as long as his film lasted. Some shot from vantage points in the city's higher buildings. Others went aloft in their own or rented planes to get aerial views. The most successful picture of all though, was taken by Kenneth Merrill, photographer for the *Columbus Dispatch* who, shunning the more spectacular approaches, secured the services of two comely young ladies, perched them on the railing of the bridge crossing the Scioto River, and then clicked his shutter just as the formation flew over the aforementioned LeVeque-Lincoln Tower.

When the editors of *AIR FORCE* decided to do a cover of Columbus this month to attract attention to the forthcoming AFA convention there this September, Merrill's photo was a natural choice. To find out more about the town and its people, read "Convention City" on page 28.

## Air Minded Maestro

Most people know Vaughn Monroe as one of the country's more popular jazz maestros. It is nothing for Victor to sell a million copies of a new Monroe phonograph record—an enterprising publicity agent once figured out that if all the Monroe records were placed side by side they would reach from New York to Denver and back. He is one of less than half a dozen "name" band leaders with a commercial radio program. His fan clubs are numbered in the thousands. Yet if he were to confess the truth, the good-looking young man



Vaughn Monroe

from Ohio would probably admit that music is little more than a hobby. His real love is flying. He has owned a plane of his own for nearly a decade. When he plays theatre dates he carves model planes backstage between performances. His tie pin is usually a gold propeller. His cuff links are quite often miniature planes. In short, he is an incurable "nut." The possibility of Monroe becoming a regular contributing editor to *AIR FORCE* presented itself one rainy afternoon when one of our

editors ran onto him in a Link Trainer emporium in downtown New York. Monroe had a few hours off and since the weather was too bad to fly, he was making believe in the Link. He was going to California in a few days and in response to our request said he would be delighted to send us his analysis of some of the new personal planes being built out there. Within a week there was a twelve-page manuscript written in longhand on Bel Air Hotel stationery on our desk. Anybody who has an idea of how busy a traveling band leader is, can judge from this just how far gone the guy is on the subject.

Unfortunately though, the "cub" missed his first deadline by about twenty-four hours and so another story had to be substituted for that issue. This month, however, we think it's a lulu (Swivel Landing Gear, Page 50). Incidentally, Monroe reports that next month's article is already in the "polishing up" stage.



Jean Potter

## The "Flyingest" Land

Jean Potter, a New Yorker, and author of "The Flying North" (Page 16), was on the staff of *Fortune* magazine from 1936 to 1943. Her first book, "Alaska Under Arms," published in 1942, was the result of an extensive trip made to Alaska on a *Fortune* assignment shortly before the United States entered the war. Fascinated by the country and by Aviation in Alaska, Miss Potter returned in 1943 and spent a year and a half talking and flying with the men who pilot the planes there. "The Flying North" is the result.

Miss Potter is now living in Germany where her husband is connected with American Overseas Airlines.

## Another Year Without Unification?

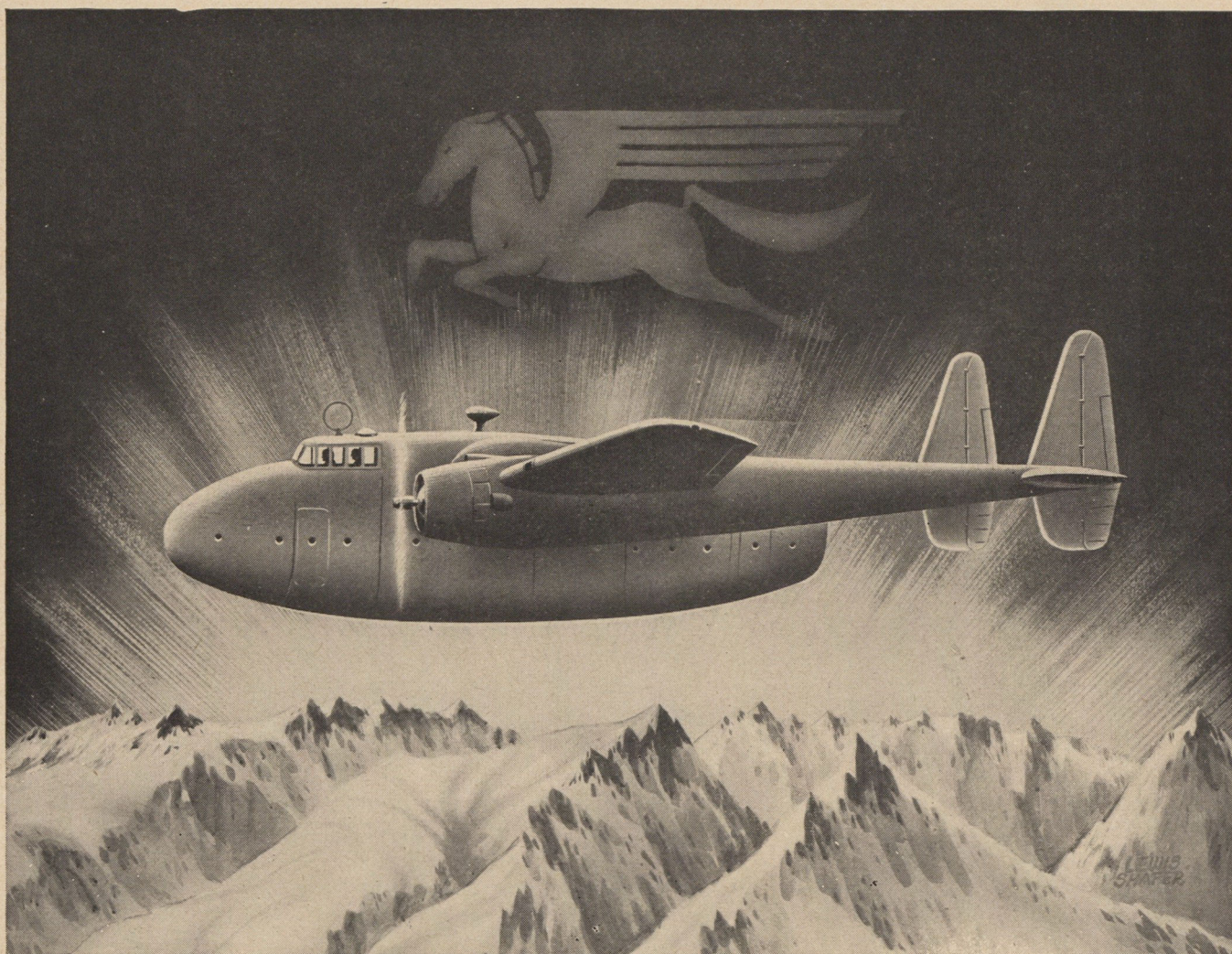
Four months ago President Truman sent to the 80th Congress a bill to unify America's armed services. With the bill went a plea for speedy legislative enactment. After two years of inter-service debate there seemed little reason for further perusal of the subject since the Army and Navy had finally compromised their differences. But apparently the President's request for immediate action failed to impress Congress with the exigency of the matter. At this writing no action has been taken, and the possibility now looms large that Congress will adjourn again before anything is done.

"The National Security Act of 1947," is not a flawless document. But it is a definite step in the right direction. The Board of Directors of AFA recently stated that "the proposed plan achieves coordination of the top level. It is anticipated that coordination at the operating level, desirable at all times and essential in time of war, will be developed later under this plan."

"It is our fervent hope that legislation will secure the gains already attained and that there may continue to be improvement in the effectiveness and economy of our military establishment. . . ."

To date legislation has *not* secured the "gains already attained." But is not yet too late for every citizen who is honestly interested in an efficient military establishment to make his interest known to his duly elected representative in Washington. We cannot afford to lose another year.





## THE PACKET... Five-Gaited Pegasus

On duty in ever increasing numbers with the Army Air Forces, the Packet has become a flying work-horse with a thoroughbred blood line. It has found a lot of jobs to do for the Army.

It carries guns and supplies and a ten-wheel truck, other weapons or ammunition.

It transports men—Airborne Troops and Air-Transportable Infantry with their specialized weapons.

It is a jump ship, transporting 42 paratroopers to target.

A Helicopter with *minimum* disassembling can be

easily transported and quickly readied for flying.

And, in a few moments this plane can be transformed into a hospital ship, ready to bear 34 litter wounded and four attendants.

For nearly a quarter of a century, Fairchild engineers have worked to make the airplane more efficient, more useful. In the Packet they built the first plane designed specifically to carry military cargo. But engineering ingenuity gave it as well the ability to fulfill *many* of the rapidly shifting requirements of modern military operations.

 **Fairchild Aircraft**

Division of Fairchild Engine & Airplane Corporation, Hagerstown, Maryland



# Research

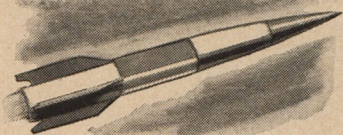
## -- Mightiest Weapon of Peace

### Martin Research Has Re-enlisted to Help Secure the Peace

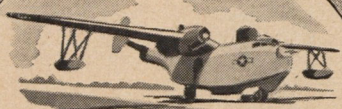
Demands by America's Military Services for practical development of the latest scientific discoveries present an unending challenge to the Martin research organization. By continually meeting this challenge, The Glenn L. Martin Company has developed one of the most advanced aviation research organizations in the world.

To meet the far-reaching peacetime requirements of our Military Services, untried theories and ideas are now being transmitted into practical realities by Martin research.

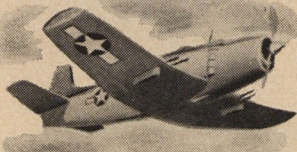
Look to Martin for advances in electronics, guided missiles, new forms of propulsion, rocketry, materials and alloys and other projects now being subjected to intensive and unrelenting search. These and other developments by Martin are the steppingstones to yet undiscovered scientific fields of the future. THE GLENN L. MARTIN COMPANY, BALTIMORE 3, MARYLAND.



**GUIDED MISSILES** and new forms of propulsion are being developed by Martin under Army and Navy contracts. Research includes the field of electronics as well as pilotless aircraft and trans-sonic speeds.



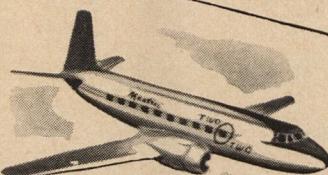
**MARINER'S MATE . . .** The giant 30 ton XPBM-5A is an amphibious version of the fabulous Martin Mariner. The Navy has ordered 24 of these amphibians, the largest in the world.



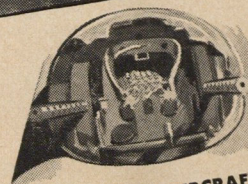
**SEA-GOING BOMBER . . .** The Navy's new Martin AM-1 is a carrier-based bomber. Heavy bomb-load is carried at unprecedented speed for this type of aircraft. "Mauler" is now in production at Martin.



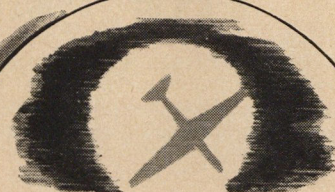
**MARTIN MARVINOL . . .** is a new and versatile plastic discovered and developed by Martin research. Production will soon start in a \$3,000,000 plant at Painesville, O.



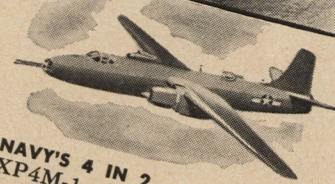
**LATEST IN AIRLINERS . . .** New Martin 2-0-2 and 3-0-3 airliners received the same intensive research as Martin military aircraft. They are readily adaptable for military transport use.



**GREETING ENEMY AIRCRAFT** with .50 cal. bullets was the job of Martin power turrets, the wartime standard for thousands of American aircraft. Martin carries on continual research in this, as in other fields.



**ARMY'S PRIDE**, the new XB-48 bomber, is powered by six jet engines—will fly at exceptionally high speeds. Details of this advanced Martin bomber are currently restricted.



**NAVY'S 4 IN 2 . . .** The XP4M-1, land-based patrol bomber, has four engines—two reciprocating—two jet. They're tandem mounted in two nacelles, the jets for extra speed . . . the reciprocating engines for long range.

# Martin

## AIRCRAFT

Builders of Dependable



Aircraft Since 1905

### Travel or Ship by Martin Transport on These Great Airlines

Capital (PCA) • Eastern • Chicago & Southern • Braniff International • United  
Northwest • Delta • Panagra • Cruzeiro do Sul (Brazil) • Aeroposta (Argentina)  
Nacional (Chile) • Mutual • Flying Tiger • Air Borne Cargo • U. S. • Willis



The background of the entire page is an abstract composition of torn, layered pieces of light brown paper. The layers create a sense of depth and texture, with some pieces overlapping others. The overall color palette is monochromatic, consisting of various shades of tan and brown.

# **AIR FORCE**

June, 1947

# **PROJECT 611**

*By the calendar it's less than two years since VJ-Day. But if you judge by the weeds at Wright Field it's longer than that*

JUNE, 1947





# PROJECT 611

BY NED ROOT, *Lt. Col., A.C. Res.*

*Wright Field, Dayton, Ohio*

This is June, 1947. If you go by the calendar, it's nearly two years since the war ended. If you go by the weeds that have grown high here at Wright Field, or by the tar paper that has blown from the roofs, or by the empty laboratories or padlocked doors, or by broken windows, it's longer than that. The war has been over a long time if you judge by these things.

Or you can measure the span, if you want another yardstick, by the fear and depression which, like the weeds, have grown high in the minds of some of the very men who made V-Day possible—the Generals here at Wright who a little while ago stood proud in victory but who are now fighting a tougher battle than any they faced during the war to make that victory secure. Like the windows in the buildings around them, their hopes for a lasting peace have been badly shattered. But like the soldiers they are, they won't give up.

I have seen Wright Field when it wasn't like this. It wasn't like this in 1943. We weren't quite so sure of our hides then, and Wright was a busy place—busy with chemists and metallurgists, and engineers and doctors all working against the second hand on the clock to build new tools of war

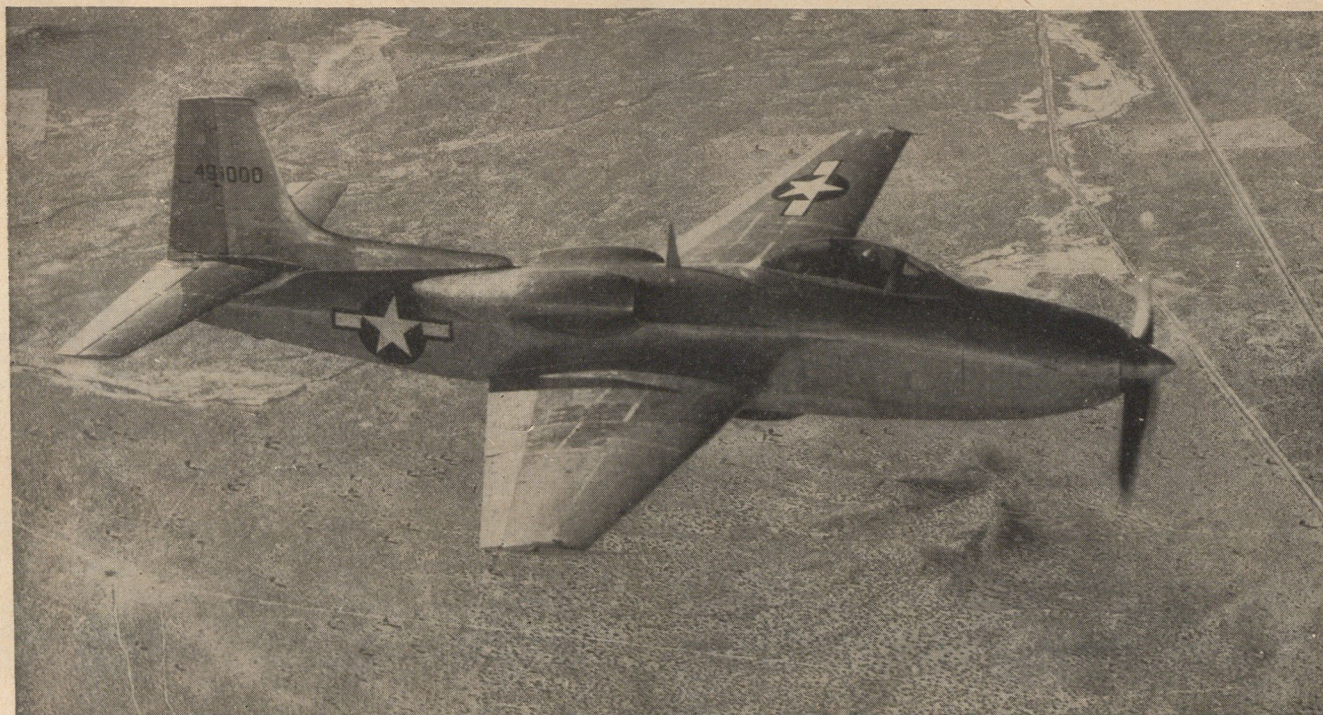
which would be a little better than those the enemy had to use against us. They stayed at their benches eighteen hours a day or more. They ate cold sandwiches and drank hot coffee. They often collapsed over their work, but fortunately for the rest of us they accomplished their task. To a great extent it was their handiwork that saved the day.

But the handiwork of the scientist and the technician is not much in evidence here now. In its place is the handiwork of the budget-pruning politico who has concerned himself more with getting *over* a war than getting *ready* for one. It is he who can take a bow for the padlocked doors and the empty laboratories. The wind-stripped roofs and the unkempt grounds are his doing.

And what is even more tragic, it is he who is responsible for the impending failure of Project 611.

Project 611 is the AAF's "catalog number" for its research and development program. Of all the programs—political, social and military—designed to keep the US secure, Project 611 is probably the most important. The development of guided missiles, the designing of supersonic aircraft, the study of means to harness atomic energy to propel aircraft, the tailoring of personal flying equipment, the building of heavy bombers of greater range, all of these things and

**With ample funds** the AAF could develop a jet program far superior to that of any foreign country. But with no more money than is now available there is little chance of our catching up with countries that got head start in the war.



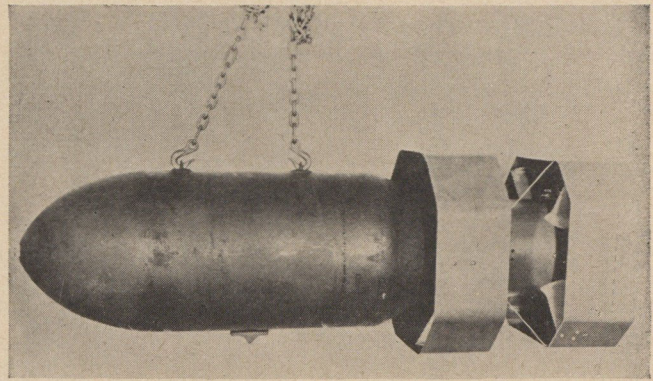


dozens more are sub-activities of Project 611. When it collapses, so do our chances of being able to defend ourselves in another war.

Six-eleven is run by Major General L. C. Craigie, a "devoted" soldier with a brilliant war record, but a man who unhappily is no match for the warriors on Capitol Hill.

Last year when expenditures were being figured out for the fiscal year of 1947, General Craigie and his staff estimated that it would cost \$230,000,000 to conduct the research and development program for that period on an economic but efficient basis. Fully conscious of technical developments elsewhere, these men reasoned dispassionately (and with no possibility of personal benefit) that it would cost at least that much to keep the US Air Force abreast of foreign air arms. The request was cut three different times. When Congress finally finished mauling him, the General got \$78,000,000—a little more than one third of what he asked. Russia, in the meantime, appropriated well over a billion dollars for "scientific research" for the same period, according to the *New York Times*. To show you what the figures look like side by side, that's \$1,000,000,000 as compared to \$78,000,000. In hamstringing General Craigie and his staff, the vote-happy little men at the end of Pennsylvania Avenue "saved" the taxpayer about \$150,000,000. But there is another side to the ledger, and since this is the last month of the current fiscal year, now is as good a time as any to consider our losses as well as our gains, to review our technological progress since last July and to assess the true thriftiness of our duly elected representatives.

First, let's see how we've come along in our heavy bomber program. In any war between now and that nebulous push-button era, the heavy bomber will probably be the most vital weapon at any warring nation's disposal. If we should go to war tomorrow it would be the heavy bomber that would be called up first to quickly reduce the enemy's potential, just as it did in the last war. The difference between the last war and the next is that next time our targets may quite possibly be considerably more remote from our bases of operation. In the last war our longest missions, round trip, were under 3000 miles. In the next one they may be farther than that *one way*. What the engineers here are striving to perfect is a ship with a range of 13,000 miles. This, they calculate, would provide ample margin to fly a load of bombs to and from any conceivable military target in



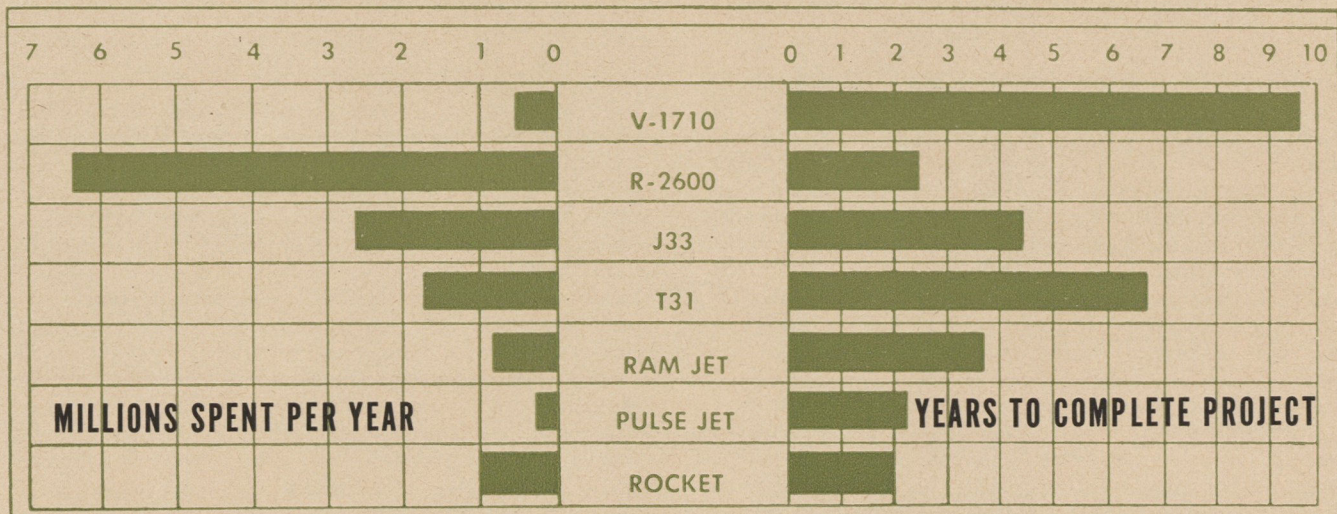
The AAF's guided missile program is largely a myth. There is not a true "guided" missile in production today. Equipment like "Razon" can be given body-english but not accurate control.

the world from within our own borders. The B-29, to give you an idea of the inadequacies of current equipment, has a range (with tactical load) of 3000 miles—10,000 miles short. The new B-36, of which we have *one*, is a step in the right direction, but even it has a delinquency of about 3000 miles.

The answer, the AAF feels, is a new six-engined job that on paper at least meets the requirements. The trouble is it isn't a very efficient instrument when it's only on paper, and the prospects of getting it in the air any time soon are extremely dismal. For over a year now, Wright Field and Boeing have been working on the design. By robbing money from other projects it has been possible to bring it almost to the mock-up stage. But now there is nobody else to rob, and the money is gone.

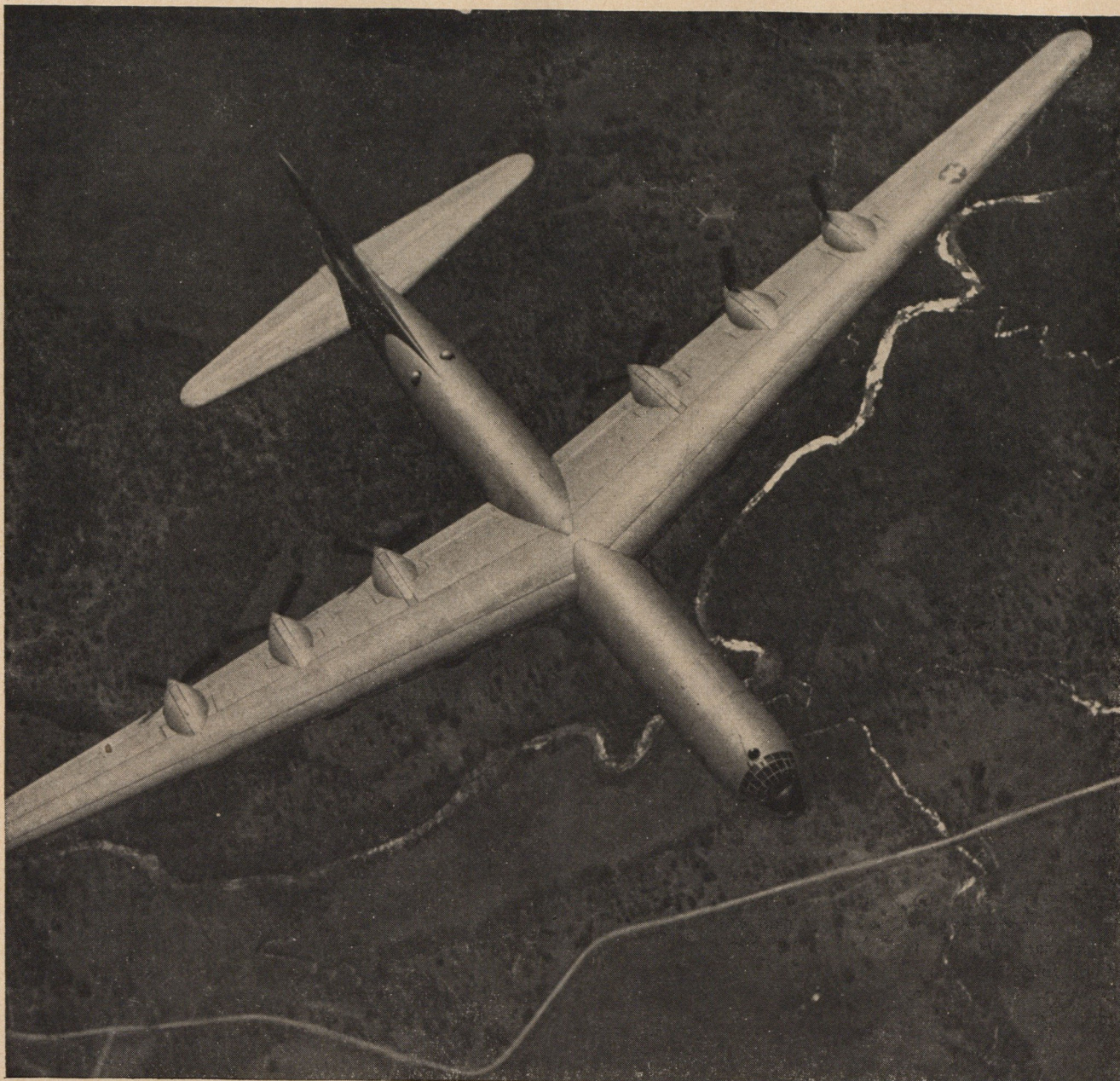
And how have the fighter planes fared as a result of the emphasis on the long-range bomber? The people who are in charge of this program will tell you that the picture is almost hopelessly desperate. So little money was available in 1947 that it was impossible to begin work on one single new design. Moreover there will be nothing new started in 1948. The miserly sum proffered the fighter branch has been barely sufficient to cover contracts let in 1943 and '45. It will actually be 1949 before the AAF can go ahead with fighter blueprints which were drawn in 1946. By the time planes

## EXAMPLES OF DEVELOPMENT TIME FOR AIRCRAFT ENGINES



While it takes nearly ten years to perfect an engine for which only a half a million dollars a year is appropriated (V-1710), it takes only two and a half years to develop a similar power plant for which six and one-third millions are appropriated (R-2600). Shorter periods of development increase total cost only slightly, but time that is lost can, in case of emergency, prove to be the wildest extravagance.





Consolidated's giant B-36, the world's largest bomber, is still not the answer to America's big plane problem. AAF wants ship with 5000 mile radius. The 36 falls short, but funds for larger planes are limited.

from these blueprints get into the air they will probably be obsolete, if they are judged by international standards. The XS-3, for example, was started by Douglas in 1945. It was shelved in 1947, however, for a two-year period right after one of the appropriation cuts. With his fingers crossed General Craigie hopes that a few dollars can be scraped together in 1949 so that the dust may be blown off the plane and the program reopened. In the meantime, we have lost at least two years. Two years, Mr. Congressman, is a long time. Or have you forgotten the first two years of the last war? The two years we wasted "getting ready"? There won't be two years to catch up in next time.

And what about guided missiles? From the talk you hear you'd think we were turning them out like we once turned out TNT bombs. The truth is though, that we haven't a single guided missile—really guided, that is—in production or even ready for production. We have the Tarzon, the Razon and the Azon, missiles which can be given some slight "body english", but we actually have *nothing* that can be controlled to any degree as far as range and azimuth

both are concerned. We have nothing that isn't already obsolete. All we have is plans, and a good part of the plans were thrown in the wastebasket this year because of congressional frugality. At the first of the year the Guided Missile Section here at Wright had twenty-eight different missile designs under study. Since then *eleven* of them, including the Curtiss Wright MX-772A, the Martin MX-771B, and the Consolidated MX-774A, had to be abandoned—for the same old reason. What's worse, unless future appropriations are a little more reasonable than this year's, it will take exactly *thirty-eight years* to perfect and get ready for production the eighteen missiles on which work is still being doggedly continued. Just for the record, Mr. Congressman, let it be noted that the people here at Wright asked for \$54,000,000 this year to keep the guided missile program in the running with similar programs in other countries. They got \$13,000,000. If we get caught with our missiles down this should be sufficient testament as to where the responsibility belongs.

Recently the AAF has been taken to task by the press for the fact that our jet engines are inferior to those made in

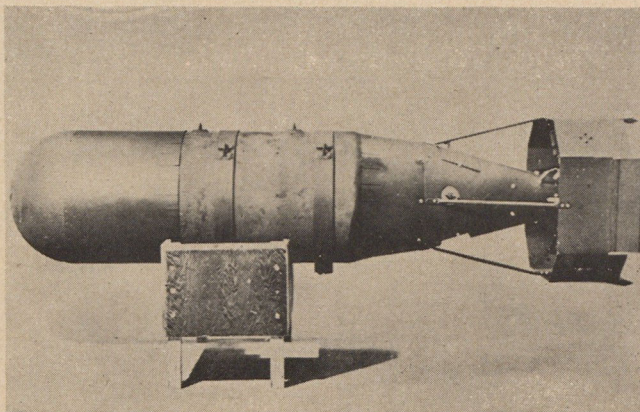


England. Here at Wright the officers who head the Aircraft Power Plant Section state without equivocation that if sufficient funds had been available for the past three years we could have perfected a jet program so superior that no nation on earth could ever have caught up with us. This, irrespective of the fact that England got a two-year head start on us during the war.

Incidentally, the Aircraft Power Plant Section is the unit responsible for studying the possibilities of nuclear energy to the propulsion of aircraft. Naturally it's a top secret undertaking, but it is no secret that the study started with about one-fifth the money required to do a thorough job.

And so it goes. Over in the Aero Medical building the doctors tell you that next year they will have to completely abandon research and development programs presently being conducted in twenty-six universities. They had spent all the money allocated to them for 1947 by March, and since then they've been charging against next year. So the University program will have to go. In addition, the docs are having to cut their own staff miserably. As a result many urgent "cases" will have to wait outside the door unattended. The all-weather flying people, for example, came to the medics some time ago complaining of the vision difficulties attendant to their occupation. Colonel F. D. Kendricks, Chief of the Medical Section, was forced by lack of money and personnel to tell them flatly that he couldn't even talk to them then or for some time to come. The Colonel was fully aware, incidentally, that the AAF considers its all-weather flying program one of the "hottest" projects it has.

Colonel Kendricks, by the way, is the man responsible for "inventing" flying clothing that will keep pilots flying at supersonic speeds alive, conscious and cool. He hasn't found all the answers as yet, but he figures that with a little luck he will have a suit tailored at least by the time the engineers have the supersonic ship itself ready for production. "Without money or men they have slowed down as much or more than we have," he smiles wearily, "so I imagine we'll come



Like the Razon (page 13) the Azon bomb, which has been widely publicized as a "guided missile" can be called little more than pioneering effort. Its trajectory is only partially controlled.

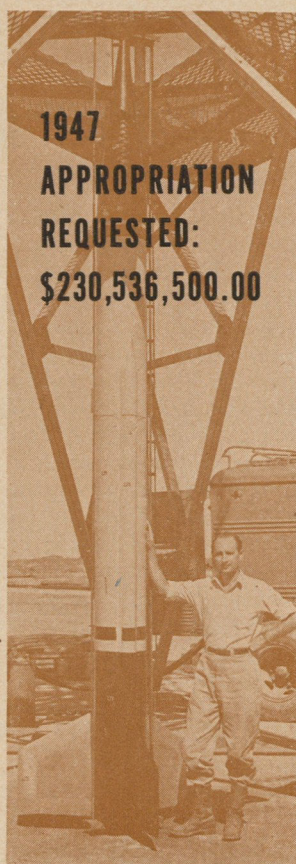
out about even." But if you ask him if he thinks we'll "come out even" with foreign countries working on the same problem he snorts as if your question was unworthy of an answer.

The little sections here and there have felt the pinch as badly as the big ones. Down the hill from Headquarters, for example, there is a unit called the Atmospheric Deterioration Test Unit, which as the name suggests, tests aircraft equipment for resistance to corrosion, fungus, mold, sand, dust, vibration and so forth. Chief of the unit is Dr. Francis B. Lincoln, a white-haired civilian PhD who is an expert in micro-biology. So devoted is Dr. Lincoln to his job that he has often taken money out of his own pocket when it wasn't available officially to follow some particular project through to its conclusion. Last year he took four business trips, and paid for them himself. He is not a rich or even well-to-do man. Several weeks ago his devotion was singularly rewarded. He was fired because the AAF could no longer afford to pay his salary.

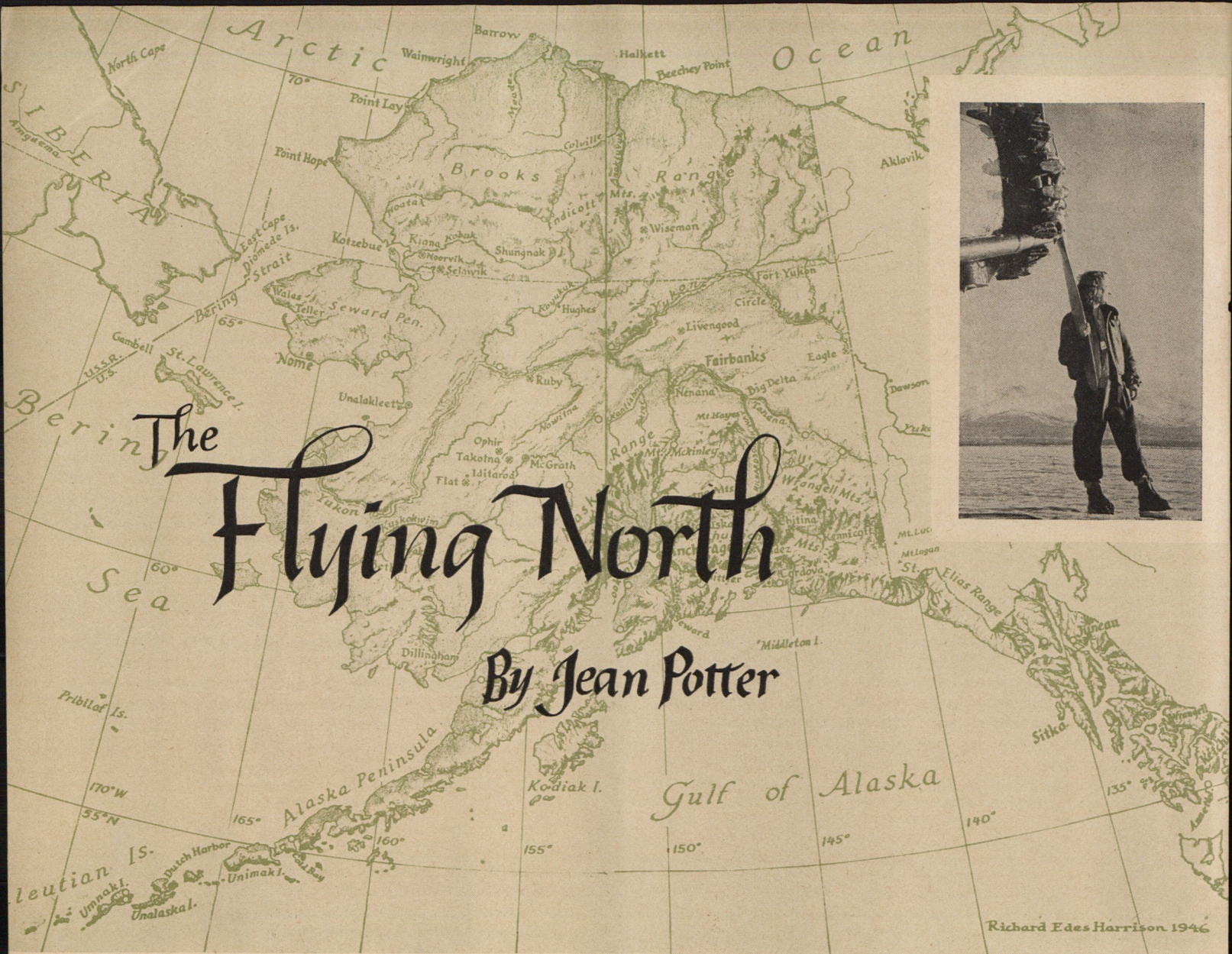
The Electrical Testing Unit is another small section which, like all the rest, has taken the count. The chief of the unit asked for \$260,000 this year to test new aircraft electrical systems. He got \$60,000. By resorting to all sorts of makeshift devices, which at best are inefficient, he has been able to test parts of the system at a time. The system as a unit cannot be tested until after it is actually installed in a plane. If it fails then, and a plane or two crash as a result, it's just too bad.

These things are submitted to you, Mr. Congressman, as the debit side of your ledger. They are examples of what shortsighted economy has done to our defense program. It is too bad that you can't take time to talk to some of these men at Wright Field yourself. I kept thinking today as I interviewed them that if either my son or I ever had to go to war again with equipment inferior to the enemy's I would hold you directly accountable. But then at the end of my third day here a refreshing thing happened. Something that made me feel that perhaps there is still hope. I had just finished a conference with several ranking officers and we had started for the Officers Club when retreat sounded. If you've never been in the Army, Mr. Congressman, you can't be expected to appreciate the thrill that comes to a soldier as he stands with his hand to his cap while the flag is being lowered. It does something to your back and to your stomach and the nape of your neck that is indescribable. It never gets old. And as the officers who were with me snapped to attention and saluted, the despair that had trailed me for three days lifted. I knew then that these men, and hundreds more like them would in some way, by some means, see this thing through. That they would get the job done in spite of you, Mr. Congressman, *in spite of you.*

In 1947 research and development officers at Wright Field asked for \$230,536,500. They got \$78,781,217—a fraction more than a third of request.







Richard Edes Harrison 1946

From the book "The Flying North" by Jean Potter. By permission of The Macmillan Company, publishers.

THE sun hung low at noontime and the snow glimmered in a twilight haze. It was February 21, 1924—a short white day in the Far North. Through the Kuskokwim—country shaggy with scrub spruce, rough with drifts and hummocks, slick with frozen lakes and rivers—Fred Milligan was slowly traveling with his dogs. He was the only man on the trail. Since pushing off from the settlement of Telida five hours before, he had not seen a sign of human life.

The harnessed team ran steadily. Mile after mile the snow was cut with twisting tracks. Mile after mile the silence of the winter wilderness was broken by the panting of animals, the crunching and creaking of sleds and Milligan's gruff cries of "gee" and "haw." It was cold that day; vapor rose like smoke from overflowed ponds, and the dogs' breath steamed thick. Balanced on his sled behind the team, Milligan was wrapped in furs with only his eyes and nose showing.

For twenty years Fred Milligan had traveled this way in winter, carrying the United States mail to little towns like Diamond and Roosevelt and Ophir and Iditarod and Flat. He was proud in his trade. He had worked this route so long he could read every rise, every drop, every curve along the way. His eyes were sharp for holes and drifts. Crossing ponds and creeks, he knew how to sound the ice with an axe,

to skirt the yellow spots or wisps of steam that warned of overflow. He knew how to load his sleds so they balanced easily. He knew how to take care of himself and his dogs. He teamed them carefully so they would not fight. He spoke to them sometimes roughly, sometimes gently. "If you're kind you can keep 'em going no matter how tired they are." He made them canvas moccasins—"To a dog with sore feet a fresh fall of snow will feel like cut glass." He fed each animal two pounds of dried salmon and a half pound of tallow a day.

It was not an easy trade. Often, breaking trail after blizzards, Milligan had to walk before his team, stomping and beating the way, lifting his snowshoes waist-high in killing labor. There were sudden storms to buck; once, when his outfit was caught in a 60-mile gale, the sleds overturned, the struggling dogs frosted their lungs and one animal froze to death in his harness. There was always the peril of thin ice. Many were the drivers who had plunged to the bottom of deep lakes with nothing to mark their tombs but ragged holes. More than once Milligan's sled had started to break through and he and his team had escaped "only by the leader's hair."

But Milligan was not a man who gave thought to disaster. This February day, as he journeyed along, his mind



was empty as the land and sky. Slowly, tediously, the outfit made its way. Now and then a dog lost his footing. The rest dragged back. The sleds lurched and swayed. In a voice that they knew and understood, Milligan urged the animals on. They had put many miles behind them, but they still had a long, long way to go.

It happened suddenly. All together the dogs turned their heads and looked back. Milligan turned too: perhaps they had had a scent of game. He saw nothing. He shouted impatiently, but now the dogs stopped short and sat stock-still in their tracks, their turned heads all pointing upward. Milligan's eyes followed theirs and he saw it—miles away, hanging in the dimness—a flying machine.

Now he too could hear the sound of the engine. It grew steadily louder, and a strange wooden contraption, with narrow body and thin wings, came roaring toward him along the trail. Milligan is excited even today when he tells about it. "It flew right over us!" he exclaims. "The pilot leaned out and waved at me with his long black bearskin mittens! He couldn't have been much higher than the treetops!"

For a moment the frightened dogs cowered on their haunches. Then they scrambled up and started after the plane—so fast it was all Milligan could do to hold them. "They'll chase anything."

In a few seconds the plane looked like nothing but a big bird, hovering aimlessly. Then, swift as it had come, it was gone.

Milligan knew who it was, all right. Ben Eielson, the fellow who persuaded the government to send him a plane so he could fly the mail. This was his first trip. He was planning to follow the dog trail all the way from Nenana to McGrath. It took twenty days to make the run by dog team. Eielson was aiming to fly it in a few hours.

The dogs trotted slower and slackened down to their usual pace. The plane had meant less to them than a sudden sight of caribou. But Milligan was full of wonder. In winter this country could play a man's eyes strange tricks. Sometimes, gazing at the huge white mass of Mt. McKinley, a hundred miles away, you would swear you could reach out your hand and touch it. Or, looking through the shimmering miles, you would see the roofs and steeple of a town that was not there. If he had not known about Eielson and heard that engine, "louder than a Ford car," he would almost believe he had seen a mirage.

On and on the dog team continued its rough, winding way. The sun sank, and by mid-afternoon a deep dusk fell over the land. The cold bit more sharply into Milligan's lungs. He urged his dogs more often. They were all tired and hungry. It was still another hour to the warm bunks and barns of the East Fork Roadhouse.

Then he heard it again, coming from the other direction—the noise of that engine, swelling into a roar and fading into silence. This time the plane was flying some distance off the trail. Peering into the gloom, Milligan could see nothing. But Ben Eielson was out there "whistling like a spirit through the sky." He must have made it all the way to McGrath—and now, the same day, he was heading home.

"I decided then and there," Milligan says, "that Alaska was no country for dogs."

Other dog drivers were not so sure. All up and down the trails, huddled around roadhouse stoves, they talked about "The Aviation." Some raised their voices loud and swore and spat. It was just a stunt. You could never depend on a rig like that. Okay, he did it once, but that don't mean he can do it again. The engine will quit. He'll get lost. He'll run into bad air. What will he do when it snows? He'll smash in the brush. And who is going to go out and find him? The people will never get their mail. And what will happen to the road-

houses? and the drivers? and the natives who sell the dog feed? and the dogs?

But as time passed more planes and pilots came to Alaska, and Al Monsen, one of the men who helped pioneer the McGrath air mail route, asked Milligan if he would go along on a trip as guide. Milligan stared curiously at Monsen's "machine," which stood in the snow on skis. Someone told him it was a Fairchild 71. It was bigger than Eielson's, but it looked pretty flimsy, lashed down with rope so it wouldn't blow away. There was a tarp over the engine and a fire pot was burning underneath. After Milligan had inspected everything, he got busy loading the mail, piling it all in back as he would on his sled.

The fur-bundled pilot came down the hill, lugging a can of warm oil. Opening the door of the plane, he began to swear.

"Who loaded this?" he shouted. "You can't fly a ship this way. The mail has to go up front."

Milligan pulled out the sacks and reloaded them. He watched Monsen spread a map on the snow, pull a protractor from his pocket and lay out a course for McGrath. He helped haul off the fire pot, pour in the oil and scrape frost from the wings. Then he climbed inside with the pilot.

"I set on the mail sacks. I begun to get excited when he slammed the door. He started the engine. It made an awful racket, but the take-off was swell. We got up there to 2,000, and he poked me and grabbed hold of the stick and then let go. The ship begun to rise. He yelled, 'See why you can't load this thing tail-heavy?' I showed him the trail and we flew it, and after twenty minutes we saw Knight's roadhouse. That used to take me a good nine hours."

"I saw the mileposts sliding under me. We landed and took off in the snow. In three hours we made all the places I used to make in twenty days. That's what made a hit with me. When we got back I told him, 'It's too late to get rid of me now. I'm staying. I'm in the aviation business.'"

Milligan, today an airport traffic manager for Pan American World Airways, has been in the aviation business ever since.

It was a natural for Alaska—The Aviation.

Vast, untamed country separated the small inland settlements. There was no way but a slow way to move





## The Flying North

between them. In summer stern-wheeled steamers, launches and poling boats floated along the rivers, but after the fall freeze-up each town holed in for a long, stark winter alone. Only by tramping and sliding along the dog trails could men move overland with mail and freight, struggling against difficulties which the seasoned sourdough "might laugh at but certainly could not laugh away."

In all Alaska, mammoth sprawl of land more than twice the size of Texas, there was only one railroad of any length. Reaching 470 miles from the port of Seward to the Interior town of Fairbanks—from the port of Valdez. In summer Fords and Dodges jounced the 360 miles, with good luck, in three days. In winter the way was blocked by deep drifts; the road was closed.

In all Alaska there was only one long road, the Richardson Highway. Narrow, crooked pioneer course, it also reached inland to Fairbanks—from the port of Valdez. In summer Fords and Dodges jounced the 360 miles, with good luck, in three days. In winter the way was blocked by deep drifts; the road was closed.

"We are provincials," an Alaskan wrote. "But a new trail is to be broken across the unfurrowed prairie of the northern sky."

It was a natural for Alaska—The Aviation.

### Flyingest People

Today you stand at Merrill Field, just outside Anchorage, Alaska's largest town, and find it hard to believe your ears and eyes. Merrill is still a frontier airport. The modern control tower looks out of place in a row of wooden hangars and tumbledown shacks. But the runway is one of the busiest in America. Parked along the edge is a row of small, bright-painted planes, and all up and down the line pilots are loading freight, passengers are climbing aboard, engines are growling. In swift, noisy parade the ships are pulling out, taxiing, turning, and roaring skyward.

In one month of 1945 Merrill Field had 10,000 landings and take-offs—more civilian operations than LaGuardia Field, New York.

You walk along the runway and stop beside a red plane with an open radial motor and narrow, tapering fuselage. The pilot, wearing duck pants and brown leather jacket, is loading a pile of wire cable and groceries into the cabin. "Okay," he is telling his mechanic, "you can slide that over there on top and my passenger can set right here."

"What kind of a ship is that?" you ask.

"A damn good one," the pilot tells you. "Fairchild. Built in 1930."

"How about the engine?"

"Wasp. Best engine made. I flew with that engine in '29."

It is with aircraft like this that Alaska's pilots have made their extraordinary record. They have had no choice: on the crude, short fields of the hinterland low speed has been essential above all else. There are a few large modern ships at Merrill Field, and more are on order, but most of the transports even today are small and of ancient vintage. Boxy Ford Tri-motors, stubby Stinson-A's and a battered Orion, used long ago and discarded by airlines in the States. Pilgrims, Vegas, and a flock of Gullwing Stinsons. Some of these planes have been wrecked and patched, wrecked and patched, many times. "Spare parts flying in formation," one pilot has said of his Bellanca. Another, looking out at a wing during flight, cheerfully remarked: "I hope those goddamn termites keep holding hands."

Merrill Field is one of the busiest, shabbiest airports in America—and one of the most intimate. You watch a green Stinson rush past.

"What airline is that?" you ask.

"Airline?" replies an Alaskan, rather vacantly. "That's Oscar."

"Who is Oscar?"

The Alaskan gives you a curious stare.

"You from Outside?"\* he asks. "Everybody knows Oscar."

The Oscar Winchell Flying Service, better known as Oscar, is a fellow with a peaked face, wispy hair and a lazy

\*The term "Outside" is used in Alaska to refer to the States.

The Black Wolf Squadron at Nome, Alaska in August, 1920, after the first flight from the United States to Alaska. Their plane is the Liberty-powered De Havilland, affectionately called the Flaming Coffin.





western drawl. He once worked as a cow hand in Arizona. Arriving in Alaska in 1931, he started operating out of Anchorage in a single-engine Stinson, 211-W. He is using the same ship today.

"You know," he says, "there's lucky and unlucky planes. Old 211-W was one of eight Stinsons that come to Alaska around the same time. She's had her crack-ups, but she's still flyin'. All the rest are smashed up and gone."

Oscar flies from Merrill Field to the scattered settlements of the Kuskokwim region. He gives personal service and he'll handle any kind of an order, large or small. "Hairpins and diapers and things like that," he confides, "for good will they can't be beat." He keeps his records in a grocer's order book. That and his logbook are all he has.

"Nothin' to it," he brags. "My God, them big airlines with all them bookkeepers and credits, and memos and doublin' up—and then they bill you wrong."

The Christensen Air Service, better known as Chris, is a jolly, ruddy-cheeked man who bases three Wacos at Merrill Field and flies like a carrier pigeon to meet the boats at Seward.

With Chris it's only an hour and ten minutes to Seward; the railroad train, chugging through steep-glaciated mountains, takes at least half a day. Chris likes to look down on the crooked track as his Waco moves swift and high. He laughs. "You know," he says, "that's a famous railroad. It's even mentioned in the Bible. Couldn't tell you where, but somewhere in the Bible it says: 'There shall be things creeping and crawling all over this earth.'"

Chris's route lies over some of the finest game country in the world. Often he'll cruise out of his way to show passengers a bear or a mountain sheep. He'll swoop down on the bears, "make 'em kick up a few blueberries," but he's careful of the sheep.

"I want 'em to show," he says. "I don't scare 'em. I've got 'em so they know me. They won't run away."

Chris works hard—sometimes he'll make five round trips to Seward in one day—but in his spare time he likes to stunt. He'll skim glassy water on skis. Once he landed at a muddy field on floats and taxied all the way down the runway to the hangar.

"Why not have a little fun?" he asks. "You can't take flying too serious."

The rough-clad bush pilots are personages. Everybody knows them. Everybody calls them by their first names. They are the most popular men in all Alaska, and the most distinguished. The people could not get along without them. They haul in their small battered craft everything for Arctic and sub-Arctic life and industry.

You can see what the airplane means in the North each summer when the sun rises high again and the ice crashes down the big rivers and the salmon-fishing season begins. At straggling seaside villages like Dillingham and Nugashik and Agashik float planes circle over the water and sloop down by the wooden canneries till it seems they're thick as the sea gulls. Pilots wear rubber boots and often carry fishermen and cannery workers piggyback over the mud to shore.

The planes fly day and night hauling the workers over and later, when the season limit is called, they'll fly day and night hauling them away. Then the tides are lower; passengers wade through muck and dead fish-heads up to their knees—everybody in the crowd wants a plane at once, they'll hail the ships like taxis, drop luggage if it's too heavy and fight their way aboard. The sober men make it first, and then come the drunks. A pilot has to watch their cigarettes. They're in the money now, wanting to celebrate, all in a hurry to get back to town.

You can see it every June at a northerly winterlocked town like Nome, when the ice pack drifts offshore and the first boat from Seattle, loaded with gold miners, comes steaming through the open water. First boat in eight months;



**Ben Eielson**, foremost American pilot in the Arctic. Born 1897. Died, 1929. Ben was first man in history to fly over top of the world.

**Noel Wien** standing by his Wasp-Hamilton plane shortly before take-off on first round-trip Alaska-Siberia in early 1928.



**Joe Crosson** displays his "winning smile" after returning from Eielson Relief Mission. Later Crosson flew bodies of Post and Rogers to US.

**All over the Northland**, wherever airplanes fly, stories about Archie Ferguson fly too. Archie pioneered northern US air service.





crowds spill out of the false-front stores and line the boardwalks hour after hour to watch her get bigger. She drops her hook offshore in the shallow sea, and lighters full of Eskimo longshoremen chug back and forth, bringing the miners in. When the first gang hits dock the planes start moving.

Day and night it's light, and day and night the sky is full of racket as the little ships taxi and take off, taxi and take off, hauling load after load back into the hills to mines like the Gold Run and the Ungalik and the North Star and the Kougarok. Pilots get so tired they fall asleep in the cockpits while mechanics are gassing their ships. But they never stop, not till they've taken all the miners and their supplies out to the creeks and dredges for another work season.

Everybody travels by air in Alaska—fishermen, miners, trappers, Congressmen, prostitutes, engineers, salesmen; Indians, Eskimos and whites, all crowded together aloft in the narrow cabins. Everybody and almost everything travels by air. Winter and summer.

But it is the lone prospector who appreciates an airplane most. Out in the brush he waits—grub almost gone, only a sack of beans left, a little rice and a tin of corned willie. All summer he's been working by himself—three months ago a pilot set him down on pontoons on this lake, spruce-fringed lake without a name, lake where nobody ever was before. All summer panning bars and sinking holes and fighting mosquitoes—sleeping under a tarp tent, cooking over a campfire—all summer by himself, and not much luck.

Now for four days he's been cussing, shivering, waiting to go back to town: September 20th, dates all marked off on the calendar, sure I didn't miss, 20th was the date. Where's that pilot? Maybe he forgot. Maybe he lost the map. Maybe he went Outside and how the hell will anybody else find where I'm at? September 20th, grub for two days, startin' to get cold nights. Take me weeks to walk back. Where's that monkey?

Then he hears it: no noise like it, rattle over the tree-tops, that's his engine, there's the red ship, there he comes, good boy, low over the woods, dropping' down.

Sometimes a prospector or trapper will cut spruce boughs and build a message in the snow, hoping a pilot will happen to fly overhead and see it:

HELP  
HUNGRY  
NEED GRUB  
LAND

STOP DAMN IT STOP, one wrote; it took a lot of branches and a lot of work, but it got results.



Just before take-off of Wiley Post and Will Rogers from Fairbanks slough on their fatal trip toward Barrow, August 1935. Left to right: Rogers, L. Seppala (famous dog-musher), Post, Joe Crosson.

Once Pilot Joe Crosson, flying a float ship full of passengers, saw a man standing by a lake below flashing a gas can in the sun.

"I circled him a few times and he run and got a boat, and then he flashed the can again. It looked like he might be in bad shape. It was sure a small lake he was on. I couldn't land there with all that load, so I dropped down on a bigger lake near by. I was the only one that had boots, so I had to pack all my passengers out of the plane to shore. I left them waiting there and flew back empty, to land on the little lake where he was. It looked bad, really just a pond; water was choppy, and there was tall timber at the end; but I landed okay and taxied back toward this fellow, shut off the engine and yelled: 'What's the matter?'"

"He was setting in his rowboat, had a kind of silly grin on his face.

"'Oh, nothing,' he said. 'I just wanted to let you know I was here. This sure is a pretty nice lake. Why didn't you never land here before?'"

Often they're "bushwhacky," those men who have been out so long in the hills alone. "They'll come running at you with a wild look in their eye: 'What's the date? What time is it? What's the news?' They'll say they're out of sugar. They'll say they're out of flour. They'll say they have a pain in their belly—but sometimes they're just lonesome, just want somebody to talk to, that's all."

Nevertheless, an Alaska pilot will risk his neck to land when he sees a distress signal. He keeps his wilderness appointments scrupulously, marking the dates on a calendar, the locations on a map. He knows well what true emergency can mean. Once Oscar Winchell was unavoidably delayed a week in calling for a trapper and his wife at Post Lake.

"I got there, buzzed the lake, didn't see nothin' of those people. I come back next day, buzzed the lake again. This time they run out o' their cabin. I dropped a box o' grub with a note tellin' 'em to hike a mile and a half down to Post River. I couldn't land on the lake, the snow was drifted too rough.

"The box lit within 100 feet but they couldn't find it. I circled around, yelled at 'em about where it was at. They couldn't hear me, but they had a great big old Dane dog and he run sniffin' through the drifts and found it for 'em.

"I met 'em over to the river. I come down in the deep snow, taxied up and yelled, 'You wanta go to Anchorage?'"

"They stood there with the tears rollin' down their faces.

"They said when the plane didn't show up they'd started walkin' forty miles to Farewell but they'd lost the trail, got scairt and turned back. It was awful tough goin', and on the way he'd had a heart attack. They'd just got back to the lake the second time I flew over. They hadn't had no grub for a week.

"I looked 'em over. They had a good catch o' fur and this big old dog—too much of a load for my plane; she was sunk on her belly, prop touchin' the snow, and we was twenty-five hundred foot above sea level. But I could see they was feelin' low, so I thought I'd make a try. I let 'em git in the cabin, the big dog crawled in too, I tried to taxi but five or six miles an hour was fast as we could go. So I told 'em: 'I can't make it, I can only take half o' you at a time; but I'll come right back for the rest.'"

"That big old Dane dog he was eyein' me. I thought a lot o' that dog for runnin' and pickin' up the grub, and I didn't like to leave him behind. But first I took the lady over to Farewell with the fur and then I come back and got the man and him. We loaded 'em all in at Farewell; the lake there was slick so we took off fine and flew in to town."

Nobody needs an airplane like a fellow out in the hills.

"Carl Dunlap and Joe Shaw was workin' a claim over on Tobin Creek—lonely spot on the other side of a four-thousand-foot mountain from Squaw Creek. They took two



big Malamute dogs with 'em from Squaw to haul wood for timberin'. They was goin' to sink a deep shaft.

"Carl was showin' Joe how to handle dynamite. They was standin' in their cabin, and a spark flew out from the fuse in his hand over to a box o' caps on the table. The dynamite exploded. Both men was blinded. Their bodies was riddled with splinters like porcupine quills. They was hurt too bad to go for help, and anyhow neither one of 'em could see.

"They thought of them two borrowed dogs, stumbled around till they found a pencil and paper and wrote two notes: HAD SERIOUS EXPLOSION and PLEASE COME WITH HELP. Awful scrawls, but best they could make. They tied one to the collar of each dog and let 'em loose. One of the dogs was caught in a bear trap. The other played around and chased rabbits a while and finally turned up back home at Squaw Creek.

"The men there took two teams, went through the mountain pass and hauled Carl and Joe back to Squaw. Both of 'em was sufferin' agony. There was no doctor there so the people sent a message for a plane.

"It was 50 below zero when A. A. Bennett flew over from Fairbanks in his open Swallow and picked 'em up. Weather was stormy; on the way back, his ship was forced down. Everybody at Fairbanks was worried, no word, no word—the mayor was goin' to send a message to every wireless station in the Interior. But just before noon of a Sunday came the noise of a motor, and a big crowd run out to the field to meet the plane.

"Carl and Joe was sittin' in the cockpit with Turkish towels wrapped 'round their heads.

"When the engine stopped somebody said 'Hello Carl,' and he asked, 'Where are we?'

"They told him Fairbanks.

"Thank God,' he said.

"We took 'em both straight to the hospital."

Sometimes in a roadhouse, when the fog hangs low outside and the planes are grounded and the stove is warm—a few rounds of poker help, too, and a few shots of whisky—sometimes the pilots will start talking. Their "hangar-flying" yarns are often difficult to believe, but if you check you find that some of the most remarkable ones are true. The folklore of Alaskan aviation is trivial and important, grave and humorous.

"By golly, there was a lady over at Takotna goin' to have a baby. She knew it would have to be a Caesarian; she'd had one that way in Norway twelve years before. There was two part-Indian girls too, expectin' about the same time, and they'd asked me to fly over and get them too.

"Couple of days before I was due there I was on my way out from Anchorage with a radio for the Nixon Fork Mine when I got word to come to Takotna right away. I stopped at the mine on the way to deliver the radio, jumped out in a big hurry and went tearin' up to the cabin. It was cold that mornin', 60 below. When I started back down to the plane I had no breath left, felt all choked up, walked slow, held my



Eskimos haven't always felt too friendly toward American fliers, but they liked the Lindberghs. One of them carved a model of Lindbergh ship out of ivory for a gift in token of their esteem.

mitten over my mouth. I told an old fellow I was feelin' bum. He asked me where I hurt, and when I told him, he said, 'You frosted your lungs. If you can make it you better get back to Anchorage and see a doctor today.'

"I flew on to Takotna, feelin' worse and worse. They brought the three women down to the plane. The one she already had pains sumpin' awful. I put her in the back seat with one o' the half-breed ladies. The other one sat up front with me. I thought, 'By God we got to hurry.'

"I started the plane and took off, but we run into a strong head-wind. As we went through Rainy Pass it was startin' to snow. It was gettin' so dark I could just barely make out the mountains. I thought, 'Well if we don't get there we'll all die anyway, what's the difference? Got to keep on to Anchorage.'

"We made it, and I come overtown but there wasn't a light within two miles of the field—them was the early days—there wasn't nothin' but a couple o' shacks by the airport, and nobody was expectin' me. I circled, and pretty soon my boss came out with a car to shine the headlights—he'd heard us flyin' over town.

"We rushed 'em all to the hospital. She had her Caesarian that night and one o' the other girls had her baby too, the other had hers two days after. The doctor was so busy with the ladies that night he had no time for me, so I went to an old horse doctor who punched my arms full o' iodine and after that I was in bed four weeks."

There's almost nothing an Alaska pilot isn't called upon to do. One cold evening just at dusk Pilot Estol Call landed at Merrill Field and started to unload his plane. A car drove

(Continued on page 60)

Noel Wien's Bellanca J-6 going through Isobel Pass. Wien is a family man, a Mason and a Presbyterian. He does not drink or smoke. He is frugal with words. "Poor weather," he says of blizzard.







# BOSWELL OF THE AAF

*Ops in England, PXs in Tripoli, fighter strips in Normandy, Marx recorded the AAF's history in liquid color*

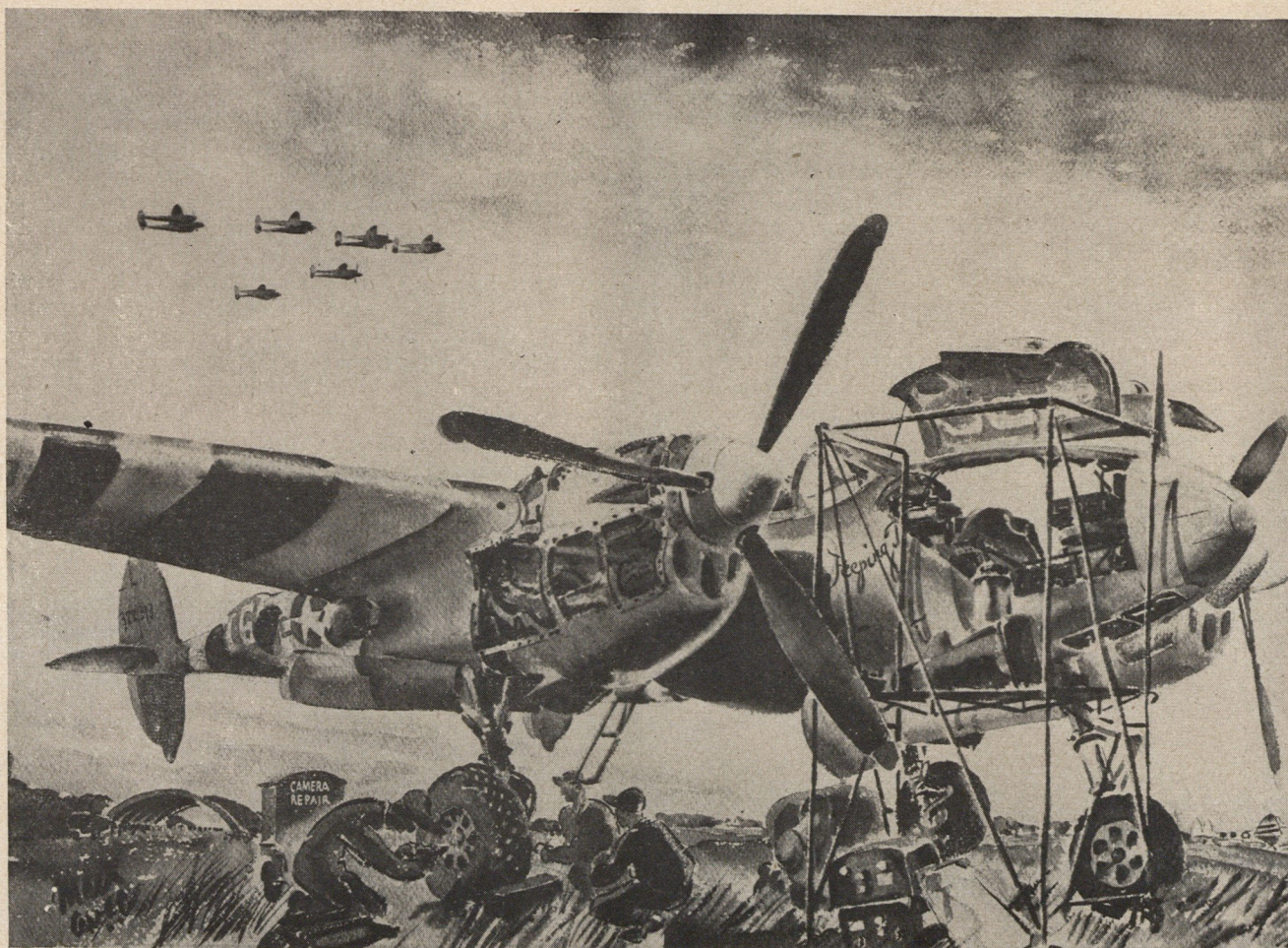
If the best songs of all wind up at Carnegie Hall, the AAF's best water colors at least get across the street. At the Ward Eggleston Galleries, on 57th Street, opposite the famed musical emporium, some of the AAF's choicest art recently preened its feathers for the critical New York audience. These were Major Milton Marx's on-the-spot water colors. They were made during seven of the major campaigns in which the Ninth Air Force participated, plus a few from Operation Crossroads at Bikini.

The Marx water colors are dear to the heart of the Ninth. They were started at the orders of Lt. Gen. Lewis H. Brereton and continued under the direction of Lt. Gen. Hoyt Vandenberg.

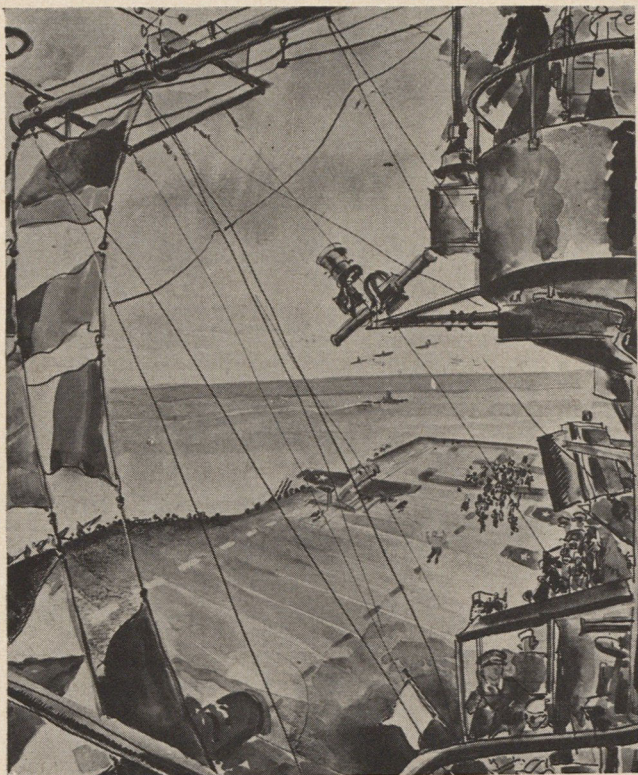
The story of the Marx pictures starts when the war be-

gan. An early OTS product, he was scheduled originally to go overseas as a photo interpreter. But on the way over he came down with the measles and had to be isolated. In the weeks that followed, Marx escaped the boredom of the GI hospital by picking up his brush and painting. His work soon came to the attention of Colonel Robert Parham, top PRO for the Ninth Air Force, and it was the Colonel who managed to "shanghai" Marx for the "Boswell of the AAF" assignment. The pictures tell the rest of the story.

He has an operational theory for his work with which many classical artists disagree. He competes with the camera, putting down what he sees. The pictures must have elements of drama, motion and spontaneity. Most of the water colors take from six to twenty minutes to execute.



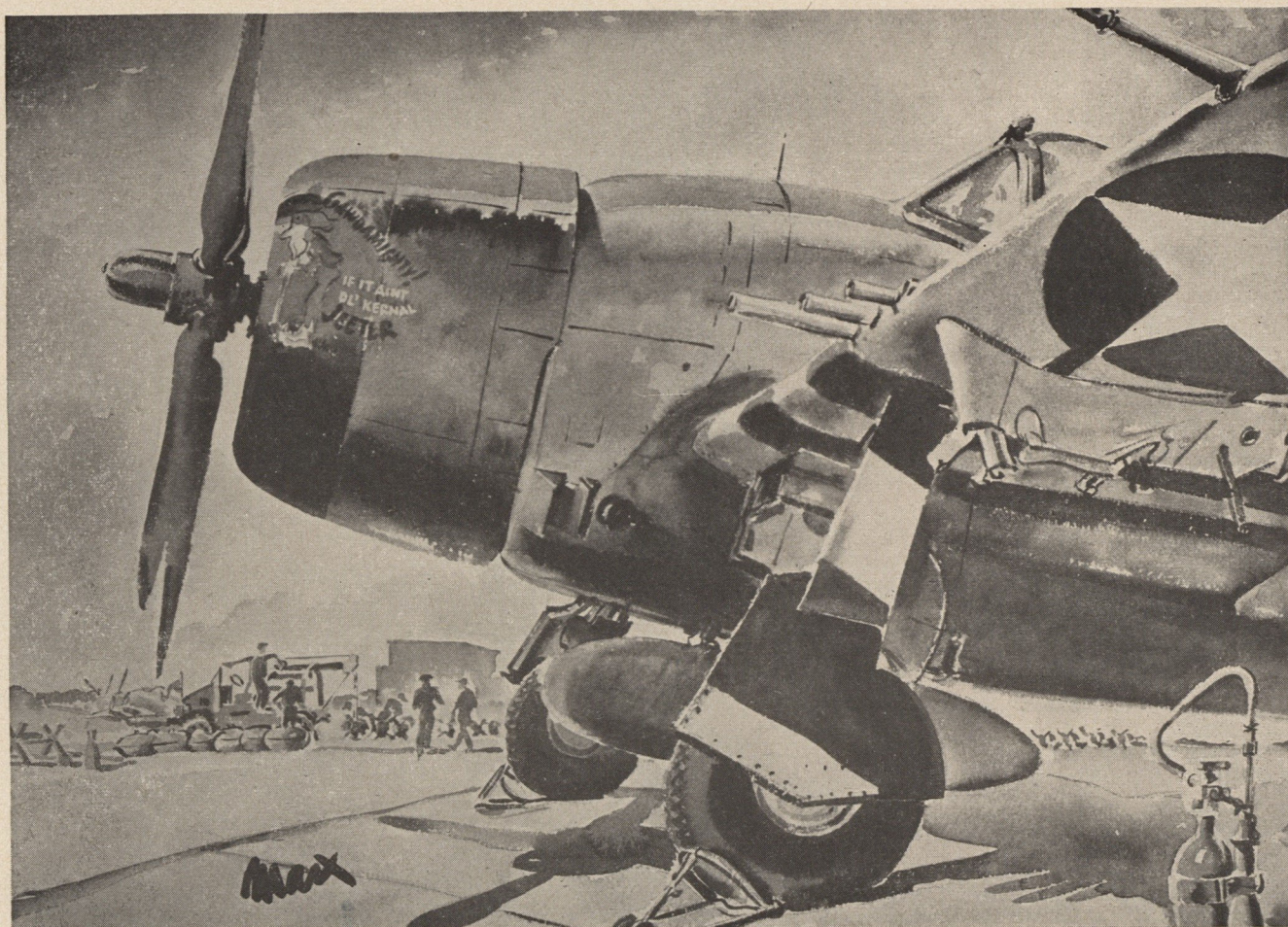




Page opposite, top, Milton Marx at work. Below, servicing an F-4 from Col. Dick Leghorn's outfit in Middle Wallop, England. Above, left, Catapulting drones from deck of aircraft carrier, *Shangri La*, during Operation Crossroads. Right, Brig. Gen. Roger Ramey,



commanding officer of the 509th Group. Below, the C.O.'s P-47 Thunderbolt at Beaulieu, Southern England, just before D-Day. In background, bomb crane dry run by 9th Air Force ground crews. These pictures were part of artist's one man show in New York.







# OPERATION WAYSIDE

*Tactical Air Command does a selling job on joint operations to the ground army and the rest of the AAF*

**B**y the time the napalm smoke drifted away from the village on the near side of the Chattahoochee, the enemy had decided to call it quits. The troops of the famed US 82nd Airborne had consolidated their positions; the bridgehead was won. In a matter of hours, troops would be pouring across the pontoon bridges and on the way to drive the invader into the sea. Operation Wayside was completed.

Then the audience got up and went home.

Yes, the story of Operation Wayside makes sense. It made first-rate sense to the two thousand air and ground officers and their guests from eleven foreign countries who saw the exercises at Fort Benning, Georgia recently. It created, for the first time in the peacetime history of any fighting force, a full-scale demonstration of the problems involved in the tactical application of air power.

Operation Wayside had its genesis last year, when the Ground Forces' General Jacob Devers and the AAF's Maj. General Elwood Quesada decided that something had to be done to make ground force commanders more cognizant of tactical air, and the air forces men better acquainted with the requirements of ground support. In years gone by, the ground officers only contact with air power during the advanced stages of their training had been, to say the least, fragmentary. Once a year, the Air Force had flown a few aircraft up to various ground force schools where they flew a few strafing runs just to demonstrate what the airplane could do. Neither the sky nor the surface echelon took the work with any great seriousness. Neither group learned much of anything. But events of the late war—events such as Normandy and Anzio—put a stop to hasty indoctrination of the other fellow's job. From now on in, the Ground Forces will learn what the Air Force can and can't do by actually witnessing a mock battle. And it will also work the other way around. Operation Wayside was the first experiment in this new type of "learn by doing" school, and it was immensely successful.

The first evening, a large area type map was set up in the officers' club and Major General Paul L. Williams, Commanding General of the Ninth Air Force who directed the mass air landings in North Africa, Sicily, Italy and Normandy, outlined the military background of Operation Wayside. The map covered an area in the southeast corner of the United States, Florida, Georgia and a portion of Alabama, as well as Cuba and some of the adjacent islands. The assumption was that the US had again gone to sleep militarily, as it had after World War I. The military installations in the area were peacefully pickled and the professional

army had been reduced in strength to virtual impotence. There was an extensive reserve and national guard system, but that too, was suffering from lack of public attention.

Virtually without warning, the enemy moves into the Caribbean, entrenching itself in Cuba and the surrounding islands. Before we can assemble to do much about it, they force a landing on Florida and sweep northward. In the beginning, they are virtually unopposed. However, as the forces are assembled, their pace is slowed down, until finally, a line is stabilized in a sort of looping arc, through the northern part of Florida, through southern Georgia to the Gulf of Mexico.

One of the sites on this line is the area of Dekker airstrip near the town of Columbus, Georgia, on the banks of the Chattahoochee River. It is to be the initial point in the general move to drive the enemy from its established positions, back into the sea.

The second day of the course was a good one for men with tired feet. It was spent chiefly in a darkened theater watching a series of what looked like well-staged skits. In reality, they were a stage-reproduction of the chain of staff conferences that precede normal joint action by air and by ground forces in a major tactical problem.

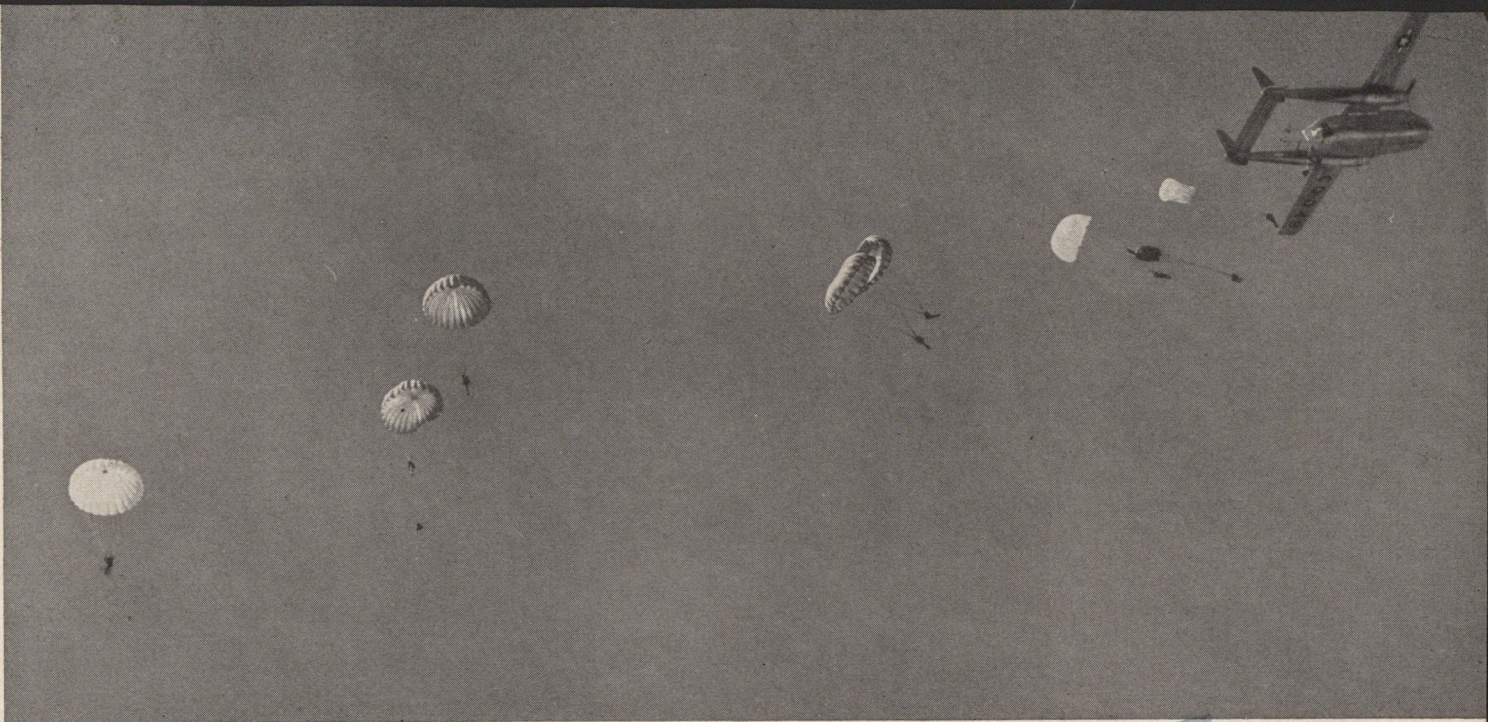
It began with an opening address by Major General Wil-

Plane positions in battle area are controlled on plotting board.



AIR FORCE





liams, who again presented the problem as it stood some three months or so before the stabilization of the line. He indicated the amount of men and matériel that the theater commander had at his disposal, and brought the situation up to date. At the time of the first conference, some air power had been assembled. An active naval assault had put the enemy on the defensive in his forward island bases and made his supply lines to the mainland of Florida uncertain. Air bombardment had denied him the use of ports, so he had been forced to unload supplies over the beaches. Sufficient air and surface strength had been amassed to justify the beginning of a major push to dislodge the enemy.

Next, Major General Elwood Quesada, chief of the Tactical Air Command, introduced the doctrine of air support, giving its background in the light of the late war.

The first skit was a conference between the Tactical Air and the Army Group Commander. It was no use trying to kid this audience, they had been around. It was simply one General calling on another. The language was simple. It summed up the situation and indicated a general over-all plan for sealing off part of the battle area, achieving air superiority, getting the enemy installations softened up, and denying him air reconnaissance. Once this was established, paratroops were to be landed across the Chattahoochee River, a bridgehead secured and the march south to the sea was to be put under way. The conference ended with the air general advising the ground general to drop by his Mess before all the Scotch vanished.

The next conference was four-sided. Its major mission was the planting and support of a paratroop-glider operation on the far side of the river. The 82nd Airborne was to be carried in by Troop Carrier Command. They were to clean up the bridgehead for the Seventh Army, while the Ninth Air Force was to provide air cover and tactical support. This four-way conference subcontracted the job even further, naming groups, equipment and times for the operation, creating code names and further detailed instructions. Later, Airborne and Troop Carrier got together on which troops were to be parachuted and which glider dropped, and how air resupply and glider evacuation of the wounded were to be effected. The final phase of planning took place at Hq, 82nd Airborne, where the details of the drops, landings and

The famed 82nd Airborne did the air drops out of Fairchild C-82 Packets on D-day, Operation Wayside. Top view, "double stick" drops. Center, trooper on his way down in a camouflaged-type parachute. Bottom picture, paratrooper just after landing impact.





actual ground operations were gone over with subordinate commanders.

All of the third day was devoted to the business of how air and ground get together in an area where the bomb line is measured in feet, and where the tide of battle shifts from minute to minute.

First the visiting officers studied the equipment set-up of the air-ground cooperation team and the radar grid system that was to be used in the problem. The joint operations and tactical air centers were displayed in scale models, just as they are set up in the field along with the radar and communications units that relay information to them.

From here, they went to the tactical air center, where they examined the highly mobile nature of the installation made up of trucks, trailers and a couple of large tents. In one of these was the plotting board, where a crew kept track of all aircraft in the area. This was the first time that many of the ground officers had an opportunity to see one of these in operation. On the other side, in a similar tent, the visitors sat in on a typical day in the joint operations center, where air and ground officers worked together, controlling the situation as it existed in the battle area, minute by minute. Here such elements as the availability of aircraft, weather and intelligence were blended into the moving picture. Here also the situation maps were displayed and kept in up-to-the-minute accuracy.

The skit presented here reproduced the situation on the morning of D-day, where the air situation was being prepared for the push across the river. Aircraft required for the operation were allotted to the ground commanders, and the missions and alternates laid out.

On D-Day morning, the students examined the stuff of which the battle was to be made. First, in a hangar, they viewed close up, the FP-80s, camera versions of the famed Lockheed Shooting Star, the type assigned to do the photo missions in the actual operation.

Then they moved to the flight line, where they examined the airborne troopers, their equipment, combat gliders, loaded with the forward controller's jeep and portable radio equipment and others with gliders carrying 75mm howitzers. There were static displays of the actual material, the 57mm recoilless gun, mortars, howitzers, ammunition, light and heavy machine guns, food, medical supplies, etc. All materials were loaded for delivery by parachute. The ground

officers appeared impressed by the lightness of the airborne equipment which contained such modifications as forged magnesium trails and aircraft-type wheels. Some high-ranking ground officers even suggested their universal use. The cavernous C-82, the Fairchild Packet, got a first-rate going over by the surface soldiers who viewed it in the light of a prime mover rather than as a flying machine.

The class then moved further up the flight line where they examined the tactical aircraft themselves, P-47s and P-51s hung with rockets and napalm tanks, A-26s with parafrag racks and B-25s fitted for low-level bombing. The bombs that were to be dropped, the control equipment and the rockets were laid out for examination. Thus the stage was set, and the class proceeded to a bluff beyond Dekker strip to watch A Hour, D Day.

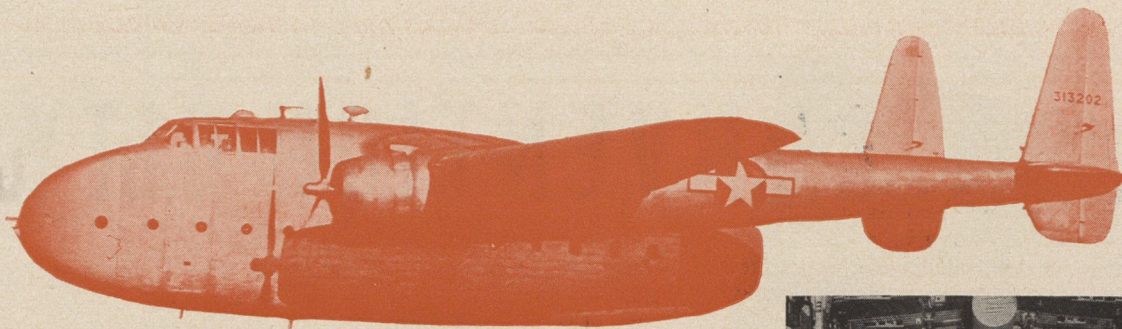
They sat on the grandstand overlooking the battle area. Between them and the Seventh Army was a village (in mock-up), a tank column, a gun emplacement, a truck column and a supply dump; on the other side of the river was a flak tower. A minute before A-hour, a couple of FP-80s from the 161st Photo Recon came over the target area to take pictures. At A-hour prime, a dozen jet-black A-26s from the 47th Light bombardment group appeared at 8000 feet. This was a battle-wise outfit from the 12th Air Force, the famed "Checker Board" group that spied on the Nazis from Normandy to Berlin. They were followed by another element which finished off the job with incendiaries. Just about the time the smoke cleared away, another flight of FP-80s from the 161st Photo-Recon Squadron took some more pictures.

About now, a C-82 from the 316th Troop Carrier Group containing the pathfinder unit started making its run. That would have put the airplane into range of the flak towers, so eight P-51s from the 20th Fighter Group peeled off in elements of two to strafe the towers and neutralize them. The rest of the group flew around at 5,000 feet to provide cover for the pathfinder landing. Overhead, a dozen P-47s from the 477th Composite Group flew high cover as the lone C-82 carrying the Pathfinder team approached the area. It was escorted in by four P-51s from the 20th Fighter Group. Once the pathfinder team of paratroopers established command of the landing area, elements of seventeen C-82s dropped parachute infantrymen into the area, under airtight cover of P-51s. The parachutes had scarcely deflated

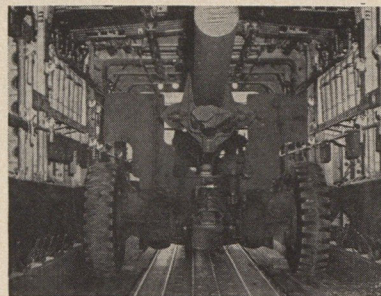
Controller's command post, foreground, views napalm bombing of the "enemy-held village" by P-47s and P-51s. Area between the forward controller and the "enemy" was the glider and paratroopers landing zone.







The giant Packet is currently Tactical Air's prime mover; can carry 42 fully armed paratroopers and supporting firepower, such burdens as the 105mm howitzer, jeeps, light trucks. Its phenomenally short take-off permits close-in air head location.



on the ground, when C-46s of the 316th Troop Carrier Group dropped the parachute artillery serial, complete 75mm howitzer batteries and 57mm recoilless guns, plus machine guns and mortars.

Once the area was secured, eight C-82s appeared, each towing two gliders. These were cut loose, and landed almost in front of the grandstand. Up came the noses and out poured combat troopers, glider ordnance and the jeep-borne "Pluto."

Now the "battle" was in its second phase. The small amount of ammunition and supplies carried in with the first assault wave was running low. According to pre-planned moves, more C-82s under P-51 cover moved in to drop resupply in parapacks. About this time, an enemy aircraft (impersonated by a P-47 from the 477th Composite) managed to penetrate the cover, and was making a pass at the ground installation, when a P-51 tackled him. A dogfight ensued, and the "invader" was seen dropping below the horizon, trailing smoke (strictly synthetic).

By this time, "Pluto," the forward controller's post was set up. The audience, cut in on the communications circuit by a public address system, heard him call for an attack on the gun emplacement. In response, four P-51s appeared, and made individual dive-bombing attacks on the target.

This appeared to spur the "enemy" to a concentrated move on the paratroop landing area. The command reaction was an attack by A-26s of the 47th group with parafrags from a 100-foot level. A minute later, FP-80s again swept over the field. The Element Leader informed the Forward Controller of the approach of an enemy armored column. Lacking adequate ground antitank equipment, "Pluto" called for rocket aircraft to stop the tanks. The Element Leader of the FP-80s stood by to talk the rocket planes to the target.

Eight P-51s arrived minutes later to attack the armored column at ten-second intervals. That stopped the armored drive. This left two important targets. One was a bridge over which enemy reinforcements might be brought up. The other was the village itself, which had been turned into a strong point. On command of the forward controller, four P-51s dive-bombed the bridge.

FP-80s orbited over the village, calling the shots for the forward controller. Now the air support went to work in earnest. P-47s armed with rockets reduced the focal points of fire. A squadron of B-25s from the 477th Composite skip bombed the area in elements of three, forty seconds apart. Still, a few strong points held on and Forward Control called for more P-47s and rockets. From overhead, the FP-80s reported an enemy truck column heading away from

the village. Again "Pluto" called for fire support. Seconds counted, and the short-range fire power of the airborne ordnance would not have made up the difference. A-26s, armed with rockets flashed in at low level, ten seconds apart. Now the village was really isolated, and its defenders appeared to be readying for a last-ditch fight. Six A-26s dropped incendiaries into the target from 8,000 feet. Still the enemy resisted appearing able to control the fire. Their resistance was holding up the operation and the time for the approach of the Seventh Army on the west bank of the Chattahoochee was imminent. One weapon remained—napalm fire, that would burn and asphyxiate; a rough weapon, but time allowed no choice. On call, four P-51s swept in flights of two, a second apart. Before the "enemy could evacuate the far side of the village," four P-47s, in similar formation, blanketed the area in more napalm.

The infantry was, in the meantime, deployed to attack the village. All it needed now was smoke to cover its movements. On request of "Pluto," four P-51s covered the area with a dense white blanket while the two FP-80s dived in low to give the ground controller the final dope on what was left in the area before the troops moved in.

The show was over . . .

General "Jake" Devers summed up for the visiting news correspondents that evening. Ground movement and tactical air were married, whether they liked it or not. The paratrooper, the General observed, romantic character that he was, was to be short-lived. The tactical airborne trooper needed something less temperamental to deliver him from air to ground than a parachute. Rotating wing had some possibilities, as did some drop-car system that could slide the airborne unit in to the area, ready for action.

One of the aims of the Ground Forces was to make more and more of its equipment air transportable. "Ground Forces," Devers observed, "are more interested in air transport than the Air Forces." However, this was at the other end of the speed scale. The AAF was interested in supersonic speeds. For airborne operation, they needed zero speed. Systems are needed whereby landing aircraft could be arrested in shorter spaces, then catapulted back into the sky.

Asked if the Ground Forces wanted to run their own aircraft, the General slowed the conversation down. No, with the exception of a few liaison airplanes and possibly a few helicopters, the Ground Forces regarded running airplanes in the same light as running ships—someone else's business.

So operation Wayside drifted off into cigarette smoke and history.





# CONVENTION CITY

BY TOD RAPER, *Captain, CAP*

**T**HE dates are firm—September 15th and 16th, 1947. The program is under control—business meetings will be generously interspersed with “entertainment” periods. And what’s probably most important of all, the town is ready. The good citizens of Columbus want it broadcast far and wide that their city is preparing a welcome for AFAers who attend the first annual convention this fall the likes of which have never been seen before.

It’s still too early to announce the details of the conclave itself, but it isn’t too soon to have a good look at the city itself, and at the people whom you will meet there.

To the visitors, let it be known that the junction of Broad and High Streets is the center of town. If you get lost, just tell the taxi driver “Broad and High” and you’ll be a block or two from almost all of the hotels and business establishments in the downtown section.

The Ohio capital city has an estimated metropolitan census of 409,111 people, 97 per cent of whom are American-born. It is located in the geographical center of Ohio and is within eight miles of the nation’s center of manufacturing as determined by the number of wage-earners. It is 200 miles east of the national center of population, and two-thirds of the population of the United States—87,500,000 persons—live within 500 miles of Columbus.

The city is 777 feet above sea level and covers an area of 39 square miles. It’s the center of a prosperous farming area, many state and county farm organizations center here.

Columbus ranks third in the nation as a convention city. In 1945, Columbus entertained 559 conventions, including national, regional and state, which brought countless thousands of delegates to the city.

Hotel accommodations in Columbus are most excellent. The Neil House will be headquarters for the Air Force Association convention, but meetings will be held at the Deshler-Wallick Hotel and at Memorial Hall. The two hotel ball-rooms seat 1500 and 1300, and Memorial Hall, 4000.

Columbus and Franklin County sent 48,916 men and women into the various branches of the Armed Forces during World War II. Of that number, 78 per cent were from Columbus. At home, Columbus people oversubscribed their War Bond quotas every time, and soared ahead of other patriotic fund drive quotas. In many of the city’s more than 500 manufacturing plants, they turned out a great variety of war implements and supplies. During the war, the Curtiss-Wright Corp. turned out thousands of Helldivers for the Navy at its plant at Port Columbus, the municipal airport.

Through the Army Service Depot, said to be the world’s largest place for storage of Army supplies, materials and equipment were shipped from Columbus to the country’s forces throughout the world.

At Lockbourne Army Air Base, eight miles south of the city, thousands of young men trained as B-17 pilots during

the war, and the sight of dozens of the big “Forts” wheeling through the air overhead became a common sight. The Army still operates Lockbourne.

As headquarters of the Fifth Service Command of the Army (Ft. Hayes) Columbus was the center of induction of men from four states into the various services.

Port Columbus was used by the Navy as a ferry base throughout the war, and the Navy still has an extensive establishment at that airport.

Columbus was one of the thirty-three cities in the country having Red Cross blood-donor centers, from which plasma was sent regularly overseas to save the lives of the wounded.

Columbus is easy to get to, as it is served by five of the country’s principal railroads, the Baltimore & Ohio, Chesapeake & Ohio, New York Central, Norfolk & Western, and Pennsylvania. American Airlines and Transcontinental & Western Air pass through Columbus in many daily flights, and their are sixteen motor bus lines which serve the city.

Columbus is the home of the Red Birds baseball team, of the American Association, and games are played in Red Bird Stadium, one of the finest minor league plants in the country. Unfortunately, the Red Birds will have closed their season before the Association convenes.

The city is particularly proud of its Civic Center, which is located on the bank of the Scioto River, a block west of High Street. Acclaimed one of the finest developments of its kind in the United States, the Civic Center includes the

Columbus sport center, Ohio State’s stadium. Aerial view shows 72,000 at the State-Michigan game in 1946. Above, night skyline.





Federal Building, the City Safety Building, the City Hall, the Department of State Building, and the LeVeque Lincoln Tower, which is 555.5 feet tall.

Any one of the buildings is worth a visit by the out-towner, as is the State Capitol Building, which is in the center of Capitol Square in the heart of the business section.

Recreation? Yes, there's plenty. Sight-seeing includes Ohio State University, the public buildings, the Columbus Zoo (twelve miles north of the city), wrestling on Wednesday nights at Haft's Acre, picture shows, night clubs, dancing in the downtown hotels, golf at any one of a dozen clubs located within a half-hour's drive of downtown, fishing in the Scioto River or Buckeye Lake (east of Columbus thirty miles on Route 40), bowling, boating, tennis, swimming—you name it, Columbus probably has it.

Lieut. Gen. James H. Doolittle, president of AFA, wisely suggested Columbus as the site of the Association's first convention, advancing as his argument that a city near the centers of population be selected so as to facilitate travel. It was chosen by the convention committee headed by Bert Donaghy, New York, a director in the national organization.

Governor Thomas J. Herbert of Ohio will serve as honorary chairman of the convention planning committee in Columbus. He is a member of AFA and was the first governor to join the organization.

Governor Herbert was an ace in the World War I AAF and for years commanded the 112th Observation Squadron of the Ohio National Guard with the rank of colonel.



Ohio's Capitol seen from Neil House, Convention Headquarters.

Richard S. Wolfe, executive vice president of BancOhio Corp., and a former major in the AAF, will serve as chairman of the active committee on arrangements. Mr. Wolfe directed the organization of AFA in Ohio and has been active in the state leadership.

Serving as executive assistant to Mr. Wolfe will be John P. Biehn, vice president of the Ohio National Bank in Columbus, and a former AAF private.

That's the layout for Air Force Association's first convention. You'll be welcome, and you won't be disappointed in your visit.

**Pilot's view** of downtown Columbus. The Civic Center is on the bank of the Scioto River at the left. Capitol Square with the Statehouse, is in the center. The 555.5-foot skyscraper is the LeVeque-Lincoln Tower.





*After thirty years of Army Service, Lieutenant General Ira C. Eaker quits so that he can have his say about Air Power*

**BY HOWARD WENTWORTH,**

*Staff Reports Section, Hqs AAF*

"I'm very much afraid," said the General soberly, "that we are going to be given a pair of eyebrow tweezers with which to hunt elephants."

He leaned back and stared reflectively at the end of a long, black cigar. The remark and manner in which it was delivered was typical of the AAF's retiring deputy commander, chunky, square-jawed Lt. Gen. Ira C. Eaker.

He was holding forth on one of his pet topics—the need for adequate funds with which to maintain an Air-Force-In-Being strong enough to assure our national security. General Eaker has devoted a large part of his long and colorful career to this end and plans to continue his fight when he leaves the service on 15 June. As a matter of fact, he will tell you, that is one of the prime factors which prompted him to request retirement after thirty years of growing up with the Army Air Forces. "When a military man talks about national defense," General Eaker told friends recently, "he is always charged with being a brass hat who is building a vast empire in order to have high rank and command. I want to escape that stigma by becoming a private citizen."

The hard-working, hard-fighting Texan has no plans for the immediate future, but of one thing he is certain:

"I'm going to get a taste of some of the things I have been missing for thirty years. I'm going to plant a garden, work at normal civil pursuits, fish, and hunt. I'm going to see what it's like to be just plain 'Mister.'"

To trace the career of this fifty-one-year-old air veteran, who was born on 13 April 1896 in Field Creek, Texas, is like riding a merry-go-round out of control. From teaching in the Oklahoma schools at the outset of the first World War, he traveled at a dizzy pace to become one of the nation's top military flyers and leaders. His press clippings and numerous biographies read like chapters from Horatio Alger.

His intention to continue as a schoolteacher came to an abrupt end soon after his graduation from Southeastern

State Teachers College at Durant, Oklahoma. On the day the US entered World War I, young Eaker tossed aside his pencils and textbooks and enrolled in the 1st Officers' Training Camp. On 15 August 1917, he was commissioned a 2nd Lieutenant in the Infantry Reserve and three months later was placed on detached service to receive flying instruction at Austin and Kelly Fields. Less than a year later, 1st Lt. Ira C. Eaker began his vivid career as a flying officer.

After a short hitch at Rockwell Field, Calif., he was ordered to the Philippines with the 2nd and 3rd Aero Squadrons. While there he studied law at the University of the Philippines and, following his promotion to Captain in 1920, was designated Acting Air Officer, Philippine Department, of the Philippine Air Depot at Manila.

Back to the States in 1922, Eaker became Adjutant of Mitchel Field, N. Y., and C.O., 5th Aero Squadron. The following year he studied contract law at Columbia University. He also completed a business course while stationed at Mitchel; and subsequently, while studying at the University of Southern California's school of journalism, he won an award for the best story of the year and upon graduation received his A.B. Degree. He has taken advantage of this training to bring the case of air power before the public in numerous newspaper and magazine articles.

The American public first began to take notice of Ira Eaker in 1926-27, when he flew the amphibian *San Francisco*, one of the planes of the Pan American good-will flight. He returned home to be greeted by President Coolidge and to receive the Distinguished Flying Cross. That was to be just the beginning. For his subsequent achievements, both in peace and war, Gen. Eaker now holds eight US decorations and fourteen from foreign countries.

From 1924 to 1932 he served in Washington as Asst. Executive, Army Air Corps, and Executive Officer to the Asst. Secretary of War for Air. In 1929 he attracted nationwide attention, this time for his part in one of the most spectacular feats in aviation history.

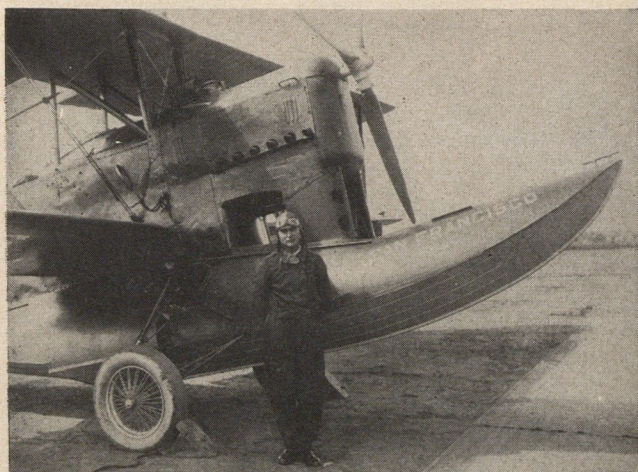
With his long-time friend "Tooey" Spaatz, now General Carl Spaatz, Air Forces Commander, he went aloft over California in the Army plane *Question Mark*, a Fokker three-engine monoplane, to try for an unofficial endurance record. Unshaven and oil-smeared, they returned to earth 150 hours, 40 minutes and 15 seconds later with the record in the bag.

That was in 1929. During the next two years at Bolling Field, Eaker's life was uneventful with exception of the time he qualified for the mythical Caterpillar Club when a plane he was testing failed to come out of a spin and forced him to use a parachute to save his life.

But it was not in the books for the adventurous air officer to keep out of the public eye. In 1931 he became the first pilot to attempt a cross-country non-stop dash in an Army pursuit ship. He was foiled, however, by a crack-up.

Another transcontinental speed try first brought into focus

1926—Captain Eaker and his Pan American Loening Amphibian.









his now-famous cigars. Stopping briefly in Wichita, Kansas, a reporter asked Eaker how much speed he was making.

"About one hundred miles to the cigar," he replied matter-of-factly.

Hardly had his statement gotten into print when cigar dealers and manufacturers throughout North and South America deluged him with demands to know the brand he was smoking. Eaker was promised a full supply if he would name the stogie.

"I'm still buying my own cigars," he says—a bit ruefully.

Although the General frequently switches to a battered corncob pipe, his friends enjoy ribbing him about his inveterate cigar smoking. Some claim he goes to bed with one and wakes up with it in his mouth in the morning.

Back in 1928, when Eaker was executive officer to Assistant Secretary of War F. Trubee Davison, the Secretary sent him a box of the worst cigars he could find in Washington, hoping to break him of the habit.

"But it didn't work," Eaker recalls. "It just broke me of the habit of smoking the good ones."

Attempts at speed records, endurance flights and other feats of the day prompted Eaker to try something different. So, in 1933, a Major for a year, he climbed into another Army pursuit ship, clamped a hood over the cockpit and made the first blind transcontinental flight, guided only by instruments.

From that time until the advent of World War II, Eaker moved about the country in various commands. In collaboration with his old friend, General "Hap" Arnold, former Air Force chief, he wrote three books on American aviation—*This Flying Game*, *Winged Warfare*, and *Army Flyer*. The final volume was published in 1942, and the time is not far distant when he plans to recount in print some of his experiences overseas in World War II.

"My intention," said General Eaker recently, "is to do some writing on things I saw, heard, and thought during World War II—some experiences which may have a bearing on the future and which our people should know about in order to make clear decisions before it is again too late."

General Eaker first went to England in January, 1942, with orders to organize the VIII Bomber Command and to study the British system of bomber operations. He retained that post for nearly a year. When Gen. Spaatz was trans-

ferred to North Africa, Gen. Eaker took over command of the Eighth Air Force. Then began a long, tedious sweating out period, full of headaches and heartaches.

The Eighth was slow in developing. US planes and equipment were needed in other theaters of action and Eaker was forced to bide his time while the RAF carried on. At Wycombe Abbey in the Thames Valley, he set up headquarters. His men were impatient. They wanted to "get at 'em and get it over with." So did Gen. Eaker. But for the first few months he had to be content with building fields, installing Headquarters and Communications, and training.

By no stretch of the imagination, however, did this mean he remained inactive. With his own brand of diplomacy, Gen. Eaker won the confidence of British airmen and made them not only willing allies but staunch friends.

At one point he said to them simply, "We don't do much talking until we've done more fighting. We hope that when we leave you'll be glad we came."

Future generations will learn from history books what happened. Every living American already knows. The Eighth cloaked itself in glory under the leadership of Gen. Eaker. He won the admiration of his command by insisting that in combat he would ask no man to do anything he would not do himself. He practiced what he preached by taking a personal part in early missions.

But victory did not come exclusively from efforts of the men who fought in the sky, on the ground, and on the sea. It came also as a result of conferences among those who were planning our grand strategy.

One such conference attended by Gen. Eaker took place at Chequers. The host was Winston Churchill. Top British and American Officers were seated around the table. They had just finished dinner. Mr. Churchill read a telegram from General Alexander in Egypt which said, "Rommel's guns can be heard in Cairo tonight." Mr. Churchill shoved back his chair, lighted a fresh cigar, and surveyed the gathering. Then he rose slowly and moved around the right side of the table. He stopped behind Gen. Eaker's chair and tapped him on the shoulder.

"You," the British Prime Minister said, "are Goering."

The General, a little startled, waited for what was coming next.

One by one around the table the Prime Minister indicated



Characteristic profile of Ira Eaker, taken while commanding the 8th Air Force. He and the cigar are considered inseparable. There is an Air Force fable that he goes to sleep with a cheroot between his teeth and fires it up the first thing after he opens his eyes. This is not true. Sometimes he smokes a short-bitted corncob pipe.

Back in 1936, Ira Eaker, then a major, flew a Boeing fighter from New York to Union Air Terminal in Burbank, Cal., 2600 miles completely on instruments in a hooded cockpit. W. E. Kepner, also a major at the time, convoyed him in another airplane to forestall possible mishaps. The flight was a continuation of work on instrument operation conducted by the AAF, started by Lieut. Jimmie Doolittle.





the various American officers giving them the names of the entire Hitler hierarchy. When he had finished he strode to a chair at the far side of the room. For a moment he gazed at his American friends and British commanders and then reached up to pull a lock of his sparse hair over his forehead.

"I," he said quietly, "am Hitler. Now gentlemen, what do we do next?"

Momentarily astonished, the officers felt their way deftly into what turned out to be an all-night session. Each man carefully chose his words, attempting to remain in the Nazi role Churchill had designated.

At the conclusion Mr. Churchill said, "Now gentlemen, if I have been correctly advised, we know what Hitler and his gang will do, the better to checkmate them."

When the Eighth Air Force eventually got into the air in force under Gen. Eaker's leadership and joined with the RAF in sorties on Nazi strongholds and industrial centers, the Allies had the greatest air force the world has ever known. The combined effort overcame every defensive effort the German air command could muster, and began the onslaught which was to paralyze the German war economy.

Gen. Eaker has been called variously a flyer's flyer, a fighter's fighter, and a leader's leader. But after talking to him for a while about things non-military, the most apt description which comes to one's mind is a "man's man." He often holds the best poker hand around the table and plays his cards close.

Gen. Eaker has always had the reputation of accomplishing exactly what he sets his mind to do. He overcame British skepticism about the feasibility of daylight bombing while commanding the Eighth, and won high praise and the Oak Leaf cluster to the Distinguished Service Medal for his outstanding activities as Commander-in-Chief of the Mediterranean Allied Air Forces in 1944-45.

On 30 April 1945 he was appointed to the post he now leaves to pick up the threads of a life he left thirty years ago to serve his country as few men have ever served it.

It wouldn't be surprising if he ended up as editor and publisher of a small western weekly newspaper. That is an ambition General Eaker has cherished for many years. He won't commit himself, but there is a thoughtful look in his eye when such a project is mentioned.

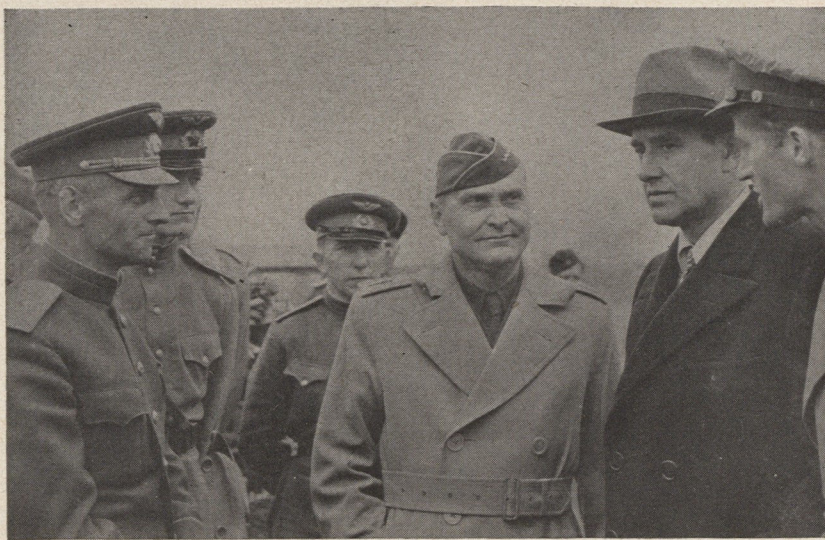
*(Continued on page 63)*



**Back from the wars,** Lt. General Eaker reviewed the Battle of Ploesti with Albert C. Weatherhead, vice president of Cleveland's Chamber of Commerce, who came to Washington to discuss Army participation in the National Air Races which reopened during 1946.



**Crew of the Question Mark** looked grimy after 150 hours in the air. L-R. Sgt. Hooe, Lieuts. Quesada and Halversen, Capt. Ira Eaker and Maj. Carl Spaatz.



**As Commander of MAAF,** Lt. Gen. Ira C. Eaker was welcomed to Russian end of famed "Shuttle Run" bases. In group, L-R, are Soviet base commander, Maj. Gen. Alexander Perminov, General Eaker, US Ambassador W. Averill Harriman, and Captain Hentt Ware of the US Military Mission to Russia. Right, Eaker discussing results of bombing of Cassino with First Tactical Air Force's Maj. Gen. John K. Cannon.







*Boeing B-29 Superfortress*

AN AIR FORCE





*ss with B-50 Empennage*

PLANE PORTRAIT



# AFA NEWS



**Albany, New York Squadron receives charter.** Left to right are: John Doran, Vice Cmdr.; Capt. J. Simmons; Cmdr. E. J. Healy; P. D. Kiernan, Treas.; Maj. K. Whitehorn; E. P. Ribero, Secty.



**At organization of North Carolina Wing are:** (standing left) W. S. Fitch, Exec. Dir. of AFA; Ben Rudisill, State Cmdr.; (seated) Brig. Gen. L. A. Walton; P. Montague, Wing Dir.; Col. R. L. Scott.



**In DC-6 cockpit,** R. M. Allison (right) discusses latest in transport planes with S. B. Williams. Both men were pilots in the AAF and are now members of Santa Monica Bay Squadron of the AFA.

## ALABAMA

Less than two weeks after being officially chartered, the Mobile Squadron was host to a state convention of the Alabama AFA at Brookley Field. Edward P. White was elected Squadron Commander and served as temporary chairman at the convention pending the election of state officers. Clinton C. Zimmerman is Vice-Commander of the Mobile Squadron; Edith E. Tagert, Secretary; Frank A. Fishbourne, Treasurer. Howard E. Duffy is officer of the day, a new category created at Mobile and as yet undefined. For information about the Mobile Squadron and for information about other Squadrons within Alabama, address: Air Force Association, P.O. Box 1271, Mobile.

## CALIFORNIA

In Los Angeles, the AFA members meet the first Thursday of each month, and although the Squadron was chartered on April 5, plans are underway to give the already active state of California another strong organization. Officers of the Los Angeles Squadron are: Don R. Jacobson, Commander; Claude F. Kenner, Vice-Commander; Al Carty, Secretary, and Thomas R. Moran, Treasurer. Secretary Carty at 1541 Ramona Avenue, South Pasadena, will be glad to answer inquiries about the Squadron.

## CONNECTICUT

In Connecticut, New Haven announces the chartering of a new Squadron and the election of Thomas F. McGuire as Commander. Vice-Commander is John J. MacAulay, Jr., Secretary is William H. Johnson and Treasurer is James J. Dolan. Secretary Johnson asks that former AAF men as well as all AFA members not now members of the New Haven Squadron write to him at 81 Osborn Avenue.

From Hartford comes news of a new slate of officers. Originally chartered in November 1946, the Squadron elected temporary officers to serve during the period. Permanent officers now include: Ragnar Hanson, Commander; George F. Bassett, Vice-Commander; James H. Redmond, Secretary; Marshall I. Golden, Secretary. Secretary Redmond may be reached at C-278 Chester Oak Terrace, Hartford 10, for more information about the Squadron.

## ILLINOIS

The first Squadron to be formed of former Air Force men working on scheduled airlines is the United Airlines Squadron No. 1 at Chicago. Its officers include: Warren E. Alberts, Commander; N. Donald Zech, Vice-Commander; Kenneth E. Swanson, Secretary; George J. Kidera, Treasurer. Other former Air Force men connected with United in Chicago are asked to contact Secretary Swanson in the Work Analysis Department, United Airlines, 5959 S. Cicero Avenue, Chicago 38.

## INDIANA

Seventy former Air Force men, now students at Indiana University, met on March 29 to form a campus Squadron of AFA. Professor John F. Mee, of the School of Business and Lt. Col. E. P. Schmid, Professor of air science and tactics, explained the purposes and objectives of the AFA.

R. H. Englehart, senior, was elected temporary chairman and Wane E. Ver Wayne, James V. Becher, sophomores, and Robert L. Gray, junior, were appointed to assist in the formation of the I. U. Squadron.

Organized and chartered in exactly one week is the record of South Bend Squadron No. 1. Officers of the Squadron are:

AIR FORCE



## *New York and Pennsylvania tie in squadron formations as states grant sixteen charters*

Kenneth D. Warner, Commander; William Martin, Vice-Commander; Howard Grooters, Secretary; Arthur D. McMillan, Treasurer. Meetings are held on the first Monday of each month and Secretary Grooters invites those interested in becoming Squadron members to contact him at the South Bend YMCA.

### **LOUISIANA**

Chartered in April was Ruston Squadron No. 1. Officers of this new Squadron are: Zell Smith, Commander; William T. Jones, Vice-Commander; V. H. B. Wilhite, Secretary-Treasurer. For further information about the Ruston Squadron, contact Secretary Wilhite at Tech Station, Ruston.

### **MARYLAND**

The Johns Hopkins University, Baltimore, has announced the organization of an AFA Squadron among former Air Force men in the student body. Officers of the new campus Squadron are: Robert Fowler, Commander; Burton S. Stern, Vice-Commander; Walter Hedges, Treasurer; Charles P. Higdon, Secretary.

The Johns Hopkins Squadron is the third AFA organization to be activated in Baltimore. The others are Baltimore Squadron No. 1 and the all-WAC Squadron.

### **MICHIGAN**

Lansing Squadron No. 1 was chartered in March with eighty-eight charter members. Under the command of Warren R. Bredahl, the Squadron meets the third Monday of each month. Tony Winters is Vice-Commander. Ernest W. Lutz is Secretary and invites interested Air Force men in Lansing to write to him at 1406 Ohio. Treasurer is Donald H. Lowell.

### **MISSISSIPPI**

Added to the growing list of Squadrons chartered at colleges and universities, where some 300,000 former Air Force men are completing their interrupted education, is State College Squadron No. 1, Mississippi. Officers are: Leonard A. Mobley, Commander; James D. Cagle, Vice-Commander; Howard F. Hamill, Secretary; Howard D. Walker, Treasurer. Eligible men at State College who wish to join the Squadron are asked to contact Secretary Hamill, Box 1289, State College.

### **MONTANA**

Another Squadron composed of former Air Force men attending colleges and universities is Montana State College Squadron No. 1 at Bozeman. Francis E. Burke is Commander, James R. Appenzeller is Vice-Commander, Bruce T. Kline is Secretary and W. W. McMannis is Treasurer. Other men at Montana State who wish to become active members in the Squadron are asked to see Secretary Kline at 715 Villard Street, or contact Commander Burke in the College ROTC building.

### **NEW YORK**

Charters were approved for four Squadrons in New York state during the month, with both Queens and Bronx organizations being issued on the same day. In the Queens Squadron, Leonard H. Loos was elected Commander, Joseph J. Goetz is Vice-Commander, Alexander Raffrey, Jr., Secretary, and Walter C. Noack, Treasurer. AFA members who wish to affiliate with the Queens Squadron, please contact Secretary Raffrey at 29-29 30th Avenue, Long Island, New York.

Brooklyn Squadron, chartered on April 8, announces the



Gen. George C. Kenney, chief of Army's Strategic Air Command was guest recently of H. M. Warner (left) and AFA member J. L. Warner at Warner Bros. studio. Jack Warner was Air Force Colonel.



Greater Wilkes-Barre Squadron officials: (seated, left to right) H. C. Wiener; T. Foley; M. Ryan; R. Uhl; (standing) M. Solomon; D. Hourigan; F. Pool; F. D. Coslett; W. Barnard; J. Henry Pool.



Temporary officers of Louisville, Kentucky Squadron are: (left to right) L. D. Hine, Secty.; L. R. Parks, Vice Cmdr.; S. I. Hand, Cmdr.; D. L. McKay, Treas.; and A. H. Near, Wing Cmdr.



election of John E. Most as Commander, John V. Favorita, Vice-Commander; Virginia A. McGowan, Secretary; Irving Tenzer, Treasurer. Secretary McGowan has asked former Air Force men interested in the Brooklyn Squadron to contact her at 39 88th Street, Brooklyn 9.

Bronx Squadron, which meets the second Thursday of each month, was chartered in March with the following officers: James V. Fallabella, Commander; Erwin M. Gilbert, Vice-Commander; Saul B. Schier, Secretary; Lawrence Kupler, Treasurer. Saul Schier, 315 East 170th Street, Bronx 56, will be glad to send application blanks or provide information.

In upstate New York, the newest Squadron is Onandaga No. 1, at Syracuse where Cecil D. Williams has been elected Commander; A. Inman Marshall, Vice-Commander; George T. Driscoll, Secretary; John E. Conley, Treasurer. Present AFA members in the Syracuse area and all former Air Force men not now members, are asked to contact Secretary Driscoll at 407 State Tower Building, Syracuse.

Official headquarters of Buffalo Squadron No. 1 is at 617 Main Street, known as the Buffalo Air Center. At its first regular session in April, Joseph A. Murek was elected Commander; Herbert B. Forbes, Vice-Commander; John D. O'Neil, Secretary; A. N. Castanza, Treasurer.

## NORTH CAROLINA

Ben R. Rudisill, Cherryville, was elected commander of the North Carolina Wing, AFA, at an organizational meeting held in Winston-Salem, in March.

Other officers of the Wing include: First Vice-President, H. E. Anderson; Second Vice-President, L. L. Gravelly, Jr.; Secretary-Treasurer, R. G. Stockton. State Directors are: Paul N. Montague, Winston-Salem; W. G. Hoover, Raleigh; S. M. Atkinson, Elkin; W. P. Budd, Jr., Durham; Alex Andrews, Raleigh; H. F. Welfare, Winston-Salem; Eugene Simmons, Tarboro; E. E. Brothers, Jr., Elizabeth City; J. D. Bullard, Laurinburg; Robert Lineberger, Lincolnton; J. R. Philpott, Lexington; and Francis Mackie, Yadkinville.

## OKLAHOMA

Official activation of the Oklahoma Wing was completed in March, concurrent with a visit to Tulsa by National President Jimmy Doolittle. Also, present at the organization meeting was Senator Elmer Thomas, Mayor Lee Price, Tulsa, and Capt. Maxwell W. Balfour, Director of the Spartan School of Aeronautics.

Harold D. Stewart, formerly of the Ninth Air Force, was elected Wing Commander of Oklahoma. Selected as members of the state council were: Robert Browning; Ruth Hogan; Robert Damsky; and Lawrence H. Wilson. This temporary group will serve pending a state-wide election.

Also announced was the formation of Tulsa Squadron No. 1 and Spartan School of Aeronautics Squadron No. 1.

Russell Hunt was elected Commander of the Tulsa Squadron; Dick White, Vice-Commander; H. F. Aby, Treasurer; Norman F. Hulings, Secretary.

In Squadron No. 1 of Spartan School of Aeronautics, LaRue Freitag, was elected Commander; Sergeants Edward M. Thomas and Frank E. Peterson, Vice Commander and Secretary; Theodore R. Lyons, Treasurer. Captain Maxwell W. Balfour, was appointed Honorary Commander. Council Members are: John D. Gholson; Delbert A. Unger; Isaac Vander Hoven; and Don McClelland.

Nine new Groups Headquarters were designated by the Oklahoma Wing. They are: Miami, Muskogee, McAllister, Enid, Oklahoma City, Ardmore, Woodward, Altus, Tulsa.

## PENNSYLVANIA

Pennsylvania ranks at the top of the states reporting new Squadrons with four organizations being chartered this



New officers of Spartan's Squadron are (seated, left to right) L. Freitag; F. E. Peterson; J. D. Gholson; D. A. Unger; (standing) I. Vander Hoven; R. G. Browning; D. McClelland; T. Lyons.



Signing Boston Squadron's charter are officers (left to right) Conleth S. O'Connell, Vice Cmdr.; Dorothy F. Grassby, Secty.; William Dwyer, Cmdr.; Rosalie Torretto, membership chairman.



At Oklahoma Wing Activation are (left to right): M. W. Balfour, Spartan School Director; Oklahoma Senator Elmer Thomas; Jimmy Doolittle; H. C. Stewart, Wing Cmdr.; Tulsa's Mayor Lee Price.

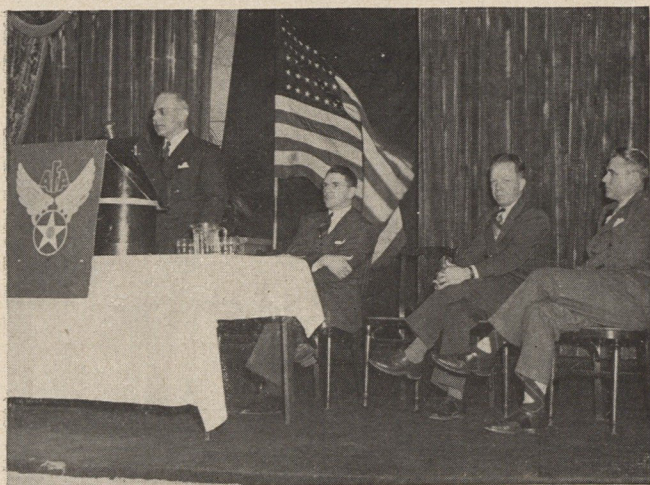




Carl Klein, former airplane and engine mechanic with the AAF, takes a look at landing gear of Douglas DC-6. Klein toured the Douglas plant with members of Santa Monica Bay Squadron.



Former ATC head, General George, now Peruvian Airways president, shakes hands with Dr. Mauricio Hochschild, sponsor of plan to bring South American students to US for study here.



J. H. Doolittle speaks at activation of Oklahoma Wing. Seated (left to right) are H. C. Stewart, Wing Cmdr.; La Rue Freitag, Spartan Squadron Cmdr.; and R. F. Hunt, Tulsa Squadron Cmdr.

month. First, is the Greater Reading Squadron, chartered in April. Officers are: Edward J. Wyroba, Commander; James H. Oliver, Vice-Commander; Martin H. Flickinger, Secretary; and William L. Killiam, Treasurer. For further information about the Reading Squadron, contact Secretary Flickinger, 715 North Fourth Street, or Ed Wyroba at 109 North Fourth Street.

The Harrisburg Squadron, with forty-three charter members, has announced the election of Robert L. Gross as Commander; Robert R. Long, Vice-Commander; William M. Miller, Secretary; Benjamin Lowengard, Treasurer. Secretary Miller may be reached at: 4928 Lancaster Street, Harrisburg.

In Lancaster, the Squadron was chartered in March and meets monthly. Officers of the charter Squadron include: Sydney W. Kistler, Commander; Samuel Mehaffey, Jr., Vice-Commander; William F. Frantz, Secretary; Walter A. Blair, Treasurer. Secretary Frantz, 971 Salisbury Court, has asked those interested in joining the Squadron to write him.

Plans were formulated by the Greater Wilkes-Barre Squadron to sponsor an Air Show in August in cooperation with the Wyoming Valley Junior Chamber of Commerce.

#### RHODE ISLAND

Adding to the strength of the AFA in Rhode Island was the chartering of the Cranston Squadron in March. The Squadron, which meets on the first Monday of each month, has already outlined an active program of participation in community affairs. Eugene Verrier was elected Commander; Lloyd G. Bosworth, Vice-Commander; Charles G. Bailey, Jr., Secretary; Harold Margerson, Treasurer.

Commander Verrier can be reached at 1194 Pontiac Avenue, Cranston 10, for further information.

#### TEXAS

In Dallas, The AFA Squadron was organized in February and obtained a charter in April with 121 members. Officers elected by the Squadron are: Rex V. Lentz, Commander; Norris Hiett, Vice-Commander; J. Holland Pendergrass, Secretary; Robert D. James, Treasurer. At present, an expansion program is being planned along with activities designed to attract former Air Force men in Dallas. For further information about the Squadron, write Secretary Pendergrass at 2910 Bombay Street, Dallas.

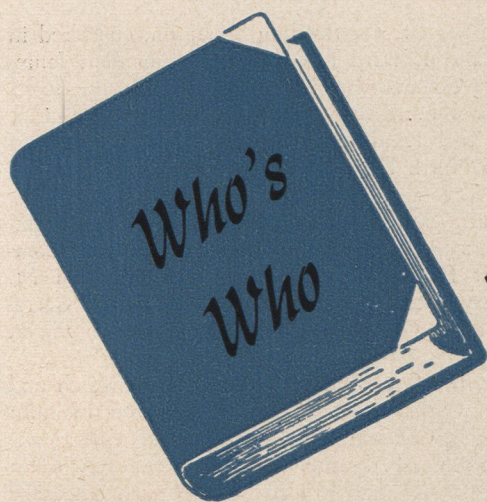
Guest speakers addressed members of the San Antonio Squadron at its regular meeting last month. The speakers were Lt. Col. Vic Byers, Liaison Officer for the AFA, and William N. Hensley, District Attorney in Bexar County. Hensley, who holds a reserve commission as a Lieutenant Colonel, was recently appointed Operations Officer in the newly organized Air National Guard program at Brooks Field.

#### WEST VIRGINIA

First of two new Squadrons chartered in West Virginia is Parkersburg Squadron No. 1. Officers include: Joseph A. Overton, Jr., Commander; Charles E. Flaherty, Vice-Commander; Don E. Ludwig, Secretary; Arlos D. Guinn, Treasurer. Information may be obtained from Commander Overton at 1006 Quincy Street, Parkersburg.

Despite elements of wind and snow at its mountaintop location, the newly chartered Beckley Squadron promises to be one of AFA's most active organizations. Officers at Beckley include: Ralph V. Whitener, Commander; John G. Beard, Jr., Vice-Commander; William L. Williamson, Vice-Commander; William P. Hall, Jr., Secretary; Chaucie S. Cavedish, Jr., Treasurer. Either Commander Whitener at 331 Burgess Street or Secretary Hall at 129 East Main will be glad to provide further information about the Squadron.





## in the AFA

INTRODUCING

Edward P. Curtis

IN these days when most people find it tough enough to get ahead in *one* profession, it is quite unusual to find a man who has managed to become outstandingly successful in *two*. Such a man is AFA's First Vice President Edward P. Curtis, who, at the age of fifty, holds the position of Vice President of the Eastman Kodak Company and the reserve rank of Major General in the AAF. There are numerous cases, of course, where top flight executives were given rank during the war commensurate with their previously held civilian positions. And contrarily, there have also been instances where star-spangled officers have stepped into high paying executive positions since war's end primarily because the boss liked to have someone around the shop he could call "General." General Curtis, however, fits into neither of these niches. He was not given his stars because he was a "big shot" in civilian life, nor was he made V.P. of Eastman because he was a fireball in the Army. He earned his two stars the hard way after eight years of duty in two wars—eight years that began as an Air Cadet in France in 1917. His position of Vice President with Eastman was achieved after twenty years of service that started at an obscure desk in 1920.

Edward P. Curtis was born in Rochester, New York on January 14, 1897. He attended various schools (in the vicinity) and then went to St. George's at Newport, Rhode Island where "I graduated in the class of 1914 without, so far as I can recall, achieving any outstanding distinction." After St. George, he enrolled in the Class of 1918 at Williams, but left prior to graduation "more or less by mutual agreement" to join the American Field Service in France. He never returned to college, but in 1941 his Alma Mater, Williams, presented him with an honorary M.A.

After having spent a year with the American Field Service in France between the Fall of 1916 and the Winter of 1917, Curtis resigned to join the American Air Force. At the conclusion of his pilot training, he was assigned to the 95th Aero Squadron where he flew French Nieuports and later Spads and was credited with six German planes. He wound up his World War I stint as a Major on General Billy Mitchell's staff in Washington. He was discharged in 1919.

In the second great war he was recalled in his old rank of Major and assigned to Washington to serve as assistant executive to General Carl A. Spaatz who was then Chief of Plans Division in the Air Corps. This was in the Fall of 1940. In July, 1942, he was transferred to England to serve as Deputy Chief of Staff of the Eighth Air Force. In November of the same year he went to Africa to become Chief of Staff to General Spaatz who was by then commanding the North West African Air Force. From there he went to Italy, and in January 1944 returned to England as Chief of Staff of the United States Strategic Air Force. It was in this position that he was promoted to the rank of Major General. Dur-

ing the two wars he "collected" the following decorations:

- Distinguished Service Cross
- Distinguished Service Medal
- Legion of Merit
- Silver Star
- Bronze Star
- Russian Order of St. Anne
- French Legion of Honor
- Croix de Guerre

As has already been mentioned, General Curtis' business career started in 1920 in Eastman's Accounting Department. It wasn't long, however, before he worked his way up to Sales Manager of the Motion Picture Film Department. From there it was a single jump to his present position of vice president in charge of the motion picture film business throughout the world. He also supervises all of Eastman's general business in Europe. His record attests the truth that there is no substitute for hard work and perseverance.



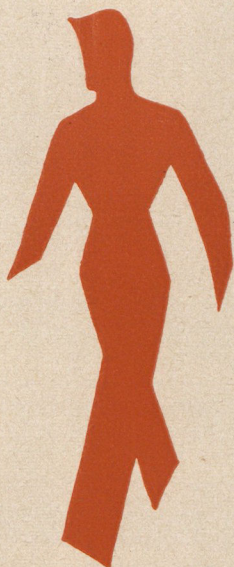
In World War I Ted Curtis flew Nieuports and Spads in 95th A.S.



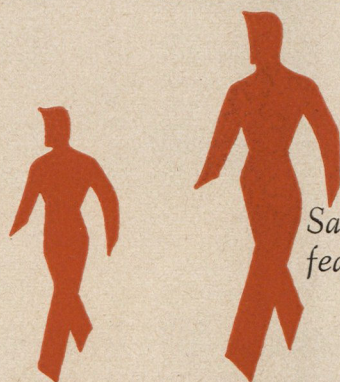


*Ace fighter pilot in one war, a chief of staff in another and top corporation executive in between, Major General E. P. Curtis' career reads like the classic American success story*





# IN RESERVE



*Safety records, Commissions and reinstatement feature this month's news for reserve personnel*

## Reserve Safety Record

Air Reservists flying from Mitchel Field, N. Y. hung up an enviable safety record last month, when the 1300 reserve pilots operating from that base, passed the 11,000 hour mark without a single mishap of any kind.

Col. John V. Hart, Commander of the Air Reserve Training Detachment, in announcing the safety achievement, pointed out that all the pilots flying in this program are doing so without any form of compensation other than the opportunity to keep their wartime skills in operating condition. Mitchel Field is the home of the 319th Light Bomb Group and the 26th Air Depot Group, the first permanent Air Reserve Combat units in the Metropolitan area.

## Training Near Home

Air Reservists who do not live within reasonable traveling distance of the remaining forty-one Reserve detachments can now participate in part-time and week-end training at their nearest AAF station, in line with the newest program aimed at keeping the budget-trimmed Air Force at something approaching combat efficiency. This program has been instituted in the hopes that it will compensate at least in part, for the recently announced slash in the reserve base program, which originally called for seventy reserve detachments.

Commanders at regular Army Air Bases have been authorized to fill vacancies in their tables of organization with reservists who volunteer for integrated training with regular AAF personnel. Flight training is offered in practically all types of aircraft, while ground personnel will be schooled in the latest techniques in their military occupational specialties. Further information on this latest development can be obtained from local air base commanders.

## Air Force In Being

Two talks, given on opposite sides of the continent last month, point up the need for an "Air Force In Being" as a defense against the large-scale lightning war of the possible future. One was given to a group of top-flight aviation writers at Mitchel Field by the chief of the Air Defense Command, Lt. Gen. George E. Stratemeyer. The other was delivered to members of the Seattle Chapter of the Air Reserve Association by William M. Allen, President of Boeing Aircraft Company.

General Stratemeyer discussed the reduction in the number of reserve bases by almost half, a move dictated by the curtailment of appropriations. This move stirred activity in those communities where the bases were closed, but failed to produce any nation-wide concern over the fact that the over-all program was falling to pieces.

According to the chief of continental defense, our current program for air reserve training, originally planned for 170,000 men has been reduced to 15,200, and only advanced training aircraft can be used, rather than tactical types.

In the second address, the president of Boeing presented as gloomy a picture from the industrial side. He indicated that events were sharply paralleling the occurrences that followed World War I. There were seventeen companies turning out military aircraft when that conflict ended, but by 1926, only three were still in business. Allen pointed out that it was three years before Allied air power could successfully retaliate against Germany and that two and a half years elapsed between Pearl Harbor and our first successful operation against the Japanese mainland. The inference, of course, was that next time, if such a thing had to be, military destiny might not give us this cushion of time. Allen's conclusion on what was needed was, first, an air force in being, backed by a healthy aviation industry, linked with adequate research and pre-planned systems for industrial expansion.

## Commissions For Warrants

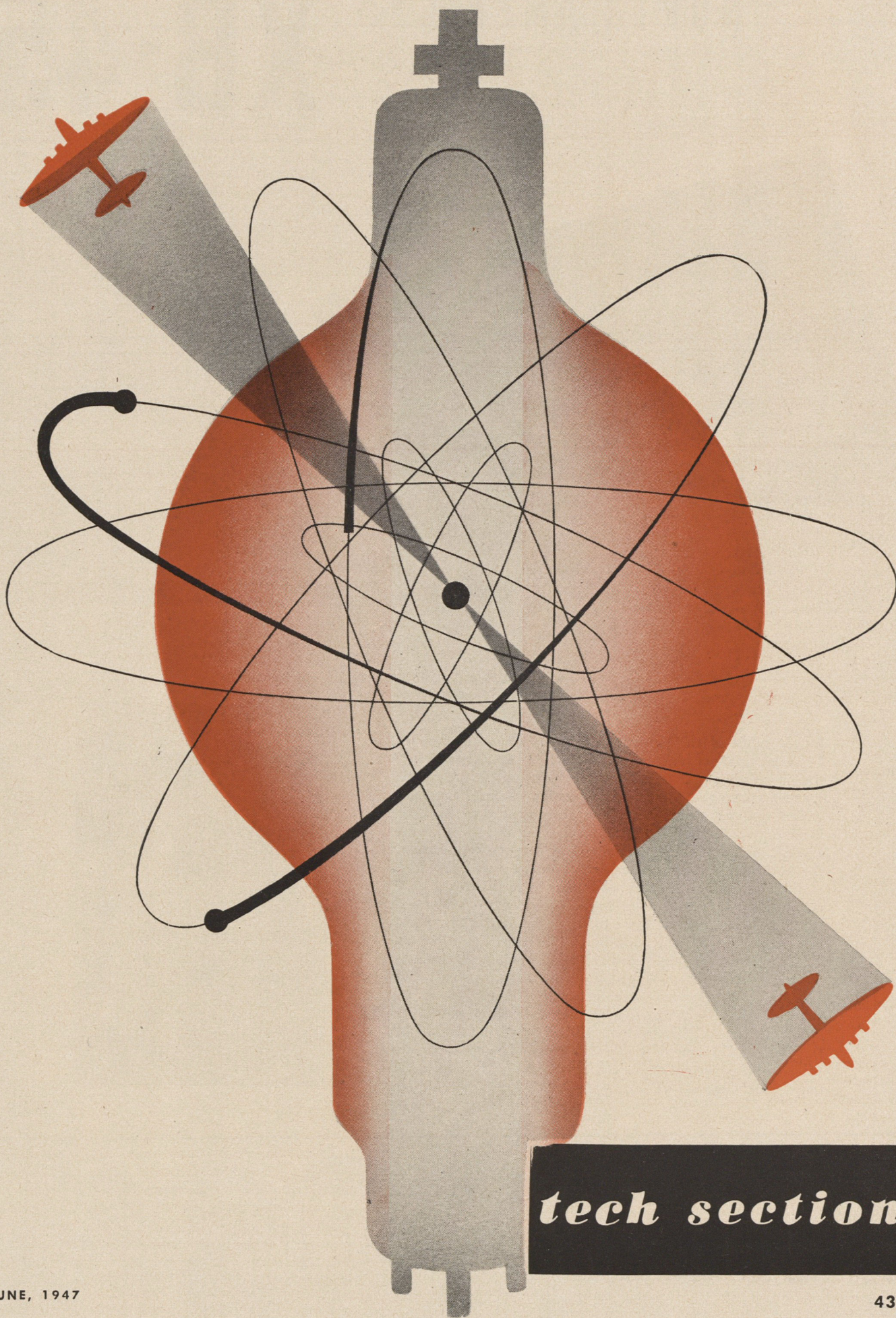
Contrary to current rumors, flight officers are being commissioned as second lieutenants in the Air Corps Reserve. Basic requirements are: an efficiency index of forty, age grouping between eighteen and thirty-five years, and satisfactory physical condition. Application forms and full instructions can be gotten from Appointment and Reappointment Section, Reserve Branch, The Adjutant General, Washington 25, D. C.

Although changes are contemplated which will extend opportunities for Officers Reserve Commission to former top three grade noncoms, commissions are now limited to former officers honorably discharged from active service and to other officers with special training, background or experience, which the Army urgently requires. These include doctors, clergymen, technicians, etc. Applications for ORC must be made to the Adjutant General within six months of the time of separation.

## All Is Forgiven Dept.

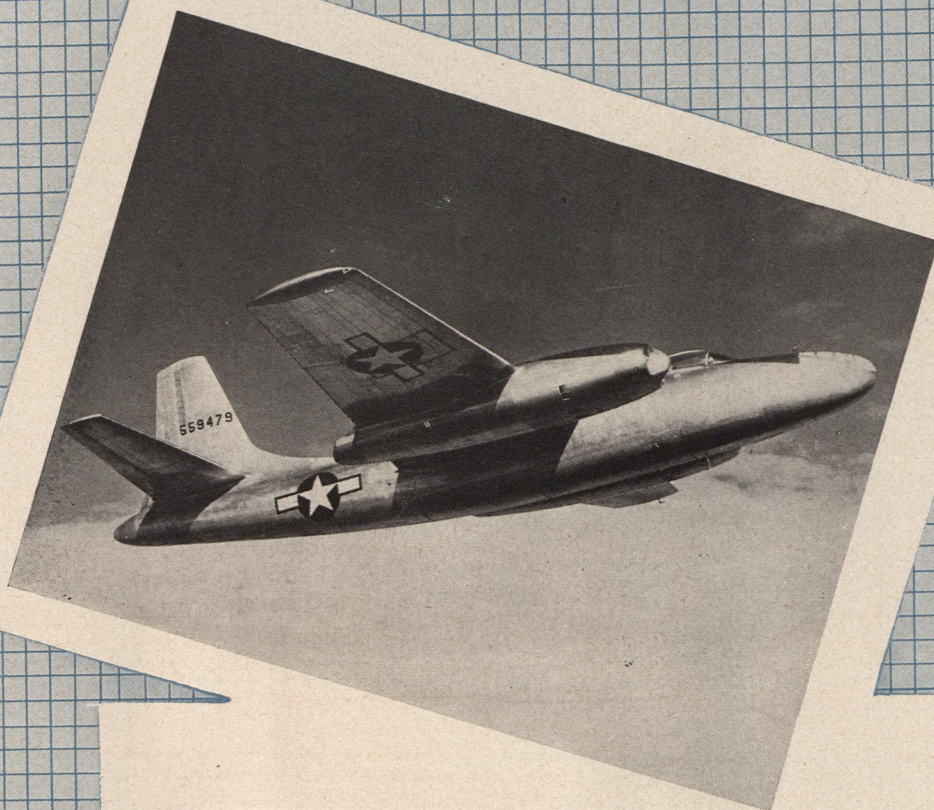
The AAF is now in process of returning to active flying status those Reserve officers who were suspended as a result of violations of flying regulations. Requests for return to flying status by officers who wish to participate in the Reserve Program may be made to a flying evaluation board. Individuals who have committed flagrant violations which resulted in loss of life or serious property damage will not be reinstated. Other violations will be considered on their individual merits.







# NORTH AMERICAN XB-45



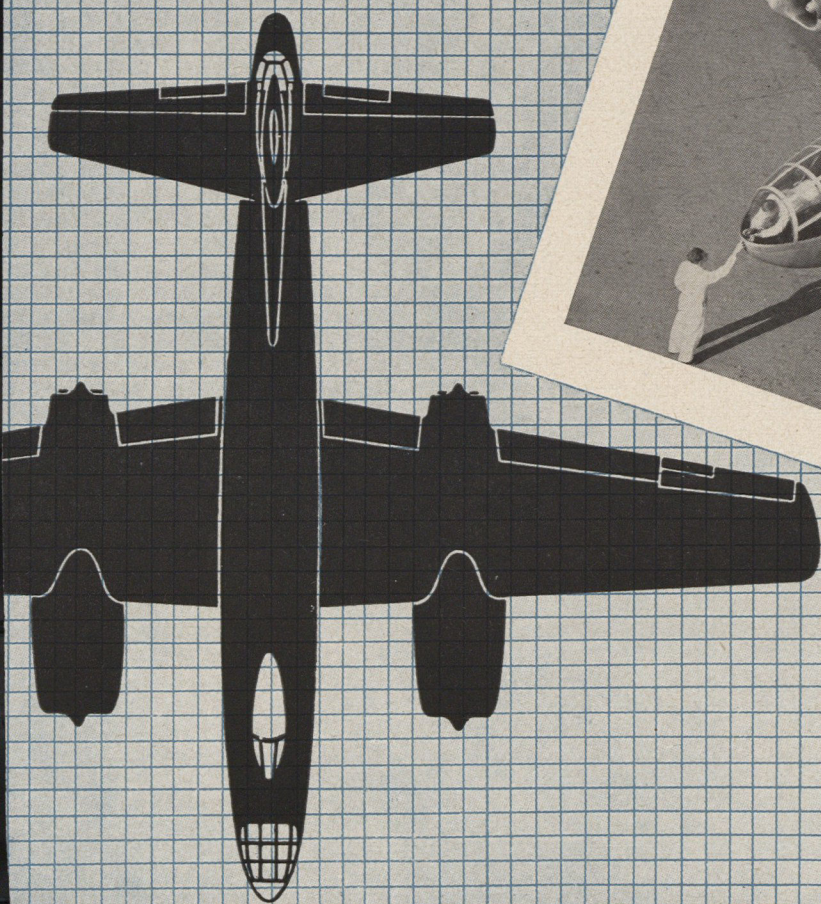
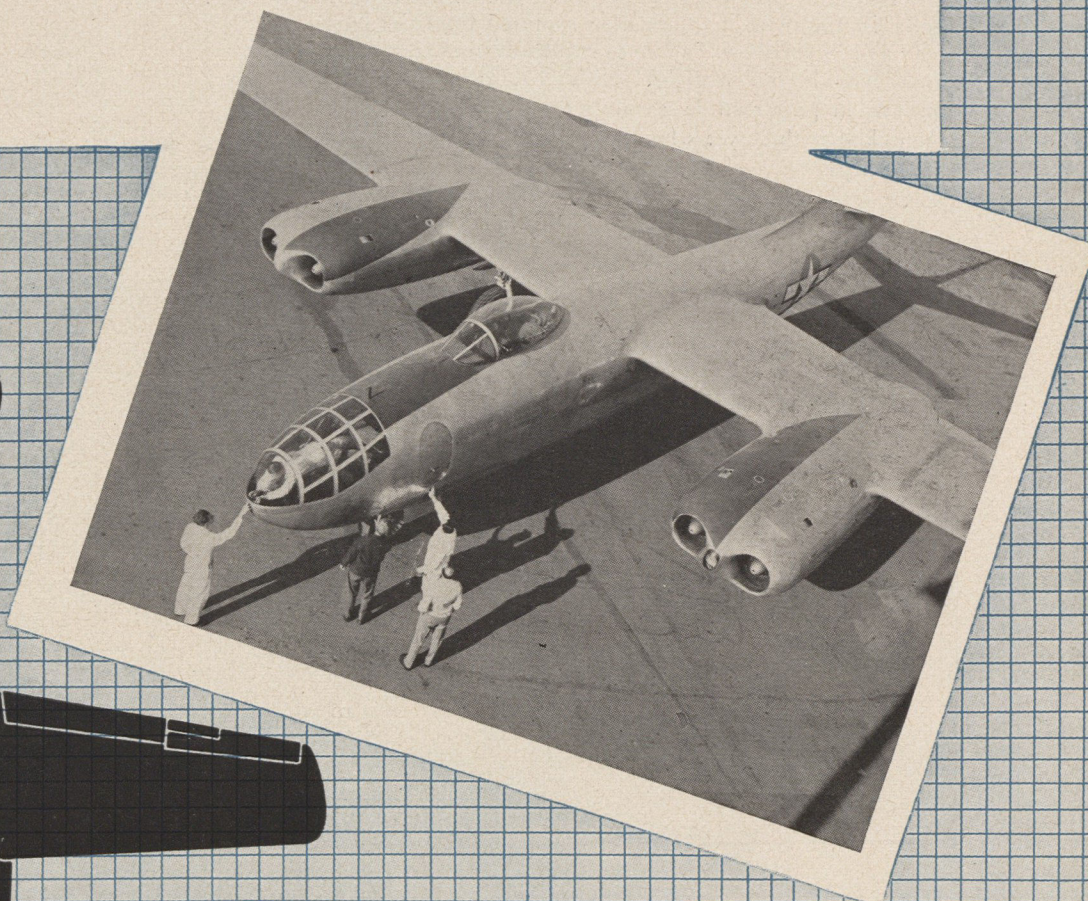
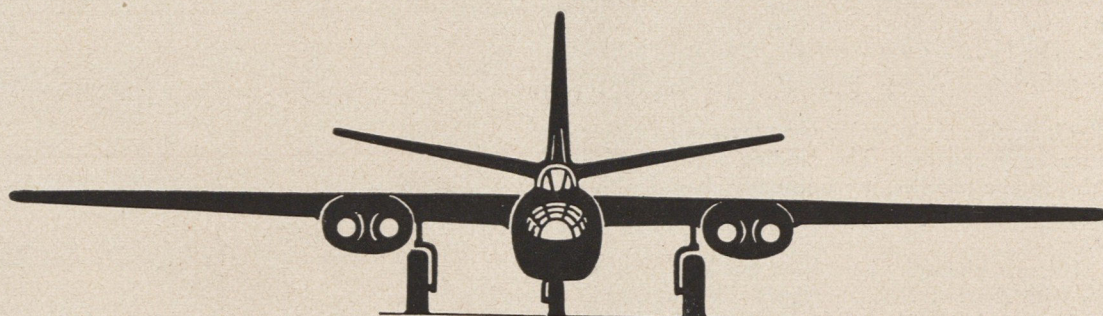
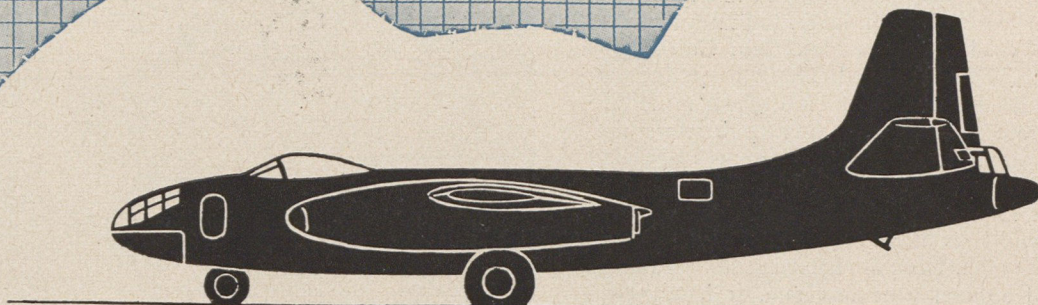
**I**N the midst of the postwar decline of American airpower a faint tinkle of hope has been sounded—a tinkle which to the optimistic ear indicates that perhaps with a little luck, we may once again aspire to the position of aerial eminence we enjoyed for a few short years during the war. By some hook or crook, the AAF has managed to scrape together enough money to order ninety-six four-engined jet bombers, the first such order placed anywhere in the world, so far as is officially known. By the end of the year there is a good chance that we will even have a jet equipped bomber group, which will be another “first” for our own AAF. The plane involved is the XB-45, built by North American Aviation.

There is little if any technical data available on the new design. It has a 89.5 foot span, over-all length is seventy-four feet and it stands twenty-five feet to the rudder top. It is a single-tailed shoulder-high-wing monoplane, powered by four J-35 General Electric type turbo-jets, manufactured by the Allison Division of General Motors. The airframe appears to be a conventional flush-riveted design in which the only break from virtually perfect streamline is the bubble





# FIRST OF THE 4-JET BOMBERS





# XB-45

canopy that shelters the pilots and what appears to be a gun emplacement aft of tailgroup, in the conventional manner.

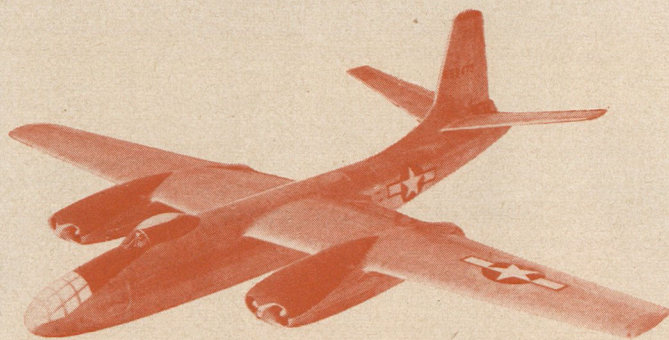
Examination of the photographs released by North American Aviation yield a few other facts or at least conditioned guesses. The power plants, slung in clusters of two under each wing, appear, by their cigarlike profile, to be axial flow type. The single possible break for the installation of armament, in the tailcone of the fuselage, indicates that the armament philosophy advanced by Maj. Gen. Curtiss LeMay for the B-29s is being continued. This concept dictated that in high-speed aerial warfare, approach speeds made the aircraft relatively safe from head-on attack, therefore the only area in which armament was needed was the rear cone.

Company test pilot George Krebs, who piloted the craft on its initial flights has stated only that the speed was "exceedingly high," which is usually taken to mean a top speed exceeding 500 mph. General characteristics, according to the 29 year old airman, were first rate. It handled as easily as most smaller craft, and flew satisfactorily on any two engines. Stalling characteristics were rated as excellent.

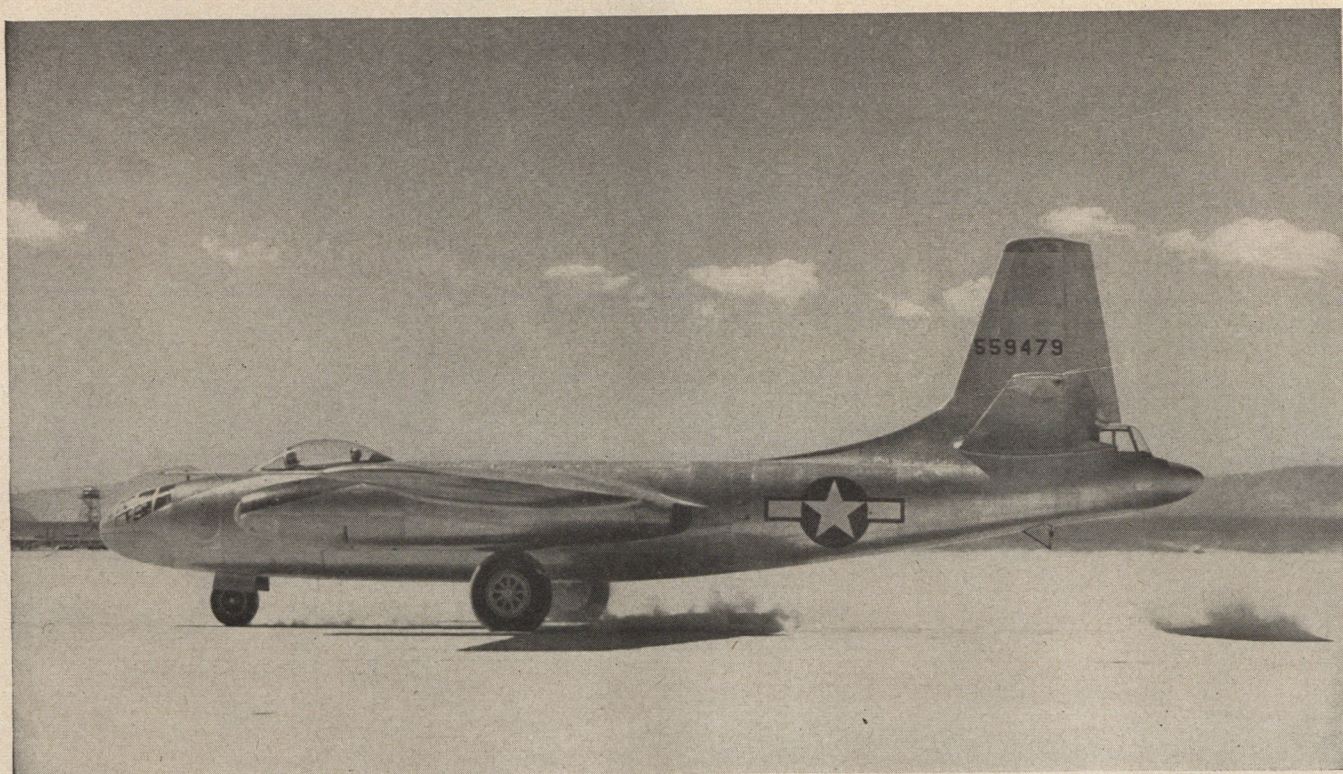
Noise levels inside the airplane were reported so low that conversations inside the plastic-domed cockpit could be conducted easily. The hydraulically boosted control system took over 95 per cent of the physical energy required to move all controls.

In the XB-45, another of the major advantages of jet power becomes increasingly apparent. The landing legs, installed inboard of the engine nacelles, are unusually short for this sized airplane, because the problem of propeller clearance is non-existent.

Students of design philosophy have been quick to compare our new jets with the last German planes, like the Arado 234. Obviously, our designs have been influenced to some degree by the mass of information captured from the Luftwaffe and its suppliers. Failure to exploit this scientific booty would have been downright foolish. The lack of funds to continue in proper stride accounts for the fact that it has taken close to three years for us to procure an airplane that could surpass the enemy's last efforts. Retention of this meager lead is in the lap of Congress and the people.



Size of the XB-45's tail may be gaged by the mechanic standing on fuselage. Center, flight view showing almost perfectly streamlined fuselage. The ground profile shows short landing gear.





HERE IT IS!

# The NEW 1948 PIPER CUB Special

NEW Styling

NEW Comfort

NEW Performance

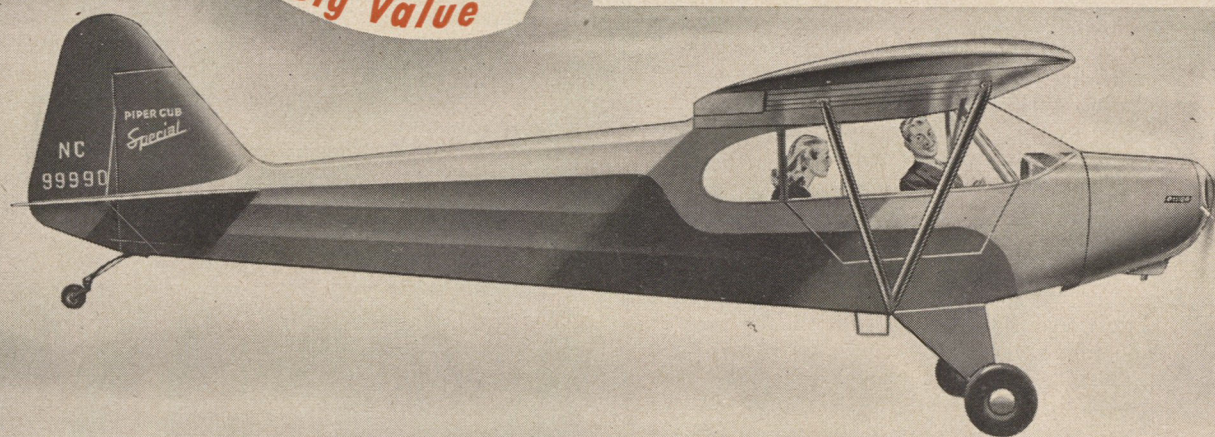
NEW Economy

NEW Big Value

RIGHT now perhaps you're thinking, "Can I afford an airplane?" With its new improvements and low cost, the 1948 Piper Cub Special is today's best answer to that question.

You'll be proud of its modern blue and yellow finish. You'll enjoy 20% greater speed and over 25% better gasoline mileage . . . approximately 100 miles per hour (top speed) and 20 miles per gallon . . . made possible by the fully cowled engine, the cleaner landing gear and streamlined struts. A new 16.5-gallon gas tank in the wing provides a 300-mile cruising range for outstanding cross-country utility. The new front seat, with its folding back, affords greater safety, more leg room, improved visibility. All new features . . . yet the 1948 Special is lower in price than any similar two-passenger plane!

Enjoy a free flight demonstration at your dealer's. Ask him for the full-color literature on the new Piper Cubs, and for the popular books . . . *How to Fly a Piper Cub* and *What Your Town Needs for the Coming Air Age*. Remember—only Piper makes the Cub, that good, safe plane. See your Piper Cub Dealer now. Piper Aircraft Corporation, Lock Haven, Penna., U.S.A. . . . In Canada: Cub Aircraft Corporation Ltd., Hamilton.



Copyright 1947 Piper Aircraft Corporation

LOOK TO THE LEADER FOR GOOD SAFE PLANES  
YOU CAN AFFORD TO BUY AND FLY

**PIPER**



## tech topics

*This month's technical developments include Alaskan radar and telescoping rotors*

### Tall Tails

One of the problems that has long dogged operators of big aircraft is that of getting the giants into hangars. In order to keep yaw down to the required five degrees of normal when one engine is cut on take-off, a sizable fin and rudder surface is required. But if the efficient single tail is retained, it starts towering higher than the hangar doors. The usual alternative is the multiple tail, which lowers the ceiling requirements somewhat but is expensive in terms of increased weight and aerodynamic efficiency.

Solution to what appeared like an impossible set of alternatives has come from the most practical men in the airplane business, the Service Engineers. R. A. Crawford, Service Manager for Boeing Aircraft Co., suggested to Chief Engineer Eddie Wells that if wings and even fuselages could be folded, why not tails. The engineering result was a hinged tail, which can be folded down and raised by means of an ingenious tri-pod jack.

Installation of the folding tail was originally designed for the Boeing Stratocruiser, but is being incorporated into the B-50 bomber. Its use has, of course, brought with it certain engineering problems, such as circuiting controls and electrical systems around the break, but these are more than compensated for by convenience in hangarage without sacrificing aerodynamic efficiency.

### New Power Plant

The first piston power plant engineered and built exclusively for airline use since before the war rolled off the line at Wright Aeronautical recently. It is the Cyclone 18 BD, a 2500 hp unit which will be installed in the latest Lockheed Constellations. The new plant is generally similar to the Cyclone 18s that powered the B-29s.

Features of the new commercial plant are direct fuel injection, forged aluminum cylinder heads with differential finning, low tension ignition, forged steel crankcases and accessory drives to accommodate power take-offs for cabin supercharging.

### K-20 for Cut Film

A commercial version of the famed Fairchild K-20 camera, the "brownie of the Air Force" is now being offered by the Fairchild Camera and Instrument Corporation. The military version of the famed aerial was originally equipped with a fifty exposure roll film back. This setup was usually inconvenient for commercial and aerial photographers. The new

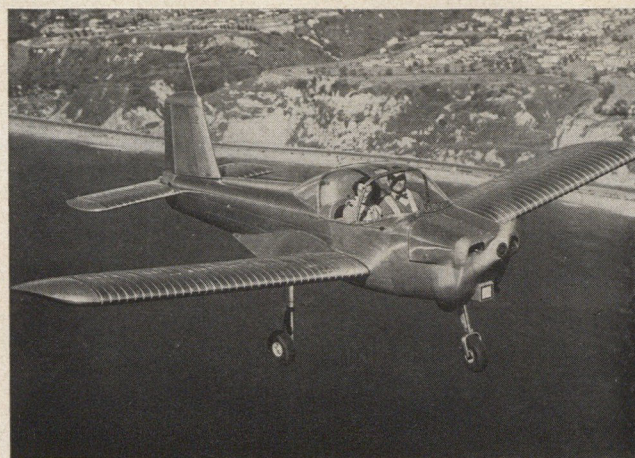
version is equipped with a standard 4 x 5 inch back to take out film magazines, film holders or film pack.

In addition to the usual military features, a special focusing attachment is available for the commercial version, which will permit settings down to nine feet instead of the infinity standard setting.

### Supersonic Bump

One of the major problems in high-speed research is the limitations of most existing wind tunnels. Created in an era when supersonic flight was considered fantastic, the average company and many universities were fiscally incapable of building the supersonic equipment required for the job. A stopgap solution to the current wind tunnel limitation has been offered by Lockheed Aircraft Corporation in the form of a device known as the Beman-Weaver Bump.

When engineering began on the P-80, Ward W. Beman, Lockheed's chief research engineer and John H. Weaver, the wind tunnel manager were well aware of the inadequacies of existing equipment. However, they observed that curved air-flow provided steady, accurate readings at speeds considerably higher than straight flowing air. To implement this, a rounded aluminum "bump" was installed on the wind tunnel floor at the Cooperative Wind Tunnel at CalTech. Ordinary operating speeds in this tunnel were 700 mph. The first tests with the bump installed gave a reading of 850 mph, or a Mach number of 1.1.



Thorp Sky-Skooter, 65 hp two-control airplane, weighs only 565 lbs empty. Cruising speed is 100 mph; nose wheel is steerable.



Indications are that most existing wind tunnels can be converted for transonic and supersonic tests by the use of the Lockheed modification. The current structure is flush riveted aircraft alloy. It is eleven feet long, twelve feet wide and is two feet deep at the thickest point. It can take an air load of 40,000 lbs.

### Safety Sponge

Amazed New Yorkers recently watched a group of scientists dropping fresh eggs from the roof of the Cornell Medical Center. Their target was a three-inch-thick rubber mat. Those that missed splattered as normal eggs should. Those that hit the pad bounced as much as two and a half stories. The ones that were fielded on the rebound by Harold Taylor, rubber chemist for US Rubber, remained intact.

This amazing demonstration was part of the work being conducted by the Cornell Medical College and the Committee on Aviation Medicine of the National Research Council. The project, under the direction of Hugh De Haven, is studying injuries sustained in airplane crashes, with a view to decreasing their deadliness.

The material involved in the egg-dropping demonstration was cellular rubber, developed originally for insulation and as a buoyant material for life-saving equipment. Externally, the material looks like common sponge rubber. Cellular rubber differs in that it is made up of microscopic closed cells, filled with nitrogen,—250,000 of them per cubic inch. These tiny cells allow the material to conform immediately to the shape of the object thrown against it, giving support, and at the same time offsetting the effect of the blow. The air in sponge rubber would merely escape from the area where the blow was delivered, whereas in cellular rubber, the trapped gas in each cell would behave like a tiny balloon, absorbing the impact.

### Fire Testing Equipment

Something entirely new in testing aircraft fire extinguishing equipment was set up recently by Walter Kidde and Co. at their proving ground at Belleville, N. J. Formerly, tests on fire fighting equipment were conducted on mock-ups and small sections of equipment. The stage for modern fire-fighting tests is a unique distribution of the parts of a wartime B-26 bomber which reproduces rear-engine fires under flight conditions.

The Belleville setup consists of the two engines of the former medium bomber, set one behind the other, so that the front power plant provides a 125 mph blast, simulating flight conditions. The airplane's wing, cut in two, provides the top support for the setup. In the rear engine, a system for admitting gasoline to the accessory section, igniting it,

and pouring lubricating oil onto the fire under controlled conditions is set up. In the same nacelle is a rig for installing and actuating various fire fighting agents under exact conditions of volume and direction.

The fuselage, placed some distance away, is used to contain controls for the engines as well as experimental equipment. This is the first time that extensive tests are being run on actual flight material. New extinguishing agents such as Methyl Bromide, CB and DL which were introduced during the war are being examined by means of this novel equipment. The system is simple and accurate. Build a real fire in a real engine accessory case under flight conditions. Then see how fast it can be put out.

### Hundred G Test Rack

A giant popgun which can shoot fifty pounds of aviation equipment straight up at fifty miles per hour, subjecting it to an acceleration load of 100 times gravity was developed by Boeing Aircraft as part of the new research program in pilotless aircraft and guided missiles. Because of the acceleration loads imposed on delicate equipment like vacuum tubes, radio chassis parts, wire connections and the like, extensive tests must be conducted before they are designed into the actual projects.

The test unit developed by Boeing's Physical Research Unit, consists of two cylinders and a cartridge or car, which is fired from the lower into the upper cylinder. Each end of the "car" acts like a piston. Up to fifty pounds of equipment is loaded into the container, which is then loaded into the bottom cylinder. Then the gates are closed, and compressed air is fed into the lower cylinder.

The loaded cartridge is held in place by a trigger catch, until the correct pressure is built up. Then the trigger is pulled, which shoots the "car" up, accelerating from standstill to full speed in nine inches. As the loaded cartridge is shot into the upper cylinder, it is slowed down by the captive cushion of air, compressed by the "car's" own momentum.

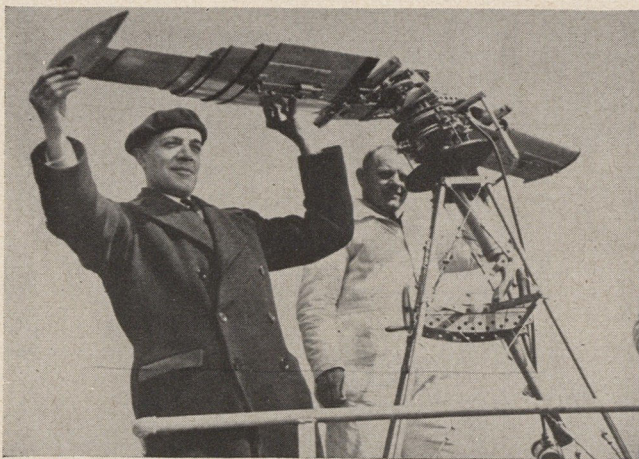
At the top of the cylinder, four valves slowly permit the compressed air to escape, controlling the deceleration.

### For Fluttery Tummies

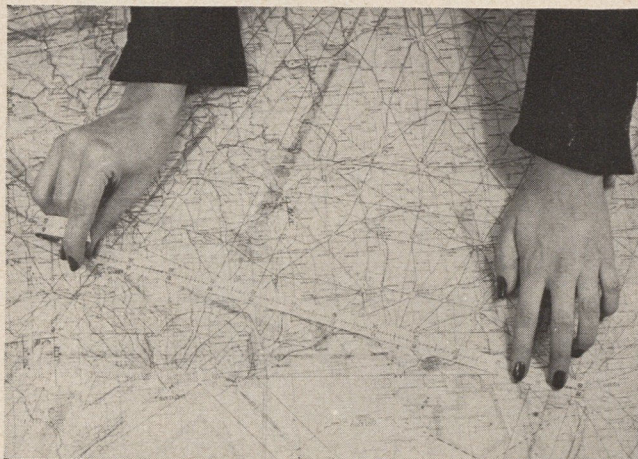
No airman admits readily to ever having been airsick. However, the phenomenon is commoner than the industry likes to admit, particularly when the weather gets rough. While a certain amount of airsickness is psychological, the bulk cause is physical, having its roots in the inner ear.

During the war, when combat troops were getting tossed

*(Continued on page 58)*



A main rotor with telescopic blades was demonstrated at Boreham, England by inventor V. Isacco, for use as parachute substitute.



Avigational aid; scotch tape printed with mileage and reciprocal which can be fixed to sectional charts is called Grimes Tape.



# SWIVEL



## Landing Gear FOR CROSS-WIND LANDINGS

**G**usts were up to 50 mph. The wind was dead across the runway. At Camp Lee, a few miles away from the Washington National Airport, the flagpole had blown down. It was certainly no day to be flying a Fairchild PT-19. Still, three men who it appears should have had more sense were trying to argue the Traffic Controller into letting them take off. They were Frederick B. Lee, the Executive Assistant to the Civil Aeronautics Administrator, the second was Lloyd Childs, Assistant to the Administrator for Personal Flying Development and the third was John H. Geisse, famed CAA consultant. They were convincing. The man in the tower said "OK, it's your funeral." The craft taxied out and took off at right angles to the wind.

Before skeptics start to write in to the editor classifying this piece with Munchausen's epics they might have a look at the landing gear on this particular PT-19. The main wheels of this craft were rigged to swivel, much like the casters under furniture. By the use of this principle, landing and take-offs at angular variance to the wind can be accomplished without undue risk of ground looping.

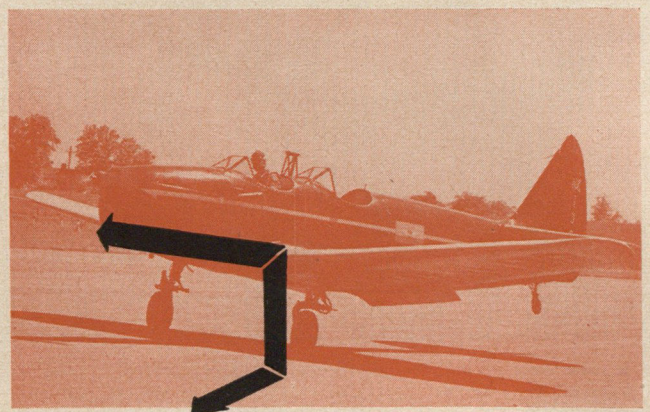
On the surface, this may look like only a minor technical

triumph. It requires, therefore, closer examination in the light of the problems facing the entire aviation industry. Aviation's major dilemma is on the ground. For practical year-round service, the average airport needs two or more runways, so that take-offs and landings can be effected as close as possible to the ideal position, into the wind. This means that the real estate involved is only partly efficient, in some cases, only 15 per cent of the total area actually being used at any one time.

In short, if the castering gear works out and is universally adopted, it may eliminate the necessity for multi-runway airports. This means that appropriations for ground installations can be used more efficiently. Towns that could afford only 6000 feet of runway would be able to marshal it into a single strip capable of handling medium sized airliners instead of a couple of 3000-foot runs for private operation exclusively. It means that the money allotted for land might be used for the more expensive locations closer to cities, which would increase the utility of the airplane as an ordinary vehicle. It means that fifteen acres could do the job presently being done by sixty.



There are two possible approaches to the problem of castering wheels for aircraft. One is Goodyear Aircraft's (left) which is contained entirely within the wheel structure. This application permits the wheel to deflect twenty-five degrees in either direction. The Fairchild gear permits up to 90° variance, which allows a full cross-wind take-off. Opposite page, left, a phantom view of the Goodyear wheel showing parts and their relative functions. 1. Single brake. 2. Vee strut. 3. Axle. 4. Attaching bolts to fit any standard axle. 5. Roller bearings. 6. Kingpin. 7. Compensating cam. 8. Compensating cam follower. 9. Shimmy dampener brake. 10. Wheel. 11. Tire. 12. Castering hub. 13. Return spring. Outer picture, detail of fully castering installation on Fairchild PT-19. This design was primarily created as a technical tool rather than as a finished aircraft component. This caster is transport adaptable.





The castoring landing gear is by no means new. Louis Bleriot had one on the famed monoplane in which he crossed the English Channel in 1909, patents for which were filed the previous year. While the primary purpose for this arrangement was for better shock-mounting and ground stability, it still had many of the characteristics of the modern castoring legs. American patents were filed in 1911.

For many years, the device lay dormant. Directionally fixed landing gear systems became the accepted thing, and no one gave the French pioneer's ideas much thought for a quarter of a century. In the mid-thirties, Eugene Vidal, then the Director of the Bureau of Air Commerce, teamed with John Geisse to present a government-sponsored research program aimed at improving the private airplane. The program was twofold. One entailed the purchase of private-type aircraft by the government for use by officials. Specifications for these aircraft were written so that the planes produced would be an advancement in design and structure over those in current use. It was an indirect way of getting new ideas fiscally into being. For the sum of \$100,000, the first phase of the program produced the spinproof airplane, a workable tricycle landing gear and two-control aircraft.

The second phase of the program had its roots in the depression. In 1934, aviation was an industry of closed plants and idle experts. Eugene Vidal proposed the diversion of WPA funds which were then available into these plants, in the hope of producing 5000 inexpensive airplanes. Those who remember the program will recollect how certain interests, fearful of the social repercussions of Vidal's suggested experiment, tied the tag of the "\$700 dream plane" to the project, and all similar research and development and propagandized it out of existence.

It was 1945 before the CAA was again in a position to do much in this field. Under the direction of Mr. Geisse, they requested a research appropriation of \$1,000,000 for the improvement of personal aircraft. They got \$150,000. That meant that they could develop one single idea. There were a score of problems facing the industry. Geisse had to make the decision, and so he approached it statistically. Flightwise, science had made the airplane foolproof—almost damnedfool proof. The major problems were still on ground. If cross-

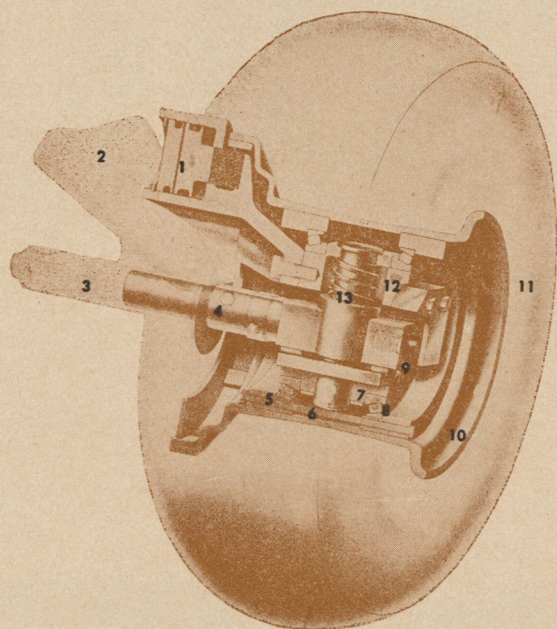
wind take-offs and landings could be made easy and safe, airports could be built cheaper. Cross-wind landings had, in the past, meant ground loops, which, in turn, accounted for a high percentage of the dollar-cost of non-fatal airplane accidents. This looked like the logical project, and so all the \$150,000 worth of research eggs were placed into that one basket.

The CAA used its usual technique, farming the job out to the industry under conference and supervision. Those were the days when most of the airplane builders were still flush from wartime contracts, and busy building their backlogs of private airplanes. Part of a \$150,000 development contract didn't look tempting. Only three companies even looked interested. They were Fairchild, and the aircraft divisions of Goodyear and Firestone.

Fairchild was the first to deliver a completed airplane. It was a standard PT-19 equipped with the swivel-leg gear. It operated satisfactorily. The principle involved differed little from Bleriot's time. The mechanical solution to certain basic problems was quite another matter.

Getting a workable cross-wind landing gear involved no basic airframe changes. There are free factors in both types of ordinary undercarriages. In the so-called conventional type, the two front wheels are fixed, while the tailwheel is casterable. In the tricycle type, it's the nose wheel that casters. In landing cross wind, the conventional landing gear contacts the ground with its wheels at an angle to the path of movement. Even in a moderate wind, it takes a lot of flying skill to keep from ground looping, and even hot pilots have a few get away from them once in a while. Records of minor damage prove that the best of them are not immune. In the tricycle gear, the castoring nosewheel guides the airplane in the direction of travel thus eliminating the tendency to ground loop. However, on take-off, other problems arise, stemming from the sudden change in attitude of the aircraft at the instant it becomes airborne.

In the castoring installation on conventionally placed main legs, there is no change of direction in the path of travel once the airplane contacts the ground in a cross-wind landing. The wheels merely line up with the path of travel, and once the craft has slowed down, it can be controlled by the usual





# LANDING GEAR

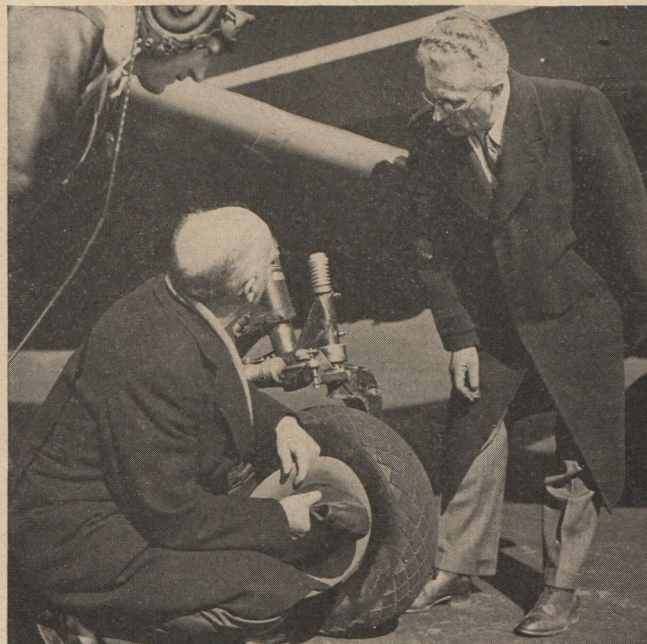
steerable tailwheel, rudder and conventional brakes. In cross-wind take-off, the pilot merely heads the aircraft diagonally across the runway upwind and holds it there during take-off. The same technique would work for tricycle gear-castering installations.

However, the design and installation is not as simple a matter as its operation. If one watches an ordinary furniture caster as an office chair is pushed across the floor, one of the primary problem shows up: that of shimmy, the oscillation of the wheel in travel. This has to be dampened and controlled by some form of cam arrangement. Caster angle and trail distance have to be calculated for each installation.

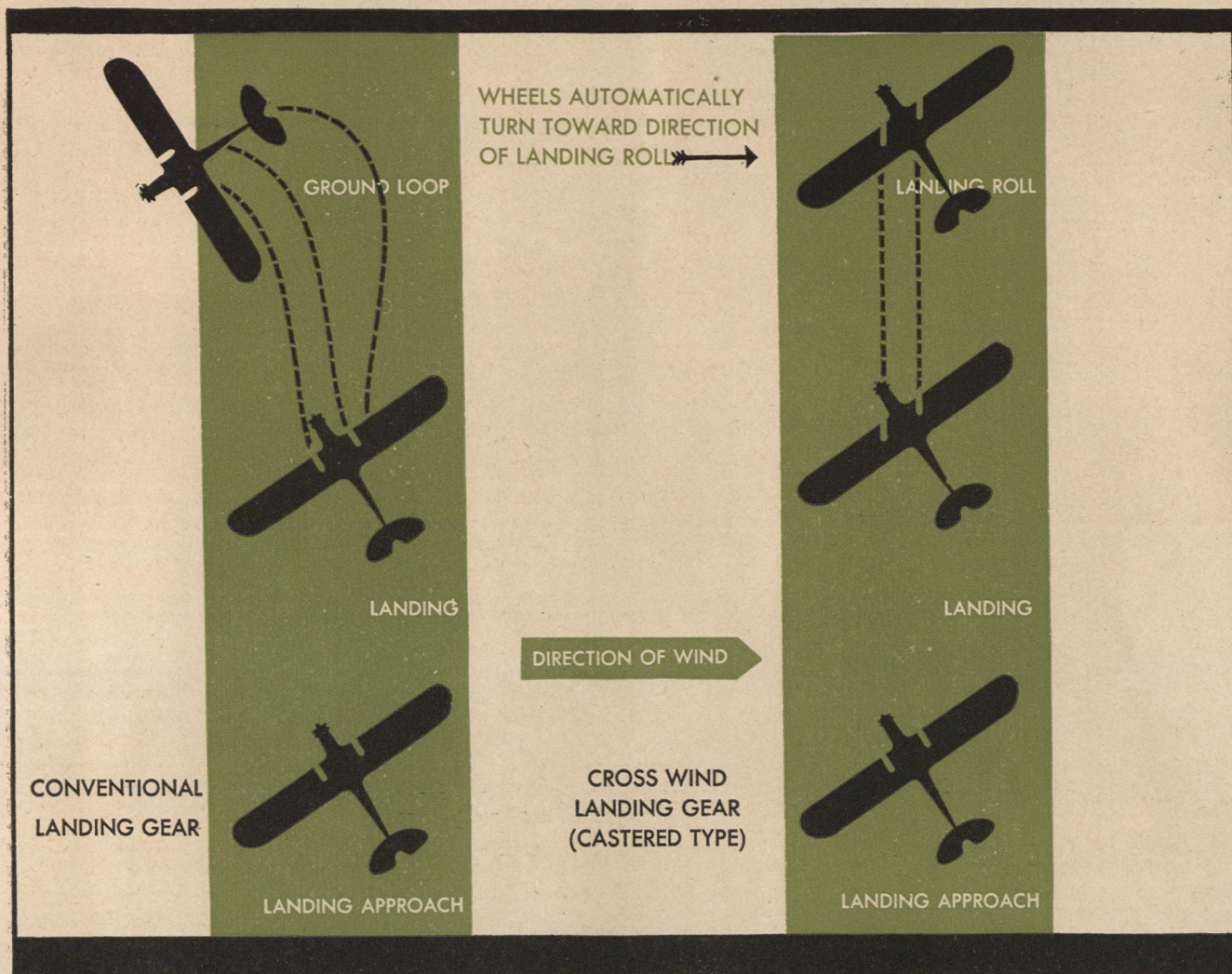
The two types of aircraft currently in operation with castering gears represent variations in approach, the reason why this sort of problem goes out to a number of builders. Fairchild's landing legs are fully casterable, permitting landings at a 90° angle to the wind. Somewhat clumsy in appearance, it was built to prove a point rather than be cosmetically beautiful. Goodyear Aircraft's installation on a Piper Cub is contained completely within the wheel. Its angle of rotation is 25° on either side of the axis, an amount deemed adequate for lightplane operation.

Problem Number One in Goodyear Aircraft's approach was that of placing the kingpin within the wheel. For a wheel to caster successfully, the point at which the wheel contacts the ground must trail the axis of the kingpin at all times, just as furniture casters are offset to provide trail. This necessitated angling the kingpin 30° in a tail-low attitude, to provide trail in all attitudes when the main gear was in contact with the ground.

(Continued on page 63)



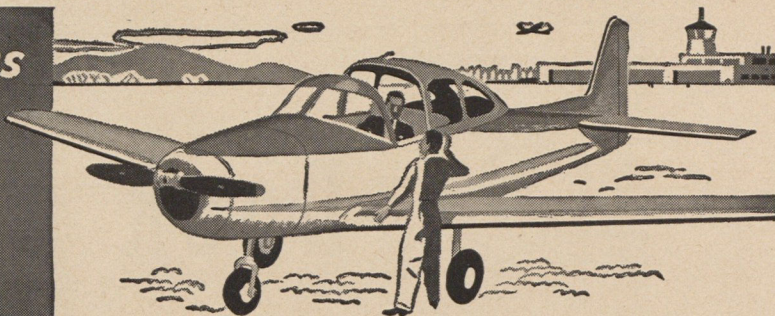
Lloyd Childs, John H. Geisse and Civil Aeronautics Administrator T. P. Wright examine original cross-wind gear built by Fairchild under CAA development contract. Below: how it works. With conventional gear, cross-wind landing would bring wheels into contact with ground at angle to path of travel. Result: ground loop. Castering wheels would compensate for this automatically.





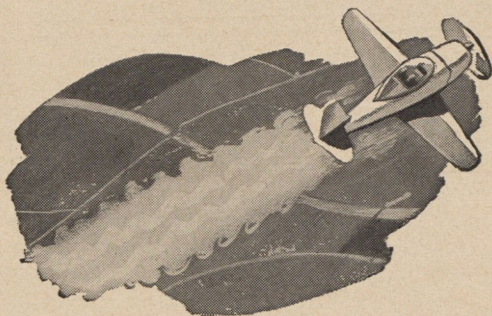
STANDARD OF CALIFORNIA'S

# PLANE FAX



A page of service tips for private flyers and fixed-base operators

## Vapor lock possible when at high altitudes



Since each thousand feet of altitude lowers the boiling point of gasoline two degrees, light fractions which should be very well behaved on the ground can cause vapor bubbles in fuel pump lines or carburetor and stop the engine as effectively as an empty gas tank. To prevent this, Chevron Aviation Gasoline is blended with a careful selection of hydrocarbons to make sure it's perfectly balanced to give easy starting on the ground, dependable protection from vapor lock aloft.

## How to keep an idle engine in good health

Protecting your engine from deterioration during periods of idleness is primarily a battle with moisture. It is a good idea for pilots who do not fly frequently to help prevent bearing corrosion, and the damage caused by rust, too, by running the engine briefly or turning the propeller through several revolutions every week. RPM Aviation Oil contains a corrosion inhibitor which, combined with its basic anti-rust qualities, prevents damage to idle engines. Yet, even with this excellent protection it is good practice to turn engines over frequently to maintain an oil film on all vital parts.



## How to keep spark plugs from sticking



Many operators find that spark plugs stick so that they are damaged in removal. This is due to the tendency of many greases to oxidize at high temperatures causing seizure of the threads. Attempts to remove the stuck plugs may cause damage to the entire cylinder. This difficulty can be prevented by using RPM Aviation Grease No. 3, a mica-base lubricant for use under the high temperatures reached by aircraft-engine spark-plug threads.

**CHEVRON NATIONAL CREDIT CARDS** are good at airports throughout the United States and Canada. Ask your Standard Airport Dealer in the West... or write to Standard of California, 225 Bush St., Room 1618, San Francisco 20, Cal.

JUNE, 1947







# Book Reviews

ED. NOTE: The following review was written at the request of the editors of *AIR FORCE* by W. Barton Leach, Professor of Law at Harvard University, and former Chief, Operations Division, Hqs., Army Air Forces.

**History of United States Naval Operations in World War II: Operations in North African Waters, October 1942-June 1943.** By Samuel E. Morison. New York, Little, Brown and Company, 1947.

Professor S. E. Morison (Captain, USNR) has kept generations of Harvard students sitting on the edges of their chairs by his superb gift of bringing history to life. Loving with a passionate love all blue water and all men who sail upon it, he sought and obtained early in the war an assignment as historian of the Navy. "Operations in North African Waters" is the first volume of many, and it is a thriller. It is said to be "unofficial."

TORCH was a complex operation and was not rendered any simpler by the way it was executed. Landings were scheduled on some twenty-seven beaches in three areas—Casablanca, Oran and Algiers—and the various naval outfits contrived to put troops ashore at fifteen or twenty other points as well, often miles from their objectives. Morison manages to keep separate the strands of this tangled skein without allowing detail to dominate the narrative. He weaves into the fabric the intricate political goings-on from the Roosevelt-Churchill tug-of-war as between African and Balkan enterprises, through the Giraud-Murphy-Clark business, to the deal with Darlan and the latter's assassination. Along with the continuous long-range view of the action he intersperses close-ups of particular segments. At least one of these, the saga of the *Thomas Stone*, deserves immortality. With his ship torpedoed 150 miles from destination, the indomitable commander of this Navy transport did everything but walk on the water to put ashore the BLT he was carrying. In the face of difficulties that tear your heart out he finally succeeded, only to discover that the enemy had pulled the war out from under him by surrendering.

Morison unquestionably saw more of the war than any man alive or dead. The Navy gave him full access to all documents and personnel, provided him with adequate assistance, and saw to it that he was personally present wherever the most vital things were happening. So the book adds expert eyewitness reporting to the synthesized accounts which comprise the usual history. A review by Hanson Baldwin in the *New York Times* takes a dim view of this mixing of personal observation with impersonalized recounting of events; Baldwin wants more figures and charts and fewer adjectives and adverbs. But with those who read this book it will be Morison two to one. To be sure there is more than a touch of schmalz. Mighty *Massachusetts* plows the silver foam; majestic flat-tops, queenly cruisers and prancing destroyers make a brave sight on the autumn sea; and all of them trail a wake of luminescent metaphors. But this is well within the traditional limits of the seagoing vocabulary, men-of-war actually look like this until effective air power goes into action against them, and besides we of the Wide Blue Yonder are hardly in a position to cast the first stone at a little innocent glamorization.

This is not to guarantee that AAF personnel—or anyone else outside the USN for that matter—can read this book without some risk of apoplexy. Captain Morison saw the war through Navy binoculars from the flag bridge. He was a member of the more exclusive fleets and task forces, and he lived and ate with their Big Brass. They were awfully good to him—and he is as objective about them as could reasonably be expected under the circumstances. Nothing really insulting is said about the ground forces; but the impression is created that they were a petulant lot always making absurd demands and stubbornly failing to recognize what a tough job the boys in blue had and how hard they were trying. The difference of attitude toward the two services is best illustrated by an episode in the landings at Mehedia. An Army unit and a Navy destroyer were each given a job to do, and each was driven off by enemy fire; the Army unit "retreated before the mission was accomplished," whereas the destroyer "opened range"—both in the same paragraph.

The Royal Navy takes a flailing for its handling of the cutters *Hartland* and *Walney* at Oran resulting in the loss of both vessels and important combat personnel. It may be that this criticism is justified, but it is certain that the RN is not given an even break. Morison attacks the basic plan for use of these vessels. In so doing he quotes at length the objections of USN officers to the plan which was adopted but nowhere gives the reasons which led the RN to adopt it or led The Ike to approve it. Is this cricket? Or even baseball? Again—while we are on the British—Field Marshal The Viscount Montgomery of Alamein, Chief of the Imperial General Staff, might raise a quizzical eyebrow at the reference to "General Alexander's victory over Rommel at El Alamein."

As to the AAF, they were practically AWOL from Casablanca right through to the surrender on Cap Bon. Doolittle is the only air officer who makes this book; he appears at page 224 as someone who is on his way, though there is no evidence that he ever got there. Spaatz, Brereton, Vandenberg, Norstad, etc. etc.? Never heard of 'em. It is probable, however, that in AAF circles the legend will persist that they were there.

Now perhaps that is being oversensitive and egocentric, and perhaps the AAF shouldn't expect to be mentioned in a Navy history. But, by gum, when it is discovered that there are twelve chapters in the book and that Chapter XII is entitled "Pantelleria" and tells how that island was taken by naval forces, the Captain is treading on holy ground. All the world knows that for a month Pantelleria was walloped by air bombardment directed by General Spaatz and that it surrendered at the approach of an invading force without any boat scraping bottom or any soldier getting his feet wet. It is also common knowledge that the AAF considers Pantelleria the best demonstration—up to the surrender of the Japanese home islands—of the capacity of air power to attain ground objectives.

So put up your dukes, Captain! In the first place you describe Pantelleria as "The Anchored Carrier." The expression, Captain, is "The Unsinkable Carrier." The most important difference between an island and a carrier—apart from space which permits full-size aircraft to be used—is that the former is as near the bottom as it is ever going to get. Perhaps we are both right; I will settle for "The Un-



sinkable Anchored Carrier." In the next place, what is Pantelleria doing in a US Navy history anyway? The job was assigned to the AAF, the RAF, the Royal Navy and a British Infantry Division; on your own story there was no US Navy officer in the show above the grade of Lieutenant; the US Navy was represented only by a PT Boat squadron ("redoubtable little stingers" if you will, but still only a PT squadron) who found nothing to do except act as targets for JU 88s.

But let's suppose you are going to deal with Pantelleria. There are several ways to do it. One is to give a balanced account of what took place and leave it at that. Another is to examine into the relative effects of air power and sea power in producing the surrender, give a hearing to both sides, and either come to a conclusion or leave it to the reader to decide. But it simply won't do to narrate the operation with a heavy emphasis on activities of the Royal Navy and then dismiss the role of air power with a quote from an Admiral of the RN to the point that "It was not until the garrison saw the traditional sight of the Army coming ashore in the boats of the Navy under cover of the guns of the Fleet, that the white flags started to appear." You well know that the AAF has views on this subject. You also know that General Spaatz's historian, still on duty, is one of your colleagues in the History Department of Harvard. The usual means of communication were open between you, on the one hand, and General Spaatz and his historian, on the other. You weren't at Pantelleria. Everything you write is reported by others. Don't you think your readers are entitled to all the evidence? If not, you ought to change the title. "Autobiography of the Navy," or "Naval Operations as Seen in the Magic Mirror of Snow White's Stepmother," but not "History."

If you had asked for help from the AAF on this you might have concluded that, after the pasting Pantelleria had taken, it would have surrendered equally quickly at the untraditional sight of the Vassar Daisy Chain coming ashore in gondolas escorted by the Pomona Mandolin Club.

But, Captain, it's still a swell book, and I've got my order in for the other volumes. And thanks for delivering one more kick at the corpse of Ingersoll's "Top Secret."

*The following reviews have been prepared by the Library Unit, Personnel Services Division, AC/AS-1, Headquarters AAF. All books listed are available to military personnel through the AAF Technical Library Service at major AAF installations.*

**Elementary Radio Servicing.** By William R. Wellman. New York, D. Van Nostrand, 1947.

A practical guide to diagnosing and correcting radio receiver troubles. Assuming that the reader has had sufficient instruction in theory and radio mathematics to enable him to understand the basic principles of the operation of receiver circuits the author describes and illustrates servicing steps in a how-to-do-it fashion. No mathematics is used in the text and all explanations are presented as simply as possible. The following system to narrow down the possible causes of faulty operation has been established:

- (1) Isolation of the trouble by signal tracing.
- (2) Testing of tube or tubes used in that stage.
- (3) Voltage and point-to-point resistance analysis.
- (4) Removal and replacement of defective part.
- (5) Checking operation.
- (6) Alignment of the receiver.
- (7) Cleaning the chassis.

The text is suitable for vocational school students, former students in the War Industries Training Program courses, returning members of the armed forces and others who have had instruction in set building and theory, but have had little or no training or experience in trouble shooting and repairing.

**Executive Thinking and Action.** By Fred DeArmond. New York, McGraw-Hill, 1946.

A practical book on the methods and practices of executive achievement illustrated by the records and philosophies of leaders in the fields of commerce, association work, government, and the military.

The author analyzes the basic factors which distinguish the executive mind. Using illustrations from the methods employed by successful leaders the basic similarity of methods is demonstrated thereby indicating the sound approach to successful executiveship.

Executives in the fields of business, association, government and the military are considered and the successful methods of each type of executive are presented. Specific reference to the activities of men such as Lincoln, Hamilton, Carnegie, Napoleon, Churchill and Grant add practical value to the book.

The need for successful leaders is always acute and this book will be of assistance in training for such leadership through its presentation of the methods of leaders, past and present.

**Gas Models and Engines.** By William Winter and Walter L. Schroder. New York, Crowell, 1946.

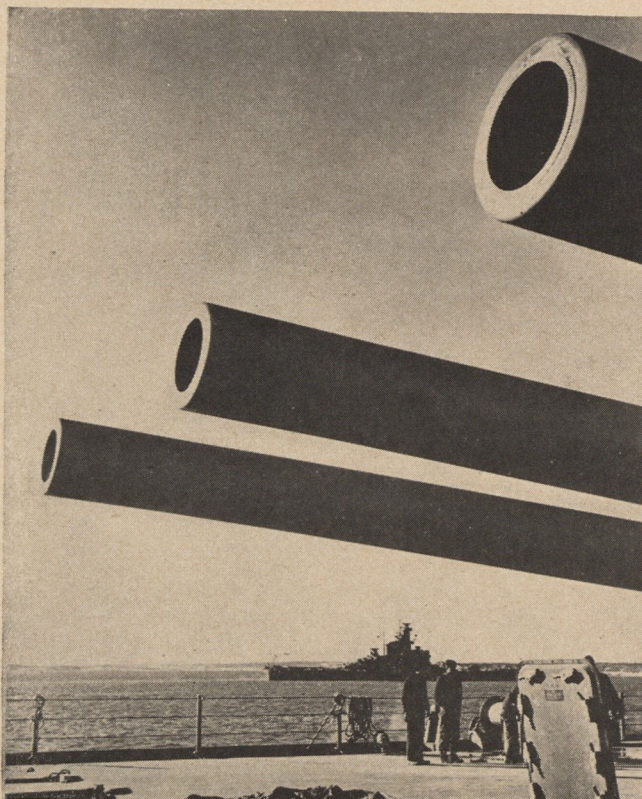
This book covers the design, construction and adjusting of gas models. It brings together all the essential material on both gas models and gas engines.

The sport of building and flying gas models has increased in popularity in recent years, and although it is usually just a hobby it has many scientific aspects and serves as a means of acquiring a good basic knowledge of flying.

Airfoils, propellers, materials, stunting models, seaplanes and flying boats, how to operate engines, how to design a gas model, trouble shooting engines, the control-line model, flying and adjustments, structural design and experimental models are some of the subjects covered.

The book contains many helpful illustrations and should

**Deep-water Navy men** still think of global operation in terms of 16-inch batteries and floating fortresses, according to reviewer W. Barton Leach. (See the signed lead review on opposite page.)





# AIR FORCE BOOK DEPARTMENT

## Story of the Helicopter

by *Devon Francis*

Clear-cut analysis of the rotary wing future with a graphic flashback into helicopter history.

230 pp. \$3.00

## Rockets

by *Dr. Robert Goddard*

An unusual book by the foremost rocket authority, with forecasts on rockets for research, travel.

111 pp. \$3.50

## Fighters Up

by *Eric Friedheim*  
and *Samuel W. Taylor*

Official story of the 8th and 9th AAF—written in P-51 tempo, and packing the B-17's wallop.

274 pp. \$2.50

## The Purple Testament

edited by *Don M. Wolfe*

Short stories and essays on the war and their reaction to it, by Purple Heart veterans.

361 pp. \$3.50

## Atomic Diary

by *Lt. Col. John F. Moynahan*

Public Relations Officer for Manhattan District Project tells human side of A-bomb's birth.

88 pp. \$1.00

## Airport Planning

by *Charles Froesch*  
and *Walter Prokosch*

Clear analysis of airport problems; illustrated suggestions for communities seeking airport funds.

250 pp. \$7.00

## Aircraft Mathematics

by *Walling and Hill*

World's best text on basic math required by pilots and mechanics, illustrated with actual problems.

186 pp. \$1.75

56

## The Last Time I Saw Them

by *Corey Ford*  
and *Alastair MacBain*

Remembered moments in the AAF by two men who were a part of the greatest team in the world.

244 pp. \$2.75

## Ninth AFSC REVIEW

by *the Editors of Air News*

Complete record of ETO activity of a flying, fighting air army, by and for its men and officers. Paper bound \$1.50 Cloth \$2.50

## Army Flyer

by *Gens. Arnold and Eaker*

Full record of the duties, opportunities, responsibilities of AAF men from recruit to general.

311 pp. \$2.50

## Aircraft Navigation

by *Walling and Hill*

Concise text for cross-country beginners, with elementary problems of navigation pictured and defined.

146 pp. \$2.00

## Visibility Unlimited

by *Lt. Ernest Vetter*

Primary and advanced meteorology and navigation as taught by the AAF and Navy.

455 pp. \$4.00

## Meteorology and Aircraft Instruments

by *Wright, Dyer*  
and *Martin*

Study of atmosphere, forecasting, aerial photography, aircraft instruments and aviation radio.

348 pp. \$3.25

## US Army Aircraft 1908-1946

by *James C. Fahey*

Complete evolutionary history of US Army Aircraft from 1908 to 1946 with latest jet designs.

64 pp. \$1.00

appeal to all those interested in gas models from the beginner to the experienced expert.

**The Radio Amateur's Handbook.** *American Radio Relay League. West Hartford, Connecticut, 1947. 24th ed.*

With the release of wartime restrictions this 24th edition of the best known and most authoritative handbook for radio amateurs incorporates many new facts and much new material to make it of particular value to amateurs, servicemen and physicists.

The text is composed of three main sections: Principles and Design, Equipment Construction, and General.

The 1st section contains nine chapters covering the theory of radio communications and design of amateur transmitting, receiving, radiating and measuring apparatus. The section on Equipment Construction contains much new material and for the first time in five years has been produced wholly under peacetime conditions.

The third division of the 1947 Handbook is composed of a completely up-to-date revision of the tables of vacuum-tube characteristics and miscellaneous data, and includes a chapter of information concerning amateur radio operating. An extensive catalog section at the end of the book gives valuable data and specifications for radio equipment.

This basic up-to-date text on amateur radio communication will serve as a complete construction manual and training text for class or home study.

**Scientists Against Time.** By *James Phinney Baxter, 3rd.* Boston, Little, Brown & Company, 1946.

The Office of Scientific Research and Development has prepared for publication four types of documents on subjects covered by its wartime scientific research and development programs. *Scientists Against Time* as the first publication is a short one volume popular history of the contribution of OSRD to the war effort. Twelve long histories on specific topics such as Ordnance and Metallurgy, Radar and Electronics Warfare will follow. In addition specific monographs and Summary Technical Reports will complete this publication project.

*Scientists Against Time* is the official story of the secret weapons designed for World War II. As our Intelligence provided information on the progress of enemy plans and accomplishments our scientists had to speed up their activities to keep us ahead or lose the battle.

The story of the development of radar, proximity fuses, loran, vehicles for amphibious attack and, of course, the atomic bomb are all covered by the book.

The impact of technology on modern war is dramatically emphasized in this narrative. The author is the president of Williams College and he has made a most important contribution to our understanding of the requirements for our future security as a nation.

**The Brereton Diaries.** By *Lt. Gen. Lewis H. Brereton.* William Morrow and Company, New York.

During World War I, "Lewie" Brereton learned that what happens to a soldier is history. That detailed records should be kept not only as account of events, but as a tactical score sheet, so that errors, whether political or military, may not be repeated. This book contains a running account of what happened to the only air commander to face the enemy at every front on which the United States fought. It starts with the almost pitiful maneuvers a few months before Pearl Harbor and ends with preparations for the unconditional surrender at Rheims.

The diaries, though seemingly genuine in origin, bear the chisel marks of having been wrought into a book, but there is a striking lack of fictionalization and dramatization. Essentially it is a simple record of what a fighting man thought

AIR FORCE



and did, ranging from the heartbreaking defense of the Philippines to cloak and dagger stuff such as dining with Captain Ilya Tolstoy, before the grandson of the great novelist embarked on a secret mission to Tibet.

Among the historic high spots is an inside account of the strategy behind the Ploesti raid, known as Operation Tidal Wave. The precision of its planning reflected staff work equalling that of an involved plan of battle and the drama of its execution surpassed the most spectacular charges in history.

The part of the book that deals with the period from D-day to the end is lit with informative sparkles of information and human insight into the beings of the men who forged the victory. The 101st Airborne trooper, for instance, who was being decorated by General Eisenhower: All of five feet two inches tall and weighing 120 lbs, he had been a prisoner of war for five days and had escaped from the enemy. The General asked how he got away. "My guard got careless," was the laconic reply.

"Did you kill the guard?" asked General Ike.

The little trooper blushed and looked embarrassed. "Well, General, he's dead now."

**Van Nostrand's Scientific Encyclopedia, 2nd Ed.** Van Nostrand, New York.

A second edition of a standard reference book encompassing the basic sciences and the applied fields of science and engineering. The first edition was published in 1938.

Some eleven thousand terms of scientific interest are arranged alphabetically and the development of the discussion of each topic begins with a simple definition and progresses to a consideration of its more detailed scientific aspects. Significant terms used in an article are printed in boldface type as a reference to the complete discussion of the term in its alphabetical position.

This encyclopedia is the combined effort of twenty-two contributing editors and eighteen consulting editors. It contains 366 more pages than the 1st edition and take into account the broad advances of science that have occurred in the various subjects covered. Subjects of particular interest to those in the aviation field include aeronautics, astronomy, electronics and radio, photography, meteorology, navigation and physics. Examples of new items included since the first edition include radar, loran, F.M., television, jet propulsion, superchargers and engineering methods and processes.

**The Battle for Leyte Gulf.** By C. Vann Woodward. The MacMillan Company, New York.

It is just possible that the Battle for Leyte Gulf will be recorded as the last great battle between surface ships. When the smoke of this engagement cleared away, there were those who relegated battleships to the limbo of wooden frigates and the armored knight. For this reason alone, this scholarly yet somehow exciting summary of a great naval action should be required reading for all strategists, armchair or battle-line.

The author, an intelligence officer in the office of the Chief of Naval Operations, has gone beyond a mere report and analysis of the action itself. He has undertaken to deduce the enemy line of thinking and points to the "falling apart" in command and policy that dictated some of the suicidal characteristics of the so-called "Sho Plan" with which the Imperial High Command intended to defend their stake in the Philippines.

There is some attempt, on the part of the Naval-minded author, to put in a good word for the "gun club" members. This, for the true salt, is pardonable but some of the deductions must be measured against the results of the Bikini experiment before the fate of deep-sea warfare is definitely decided.

## BOOKS OF ALL PUBLISHERS

### First Over Germany

by Sgt. Arthur P. Bove

Battle saga of the 306th Bombardment group, first American unit to strike Germany's soil.  
148 pp. \$5.00

### One Damned Island After Another

by Clive Howard and Joe Whitley

The whole fantastic story of the men of the 7th A.F. who flew the war's longest sorties.  
Indexed. \$3.75

### Private Pilot's Handbook

by A. G. Norwood

Authoritative text offering the essential facts needed by students preparing for CAA exams.  
258 pp. \$2.75

### The Battle for Leyte Gulf

by C. Vann Woodward

A Naval Intelligence Officer's inside view of the greatest sea battle of the entire war.  
244 pp. \$4.00

### Gas Turbines and Jet Propulsion for Aircraft

by G. Geoffrey Smith

New international text on structure, operation, maintenance of jets, ramjets, and gas turbines.  
246 pp. \$5.00

### We Dropped the A-Bomb

by Merle Miller and Abe Spitzer

AAF vets give an eyewitness report of atomic warfare as seen from A-bomber Great Artiste.  
152 pp. \$2.00

### How to Fly

by the Editors of Air New

Only civilian instruction manual incorporating the drawings, text which trained 250,000 AAF pilots.  
64 pp. \$1.50

### Man's Fight to Fly

by John P. V. Heinmuller

A scholarly, intimate study of aviation's progress and some of the men who did the pioneering.  
370 pp. \$2.50

### The Brereton Diaries

by Lt. Gen. Lewis H. Brereton

Personal accounts of the air action on all fronts from Manila to Rouen on V-E Day.  
450 pp. \$4.00

### Basic Principles of Weather Forecasting

by Victor P. Starr

Comprehensive handbook of short-period forecasting techniques at various seasons in US.  
327 pp. \$3.00

#### AIR FORCE BOOK DEPARTMENT

545 Fifth Avenue, New York 17, N. Y., Dept. AF12

I enclose \$\_\_\_\_\_ in payment for the following aviation books to be sent to me postage prepaid (this offer good in US only).

(Please Print)

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY & ZONE \_\_\_\_\_

STATE \_\_\_\_\_



# Heroes Who Flew

BY THE *seat of their pants*

—And Cheerfully Carried A *cow*

Or A *corpse* For A Payload . . .

When the first plane soared into the Carolina Sky at Kittyhawk, a new kind of hero—the flyer—was born. And when the first Jenny plane rose from the forbidding terrain of Alaska the real conquest of two of man's last frontiers—the American Far North and the unknown sky above it—began.

## "THE WORLD'S CRAZIEST PILOT"

Jean Potter tells fully for the first time the stories of airmen like:

ARCHIE FERGUSON, called "the world's craziest pilot" (you'll agree when you read of his adventures)—and many others.

CARL BEN EIELSON, restless and modest, who followed his dream wherever it led, and whose 1928 trans-Arctic hop is regarded by aviation experts as more daring than Lindbergh's hop.

JOE CROSSON, who flew the bodies of Will Rogers and Wiley Post to the States after their Point Barrow disaster, and who declined the Congressional Medal of Honor and the Distinguished Flying Cross.

BOB REEVE, uncanny glacier flyer.

HAROLD GILLIAM, who once flew 125 miles through driving snow to take a sick man to the doctor—and another 200 miles to bring the man's son to his bedside (but this was only one of his many amazing exploits).

This is the tale of the Alaskan pioneers who helped to make the scheduled airline flights of today possible and who, even before the war, built their country into the "flyingest land" under the American flag. These are the giants of the northern skies. Read their fascinating story in Jean Potter's

# The Flying North

THE MACMILLAN COMPANY

60 Fifth Ave.

NEW YORK 11, N. Y.

\$3.75 at all bookstores.

## TECH TOPICS

(Continued from page 49)

around in LCIs and paratroop trolleys remedies for mal-demer were tried out in order that troops could come ashore in fighting shape. Scopolamine and aspirin were discovered to be the best combination. This mixture is now being merchandised in chewing gum form under the trade name of Trip-Eze. Several airlines are putting this product aboard.

### The Darndest Things Dept.

What happens to apricot pits when folks are through with them? Some enterprising person breaks them to the size of cracked wheat and sells them to Trans World Airlines. They use this odd substance for a serious technical purpose, that of air-blasting carbon out of aircraft engines during major overhauls. After considerable trying this substance was declared ideal. Sand took too much time. Wheat was a war-time scarcity, and now it's a shame to use food for that purpose. Walnut shells and peach pits were effective but not completely satisfactory. Apricot pits were the answer.

### Alaskan Radar

Airborne radar as a substitute for radio ranges will be tried experimentally by Alaska Coastal Airlines in conjunction with the Technical Development Service of the CAA. This unit serves a short-run operation between such key points as Juneau, Sitka, Wrangell and Ketchikan and the various canneries along the coast. Very often flights are along inlets, at levels below the mountains, so that radio range flying is impractical. Because water reflects little or no signal to a radar scope, and since the high mountains and irregular coast line reveal themselves with reasonable clarity, a usable picture can be furnished from which pilots familiar with the terrain can operate with ease.

The pioneer equipment is being installed in the nose section of a Grumman amphibian protected by a radome, with the receiver and scope in the cockpit. Since all operations in the area are from water, the retractable landing gear has been removed, making up for most of the weight expended in radar equipment.



Doak Aircraft's latest in airline chairs, the Airestocrat, features linked back, adjustable arm rests, contour height settings. The occupant, starlet Barbara Bates, is not standard equipment.



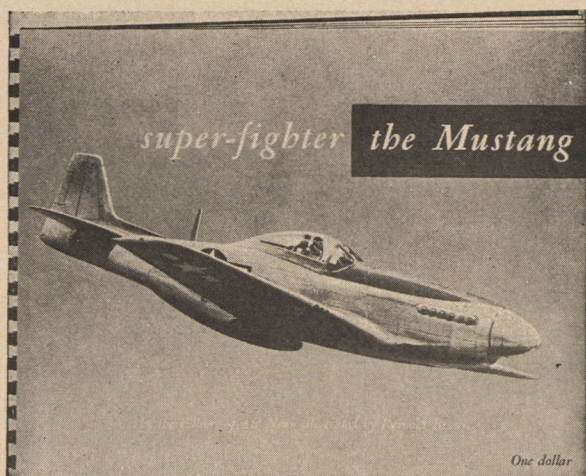
# SPECIAL OFFER TO AFA MEMBERS

Response to our previous combination book offer was so great that one of the titles is now out-of-print. There are still a few copies, however, of the publications shown on this page—enough to make up approximately 1,000 sets comprising the finest book value we have ever offered. AIR NEWS YEARBOOK alone, of which nearly 50,000 copies were sold at \$4.75 is well worth the money. Now you can have them all, sent to you postpaid in one package, for the surprisingly low price of \$2.95.



Two of America's greatest war planes are pictured and described in these two unique "Airfolios." Nearly 200,000 copies were sold on newsstands during the war. For a story that literally unfolds before your eyes into giant plane portraits eight feet square, you will value this entirely different treatment of the famed North American B-25 and Lockheed P-38. Fine for wall decorations.

A colorful tribute to one of our foremost fighters. Thirty-five thousand copies were sold at a dollar.



JUNE, 1947



Only definitive work of its kind, profusely illustrated, originally published at \$4.75, airmen have found this a valuable addition to their libraries.

**FIVE AIR-WAR PUBLICATIONS** **\$2<sup>95</sup>**  
**A MORE-THAN-\$10 VALUE**

Phillip Andrews Publishing Company  
545 Fifth Avenue, New York 17, N. Y.

AF-1

Gentlemen:

I enclose \$2.95. Please send me, parcel post prepaid, AIR NEWS YEARBOOK No. 2, TANKS AND ARMORED VEHICLES, SUPER-FIGHTER: THE MUSTANG, and the B-25 and P-38 AIRFOLIOS.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_ STATE \_\_\_\_\_







The insane, traveling on the airlines of Alaska, are usually bound in makeshift strait jackets and accompanied by attendants. But there has been more than one mishap. Once a deranged woman opened the door of a plane and hurled herself out. Another passenger caught her by the foot just in time.

"There she hung, the ship doing 80 miles an hour, the door open, the weather was freezing cold. The guy who was holding her by the foot told the pilot, 'I can't hold onto this lady no more and I can't pull her back in, the wind is too strong.' The pilot couldn't land, the snow was too deep and he was on wheels. Only one thing he could do; he throttled down slow as he could, swung low over the drifts and let the fellow drop her out. All she got was a few broken bones."

An Alaskan pilot knows all about the people's lives.

"One time I picked up a passenger at Anchorage, a nice little girl from the States. She wanted to go to Takotna. Soon as she got in the plane she said, 'Do you know So-and-so over there? I'm going to marry him.'"

"Oh gosh, I thought, this is terrible. That old cuss, everybody knows he's half-lit all the time and goin' to pieces and livin' with another woman. I ask her, 'Does he know you're comin'?' 'No,' she says, and she kind o' giggles, 'he thinks I'm comin' next month! I saved up all my money and this is going to be a surprise!'"

"Oh God, even worse than I thought. I try to figure how I can keep the kid in the plane till I get him in shape, but soon as we land she hops out and runs up the hill with her little grip into the store. I tie down the ship and follow her up and I ask the fellow in the store, 'Did you tell that little girl where he lived?' and they're all chucklin', holdin' their sides. 'Sure,' they say, 'she's on her way up to his cabin now.'"

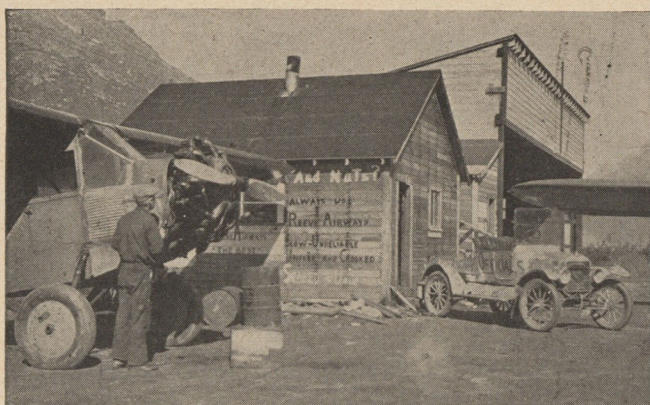
"I run out, but it's too late; she's just knockin' on the door. I feel sick about it, walk back in the store. Pretty soon I take another look. There she come slowly down the hill with her grip, cryin' and cryin'. I took her aside: 'Don't feel too bad, kid,' I told her, 'we all have our disappointments.' She said she spent all her money to get there, not a dollar left. I told her: 'If you want to go back to Anchorage it won't cost you a nickel.' I told the other passengers she was a writer, just lookin' into the minin' business a little; and she begun to feel better, and I flew her back to town."

There are sad trips—and happy ones.

Jim Dodson got an order from a trapper at Fort Yukon for a wedding ring and a planeload of liquor. He arrived with this gala freight on the appointed day. The trapper met him with a long, sheepish face. "Gosh, Jimmy, I can't use that stuff, looks like I'm not gittin' married after all."

Dodson hesitated. Another trapper spoke up. "You got the liquor? You got the ring? Okay, Jimmy, you can switch the order to me."

(Continued on page 62)



By his own proclamation, Bob Reeve's Airline operating out of Valdez is "slow, unreliable, unfair, crooked, scared and unlicensed." During war he hauled military cargo in 14-year old plane.

JUNE, 1947

# the 9<sup>th</sup> AIR FORCE

## service command

# PICTORIAL REVIEW

The Ninth Air Force Service Command in England . . . the Normandy invasion . . . the fight for France . . . and the battle for Germany. The whole exciting story is told in text and hun-



dreds of exclusive photographs, including personalities, action shots, and the scenery which you knew as ETO. Written by, about, and for the Ninth's enlisted men and officers this book is a lasting record of victory. Use the coupon for ordering either the \$1.50 or the \$2.50 edition.

AIR FORCE BOOK DEPARTMENT

AF-12

545 Fifth Ave., New York 17, N. Y.

Please fill my order for **The Ninth Air Force Service Command Pictorial Review** as follows:

.....copies regular (paper cover) edition at \$1.50 each

.....copies de luxe (cloth-bound) edition at \$2.50 each

for which I enclose \$.....

NAME.....

STREET.....

CITY AND ZONE.....

STATE.....



## THE FLYING NORTH

(Continued from page 61)

Fort Yukon had its wedding anyway. Dodson was the best man. He kissed the bride, climbed into his Stinson and flew on for a load of beaver.

An Alaska pilot hauls "passengers, freight and a little bit of pretty goddamn near everything." Malamutes and Husky dogs are regular passengers. Roped to the seats, they growl and scramble in windy weather and are more likely to get airsick than human beings. When a Chicago zoo ordered four live walrus Pilot John Cross flew them from Cape Prince of Wales to Nome in a Stinson.

"They were young ones, only walrus in captivity at the time, weighed about a hundred and fifty pounds apiece. Friendly animals, very sensitive—when I'd scratch their heads they'd cry like babies. I wrapped them in canvas sacks and fed them with milk bottles. They were so frightened at first they screamed. But after we took off they lay with their heads together and quieted down."

At Nome Pilot Cross delivered the walrus and picked up a load of pigs for delivery to a mine. They were more difficult cargo.

"I wanted to haul them crated, but the box was too big for the door of my plane so I took the walrus bags and wrapped them one by one. They were vicious, those pigs, squealed and fought so I could hardly get them loaded. In the air they nearly tore the bags to pieces."

The biggest animal ever carried in a plane in Alaska was also one of the easiest, a cow.

"Dave Clough over at McGrath wanted it for fresh milk for his daughter's ailin' baby. Daisy, she was a real big cow, must 'a' weighed eight hundred pounds. Leo Moore took her over from Merrill Field in a Pilgrim.

"Leo tried to get her used to the ship, would coax her up a plank into the cabin 'n' feed her. It sure worked. When the time come for take-off she just walked right in like into a boxcar. Nothin' to it. He didn't even tie her down much, just roped her head 'n' horns so she wouldn't take the windows out, had extra boards on the floor so she wouldn't step through.

"Daisy was a real airplane cow, she seemed to like the trip; 'n' long after, every time a Pilgrim come into McGrath, she'd walk right up 'n' stand there like she wanted another ride."

An Alaska pilot needs ingenuity and strong arms. In 1940 a whole store was hauled by air to Ophir. Timbers for two-story buildings, cement, counters, doors, window frames, sheet-iron tubing, window glasses and all the stock were flown and landed there by Pilots Johnny Moore, Chet Browne, and Ralph Savory in two Pilgrims and a tri-motor Ford.

"If the ship'll take her," the pilots say, "we'll fly her." Bunks and poling boats have often been wedged into small single-engine craft. A dredge shaft was once hauled in a Belanca; the pilot had to take out the front window to fit it in. A small gas tractor was carried in a Stinson. The pilot removed the doors of the plane and flew with the track frame sticking out two feet on either side. "The tail shook a little," he admits. This was not the worst. "If she's too big to get in," they say, "we'll tie her on outside." Pilot Jack Peck once lashed a big cookstove onto the fuselage of his Ryan B-1. A Michigan sled weighing 260 pounds was hauled by Oscar Winchell underneath his Stinson.

An Alaska pilot needs good aim. He will land wherever he can: on the snow on skis, on water on pontoons, on rough clearings on wheels, but if conditions are too poor he will drop a small load from the sky. Swooping low, he will tip his plane and shove the carefully wrapped packages through the door. Mattresses, frozen meat, cases of canned milk and gasoline, even dynamite go tumbling through the air. The

men below set colored flags on the snow or soft tundra for a target. Women stand by their cabin doors and count the bundles as they come down.

Jim Dodson likes to tell about the time he threw out a package of meat to the Midnight Mine and it bounced right up on the chopping block. But once he dropped a load of mail on a windy day, and the string broke; letters fluttered through the woods "like a flock of ptarmigan." The people spent days hunting for them. Oscar Winchell, at Candle Creek, had a sadder hit when he dropped what he thought was a load of meat. "We was in a hurry 'n' not payin' too much attention to the packages." He later learned it was a victrola and 300 records. "Only two of 'em was not broke. The people played them two over and over all summer long."

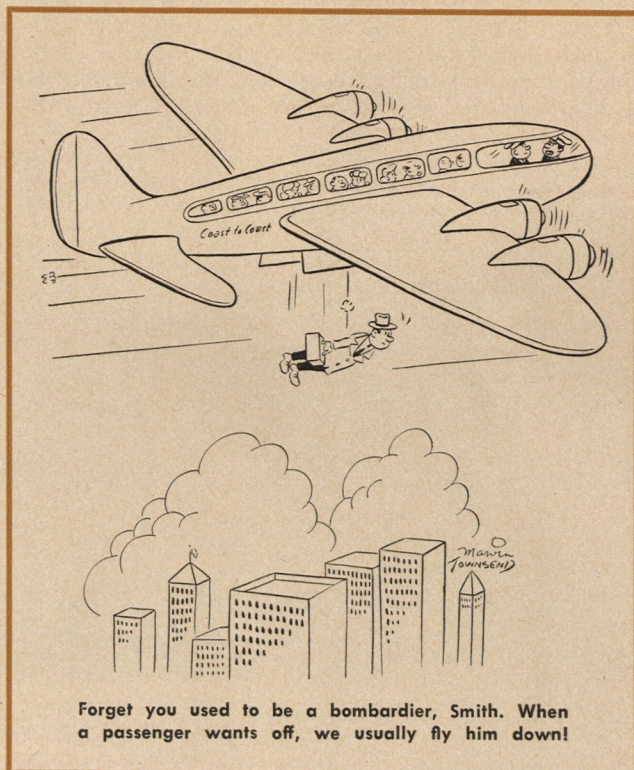
Winchell took a big load of meat to Julian Creek in a Stinson—"whole froze hindquarter o' beef, gee God that thing must 'a' weighed a hundred and seventy-five pounds. I gets it up to the plane, and I take the door off, rope the meat through the window and fix it so it won't hit the strut. I fly over, circle in gusty air, loosen the rope, wiggle and wobble, and it falls off nice and I keep headin' on down the creek thinkin' I done a good job.

"Next fall I find out I knocked a lot o' logs off the bunkhouse, busted a window and near killed a fellow in his sleep."

Alaska pilots fly scheduled meat runs to the mines, routine as grocers' truck routes, delivering on appointed days. One man, to drum up business, started hovering over remote camps and dropping meat that had not been ordered. "I'd just write C.O.D. on the sack and throw it out and hope they'd pay me next time they come in to town." Most of his customers did pay him. They were pleased. Billy the Finn at Moore Creek was more than pleased:

"A whole month my camp is out of meat. My men all going to quit because no meat. I tell them I walk to Flat, walk for days by shoe-pac. I stand by my cabin and I say 'Oh Lord, if only I had some meat!' I listen, I hear a noise, a plane come over, it drops a sack. MEAT it falls out of heaven right by my door. I cannot believe it is true. That flyer is the best man I ever seen."

Alaskans today are the flyingest people under the American flag.



Forget you used to be a bombardier, Smith. When a passenger wants off, we usually fly him down!



The General parts company with the AAF on a serious note of warning: "For many years I have been a fairly close student of history in the making," he said. "This interest and knowledge was greatly heightened during my service abroad in the war just ended. I am as certain as I am of anything that rough weather lies ahead for our country. I think this may not be entirely because of the antagonism of any foreign power.

"I believe the lack of interest and concern on the part of our citizens will be a more immediate cause of our undoing. What I see happening today is a clear carbon copy of what happened in the years from 1919 to 1939. In the first and second world wars we were given two years or more to build our depleted peacetime military establishment into the tremendous organization needed for all-out war."

The next time, General Eaker feels, there will be no comparable time in which to prepare. He cites weapons the enemy will have—the long-range bomber and the guided missile, and adds:

"Any aggressor of the future will have learned from the last two wars that to win he must first attack the United States and defeat it if he is to prevent its manpower and weapon-making capacity from being developed to full power when it must surely destroy him."

A word to the wise from a wise man should be sufficient.

## SWIVEL LANDING GEAR

(Continued from page 52)

To correct the drop in the airplane's center of gravity or the tendency for the wheel to "lie down" when castering, a compensating cam and cam follower arrangement was placed within the wheel to raise the airplane slightly when the wheel turns. This cam arrangement also returned the wheel to normal position when the airplane was airborne. To correct the shimmying tendency, a spring loaded brake was attached to the axle, whose shoe rode on a portion of the cylinder attached to the hub, dampening the oscillation.

At this writing, Firestone Aircraft has not yet shown their product, the application of the castering gear to a tricycle gear on the Ercoupe. Bellanca, All-American, Beech and North American have also indicated that they are going to build at least experimental installations with the new gear.

Interest in the single-runway gear is not confined to the personal aircraft field, or to the US for that matter. In England, a P-51 was rigged with a castering gear, and operated quite successfully. Their attempt differed a little, in that their gear could be set to an approximately correct direction by the pilot just previous to landing. This was deemed advisable in fast landing aircraft and in large types, as it decreased the wheel acceleration and amount of wheel correcting angle necessary. This reduces the structural load on the landing gear to a considerable degree.

So far, the major objection to the idea is weight, and even that is not being taken seriously. In light aircraft, the increase was not high enough to require major weight-and-balance recalculation. In larger aircraft, the increase would be nowhere near proportionate.

The castering gear is a first-rate example of the kind of leadership government should assume. If the idea pans out, the \$150,000 investment should permit the Federal and local appropriations for airports to go considerably farther than originally planned. If its application spreads to transport aircraft, it may mean the solution to the current stacking problem, by full utilization of all existing runways.



## "LET'S KEEP THE GANG TOGETHER"

Dear Former Member of the AAF:

The war against Germany and Japan is over, but the kind of peace we fought for has not been won.

Today we are as vulnerable to surprise attack as we were in the years preceding Pearl Harbor. General Spaatz says "we are an Air Force in memory only."

I'm sure that you will want to help remedy this situation, and you can help by joining the Air Force Association today. In addition to the personal satisfaction of participating in the program to achieve for the Air Forces equal status with the ground and sea forces, you will receive:

1. A year's subscription to *Air Force*.
2. An embossed membership card.
3. A distinctive lapel insignia.
4. The opportunity to continue service friendships, perpetuate AAF traditions, and commemorate those who did not return through the formation of state Wings and local Squadrons.

We'll be proud to have you with us in the one big organization restricted to present and former members of the AAF. Annual dues are just \$3.00. If you are already a member, won't you pass the word along to a friend.



### MEMBERSHIP APPLICATION

Date.....

I represent that I have been honorably separated from, or am now on active duty with, the U. S. Army Air Forces and hereby apply for membership in the AIR FORCE ASSOCIATION. Please send me membership card and lapel emblem. I enclose \$3.00 (\$2.00 of which is to cover a year's subscription to AIR FORCE).

Name..... Rank.....

Present Address..... Please Print

Street..... City..... Zone..... State.....

AAF Unit..... ASN.....

Please Mail to..... SIGNATURE

AIR FORCE ASSOCIATION 1603 K Street, N.W.  
Washington 6, D. C.





## Pin Money

50¢

There was a time when Air Force Association emblems were at a premium. Because of serious wartime metal shortages, the manufacturer couldn't get them to us, and we in turn couldn't get them to AFA members. There weren't even enough to go around once. It was an embarrassing situation, but happily the crisis has passed. We now have a good healthy stock of our distinctive wings-and-circled-star emblems. There's enough for everybody to have several if they're wanted.

So if you've lost your original, or if you want one or two extras for your sports jacket or your overcoat, you can obtain them merely by writing to the Air Force Association, 1603 K Street, Northwest, Washington, D. C. Enclose fifty cents for each pin.

### EXTRA!

We have just received a shipment of safety clasp type pins designed especially for women members. Same size, same price as the regular screw clasp pin. If you prefer this model please indicate in your letter.

**Air Force Association**

1603 K St., N.W.,

Washington, D. C.



## PLANE BONERS

Analyzed by Veteran Pilots

An AT-6 pilot landed on a runway at a southern base close behind another AT-6. As the two planes taxied toward the parking area, the trainer in the rear overtook and crashed into the lead AT-6. The tower operator cautioned the pilot of the plane in the rear to slow down twice, but the pilot said he only heard the first warning. He also said he had difficulty keeping the tail wheel engaged while he was trying to "S."

*Comment: Two perfectly good airplanes received major damage because one pilot was too impatient to taxi with caution. He knew there was another plane directly ahead and had been warned of its presence. But he taxied ahead blindly and a crash resulted. Pilots must be made to realize that there is no excuse for a taxi accident. If you can't see where you are going you must stop. You must taxi slowly at all times. Above all, if trouble controlling the airplane is encountered, you must stop and call for assistance. You can't go wrong that way.*

While dragging an airstrip at an overseas base, the pilot of a P-51 flew so low that the right wingtip struck a post used in connection with construction. Although he pulled up and went around for a safe landing, the wingtip was damaged and had to be replaced.

*Comment: Because this pilot was so intent on observing what was on the ground, he completely forgot his altitude and almost flew into the ground. This accident might have been much more serious if he hadn't been jarred into alertness by contact with the post. It's a good idea to drag strange and doubtful fields before landing, but don't drag the airplane. It is often fatal.*

While a student was making a hooded instrument takeoff in a C-47 from an overseas base, he allowed the right wingtip to drop and drag the runway. The wingtip had to be replaced and the right aileron was damaged.

*Comment: Although damage in this accident was comparatively minor, the incident points out a valuable lesson. The instructor pilot sat by idly while*

*the student allowed the airplane to get so far out of control that he was unable to make a correction. Instructor pilots must always be on the alert for student errors. A correction made too late might as well not be made.*

As a P-51 pilot prepared to take off from a Japanese base, he ran the engine up to 38 in. while holding brakes. He released the brakes and pushed the throttle forward rapidly until he got 56 in. Hg. Immediately after the plane began to roll, it yawed to the left. The pilot tried to correct with rudder and brake, but the plane continued out of control and crashed into two poles and some rocks 40 ft off the left side of the runway. The P-51 received major damage, but the pilot was not injured.

*Comment: The pilot's pre-takeoff checks were thorough and trim control settings were correct. However, his heavy hand on the throttle led him to trouble. In high-performance, single-engine airplanes, torque is an ever-present menace. Safe takeoffs or go arounds demand smooth applications of power with carefully coordinated corrections for torque.*

Following a normal landing at a large Pacific base, a B-29 was slowed to taxi speed and the pilot prepared to turn into a taxiway. During the turn, the right gear collapsed and the wing settled on the taxi strip. The big bomber received major damage.

*Comment: Investigation after the accident showed that the gear was down and locked during the landing. However, the rivets attaching the retracting gear support to the front spar were pulled out completely. This allowed the gear to become unlocked and collapse. It was determined that the landing just completed could not have caused the trouble. However, a previous hard landing had set up the failure and had not been reported. If a hard landing, or any other unusual incident, occurs in an airplane, it is essential that it is reported. It may not be dangerous at the time, but it may cause the loss of an airplane or crew during subsequent flights.*



# 1001 NEW AVIATION FACTS

in the

## AIRCRAFT YEARBOOK FOR 1946

### THE MOST COMPLETE STORY OF AMERICAN AVIATION TODAY

The most complete compilation of aviation data ever gathered in one volume—702 pages packed with records of war and peace aviation; 146 photos; 34 post-war plane designs; complete directories of manufacturers, air lines, aviation associations.

### FOR THE VETERAN A COMPLETE RECORD BOOK

A comprehensive record of our war aviation from Pearl Harbor to V-J Day; official statistics; combat records by each theater of sorties, bombs dropped, enemy and our own losses.

### FOR AVIATION ENTHUSIASTS AN AUTHORITATIVE HANDBOOK

For 28 years, Aircraft Yearbook has been the standard authority on American aviation. This year, bigger and better than ever, it includes in 12 brilliant chapters:

**TECHNICAL PROGRESS OF AVIATION:** epochal developments from the war; new giant planes; new power plants; jet propulsion; new instruments.

**ARMY AND NAVY AVIATION IN WAR AND PEACE:** the strength of our war and peace air armadas; plans for technical developments.

**AIR TRANSPORTATION:** The Air Transport Command; Navy Air Transport Service; growth of air line services; passenger, freight and mail developments.

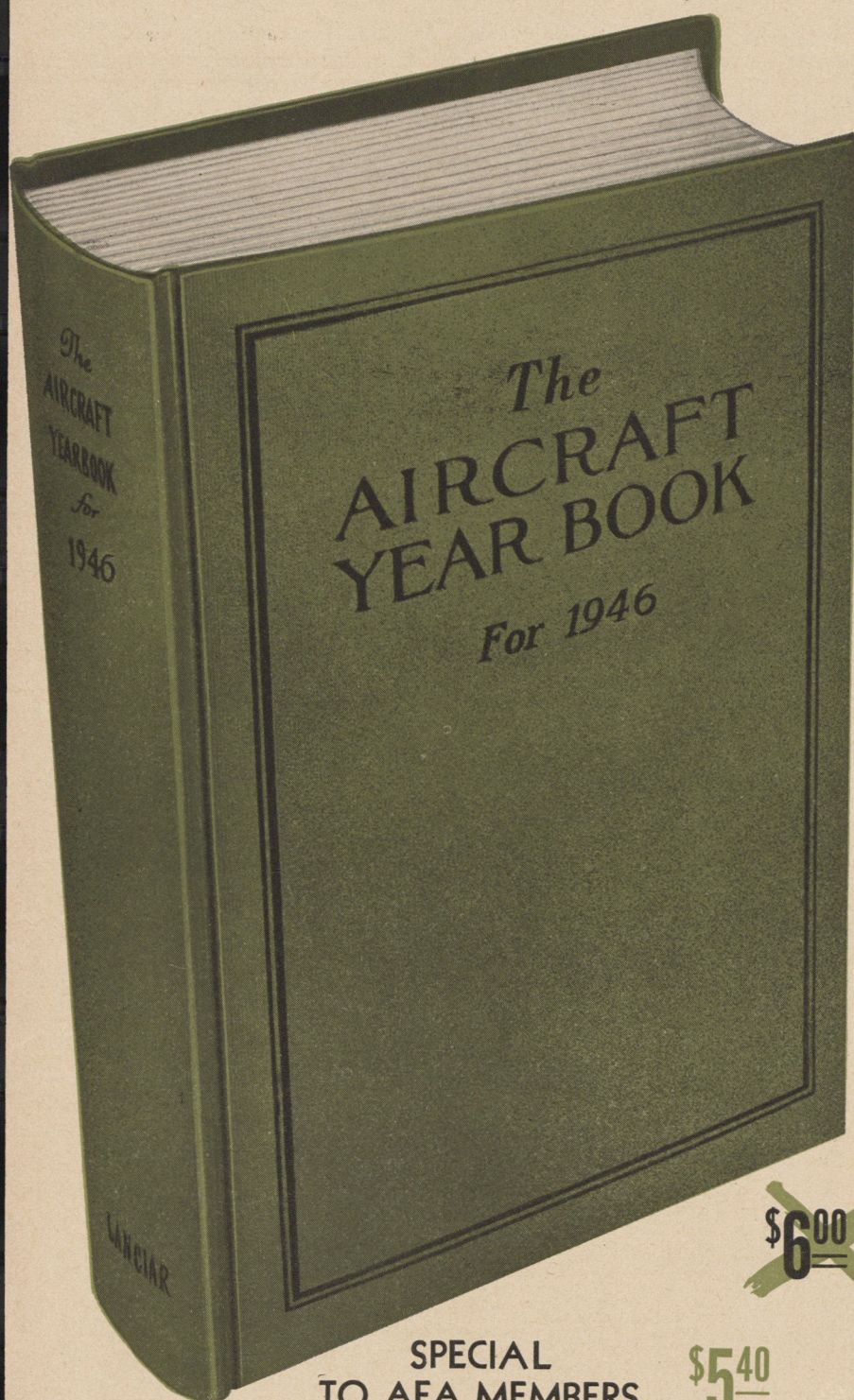
**PRIVATE AND NONSCHEDULED FLYING:** the fascinating story of the personal plane field and of the aggressive new commercial lines.

**AVIATION EDUCATION, TRAINING:** the hows, whys and wheres of aviation as a career, civilian or military.

**PLUS . . . AIRPORTS AND AIRWAYS . . . AMERICAN AIRCRAFT WAR AND POST-WAR . . . AIRCRAFT POWER PLANTS . . . NEW AVIATION ACCESSORIES—ALL IN COMPLETE, AUTHORITATIVE DETAIL.**

Every member of the Air Force Association will want to own this truly great volume as a record of his group's personal war achievements, and as an indispensable guide to his future in aviation.

**BE SURE TO ORDER  
YOUR COPY TODAY!**



**SPECIAL  
TO AFA MEMBERS**

~~\$6.00~~  
**\$5.40**

Air Force Book Department  
545 Fifth Avenue, New York 17, N. Y.

AF-12

Please send me . . . . . copies of THE AIRCRAFT  
YEARBOOK at \$5.40 for which I enclose \$ . . . . .

NAME . . . . .

STREET . . . . .

CITY & ZONE . . . . .

STATE . . . . .





**Over ITALY**  
JUST PUBLISHED! New AAF Pictorial of your stay in Italy and the Middle East by the publishers of "The 8th Sees England." Over 250 pictures of air combat—fighters—bombers—flak—Rome—Naples—Capri—Cernigola—Cassino—Cairo—Palestine and many others. \$3.00 postpaid. Send check, money order, or C.O.D.

AAF PUBLICATIONS  
6017-26 W. Third St.  
Hollywood 36, Calif.

## ★ WERE YOU IN THE AIR FORCES? ★

Here's the  
Lapel Button

Pictured here  
twice size



ONLY  
\$1.75

tax included

Insignia is Sterling Silver, Gold Plated  
Screw-type back for safety  
Baked Red Enamel dot in center of star  
Also may be had in 10 K. Gold at \$4.75

Send your check or Money Order to

**TRUMAN PATTERSON, BOX 113, MERION, PA.**

Orders filled promptly, postage paid,  
satisfaction guaranteed



**Sees ENGLAND**  
Now—Exciting! AAF Pictorial of your stay in the ETO. Over 250 pictures of air combat—fighters—bombers—flak—London—Norwich—Ipswich and many others. \$3.00 postpaid. Send check, money order or C.O.D. Also 8th AAF Lifetime Plastic Glass Ash Trays—3 for \$1 postpaid.



AAF PUBLICATIONS  
(Publishers of "The 15th Over Italy"—also \$3)  
6017-26 W. Third St.  
Hollywood 36, Calif.

## CREDITS

Page 11—NACA; Page 12—AMC, AIR FORCE; Page 13—USAAF (2), International; Page 15—Consolidated Ross-Pix; Page 18—Ralph Lomen; Page 19—Cann Studio, Noel Wien, Ted Lambert, Burleigh Putnam; Page 20—L. Sepala; Page 21—Army Signal Corps, Noel Wien; Pages 22-23—USAAF; Page 24—US Army; Page 25—US Army, Fairchild; Page 27—AIR FORCE, US Army; Pages 30-31—USAAF; Page 32—US Army, Press Association; Page 33—US Army, USAAF; Pages 34-35—Boeing Aircraft; Pages 36-41—AFA; Pages 44-46—North American; Page 49—International; Page 50—Fairchild, Goodyear; Page 51—Fairchild, Goodyear; Page 52—Civil Aero. A., Goodyear; Page 55—US Navy; Page 58—Doak; Page 61—Bob Reeve.

# Rendezvous

Will anyone who knew S/Sgt. Francis J. Kelley, 713th Bomb Sqdn., 448th Bomb Gp., MIA over Magdeburg, Germany, please contact Cpl. Ed Kelley, Sqdn. A, Stewart Field, Newburg, N. Y.

Gentlemen:

I was wondering if I could find out where my old A/C might be—Lt. James G. West. When I left the AAF I was in the 449th Bomb Gp. (VH) at Grand Island, Neb. I understand the Group was re-formed and was to go to Alaska.

F. J. Kapitan  
P.O. Box 10  
Navy 3930  
c/o FPO, San Francisco, Calif.

Gentlemen:

I'm a member of AFA and would like your help in locating an Air Corps man I knew in the service. He's Arthur Matura, and I last saw him when I was transferred from Bradley Field, Conn. in 1945. At that time he was Base Operations Officer there and a captain.

Francis D. Bernard  
1943 Jackson Ave.  
Ann Arbor, Mich.

Gentlemen:

Cpl. A. A. Fiorelli served with me overseas when we were stationed at Kassel, Germany. When he was discharged he went to Philadelphia, Pa. If anyone knows his address, please get in touch with me.

Allan P. Bailey  
14 Sherman St.  
Lexington 73, Mass.

Gentlemen:

Can I get a line on an old buddy of mine? Five of us were pretty close and one has dropped out of sight. He's William M. Stubbs, of Barnesville or Steubenville, Ohio.

Ralph L. Stinson, Jr.  
RR 2  
Grant, Mich.

Gentlemen:

I should like to try to contact the members of the C-46 crew I went overseas with. Lt. Edward S. Reeve was our pilot. We were together for awhile in the 14th Combat Cargo Sqdn. in Burma until I (the navigator) was transferred to China. I have some pictures of the crew and of several places we visited, but do not have the addresses of any of the boys. Perhaps they will see this letter in AIR FORCE.

Walter G. Downie  
Sanderson, Texas

Gentlemen:

I'm attempting to obtain names and addresses of former members of the

12th Medium Bombardment "Earthquaker" Group to determine how many of them would be interested in a Group History.

Robert E. Wilson  
R 4, Box 114  
Chehalis, Wash.

Gentlemen:

Please allow me to enlist your help in locating the whereabouts of the men who were in my squadron. The purpose—a reunion.

To all the men of the 831st Bombardment Squadron (H), let me have your address and any information that you might have as to where some of the others can be found.

William D. Ceely  
Major, AC  
Army Information School  
Carlisle Barracks  
Carlisle, Pa.

Gentlemen:

I'm looking for Taylor H. Weaver. He was a M/Sgt. serving with the 72nd Fighter Squadron on Iwo Jima the last I saw him. His home town is Lancaster, Pa.

E. M. Murley  
3739 Bowen Rd.  
Toledo 6, Ohio.

Gentlemen:

I've just pulled my face out of the latest issue of AIR FORCE. I sure wouldn't be without it.

The last thing I read was "Rendezvous" and I was hit with a swell idea. Here's my chance to get in touch with my ol' crew. To make it short and sweet, if any of the boys from "Crew 11260" at Dyersburg, Tenn. read this, how about getting in touch with me.

Cal Kruggel  
717 N. La Reina Ave.  
Downey, Calif.

Gentlemen:

Sgt. Thomas M. Martan served with me in the 30th Fighter Sqdn. Howard Field, Canal Zone. His last known address is Denver, Colo. I'd like to contact him.

Rodney Lamont  
3527 Telegraph Ave.  
Oakland, Calif.

Gentlemen:

I have been trying for sometime to locate an AAF buddy of mine. His name is Robert St. Martin, formerly of Chicago, I think. I knew him when we were both stationed at Camp Luna, Las Vegas, N.M., and lost track of him when I was sent overseas.

E. J. Kaelin  
3913 Elmwood Ave.  
Louisville 7, Ky.



*"Make your vacation a reunion"*



*First Annual Convention  
of the Air Force Association  
Columbus, Ohio, Sept. 15-16*





## Quick, Henry—the helicopter!

Hops bring up to \$2000 an acre. But bugs like hops too! In the State of Washington, hop mites threatened quick destruction to a valuable crop.

What did the owners do? A Bell Helicopter was summoned—in exactly 20 minutes it dusted 8 acres with insecticide at an 80-pound-per-acre rate. The result: A chemist and an entomologist spent the afternoon hunting mites. One found two. The other found one.

Over farm, field, orchard, the Bell Helicopter is at work an average of 40 minutes out of every 60. It can come up close to a stand of trees, and swing right around on its own axis. It needs no airport. It sprays or dusts or seeds at a surprisingly low cost.

This summer, Bell Helicopters are on duty in Tucson, Arizona; Lockport and Northbrook, Illinois; Presque Isle section of Maine; Syracuse, New York; Port-

land, Oregon; Los Angeles, California—in 12 states, Canada and Sweden. They are spraying and dusting crops, patrolling forests and power-lines, reporting news, training new pilots . . . making themselves useful to business, agriculture and the government.

Find out now how The Modern Magic Carpet\* can make money for you. Write Helicopter Division, Bell Aircraft Corporation, P. O. Box 1, Buffalo 5, N. Y.

# BELL HELICOPTER

PRODUCT OF BELL *Aircraft* CORPORATION

PIONEERS IN JET-PROPULSION, RADIO-CONTROLLED FLIGHT AND SUPERSONIC AIRCRAFT FOR THE U. S. ARMY AND NAVY. DESIGNERS AND BUILDERS OF THE WORLD'S FIRST COMMERCIALY LICENSED HELICOPTERS FOR LAND AND WATER.

\* T. M. REG. U. S. PAT. OFF. AND PRINCIPAL FOREIGN COUNTRIES ©1947 B. A. C.

N. W. AYER