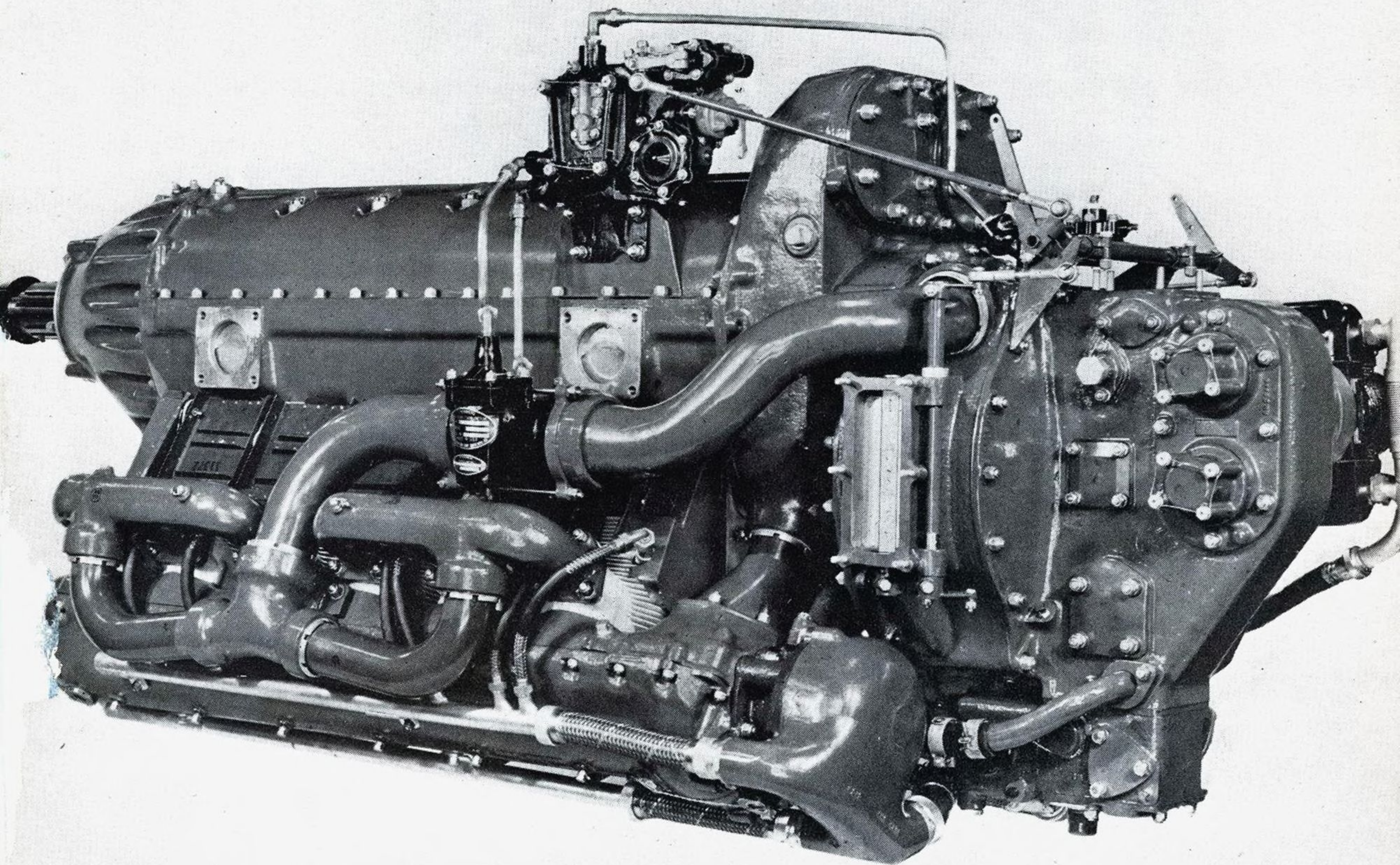


# Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

OCTOBER 16, 1944



**Ranger's New 700 H. P. Lightweight Engine:** Weighing only 780 pounds, Ranger's new compact power plant has many applications for post-war commercial aircraft, especially in the feeder airline field. This new photo shows detail of three-quarter rear view. The engine is a 12-cylinder V-type inverted, inline and air-cooled.

## **World Air Power Urged to Enforce Peace**

Would not be force in being, but individual units committed to action when needed; Senate would approve assignment of U. S. unit.....Page 7

## **PAA Data on 3 Plane Types for Latin America Use**

Predicts New York-to-Buenos Aires round trip fare as low as \$342.90 with DC-7's, modified *Constellations* and "Type 12" aircraft.....Page 36

## **Return of Last 26 Planes Gives More Seats Than Before**

New allotment increases capacity to 6,205 passengers, compared with 6,145 before U. S. requisitioned craft.....Page 34

## **Jap Steel Industry Has 'Priority' in Super Missions**

Vulnerability of Nipponese heavy industry makes plants strategic target; seven recent missions were against enemy steel centers.....Page 21

## **Four-Year Non-Engineering Course Opens at Miami U.**

Three basic curricula established stress various phases of vocational training in aeronautics; 34 freshmen, including 6 war veterans, enroll..Page 13

## **Halting Tendencies Revealed in Stocks of Airlines**

Prices of air transport equities pushed upward to points where yields are extremely low, based more on potential earning power.....Page 32



# Washington Observer

**BRITAIN MOVES**—Importance attached by Britain to future air travel and transport was underscored by a recent appointment of Viscount Swinton, government trade and aviation specialist as Civil Aviation Minister with cabinet rank and was not overlooked by high officials in Washington. The move took on additional significance since it came almost on the eve of the international conference on civil aviation which will open in the United States Nov. 1.

**SWINTON'S POSITION**—One point not overlooked in Washington was the probability that Viscount Swinton will head the British delegation to the international conference and that the United States has no officer of comparable rank. A. A. Berle, Assistant Secretary of State, probably will head the United States delegation. Britain is moving to protect her interests in the post-war aviation sweepstakes.

**BRITAIN DETERMINED**—Appointment of Swinton reflected to some degree the worried glances cast in many directions out of London recently, particularly at American plans for covering the globe with aerial routes and at Russia's undisclosed post-war aviation program. There had been some criticism of lack of policy in London, even as there has been in Washington. Whatever works out of the British plans, the objective was voiced by Sir Archibald Sinclair, air minister, who said Britain means to keep her place in the first flight of international air transport. That is giving Washington something to think about.

**AIRLINE ALLOCATION PLAN ENDS**—Current allocation to the airlines of 26 DC-3 type planes from the military marks the last batch to go back under the old allocation method. Under this plan, CAB and the War Department's munitions assignment committee worked together to determine which carriers should receive what planes. Hereafter, deciding agencies will be Surplus War Property Administration and an interdepartmental working committee representing State, War, Navy and Commerce departments, CAB, RFC, WPB, and FEA.

**ALLOCATION ANGLE**—Aviation people in Washington note that the last return brings the number of airline units to the 300 ceiling and gives the carriers approximately the seating capacity they had early in 1942 when the Army took over 166 of their planes. Reports are that the Army now is reluctant to lift the ceiling,

but feeling in the industry is that it will be lifted when and if more planes of the commercial transport type become available.

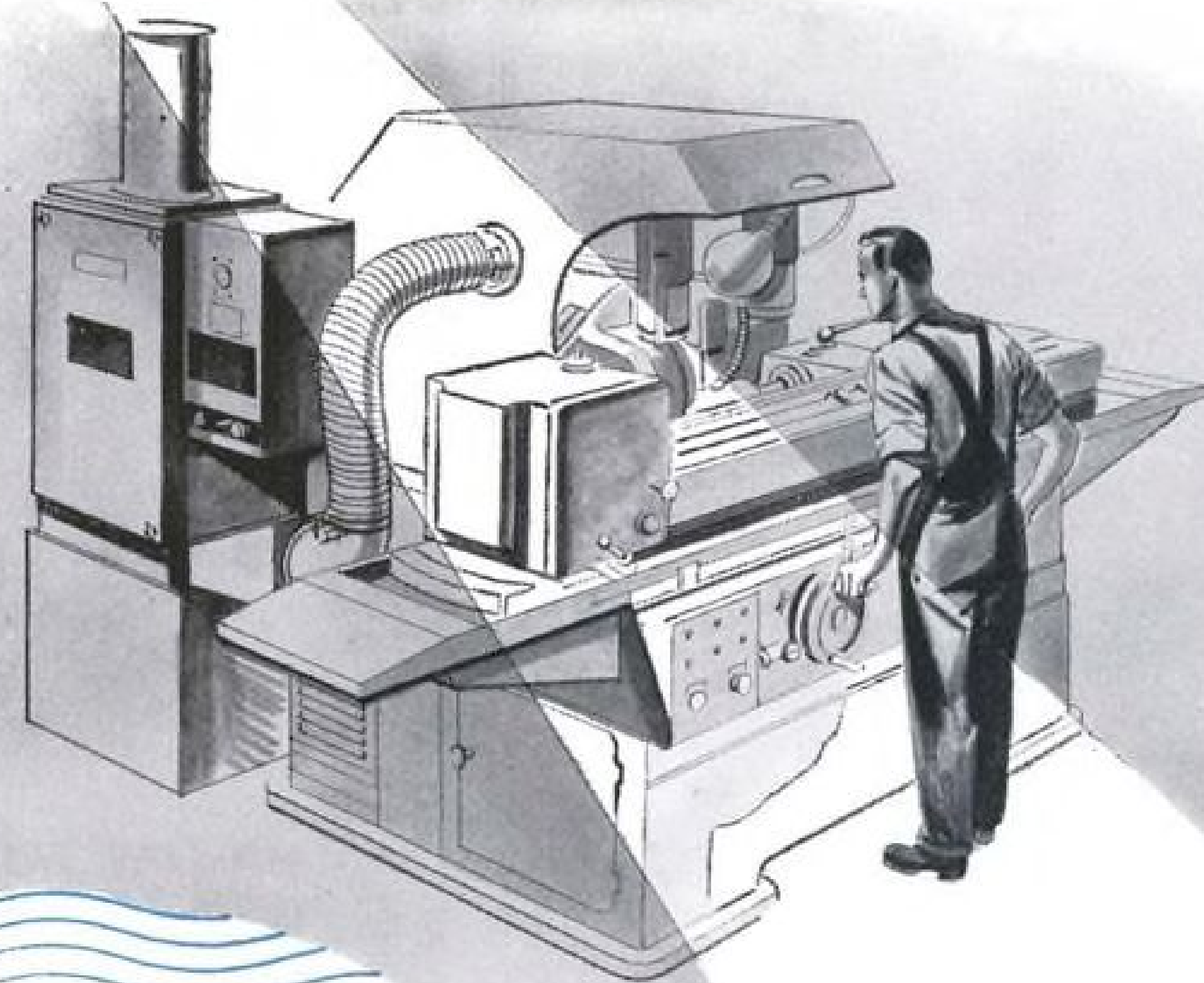
**CANADIAN RECONVERSION CHIEF**—Munitions and Supply Minister C. D. Howe, who is also responsible for civil aviation in Canada as carry-over from his former post of Minister of Transport, is expected here to be Minister of Reconstruction when that department is established. He is a believer in public ownership of major utilities operating on a national basis, as the Trans-Canada Air Lines, with private enterprise operating in regional air transport fields.



Election Day in the Pacific.

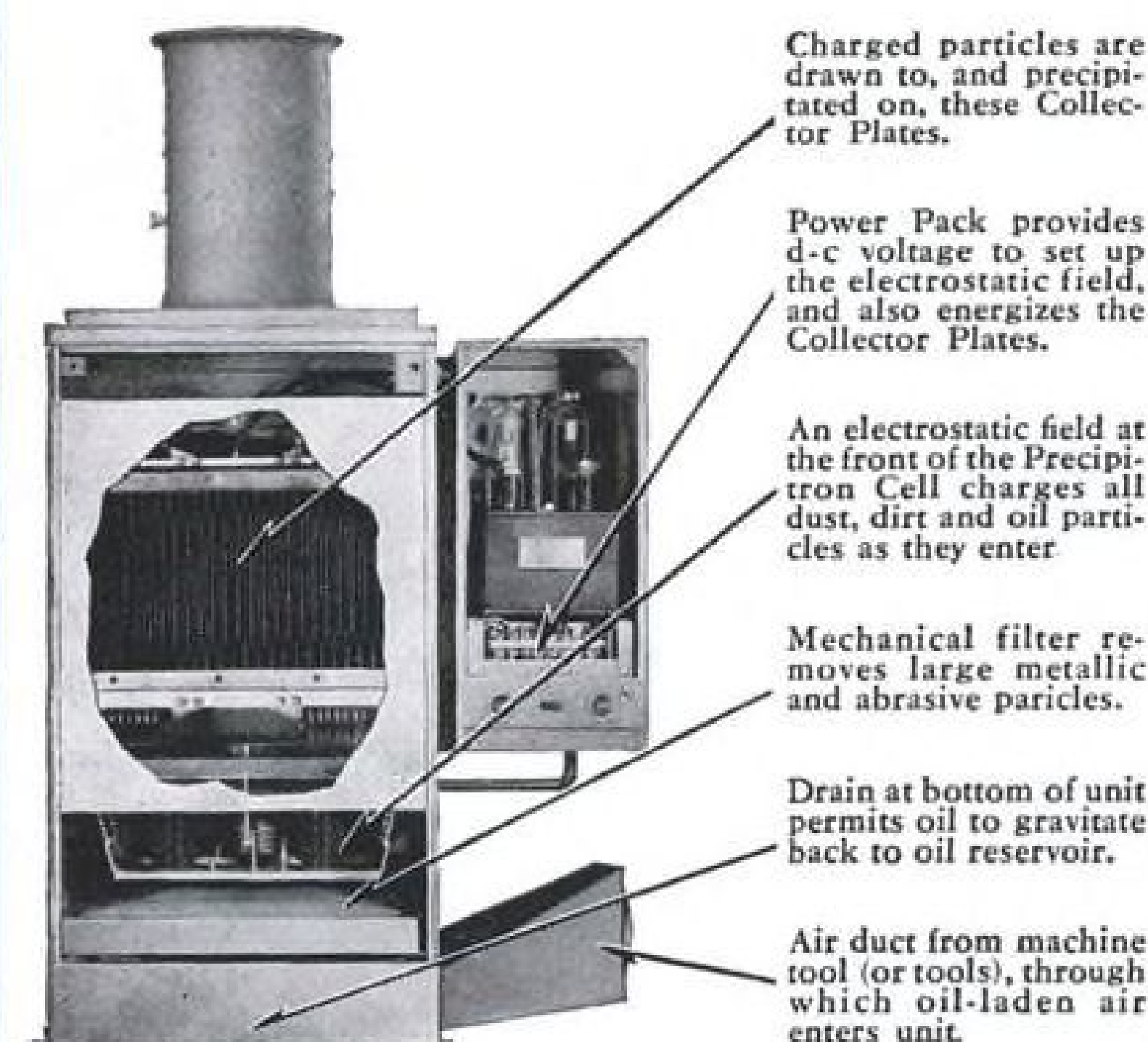
**SURPLUS BOARD**—The new Surplus Property Board will have a reconstruction job to do before it can get under way. Many of the top executives are ready to follow W. L. Clayton out, staying just long enough to turn over their work to the new board. Still others are waiting to see what the complexion of the board will be before deciding.

**PERSONNEL DIFFICULTY**—One of the worst features of the SPB turmoil is that it will be difficult to recruit businessmen for surplus disposal. Board probably will have to draw from



## Precipitron "INHALES" OIL MIST TO END FIRE HAZARD . . . SALVAGE COOLANT

A NEW PRINCIPLE FOR CLEANING AIR



Oil mist caused by high-speed machine tools has created a dangerous hazard in many plants. The oil mist collects on lighting fixtures, bus duct, wiring and floors, creating a serious fire and personnel safety hazard.

Precipitron\* — the Westinghouse Electronic Air Cleaner—ends this threat. The oil mist is captured right at the machine . . . the air thoroughly cleaned for recirculation . . . the cutting oil salvaged for re-use. And the salvage possibilities can be surprising.

Because it cleans air electronically, Precipitron is able to trap air-borne particles as small as 1/250,000 of an inch in diameter . . . it removes 90% more dirt particles from the air than mechanical air cleaners.

Precipitron is available for either single or multiple tool installations. Operating cost is low and maintenance simple. Westinghouse engineers will be glad to show you how Precipitron will end oil mist hazards in your plant. For more information or engineering assistance write Westinghouse Electric & Mfg. Co., Dept. 7-N, East Pittsburgh, Pa.

J-04008

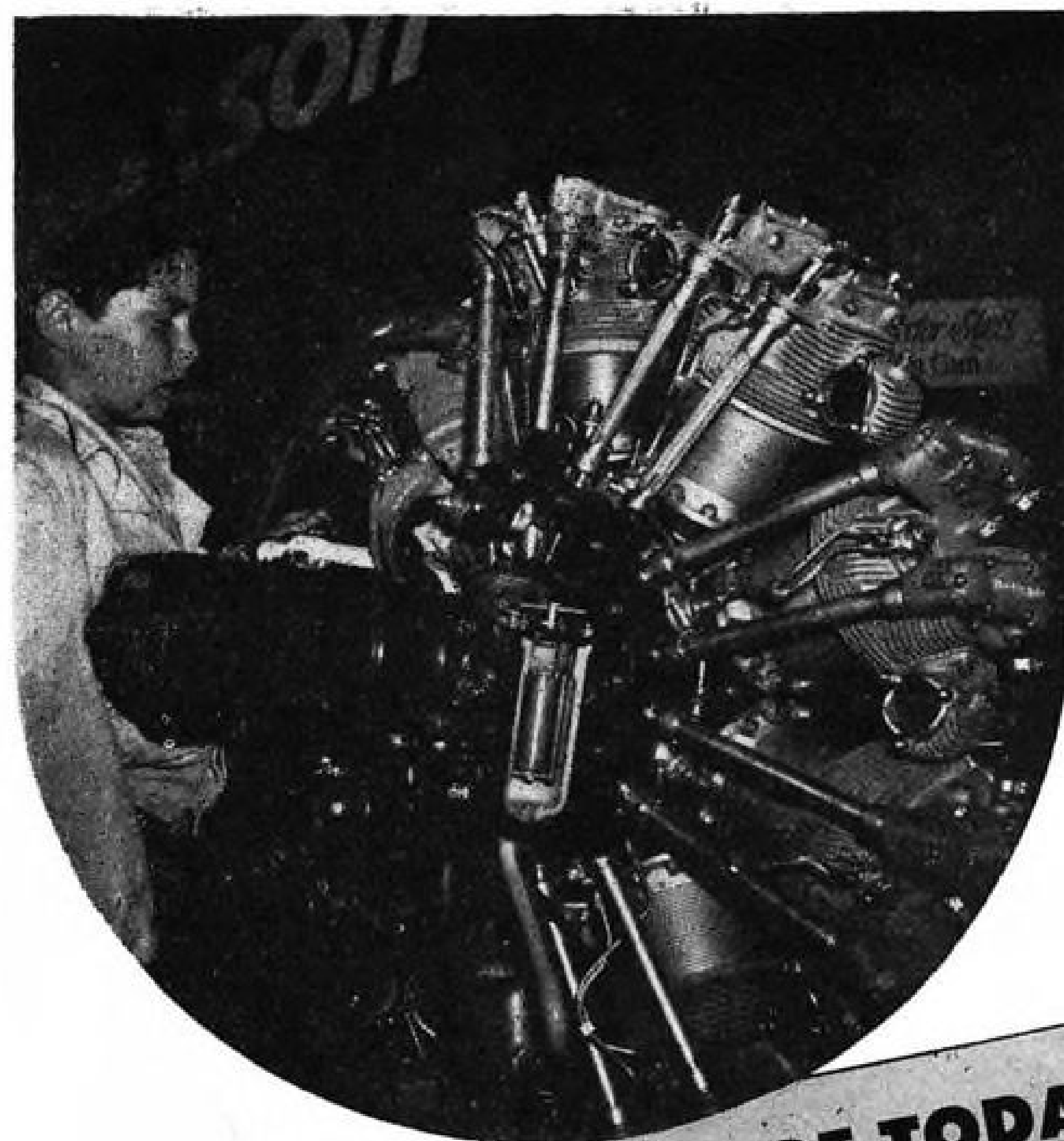
\*Trade-mark registered in U.S.A.



# Westinghouse Precipitron the Electronic Air Cleaner

PLANTS IN 25 CITIES OFFICES EVERYWHERE





**THE YOUTH OF TODAY ...  
..THE MAN OF TOMORROW**

PRODUCERS OF OIL TOOLS,  
OIL HEATING UNITS,  
AIRCRAFT PARTS AND  
D I E S E L S



**T**ODAY he dreams of the plane he will fly . . . tomorrow. And he'll fly one, too, for tomorrow's peacetime world will be a flying world—a world of family aviation. Yes, they'll all fly, and when they do, they'll fly in planes powered by Diesel engines. Lower fuel consumption, cheaper fuel, no fire hazard, no ignition system, no radio interference, no carburetor icing are among the signposts that point to the Guiberson Diesel as the aircraft engine of American aviation. Guiberson's fifteen years' experience in the field of radial Diesel engineering have produced these advantages—advantages that will help spell Victory today and world leadership for America in the air transportation of tomorrow.

**Guiberson U.S.A.**  
**THE GUIBERSON CORPORATION**  
**GUIBERSON DIESEL ENGINE COMPANY**  
DALLAS, TEXAS

## AVIATION NEWS

### THE STAFF

GEORGE W. PFEIL.....Publisher  
ROBERT H. WOOD.....Editor  
C. SCOTT HERSHEY.....Managing Editor  
JEROME BUTLER.....Copy Editor  
MERLIN H. MICKEL.....Transport Editor  
DANIEL S. WENTZ II.....Transport  
MARY PAULINE PERRY.....War Agencies  
WILLIAM G. KEY.....Special Assignments  
BLAINE STUBBLEFIELD.....Special Assignments  
MARTIN V. MERRITT.....New York Editor  
SCHOLER BANGS.....Pacific Coast Editor  
ALEX MCSURELY.....Private Flying Editor  
DALLAS MALLARD.....Art Director  
ANDREW B. MARTIN.....Sales Manager

### CONTENTS

	PAGE
Washington Observer	3
Headline News Section	7
Private Flying	13
Air War	21
Personnel	22
Aircraft Production	24
Financial	32
Transport	34
Editorial	42

### THE PHOTOS

Fairchild Engine and Airplane Co., Cover, 9, 24; Press Association, 3; *The Airplane*, 8; U. S. Army Air Forces, 11, 21; Staff Photo by Del Ankers, 13; Wide World, 14; The Glenn L. Martin Co., 30.

Editorial Headquarters,  
1357-63 National Press Building,  
Washington 4, D. C.

Publication and Executive Offices,  
330 W. 42nd St., N. Y. 18, N. Y.

Pacific Coast Office, 621 So. Hope St., Los Angeles

Copyright 1944, Vol. 2, No. 12. Published weekly by McGraw-Hill Publishing Co., Inc., price 50c a copy. Allow ten days for change of address. Subscription rates—United States, Mexico and Central and South American countries, \$5 a year, \$8 for two years, \$10 for three years. Canada, \$6 a year, \$10 for two years, \$12 for three years. All other countries \$9 a year, \$14 for two years, \$18 for three years. Entered as second-class matter July 31, 1943, at the Post Office at New York, New York, under the Act of March 3, 1879. Printed in U.S.A. Cable Address "McGrawhill, New York."

James H. McGraw, Founder and Honorary Chairman; James H. McGraw, Jr., President; Howard Ehrlich, Executive Vice-President for Business Operations; John Abbink, Executive Vice-President for Editorial Operations; Curtis W. McGraw, Vice-President and Treasurer; Joseph A. Gerardi, Secretary; J. E. Blackburn, Jr., Director of Circulation, 330 West 42nd Street, New York 18, N. Y. Branch offices: Chicago, 520 North Michigan Ave.; San Francisco, 68 Post Street; Los Angeles, 601 W. Fifth Street; Aldwych House, Aldwych, London, W. C. 2; Washington, Philadelphia; Cleveland; Detroit; St. Louis; Boston; Atlanta. Return Postage Guaranteed.

### Advertisers Index

Aeronca Aircraft Corp.	33
Aircraft & Diesel Equipment Corp.	41
Beech Aircraft Corp.	31
Chandler-Evans Corp.	17
Clifford Manufacturing Co.	23
Consolidated Vultee Aircraft Corp.	28, 29
Darnell Corporation, Ltd.	40
Eagle Parachute Co.	19
Fedders Manufacturing Co., Inc.	39
Federal Telephone & Radio Corp.	26
General Electric Co.	4th cover
Goodrich Company, The B. F.	6
Guiberson Diesel Engine Co.	4
Gulf Oil Corporation	15
McGraw-Hill Book Co.	38
Reynolds Metals Co.	20
Sperry Gyroscope Co.	25
Teleoptic Company, The	37
Westinghouse Elec. & Mfg. Co.	2nd & 3rd covers

## Washington Observer

permanent government ranks to fill its rolls. While many able men will be obtained that way, and no reflection on government attachés is intended, it is true that the experience of the last war showed that those trained in merchandising can handle disposition of surplus more efficiently. It is simply a matter of know-how.

**TRANSPORT PRICES**—Type prices for transport planes may not be available for another month or so. At that, prices will be far ahead of supply of transports for allocation.

**SURPLUS DECLARATIONS**—Declarations of surplus aircraft in this war already have reached more than one-half the total value of all Air Service property in the first World War. Total of declared surplus now, in cost to the government figures, is \$190,194,000. Total inventory of Air Service after World War I was \$349,313,853. Total surplus sales of World War I aircraft five years after the war were \$24,240,152. Percent of cost recovered was only 13, compared with almost 50 percent so far. This World War II figure, however, will drop sharply in coming months and final recovery will

not much exceed, if it equals, that 13 percent.

**CAA FLIGHT PLAN**—Expansion of CAA's flight testing plan into a more elaborate research program is under consideration by top men in the organization. Possibility is that CAA may take over one of the government built flight school airports in the south, as a permanent flight test station. Presumably this would replace the current CAA test base being operated at the former AAF modification center at Dayton, where type tests are being run on surplus military planes to determine commercial utility.

**EXPANSION INDICATED**—There is indication that the research program might take on broader aspects than mere type testing. There is some thinking in government circles that CAA should do original development work on commercial and personal planes, or at least take a more active part in coordinating individual developments within industry. CAA research facilities were confined to Washington National Airport and the Indianapolis instrument and lighting experimental center, until the Dayton operation was started a few months ago.

## Industry Observer

Washington engineers are praising the lines of the giant Hughes-Kaiser flying boat now under construction, saying it is even more streamlined than the *Mars*, now the world's largest flying boat. But they are confident that no more of the series will be built of wood. The design probably will not require great change in shifting to metal . . . Post-war production of the Budd twin-engine stainless steel Conestoga cargo plane appears unlikely. Jigs and dies are being scrapped. About 17 were built.

► Sentiment grows for use of as many surplus aircraft and engines as possible for a multitude of tests by private and government groups in fire fighting and prevention, flight research, and other safety work . . . Thousands of planes, engines and instruments may be given to educational institutions for shop work.

► Trends in CAA and CAB are still toward permitting use of single-engined planes for both passengers and cargo in scheduled air services, especially on lines with light traffic.

► Glenn L. Martin Co. and Goodyear Aircraft Corp. are surveying the private lightplane field for possible post-war activity . . . American Marketing Association has set up an aircraft committee under Earl Lothrop, now with DPC surplus disposal staff.

► Important improvements in engine changing time are being made by several aircraft manufac-

turers, which will step up efficiency of post-war commercial airliners . . . AAF technical officers are amazed at simplicity of operation and ease of manufacture of the Nazi buzz-bomb, which they have studied recently, using a replica built up in this country from duplicating pieces found in England.

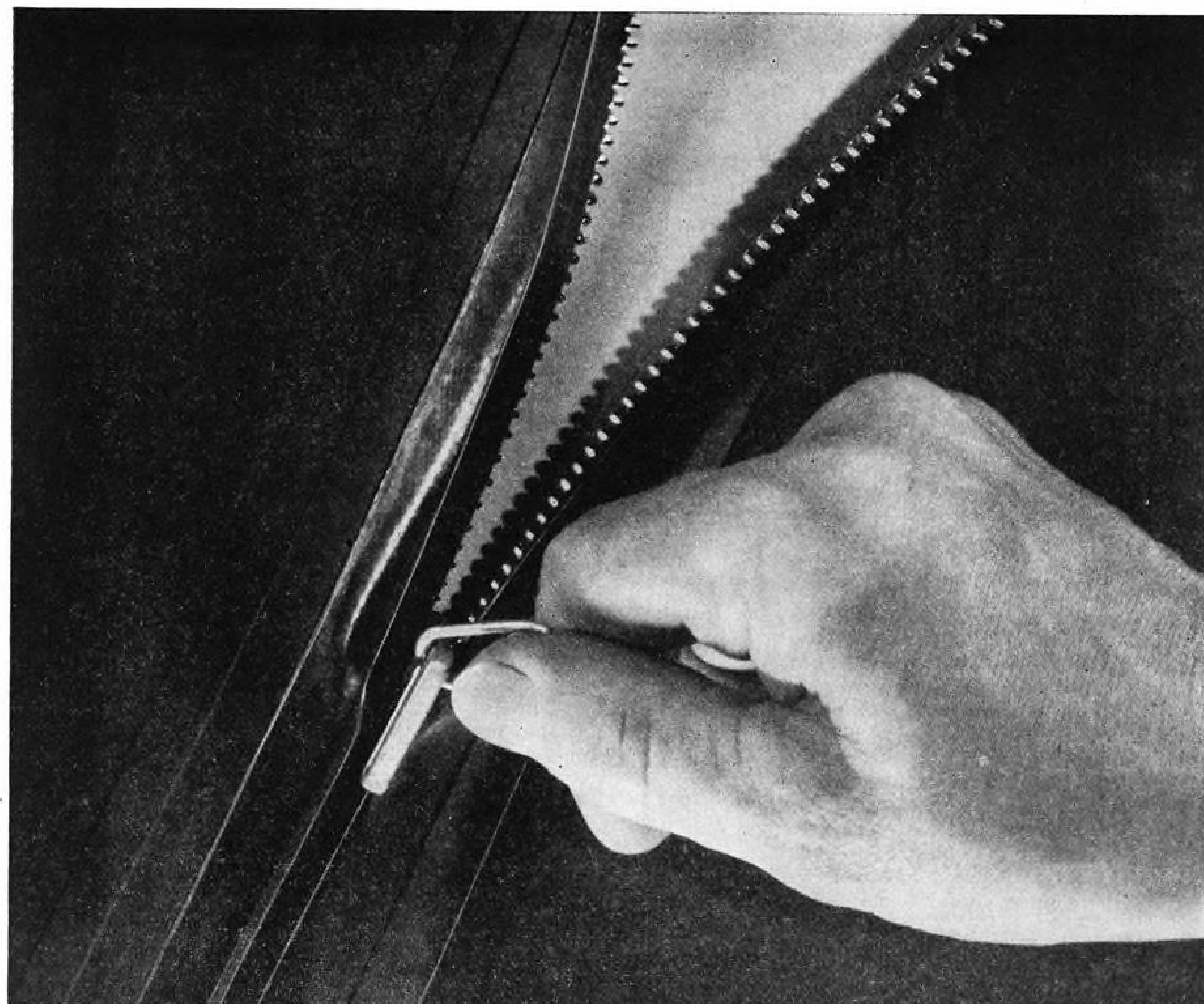
► Curtiss-Wright joins companies that are big plane minded to the extent of engineering speculation on a super-transport it might build—six engines with pusher props, and weigh about 200,000 pounds. It is recalled that Lockheed similarly has investigated possibility of building a 250,000 pound ship. Such research is considered protective rather than aggressive and may be prompted by Consolidated Vultee's advanced plan for a 400-passenger transport and the likelihood that the Hughes-Kaiser boat may gain favor.

► Another new helicopter is flying, built by a pioneer eastern manufacturer of rotary wing craft. Indications are that stability is excellent . . . Helicopter pilots also praise the stable Bell rotary-winger.

► Although some big-company engineers expressed doubt that the Feeder Airlines Association's specs for a feedliner could be met, at least one manufacturer has informed the group the job can be done.

► Eastern Air Lines promises many improvements on the post-war commercial Curtiss-Wright 20, with some news to be released late this month . . . Cancellation of the Fisher P-75 contract is expected to bring increased orders for the *Thunderbolt*.





## Just zip it up... to seal liquids and gases under pressure!

Perhaps you can use this new  
**B. F. Goodrich PRESSURE SEALING ZIPPER**

ONE ENGINEER calls it the "picket fence that doesn't leak," but the right name for this recent product of B. F. Goodrich research is "Pressure Sealing Zipper."

B. F. Goodrich engineers have taken a slide fastener and added a precision-molded rubber seal that opens and closes with the fastener. This seal is a unique arrangement of overlapping rubber lips which provides an effective and complete closure from zero pressure to pressures up to the structural strength of the fastener itself.

These zippers are effective in a wide

temperature range. The rubber won't crack when bent at  $-70^{\circ}\text{F}$ . nor become soft at  $150^{\circ}\text{F}$ . Weatherability is good; aging tests have shown present compound is best possible for this type of product.

One separating type and two non-separating types of these zippers are available. One seals for entire length but is open at both ends; another is closed at bottom, seals along entire length, and is open at top; third seals along entire length and at top and bottom.

Many interesting uses, aeronautical

and general, have already been suggested for these unusual fasteners. Among them are aileron gap seals, exposure suit closures, weather seals, pressure duct seals and many others. Perhaps you have a use for B. F. Goodrich Pressure Sealing Zippers. Our engineers will be glad to discuss your applications. The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.



VOLUME 2 • NUMBER 12

# Aviation News

McGraw-Hill Publishing Co., Inc.

October 16, 1944

## World Air Power Urged to Enforce Peace Under 11-Nation Council

Would not be force in being, but individual units committed to action when needed; Senate would approve assignment of U. S. unit to international force.

By WILLIAM G. KEY

An international air force—not a force in being, but contingents of national air forces held available for immediate action—would form the bulwark of the 11-power Security Council of the United Nations proposed as a result of the Dumbarton Oaks conference.

Disclosure of the proposals indicates the position of the United States Senate has been taken into consideration in framing the world air force section. It was lifted from the general international police force provisions and dealt with on a separate basis. And while an international police force is provided, the air force would consti-

tute the primary enforcement weapon available with any speed to the Security Council.

► **Subject to Approval**—The paragraph providing that air force units be "held immediately available" for international action makes the composition of these forces contingent on another paragraph. This specifies that agreement governing numbers and types of forces would be subject to approval of the Security Council and "ratification by the signatory states in accordance with their constitutional processes."

Under this provision, the Senate would ratify the composition of air force units assigned to the inter-

national air force, and these units would then be held "immediately available" for use at the direction of the Security Council and the Military Staff Committee assigned to the Council. The Military Staff Committee would be comprised of the chiefs of staff of the permanent members of the Security Council—the great powers of the United States, Great Britain, Russia, China and France.

(This provision for membership on the Military Staff Committee of the chief of staff of a power creates a need for action on the part of this country, which does not have a permanent chief of staff. Admiral Leahy holds that post by executive order of the President and as yet no provision has been made by Congress to create an overall chief of staff by legislation.)

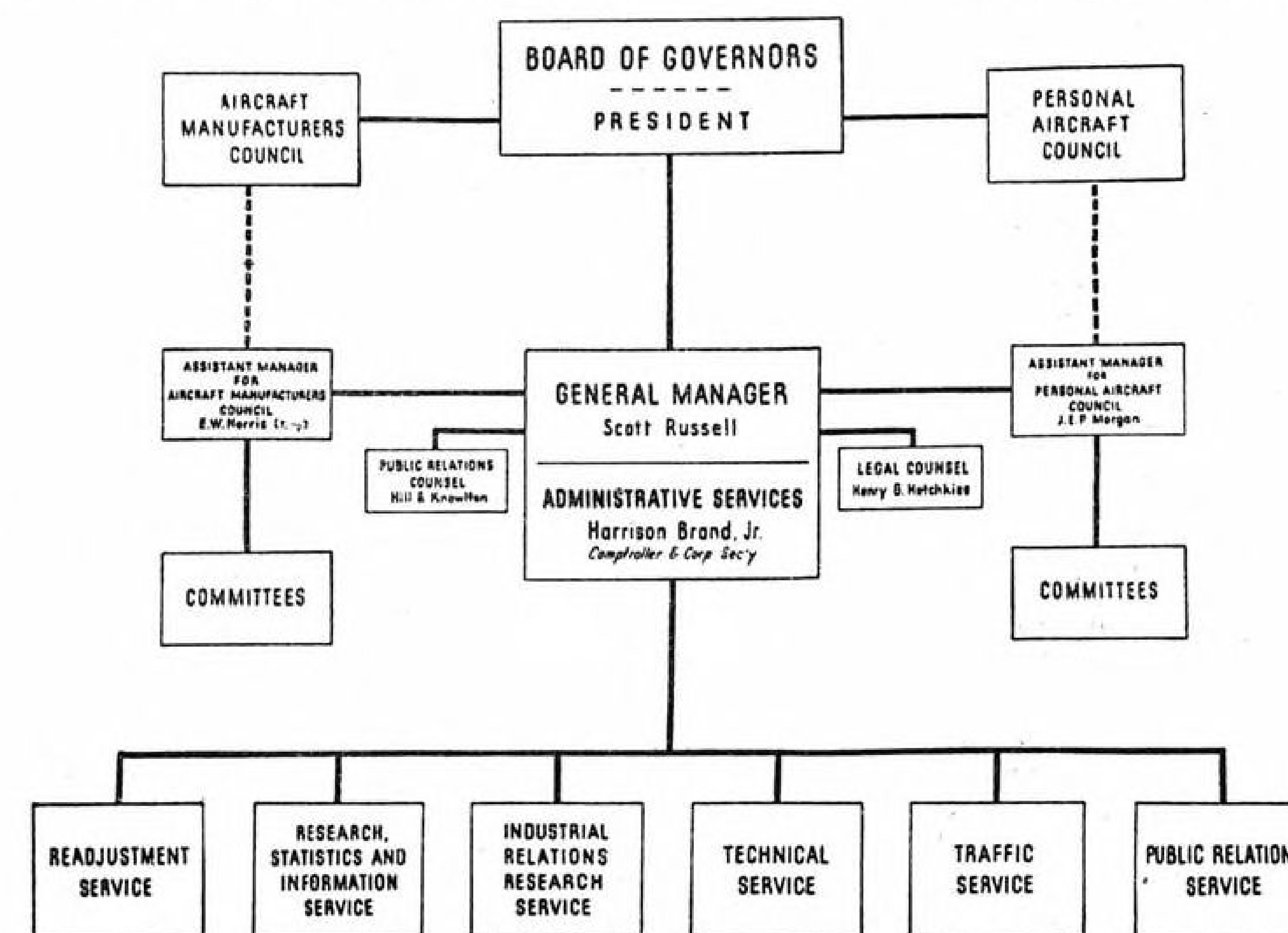
► **Transitional Police Force**—The international air force designed to police Germany after her defeat (AVIATION NEWS, Sept. 11, page 7) would function under transitional provisions in the United Nations organization proposal. Under this,

## New Organization Chart of Aeronautical Chamber of Commerce

Policy

Operations

Services







### NEW BRITISH FLYING TEST RIG:

Photo restrictions have been removed from Britain's Folland 43/37, designed and built exclusively to flight-test various types of power plants. The 3-place cabin is equipped with special instruments. Installation shown is a Bristol Hercules engine.

the Four-Power Declaration of Moscow would function to maintain international peace and security until the international force would come into being under the new world organization.

It would not be necessary, under

the Dumbarton Oaks agreement, for an international air force to be operated as a world air force. Action would be carried out by "all the members in cooperation" or "by some of them as the Security Council may determine." Provision is made for regional agreements and regional organizations for action within the framework of the United Nations agreement. Thus the Inter-American Defense Commission could be maintained and implemented for regional action.

### Jet Pilot School

Pilot training for Bell P-59A Aircomets, first United State jet-propelled aircraft, and Northrop's P-61 Black Widow night fighters, is centered at Hammer Field, near Fresno, it may now be disclosed. Pilots who fly the new jet-propelled planes are commanded by Col. Ralph H. Snavelly, commander of the 319th Wing, Fourth Air Force, and Hammer Field.

### AVIATION CALENDAR

- Oct. 10-11—Airplane Technical Committee, ACCA, Los Angeles.
- Oct. 10-11—Missouri Small Airport Planning Conference, Columbia, Mo.
- Oct. 11—Air Express Committee, Air Transport Association, Chicago.
- Oct. 16—Passenger Service Committee, Air Traffic Conference, New York, N. Y.
- Oct. 20—Institute of Aeronautical Sciences, National Air Transport Meeting, Statler Hotel, Washington.
- Oct. 25—Aircraft War Production Council, East Coast, New York.
- Oct. 25—Aircraft Manufacturers Council, East Coast, New York.
- Oct. 25-26-27—Southwestern Aviation Conference, Amarillo, Tex.
- Nov. 13-14—National Association of State Aviation Officials, Annual Meeting, Oklahoma City.
- Nov. 15-18—National Clinic of Domestic Aviation Planning, Oklahoma City.
- Dec. 4-5—SAE National Air Cargo Meeting, Chicago.
- Dec. 5-7—Second Annual Meeting, Aviation Distributors and Manufacturers Association, Jefferson Hotel, St. Louis, Mo.
- Dec. 6-7—National Aviation Trades Association, Annual Convention, Jefferson Hotel, St. Louis, Mo.

## 3 New Regulations Issued by OCS

Rules designed to clarify negotiation methods and speed settlements.

Office of Contract Settlement has progressed further along the thorny path of war contract termination settlement with the issuance of three new regulations in addition to the four discussed in AVIATION NEWS last week.

Previous regulations dealt with T-loans, part payments, pre-termination agreements, and provision for the contractor either to buy the government-owned equipment in his plant or have it removed within 60 days after request for removal, except where necessary for other war purposes.

► **Follows Industry Recommendation**—New regulation No. 7 follows lines which have been urged by the aircraft industry and basically provides for exercise of sound business judgment in negotiations in order to speed settlement of terminated war contracts.

This regulation deals with fair compensation and determines that the prime contract and subcontract termination articles previously announced by orders of the Office of War Mobilization conform to the Contract Settlement Act of 1944. It also establishes further the standards and methods to be used in negotiation of settlement by agreement under the act in those cases in which settlement is made on the basis of costs and profits.

► **Negotiated Settlement**—The Contract Settlement Act was generally interpreted by the aircraft industry as providing for negotiated settlement, but some concern has been expressed by industry executives that settlement by regulation, formula and accounting for parts and pieces might defeat this more favored procedure. The problem, as expressed by some industry leaders, was one of administration rather than legislation and it appeared likely the new regulations might aid in solving this problem. New Regulation No. 5 covers the statement of cost principles forming a part of the uniform termination article for fixed-price supply contracts. It was found that certain provisions were impracticable and they were eliminated as were others found necessary to protect the interests of the government in view of recent income tax regulations.

► **Eliminations**—Eliminated was a

provision that loss on special facilities, with respect to which a contractor was entitled to reimbursement, should not exceed the adjusted basis of such facility for federal income tax purposes immediately prior to the date of a contract termination.

Another elimination was the provision that costs which, as evidenced by accounting statements submitted in renegotiation under the Defense Appropriation Act of 1942, were charged off during a period covered by previous renegotiation, may not be subsequently included in the termination settlement if a refund was made for the period, or to the extent that such charging off is shown to avoid such refund.

It was reported that nothing comparable to this provision is applicable to completed contracts and its administration in connection with terminated contracts was found unworkable.

New regulation No. 6 delegates authority to all war contractors to make full settlement of net claims submitted to them for less than \$1,000 where claimant keeps or disposes of the inventory.—G. S. H.

## Delivery of 10,001st B-17 Pooling Feat

West Coast production of *Flying Fortresses* through cooperation of Boeing, Douglas and Lockheed, hailed as remarkable industrial achievement.

Delivery of the 10,001st *Flying Fortress* on the West Coast was more than an industry production achievement—it spotlighted one of the most successful and unique war production pools in industrial history and was participated in by Boeing, Douglas and Lockheed.

Of the 10,001 Boeing *Flying Fortresses* delivered since Pearl Harbor, 6,143 have been built by Boeing, 1,982 by Douglas and 1,876 by Lockheed. These three aircraft companies were brought together in May, 1941, in an unprecedented production pool organized to meet Army's demand for *Flying Fortresses*. It was pointed to as an outstanding example of the aircraft industry's willingness to put patriotic duty above its own interests.

► **Started By Boeing**—Boeing had been the sole producer of *Flying Fortresses* prior to this date, the first of which made its original flight in 1935. Under the pool ar-

rangement, Boeing was charged with providing its engineering data and production information to Douglas and Lockheed. With the airplane to be built at three separate points and with hundreds of subcontractors and suppliers furnishing subassemblies and parts

that had to be interchangeable, a central control organization for operation of the pool was a necessity.

This was solved with organization of the Boeing-Douglas-Lockheed B-17 committee, made up of representatives of the Army and



### FIRST PHOTOS OF FAIRCHILD C-82:

The new Fairchild C-82 cargo plane is being test flown to determine its full capabilities. The novel cargo ship, engineered to carry guns, tanks, ammunition, supplies or troops over long distances, was built at the Hagerstown, Md., plant and marks Fairchild's re-entry into the large plane field. Fairchild 10 years ago built the C-31, first plane designed for military cargo. Armand Thieblot, Fairchild chief engineer, is the designer of the radical-type plane, with 106-foot wing span and 76-foot fuselage, mounted between twin-booms extending from the twin engine nacelles. The plane is in the 50,000-pound class, with about twice the capacity of the DC-3, and has tremendous range for a twin-engine plane.





each of the participating companies. This committee has met regularly to coordinate production problems.

Its success was attested to when a similar committee was set up for nation-wide production program of the Boeing B-29 *Superfortress*, with Boeing again providing engineering and production data to other firms building the Boeing product.

## Wright Developing Turbine Type Engine

**Vaughan predicts 10,000 hp. unit within next decade.**

Disclosure that Wright Aeronautical Corp. is entering the field of turbine type aircraft power plants is made by G. W. Vaughan, president in connection with the firm's 25th anniversary last week.

Vaughan says the corporation is looking forward to a new phase in power plant development with visions of a 10,000 hp gas turbine engine within the next decade and he forecasts that the turbine form of power may advance aviation as much as did the radials.

► **Working on Jet Propulsion**—Vaughan said Wright's entry into this field was not a sudden change in the course of their engine development program but rather a logical and long considered step and that concurrently with the efforts toward progressive improvement of radial type engine, Wright engineers have been working in the related fields of jet propulsion and gas turbine.

Vaughan says it is not their purpose to switch from the reciprocating engine to the gas turbine model. The reciprocating engine in the radial air-cooled form, he believes, will undoubtedly continue to be the leading power plant for air transport for some years to come in every category except high speed, high altitude and long range operation.

► **Seen as Next Step**—The gas turbine, in Vaughan's opinion, does represent the logical next step. An aircraft engine manufacturer such as Wright, he said, must be prepared with engines of low horsepower for light load, short range work; it must have engines in the middle horsepower ranges and in the range above 2,000 hp.

With the trend in aviation always toward higher altitudes, the aircraft gas turbine fits into this trend better than the current reciprocating engines, he says, be-

cause the inherent characteristics of the gas turbine enables it to attain its highest efficiency at high speed and high altitude.

► **Used with Propeller**—Vaughan indicates that one type of Wright gas turbine will be an engine of high power built to drive a propeller. This is a departure from previously announced types of the jet principle engine, which produces propulsive power by direct application of the jet to the surrounding atmosphere.

While the principle of the engine has been known to engineers for years, only recently, Vaughan says, has research produced solutions to certain metallurgical problems which are the key to the whole development program.

## Market Research Standards Studied

**AMA committee of specialists, headed by E. E. Lothrop, former chief of ACCA department, to report at Chicago meeting next month.**

Standards for aviation market research are being studied by a committee of the American Marketing Association composed of specialists closely associated with the industry.

Chairman of the committee is E. E. Lothrop, formerly head of the research department of the Aeronautical Chamber of Commerce and now in charge of instrument and component parts disposal for the Surplus War Aircraft Division of Defense Plant Corp.

The aviation committee was organized last spring, and its first report as a committee to the AMA will be made at the annual convention in Chicago Nov. 30 and Dec. 1. A special session will be held to which sales managers and market research specialists of aircraft manufacturing companies and airlines will be invited.

► **Research Standards**—The great number of aviation surveys being made led to appointment of the committee by Howard Whipple Green, president of AMA, with the objective of studying the economics of air transportation and of marketing aviation equipment and transportation. A primary goal, Mr. Lothrop says, is establishment of standards of aviation market research so that surveys in the field can be evaluated.

Members of the committee in addition to Mr. Lothrop, are Ross M. Cunningham, associate profes-

sor of marketing, Massachusetts Institute of Technology; E. H. Cargen, Jr., sales research engineer, Wright Aeronautical Corp.; L. J. Stosik, market analyst, Wright Aeronautical; Alan F. King, executive assistant in charge of economic research, Consolidated Vultee Aircraft Corp.; Dr. Richard H. Rush, special assistant to the president in charge of planning, All American Aviation, Inc.; Dr. John Frederick, professor of transportation and industry, University of Texas; J. R. Sargent, acting manager of market development, Western Electric Manufacturing Co.; C. O. Peterson, chief engineer, air express division, Railway Express Agency; A. T. Hapke, Jr., manager, market research, Republic Aviation Corp.; Alan Passen, Department of Business Research, airplane division, Curtiss-Wright Corp.; Spencer A. Larsen, director of air cargo research and associate professor of business administration, Wayne University, Detroit; and Henry B. Moore, director of research, Braniff Airways.

► **Data to Be Changed**—Lothrop says the AMA aviation committee intends to provide a mechanism for the exchange of information relative to marketing and distribution problems of the industry and to exchange information with other groups in the AMA—which is composed of market specialists in industry and education—relative to the effect of aviation, as a transportation medium, on marketing as a whole.

AMA committees of similar scope in the past have accomplished much in establishment of standards of market research by which studies can be evaluated for their accuracy and completeness. The association as a whole provides a channel for development of inter-industry market information.

## Plant to Continue

Continental Motors Corp. plant at Garland, near Dallas, established to produce aircraft engines as a part of the war program, will continue as a post-war industry, according to Jack Reece, president, who said the plant will employ about 1,000 workers.

Reece said the company was in the power plant business and that power always will be needed. He said the Garland plant would be used to service the Southwest and that the personnel trained for the war output would be used for similar post-war production.

## Air Industry Held Key to World Peace

**Brookings Institution staff members urge Allies eliminate enemy's aviation and supporting aluminum and oil manufacturing plants to balk any new war threats.**

The most promising method of controlling Germany and Japan after the war lies in suppression of their aviation industry and supporting aluminum and oil industries, under a plan proposed by Harold G. Moulton and Louis Marlio, published recently by Brookings Institution.

The joint investigation by the two staff members of the Brookings Institution examines the proposals for economic and military control of the two nations and arrives at the conclusion that this can be most effectively done by absolute bans on military and commercial aviation and aircraft production. Moulton and Marlio also suggest restriction through control of aluminum ingot production and forbidding operation of synthetic oil plants.

► **Rumanian Oil Reserves**—The survey proposes that Rumanian oil reserves be stripped within a short period of time to remove this source of supply from the German orbit of conquest.

It would be simple, in the case of Germany, it is pointed out, to control aluminum ingot production without affecting employment.

Forty percent of Germany's oil supplies now come from synthetic plants, Moulton and Marlio estimate, and prohibition of these plants would cripple a war mobilization program, particularly since Germany could not construct new plants inside of two years in the event of war. They concede that stockpiling from imports would be possible, but assert that elimination of synthetic plants would facilitate the control problem in the event of obvious war preparations.

► **Handicap to Air Force**—The two controls—of aluminum and oil, would serve to restrict the possibilities of German aviation, the investigators say, but taken alone would not prevent development of a powerful air force. Similarly, prohibition of warplane manufacture would not be a complete safeguard, since military aviation could be quickly developed from a strong basis in civil aviation.

It is suggested that because of this, Germany must be prevented



### NEW EXPOSURE SUIT:

*No more than a teacup of water seeped through this exposure suit in an hour in icy North Atlantic waters. The RCAF officer shown on the deck of an escort vessel from which experiments were conducted went overboard in full flying clothing to test the new suit for American airmen. None of the water reached his body—forced landings in these waters usually result in quick death from exposure.*

from having a commercial aviation industry, from manufacturing aircraft or operating air transport companies. Germany would be given air service through other means. Private flying would be more difficult to control but barring all private flying is urged.

► **Japanese Industry**—Japan would be required to scrap her aluminum plants and import necessities. The writers point out that Japan has not been a consumer of aluminum for civilian purposes, the entire industry having been built for war. Neither would Japan be permitted to have synthetic oil plants or oil refineries, with imports in normal times limited to refined oil. Moulton and Marlio cite the fact that Japan would not need large oil reserves to wage war against Britain and the United States—seizure of nearby areas being possible at some propitious time.

Flying of all types, as well as production of planes, would be barred.

## Helicopter Research Fund Proposed

**C. L. Morris, American Society head, suggests \$10,000,000.**

Helicopter engineering still has many difficult problems to solve and the industry needs sizeable funds for research and development, according to C. L. Morris, president of the American Helicopter Society. Speaking at the first annual dinner of that group, held at New York's Ambassador Hotel on October 7, Mr. Morris suggested a starting fund of \$10,000,000, possibly allocated to NACA so that the results would then be open to the entire industry. Mr. Morris noted that it "seems reasonable that the basic well-rounded research program funds should be granted by the government."

Igor Sikorsky and Col. H. Frank Gregory were awarded honorary fellowships in the society at this dinner and it was announced that the membership now exceeds the 200 mark.

In his acceptance remarks, Mr. Sikorsky declared that "no other engineering development has moved as fast as has the helicopter" and said there was no doubt about the "great future" of the craft. America is leading in helicopter development, he said, adding that the country should, through research and development, maintain this leadership.

## Convair Needs Help For Sea Wolf Bomber

Production of the TBY-2, improved type of torpedo bomber, will require 2,000 additional employees at the Allentown plant of Consolidated Vultee Aircraft Corp.

The torpedo bomber, known as the *Sea Wolf*, will join the Grumman *Avengers* with the fleet. It carries a crew of four—pilot, gunner, radioman and bombardier, and weighs approximately eight tons.

No production or performance figures have been released by the Navy. Disclosure of production was permitted by the Navy Bureau of Aeronautics when Rear Admiral DeWitt C. Ramsey, chief of the bureau, sent workers at the Allentown plant a message stating that no production cutbacks were contemplated for that plant. The message described the TBY-2 bombers as "essential weapons . . . urgently needed in the offensive against Japan."



## WPB Maps Aircraft Advisory Division

New organization to handle civilian aviation and reconversion problems.

Establishment of an Aircraft Industry Advisory Division within the War Production Board to handle civilian aircraft and reconversion problems is under way as a result of a generally affirmative response from the industry to the proposal for such a division made by WPB Chairman J. A. Krug.

At the same time, Krug is reactivating the Aircraft Production Board, of which he will be chairman. When Charles E. Wilson, who was chairman of the Aircraft Production Board left WPB, APB members voted to dissolve their unit and so recommended to WPB.

The proposal to dissolve APB on the theory that major production problems in the industry

had been solved has been termed premature in some quarters. Two members, in addition to Wilson, left the Board at the time the dissolution was voted—Lieut. Gen. William S. Knudsen, who was assigned to head the Air Technical Service Command and T. P. Wright, to become Civil Aeronautics Administrator.

► **Pace Gets New Assignment**—Rear Admiral E. M. Pace, Jr., a member of the Board is also reported going on a new assignment so an entirely new board will be set up. It was understood the Board would not meet regularly, but on call of Chairman Krug, as aircraft production problems requiring board action arise.

Under the proposed set-up, APB will retain powers of scheduling, standardization, conservation and representation on the National Manpower Priorities Committee, and in addition probably take back CMP claimant agency powers which have been jointly held by the Aircraft Scheduling Unit in

Dayton and the Aircraft Resources Control Office.

► **Arco to be Absorbed**—ARCO's functions and personnel probably will be absorbed by the new Aircraft Advisory Division of WPB and the Aircraft Scheduling Unit and the industry division will allocate materials.

While dissolution of the Aircraft Production Board was recommended by its former members, this recommendation never was acted on. APB was set up by WPB executive order and both WPB and many industry officials believe it should continue to function as long as the European phase of the war continues and until all aircraft requirements for the Pacific War have been met.

## Oppose Move to Drop Arco From PEC

Plans which have been quietly projected for reorganization of the Strategic Production Executive Committee, with aircraft representation eliminated, are being opposed by both Army Air Forces and Navy Bureau of Aeronautics.

Proposals were being drafted last week in WPB, Army, Navy and War Manpower Commission for a realignment of the production Executive Committee which handles and coordinates production cut-backs. It was the first action taken in regard to this committee since J. A. Krug headed WPB.

► **Test of AAF, Navy Bureau Strength**—It was learned authoritatively that a definite movement was under way to drop Aircraft Resources Control Office from PEC representation. Whether it succeeds appeared to hinge on the strength of AAF and Bureau of Aeronautics opposition.

Coupled with the movement to drop aircraft representation on PEC was a growing tendency within PEC to reduce or remove priority status of the aircraft program, a tendency which again found vigorous AAF and Bureau of Aeronautics opposition.

## Plane Plastic Plant

Plans for purchase of a 12-acre site at Anaheim, Calif., for a post-war plant for manufacture of plastics parts for aircraft has been disclosed by General Electric Co. No further plans were indicated. The plot is near both the Santa Fe and Union Pacific railroads in the Los Angeles area.

## PRIVATE FLYING

\*\*\*\*\*

## Four-Year Non-Engineering Course In Aviation Opens at Miami U.

Three basic curricula established stress various phases of vocational training in aeronautics; 34 freshmen, including 6 war veterans, enroll.

By ALEXANDER MCSURELY

Thirty-four freshman college students, including six returned veterans of World War II, have enrolled in the first class of Miami University's aeronautics course this fall at Oxford, Ohio, one of the first non-engineering four-year college training programs in aeronautics to be offered in this country.

Three basic curricula established in the University's School of Business, School of Education, and College of Liberal Arts, emphasize various phases of vocational training for future usefulness within the aviation industry, but all three courses of study provide for laboratory flight training at the rate of 10 hours a semester in addition to classroom work.

► **University Airport**—The flight training is being conducted at the University's 300-acre airport, until recently used in the War Training Service program. As a backlog of experience in flight training, the University has trained approximately 1,700 students in primary flight, beginning with a Civilian Pilot Training Program in 1940, and continuing with training of approximately 1,000 naval air cadets, after the WTS program took the place of the CPT program.

Head of the program, Prof. E. M. Albaugh, explains that Miami decided to concentrate on the non-engineering aspects of aviation education because of already well-established aeronautical engineering departments at nearby mid-western schools, and because of the recognized need for college training in sales, administrative, executive and teaching positions.

► **Summer Course**—The four-year course is being offered following completion of an eight-weeks summer school aeronautics course for business men and special students, in which 56 students completed

study of civil air regulations and general service of aircraft and put in 10 hours of flight, all of them making solo flights. Forty of these are continuing with a special night course during the winter terms, of two hours a week, studying navigation and meteorology, and with an additional 10-hours of flight each semester. Most of this group is expected to have completed its educational requirements for a private license and its flight training, by next summer.

Enrollment in the aeronautics courses is currently limited by the inability of the University to get sufficient planes for training, but additional trainers are being

sought and it is expected that enrollment will be expanded considerably as this condition is remedied. George J. Wedeking, who operates the Miami Airport, has ordered six of the first ten new Aeronca Model 7 tandem trainers to be built, as soon as relaxation of material restrictions permit production.

► **Flight Training**—Flight training is being provided at the rate of \$10 an hour, or \$100 for twenty half-hour flight lessons each semester, and students wishing to take additional time may do so if their schedules permit, at the same rate.

Among students enrolled in the four-year courses are two physically handicapped youths, unable to pass the physical examination requirements as pilots. They have enrolled for the flight training laboratory course, however, and will take their flying time each semester in dual flight, to learn as much as they can about actual flying experience through this method.

Freshman classroom courses are much the same for all three curricula, including physics, mathematics, elementary aeronautics, English, and electives. By the time the liberal arts student completes his four years, he will have had courses in astronomy, calculus, aerology, navigation, aircraft powerplants, aerodynamics, radio the-



## PLAN CIVILIAN AVIATION GAS RATIONING:

Fred M. Lanter, director of safety regulations for the Civil Aeronautics Administration, and W. L. Jack Nelson, CAA, discuss plans for allocation of 73- and 80-octane aviation gasoline to civilian flyers which will be turned over to the CAA Nov. 1. Lanter will direct the program with the aid of Paul E. Young, acting director of CAA's general inspection division. Nelson aided Assistant Secretary of Commerce W. A. M. Burden in arranging transfer of the responsibility from the Office of Price Administration to the CAA.

## New Speeds by Conventional Warcraft

The 425 mph. speed announced last spring for the then current *Mustang* has already been exceeded by half a dozen Allied conventional war planes, and at least one conventional German twin-engine fighter (the *Heinkel* 219).

It appears that 450 mph. will be the next announced milestone with the official announcement of the long sought after 500-mile figure not too far away. A year ago there was a blitz on to provide escort fighters for strategic heavy bombers, resulting in the long-range *Lightning* and *Mustang*. Today the urgent demand is for speed to cope with the Luftwaffe's jet-propelled fighters until our own reportedly sensational new models, believed superior to any yet developed anywhere else, are in operation.

U. S. Army Air Force high speed fighters include the North American Merlin-powered *Mustang* (P-51D) and Republic's *Thunderbolt* with the new P&W "C" engine, with turbo supercharger and water-injection. U. S. Navy entries include the latest Vought *Corsair* (F4U-4 and Good-year's FG-1) and the new Grumman *Tiger Cat* (F7F-1). These fighters are also equipped with the C engine.

Both *Corsair* and *Thunderbolt* for some time have been championing at the bit to break the *Mustang's* cross-country record of

last May, which, however, is as much a test of endurance as of top speed.

The Royal Air Force has had two versions of the Hawker *Tempest* in operational use for several months. The first is powered by the H-shaped Napier Sabre engine which powers the *Typhoon*, a fighter whose top speed has never been officially announced but has been estimated at about 420 mph. There is no reason to believe the Sabre-powered *Tempest* is much faster than this. Another version of the *Tempest* is powered by a radial engine, presumably the 18-cylinder Bristol Centaurus, an engine in the class of the P&W Double Wasp, thus matching this mark number of the *Tempest* with the American *Thunderbolt*. While reported as a very fast and powerful fighter, it is not likely to be faster than the newest model of the *Thunderbolt*.

Nothing as to the *Spitfire's* top speed has been announced since the "more than 400 mph." of the *Spitfire* IX, two years ago. The RECCO *Spitfire* XI, Griffon-powered *Spitfire* XII and *Spitfire* XIV, the latter with improved engine and five-bladed prop, have been announced recently and may well crowd the 450 mph. figure.

Still newer, faster war planes are in production and operation, and officials say the claim for the world's fastest airplane will hardly be settled for some time.





### "EVEN A CHILD CAN FLY AN AIRPLANE":

That is what Al Bennett, lower right on the ground, tells his adult student pilots and now he is setting out to prove it with youngsters ranging from five to 12 years old, giving both ground and air instructions using Aeronca planes at Middletown, Ohio. The children are holding model Aeroncas of various types while the instructor is teaching them how banks and turns are made.

ory and practice, in addition to various modern language, social science, English and speech courses. **Training for Foreign Posts**—The liberal arts course, it is believed, is particularly adapted to training representatives sent by the American aviation industry to foreign countries, and was designed to meet specific requirements of one aircraft manufacturer, who particularly emphasized the need for foreign language training and cultural background for foreign representatives.

The business course includes psychology, money and banking, business law, business policy, government and business, taxation and business, and a course in stress analysis, besides other aeronautical courses, and electives.

The education course designed

to train high school aeronautics teachers includes special methods courses in teaching science, aeronautics and mathematics, besides ernment and business, taxation and education courses, and it is suggested that the prospective teacher will find industrial arts courses including metal and wood working, automechanics, electricity, helpful.

### Heads NATA Group

Clarence W. Ludwig of Ludwig School of Aviation, Tampa, was elected governor of the Second (Southeastern) Region of the National Aviation Trades Association at Macon, Ga.

Tom D. Eve, Southern Airways manager at Charlotte, was elected president; Franklin Knapp of Knapp Flying Service, Clarksville, Tenn., vice president; Mrs. Marguerite Bryan of Atlanta, editor *Southernaire*, Southern Airways publication, secretary-treasurer.

The session was held one day prior to the Georgia Aviation Clinic. Roscoe Turner, national president of NATA, and John Wilson, national NATA manager, attended.

### Town Votes Airport

The town of Russell, Kas., (population 4,819) has approved, by

a vote of three to one, issuance of \$35,000 in bonds for construction of a municipal airport.

## CAP Pushes Local Port Development

Members even contribute service in manual labor toward advancement of community projects.

Probably the most realistic contribution now being made in small airport construction for present and post-war uses is the work of Civil Air Patrol through its local units in widely scattered parts of the nation.

Not content with merely promoting local airport plans, CAP members and cadets are turning out in force to donate their service in manual labor toward advancement of the community airport projects.

**Eleven Projects**—Already reports have been received of eleven airport projects in which CAP is participating.

\*Potsdam, N. Y., CAP members leased a hayfield from Clarkson College, cut and stored 50 tons of hay for sale to aid the airport fund, and leveled the 180-acre field establishing 1,800 foot runways, installed a gas tank, remodeled a barn into a two-plane hangar, remodeled another building for operations office and classroom, built roads from the highway and cleared parking space.

\*Savannah, Ga., CAP's new airfield on Wilmington Island, has just been dedicated, has a flying service operating with nine private planes already based there and others expected.

\*St. Paul, Minn., CAP members working with University of Minnesota personnel, contractors and union personnel, contributed labor and equipment to remodel the university airport used by CAP.

\*Three Rivers, Mich., sold its old airport site to buy a new one and CAP volunteer workers reported to clear the new field's runways.

\*Portsmouth, Va., stimulated by local CAP enthusiasm, has purchased a 106-acre field through contributions of citizens, with plans for three landing strips, the longest 7,000 feet long.

\*Cicero Airport has been acquired by Syracuse, N. Y., squadron of CAP. The turf field, 9 miles from Syracuse, has a 60-by-100-foot hangar, clubhouse and operations office.

\*Scottsbluff, Neb., City Council has approved plans presented by



**LAST MONTH** we showed you the commission as Perch Pilot (br) which you get for 1 Little Known Fact About Well Known Planes. But this month's commission is a Senior Perch Pilot's, which takes 5 Little Known Facts. 5 that are good enough to print, we mean.

We put Robert Edward Fielding's name in there just to show him what it would look like. Because he's got only four more Little Known F.A.W.K.P. to go. He got his Perch Pilot (br) rating with this "Fact":

*There is a fighter known as the XP-57 which is a low-wing, tricycle landing-gear, radial engine job. Never heard of it? It's really just a P-39 fitted out with a radial for experimental purposes.*

Thank you, Bob. Your commission is on the way to 7402 - 21st Ave., Brooklyn 4, N. Y.

That right?

**Major Al Williams,**

alias "Tattered Wing Tips," Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.

### WHY IS GULFPRIDE LIKE AN APPLE?

Suppose you had a red, round, rosy apple.

Suppose you got a knife and peeled that apple. Would your apple be 100% good for eating?

Nossir! Hidden inside there'd be seeds and filaments that would maybe give you a toothache. But if you added another step to peeling—took out the core—what you had left



would be good for eating down to the last particle!

Suppose you had a red, round drum of crude oil. Suppose you refined that oil. Would your oil be 100% good for lubrication?

Nossir! Hidden inside—away from ordinary refining—there'd be carbon-and-sludge-formers that would maybe give you trouble. But if you added another step to the refining—the Alchor Process—you'd get a high per cent of those impurities out!

*And what you had left would be Gulfpride!*

We in the Petroleum Industry are in a position to understand America's Pacific war with peculiar clarity. We know how desperate the problems of distance are, because virtually everything we manufacture or compound travels to war. So can we remind you that nothing will make the Jap happier than to know that we've begun to ease up? Can we remind you that we're still losing sons? Of the importance of your war job? Your War Bond? Your gift of blood to the Red Cross?

**Al Williams**

**Gulf Oil Corporation and Gulf Refining Company...makers of**



**OIL IS AMMUNITION—USE IT WISELY**



### 20 Percent in Aviation

Significant as a possible indicator of the interest of returning World War II veterans in aviation, is the fact that of 30 veterans enrolled thus far at Miami University, Oxford, Ohio, six have enrolled in the University's new aeronautics courses, or one-fifth of the total number.





### GLOBE AIRCRAFT'S NEW SWIFT:

The new Swift, to be manufactured by Globe Aircraft Corp., at Fort Worth, Texas, after the war, will embody new features, the company says. Among them are a bubble-type canopy giving 360 degree vision, retractable landing gear, flaps, airfoil empennage with dihedral in stabilizer and elevator and a roomy, deluxe cabin.

CAP for a small airport to be leased at about \$300 a year, with leveling expense of \$1,000, to be used for private flying and civilian pilot training.

\* Leland, Miss., CAP is taking leadership in a movement for construction of a municipal airport. \* Macon, Ga., CAP unit has petitioned the City Council for a five-year operating agreement to use Herbert Smart Airport after Army discontinues use of the field.

These are in addition to CAP activities in developing the Redmond, Ore., airport, and the Cornelia Fort Airpark near Nashville, Tenn., as reported in recent issues of AVIATION NEWS.

### SMU Pilot Course

First step in offering civilian pilot training as an accredited part of the curriculum will be made in November by Southern Methodist University at Dallas, Texas. Ground training under the classification of aeronautics will be started with a six-semester-hour mathematics course.

► **Trained Service Pilots**—Southern Methodist for several years gave ground school and flight training through the Civilian Pilot Training Program and later trained Army and Navy pilots through War Training Service programs. No college credit was given, however.

The eventual plan is to give both ground and flight training to regular SMU students, according to Dr. David W. Starr, assistant professor of mathematics, who served as coordinator for the other aeronautics programs.

### Plane Gas Ration System Revised

Flyers not required to file applications or turn in coupons after Nov. 1.

Individual plane owners or operators will not be required to surrender coupons for gasoline for their craft after Nov. 1, when Civil Aeronautics Administration rationing program goes into effect.

Allocation requests are now in the hands of airport operators and others customarily purchasing quantities of aviation gasoline. These requests were scheduled for return to the chief of the General Inspection Division of the CAA in Washington on Oct. 15 to enable issuance of ration checks prior to Nov. 1.

► **New System**—Under the new system, the Petroleum Administration for War has made an allotment of aviation gasoline to CAA for use in civil aircraft engines. This is in the form of a rationing check, deposited in Riggs National Bank in Washington. Checks will be issued by the CAA to handlers of aviation gasoline, who must surrender a check to suppliers for any gasoline delivered after Nov. 1. The airport operator then will be required to keep a record of gasoline deliveries at his pumps. This record will be sent to the CAA each month. Owners of planes will not have to file applications or turn in ration evidence for gasoline.

Allocations will be made on the basis of deliveries in June, July and August of this year. More gasoline was delivered in those

months for aviation use than at any previous time, so that allocations, particularly during the winter, should be ample for all legitimate uses. Additional allotments can be obtained by justification of requests for more fuel.

► **Restrictions** — Regulation 534, which governs distribution and use of aviation gasoline, prohibits barnstorming, sightseeing and pleasure flights, but permits use for pilot training; transportation of persons and cargo; maintenance of pilot skill and aircraft and aircraft engine airworthiness; and commercial flying, including charter operations, crop dusting, aerial seeding, soil conservation, forest patrol, power line and pipe line inspection, police missions, and similar essential activities.

Airport operators and others are restricted from delivery of aviation gasoline except into airplane tanks and to engine test stands.

### Physical Handicaps No Bar to Pilots

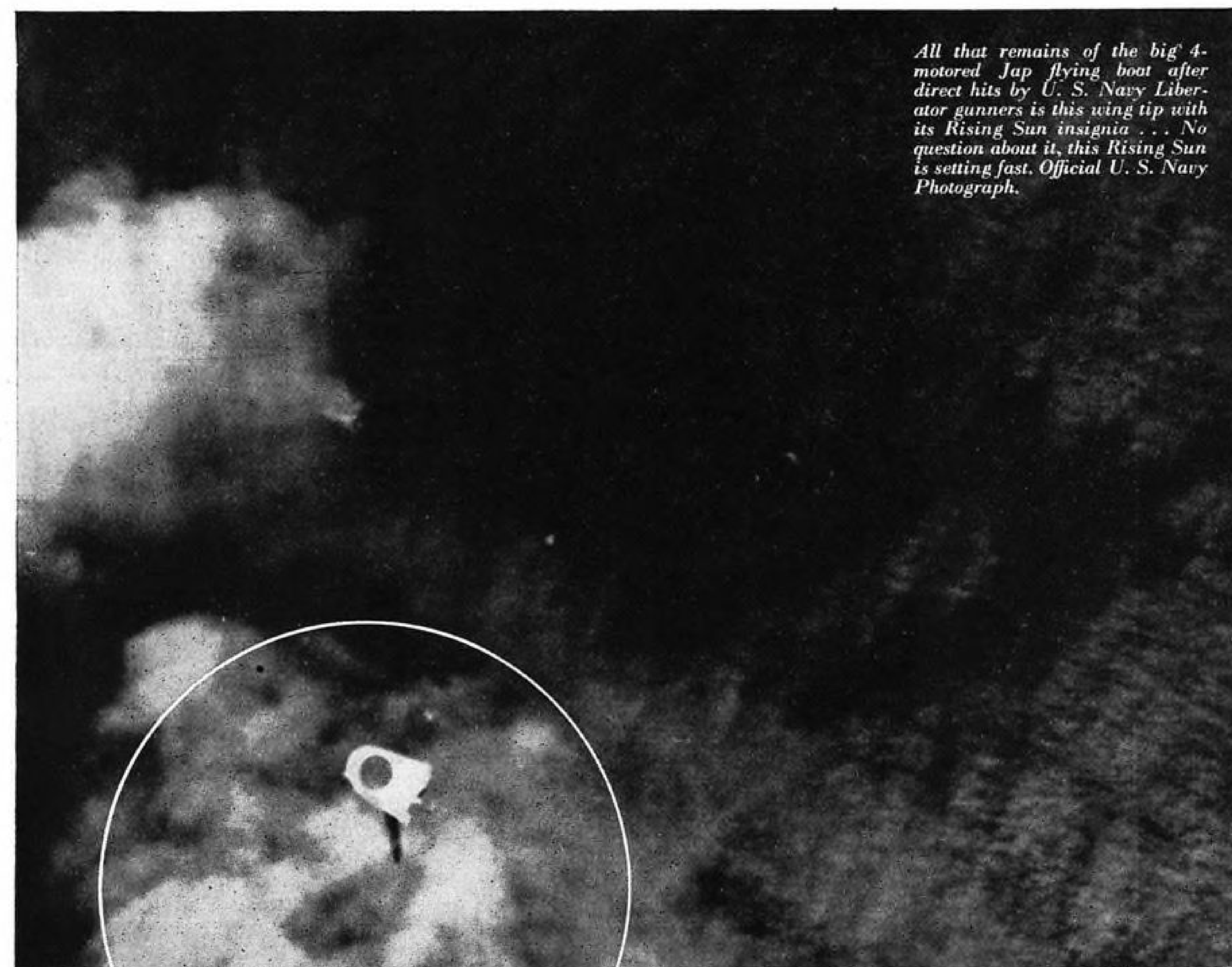
Regulations on flying certificates relaxed where disability does not prevent applicant from learning to operate plane safely.

Physical handicaps such as loss of limb, limitation of motion in joints and wasting of muscles, no longer need be a serious obstacle to obtaining a student or private pilot certificate, if the applicant can prove his ability to fly safely, T. P. Wright, Civil Aeronautics Administrator has announced.

A new Civil Air Regulation provision, permits a medical examiner, to issue a student certificate, with a notation of the applicant's "structural" handicap, if he is otherwise qualified. His instructor determines when he is competent to solo, and when he has sufficient experience and is competent to pass flight test for a private license. The handicapped pilot then demonstrates his ability before a CAA flight inspector, and also may be required to perform other maneuvers which the inspector requests, in view of his particular disability.

► **Not Applicable to Active Diseases** — It is emphasized that the new ruling refers only to structural defects and not to conditions due to active diseases. The Administrator may limit the handicapped pilot to operation of certain types of planes or plane suitably modified.

Under former regulations, applications from handicapped persons required study by the CAA medi-

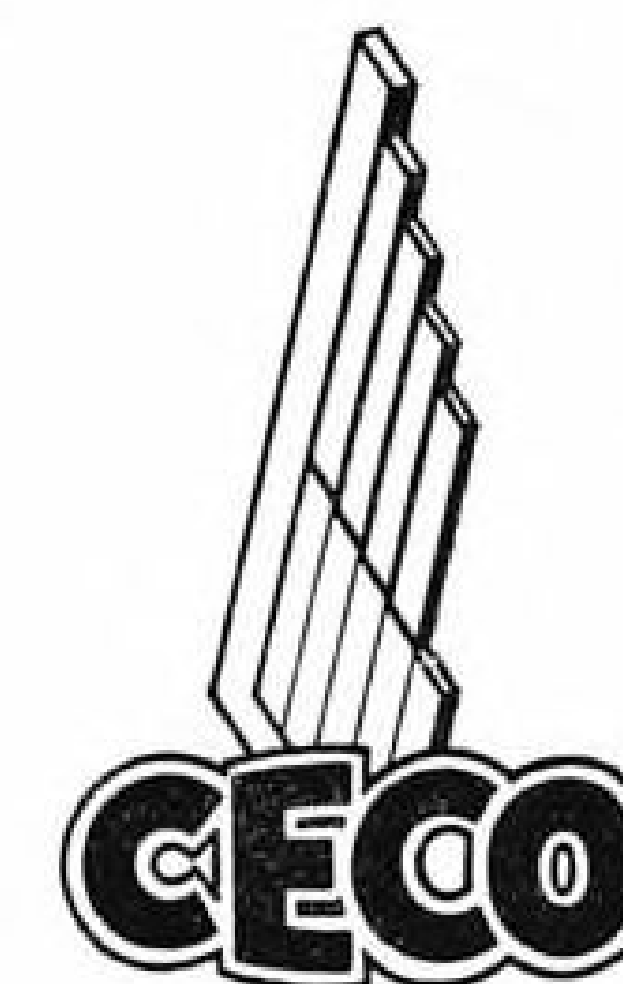


All that remains of the big 4-motored Jap flying boat after direct hits by U. S. Navy Liberator gunners is this wing tip with its Rising Sun insignia . . . No question about it, this Rising Sun is setting fast. Official U. S. Navy Photograph.

## ONCE THERE WAS A JAP FLYING BOAT • •

It is merely small pieces now — thanks to the deadly aim of an American gunner aboard one of our huge Consolidated Liberators. These men on the firing lines of the air are doing a magnificent job . . . and American industry is backing them up with the finest aircraft in the world.

Everyone at CECO is proud that CECO carburetors and fuel pumps on the newest great Liberators and other warplanes play a direct part, however small, in helping bring Victory closer.



CARBURETORS  
FUEL PUMPS  
PROTEK-PLUGS

**CHANDLER-EVANS CORPORATION**

SOUTH MERIDEN  
CONNECTICUT, U. S. A.



cal director in Washington, and a flight test by CAA inspector before they could begin instruction, in addition to the final flight check for private license. The new ruling is seen as another step in simplifying private flying regulations.

## Georgia Governor For U. S. Air Control

**Arnall, in speech at Macon Aviation Clinic, declares regulation is properly a federal function.**

Georgia government and aviation leaders favor federal control of the air. This developed at the recent Georgia Aviation Clinic at Macon, Ga., where a Georgia State Aeronautics Association was formed to advance aviation and project legislative action setting up a fulltime aeronautics directorship as part of the state government.

A resolution creating the Association sets out that it should seek to have set up a "permanent Bureau of Aeronautics empowered to exercise only such powers and to promulgate only such regulations as, while consistent with public safety and convenience, will not unduly hamper or impede the expansion of air industry and travel."

► **Arnall Stresses Point**—Gov. Ellis Arnall, in an address to the clinic, also emphasized this point. He declared his belief that air regulation was properly the province of the federal government and said he would do everything he could to see that Georgia does not set up barriers against expansion of aviation.

"I want Georgia to become the outstanding example of how a progressive state can foster the development of aviation," he said.

He said he thought the aviation industry should pay state taxes and aviation gasoline taxes, but that these revenues should be used to build up the industry within the state.

► **Committee Named**—A five-man executive committee headed by Mayor Charles L. Bowden, of Macon, was elected to perfect organization of the State Aeronautics Association. The committee is to name a board of representatives from each of the ten congressional districts.

The Association will urge that the next legislature, meeting in January, establish a three-man Aeronautics Commission to be appointed by the Governor and au-

thorized to name a full-time, paid director.

► **Would Supersede Advisory Board**—The Commission would supersede the present Aeronautic Advisory Board. The present Board was appointed by the Governor to advance aviation but it lacks authority beyond that to make recommendations to the Highway Department and the Governor.

The proposed Commission would be authorized to receive and disperse funds for airport construction, maintenance, and so on, and aviation gasoline tax revenues would be ear-marked for it.

## City Attorney Rules On Port Injunctions

City attorney of Wichita, Kas., has ruled that apprehension over low flying above cities because of the fear of falling airplanes is not grounds for seeking an injunction against an airport operating in proximity to residential areas. He said injunctions have not been granted by courts because of low altitude flying.

However, residents living close to airports can obtain injunctions on grounds that the field is a nuisance because of noise, wind or dust. "We have found no decisions from courts of last resort which would give the city such a right of action, however," he said.

► **Follows Protest**—Ruling came after a protest was filed by 300 citizens living near an airport alleging the planes taking off from the field barely skimmed the roofs of their homes. They had asked the city commission to enjoin the airport operator. The city attorney pointed out the city ordinance prohibits flying over the city at less than 2,000 feet, except when gaining altitude on landings and take-offs.

"In case of a violation of the ordinance in this case, the violation would be made by a person taking off and landing at a private airport outside the city where the city has no jurisdiction to make an arrest, and the city has no authority to compel the owner of the airport to disclose the name of the pilot or the student flying the plane."

Wichita's ordinance governing operation of aircraft over the city prohibits landings and takeoffs within the city limits, except at the municipal airport (which is six miles from the city proper but is within the city limits).

► **Air Officials Study It**—Aviation

leaders who are sponsoring the proposed airparks plan for Wichita are reviewing the city's attorney's ruling and the city ordinance with interest. Under the present ordinance, airparks would not be possible unless they were construed to be a part of the municipal airport. The fact that citizens near a small airport are complaining also is causing some worry. The airport in question, however, has much shorter runways than those proposed for the airparks.

## Texas A. & M. Opens New Aviation Course

A two-year course in aviation operations management, established at the request of the industry, is being started this month at Texas A. & M. College to train airport and fixed base operations managers.

Training in aircraft and aircraft engine mechanics sufficient to prepare students for the Engine Mechanics examinations will be given, along with flight instruction, to qualify them for commercial instructor-pilot examinations, according to Dr. Howard W. Barlow, acting dean of engineering.

► **Related Studies Planned**—In addition to required work, related studies will be given in applied mathematics, report writing, sketching and plan reading, aviation ground school, airport management, airport layout, airport accounting.

The course qualifies under terms of the G. I. Bill making returning war veterans eligible for government benefits if they desire to take the course.

## To Train Vets

Embry-Riddle School of Aviation, Miami, has contracted with Veterans Administration and is ready to accommodate up to 500 veterans immediately in such technical courses as aircraft and engine mechanics.

► **To Help Disabled Men**—Thousands of additional men will be trained after Germany and Japan fall, since the contract includes training both of disabled veterans under the rehabilitation program and service men under the G. I. Bill of Rights.

In its war-training program, Embry-Riddle provided instruction for some 22,000 Army and Navy cadets in flight and technical subjects.



## "I caught Hell in Heaven last night"

★ Streaking through the grim night . . . one of the Axis buzzards came . . . guns blazing. Bullets ate into my 'plane . . . a spark leaped to flame. Then, down . . . down in a screaming dive . . . smoke spewing out behind. The angels must have heard me shout . . . "Out! . . . Out!" Then my 'chute opened. *Thank God for a good parachute!*

★ ★ ★ "Thank God for a good parachute!" Yes, a parachute is a man's last chance when his plane is shot from under him. Eagle's "know-how" and precision sewing make that chance the best possible. *Every Eagle Parachute must be perfect.* Our expert craftsmen meet that challenge today. And perfection is our pledge for peacetime products, tomorrow. Watch for the Eagle Wings . . . on related aviation textile products for peacetime use when Victory is won.

BUY WAR BONDS TODAY—  
FLY YOUR OWN PLANE TOMORROW

*E. J. Feltner*  
President.



### ATTENTION EXECUTIVES:

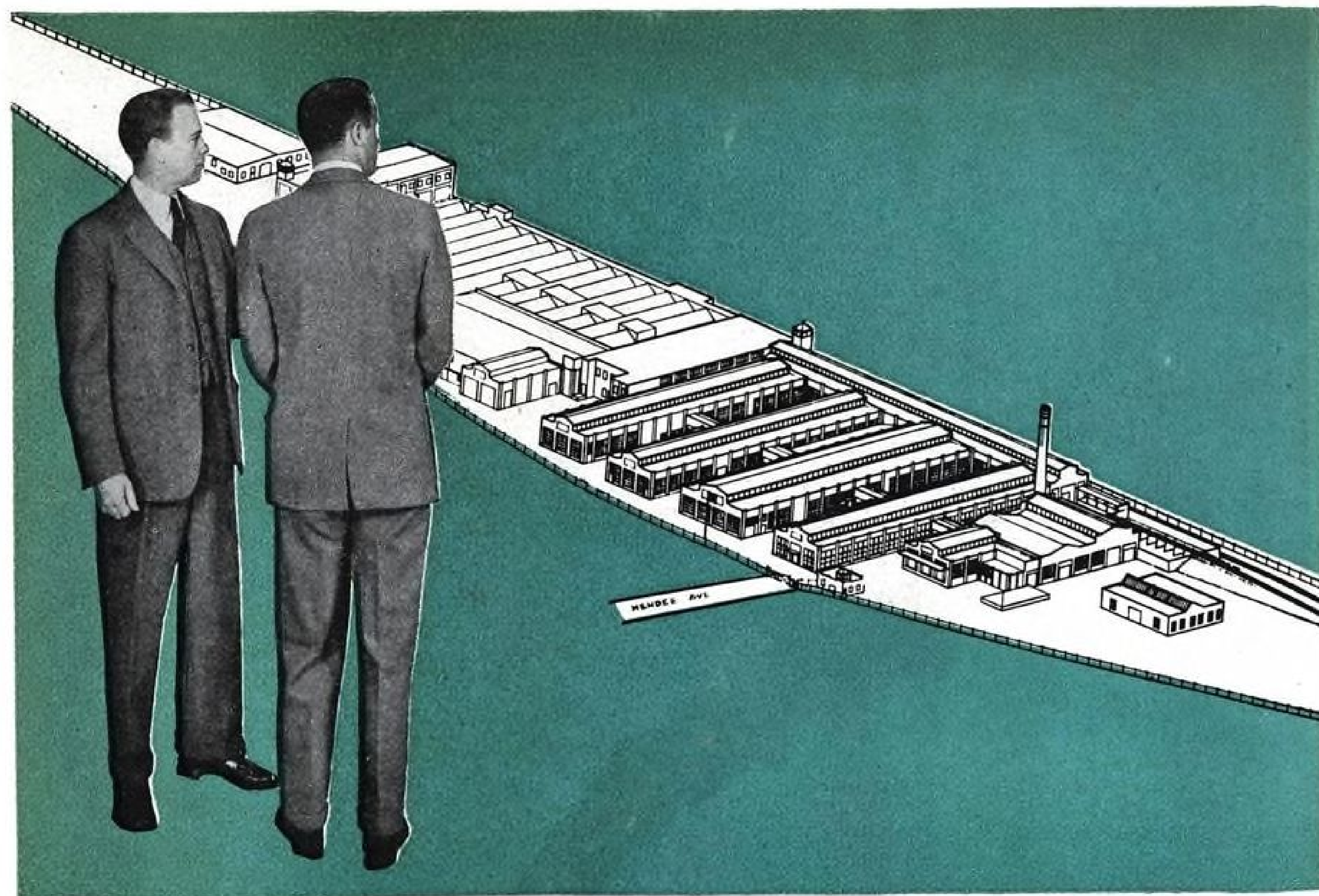
Our facilities are available for the cooperative development of new aviation textile products for postwar use. Your inquiries are invited.

**EAGLE PARACHUTE CORPORATION ★ LANCASTER, PA.**

*Serving the U. S. Army Air Forces and the U. S. Navy, Bureau of Aeronautics*

AVIATION NEWS • October 16, 1944





192,000 SQUARE FEET of conveniently located space. In this modern, streamlined Reynolds plant, aluminum produced in other Reynolds plants is cast into parts for today's warplane engines.

## REYNOLDS ALUMINUM:

### ...now a new service, in a great new plant

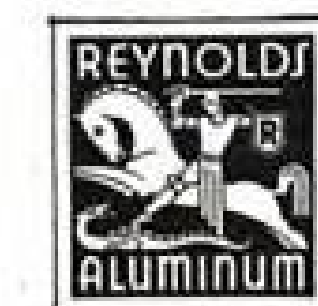
THROUGHOUT the aircraft industry, Reynolds is known as the leading producer of sheet aluminum, fabricated aluminum parts and aluminum forgings for warplane production.

Now Reynolds rounds out the scope of its services with the addition of complete facilities for aluminum castings.

This latest expansion came in answer to a request for help. Aluminum alloy parts, high in physical properties, were needed for engines to power warplanes.

Conventional sandmold casting was tried . . . but the real solution was found to be in the use of the permanent mold process—a tricky and difficult operation.

Reynolds found that superior quality alloy castings of this type were being produced in a plant in England. The chief technician was sought out and borrowed. Reynolds now had the type of casting and the man—needed still, however, the right machines.



From this point on things moved faster and faster!

On May 15, 1944, a pilot plant was set up.

Six weeks later—the first casting was produced, a casting judged perfect by exacting aircraft engine builders.

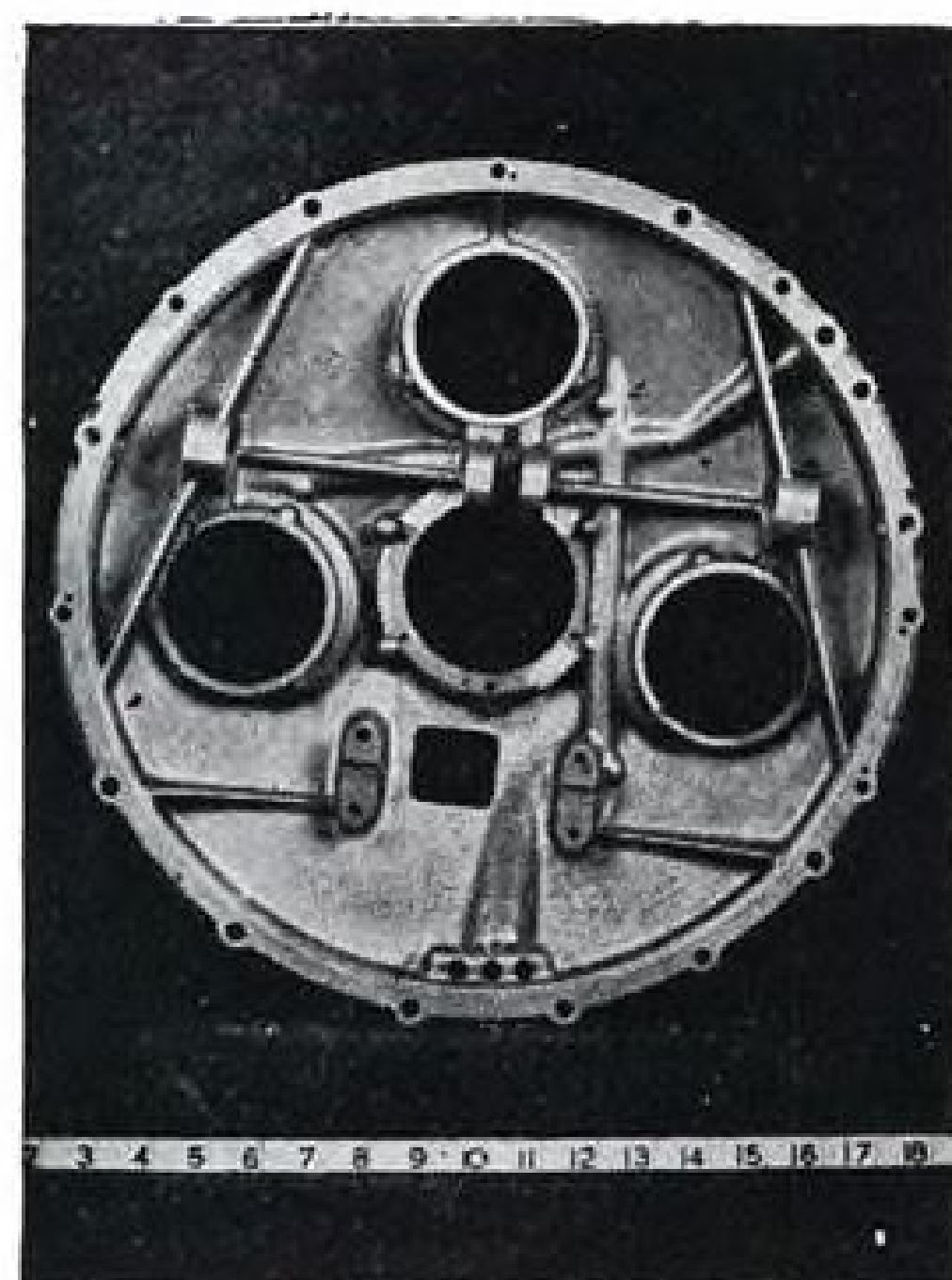
Six months later—and Reynolds is producing castings on a permanent mold line in a modern plant at Springfield, Mass.

But the story does not end here!

#### A PROMISE FOR TOMORROW!

After the war the output of this plant can be increased five-fold. Five times as many people can be employed in casting parts for peacetime automobiles, refrigerators, washing machines, vacuum cleaners, electric irons, and hundreds of other products.

Whatever your problem today—or to morrow—remember, if they concern aluminum—sheets, fabricated parts, forgings or castings—you'll find Reynolds resources, equipment and skill ready to help you! Reynolds Metals Company, General Offices: Richmond 19, Virginia; Aluminum Division, Louisville 1, Kentucky; Springfield, Mass. Sales Offices in 25 principal cities.



GEAR CASE, made from aluminum alloy, cast from permanent molds at the Reynolds Metals Company plant, Springfield, Mass.

## THE AIR WAR

\*\*\*\*\*

### COMMENTARY

## Jap Steel Industry Has 'Priority' In Missions of Superfortresses

Vulnerability of Nipponese heavy industry makes plants strategic target; seven recent missions were made against main enemy steel centers.

Not counting the shakedown mission against the railway shops and marshalling yards in Bangkok (June 5), seven of the eight B-29 missions dispatched to date have struck at Nipponese steel production. This emphasis on steel indicates a striking difference in the evaluation of targets in the Asiatic war, compared with the strategic air objectives in Germany—fighter aircraft, oil, ball-bearings.

Reason for this is obvious. Important as steel is in all aspects of waging war, Germany's productive capacity of 25,000,000 tons a year, plus as much again acquired by conquest, made it impossible to strike the steel industry hard enough, often enough to affect front-line battle strength.

Japan's New Heavy Industry—When Japan went to war with China in 1937 her industry was defective in two respects. It was light, with too many factories turning out textiles and consumer goods, and too few producing steel, machinery and chemicals. Japan, herself, was also poor in the raw materials of war—coal, iron and oil, with the possible exception of coal. It takes airplanes, ships, tanks and big guns, as well as railroads, to win a war, and for these steel is indispensable.

When Japan flung herself into war with the United States, her steel industry was producing less than 10,000,000 tons of steel per year compared with America's 88,000,000 tons. This in itself was a remarkable showing, and considering that Britain began her war with a steel capacity of only 15,000,000 tons, and that Russia has fought the biggest land war of all times for over three years with a capacity estimated at not over 12,000,000 tons, the Nipponese warlords may have figured that they could hold back American and British forces while Japan de-

veloped the tremendous haul of raw materials gained through her rapid conquest of the Philippines and the Netherlands East Indies. Plan that Failed—The line of Jap conquest was held at Guadalcanal in the Solomons, and just north of Port Moresby in New Guinea. If it hadn't held, Japan might have had time enough to develop her ill-gotten gains and become a strong industrial power. Now her outer empire is gone, or very largely cut off, and Superfortresses of the Twentieth Air Force have started to smash up the steel industry concentrated on the highly industrialized Kyushu Island, in the neighborhood of Yawata and Nagasaki, and in Manchukuo, Japan's industrial ace-in-the-hole. These attacks from bases in western China will be augmented by even greater blows from the south as soon as air bases with nearby harbors can be prepared, as repeatedly indicated by official spokesmen.

Yawata Hit First—First blow of the big B-29's was struck against the Imperial Iron and Steel Works at Yawata, the largest steel mills in Asia and source of 20 per cent of Japan's steel production. This was on June 15. It was attacked again the night of July 7, and a third time in a smashing day and night coordinated attack Aug. 20.

Specific targets included the coke oven plants, blast furnaces, electric power plant, open hearth furnaces, foundry, etc. The nearby industrial city of Nagasaki was attacked by the Superfortresses on Aug. 10, targets including Mitsubishi Steel Works and the huge shipyards. Shipping is Japan's Achilles' heel, and this gives the air offensive against steel a special significance.

Prize Plant in Puppet State—Japan has realized her vulnerability to air attack and has been de-

centralizing much of her industry, moving it away from crowded cities. This is difficult in the case of the steel industry, and part of the answer was the development of Manchuria. With their deep military penetration of North China the Nipponese warlords figured they had protected their puppet state Manchukuo from bombing. Superfortress attacks have stabbed them awake to reality.

First blow against the big Showa Steel Works at Anshan was July 29, a daylight attack with good results. Another daylight attack by a "large task force of B-29 Superfortresses" was carried out against Anshan Sept. 8, again with results reported "good," and only one aircraft missing. Sept. 27, "a large force of B-29 Superfortresses" (more than 100 aircraft) struck for the third time at the Showa Works, through a heavy cloud cover.

It will be noted that the B-29's are universal bombers, equipped for night missions, daylight precision missions, and for bombing through overcast. Showa Steel Works, Anshan, second only to Yawata, are vital to Japan's steel program, as they do not depend on iron ore from overseas as do the steel mills at Yawata, Osaka, Tokyo, etc. Crippling Anshan is a strategic blow of the first order.

—NAVIGATOR



#### NEW GOGGLES AND MASK:

Adoption of a new type of improved flying goggles, the B-8, now standard equipment for the AAF, announced from Wright Field, is believed to have solved many of the difficulties experienced by airmen with earlier types of goggles. Equipped with a one-piece plastic lens fitted into a special nose arch, the new goggles fit perfectly with the new oxygen equipment.



## PERSONNEL

★★★★★★★★★★★★★★★★★★★★

**Joseph D. Boylan** has been appointed regional cargo traffic manager for American Airlines. For a number of years, Boylan was connected with sales and traffic departments of motor express companies. Prior to his appointment with American Airlines, he was employed as a civilian with the U. S. Army Transport Corps in New York. His headquarters will be in the Airline Terminal Building in New York.



**Allen E. Strasser** has been named controller for Curtiss-Wright Airplane Division Research Laboratory to supervise the accounting and financial policies of the laboratory. At the outbreak of war, Strasser assisted in development of U. S. Caribbean air bases.

**Clarence L. Riegel**, former General Electric assistant district auditor in New York, and president and executive manager of the New York Credit Men's Association, has been elected secretary and assistant treasurer of Luscombe Airplane Corp., Trenton, N. J., pioneer manufacturer of all-metal cabin lightplanes and metal parts for military aircraft.



**Kenneth R. MacDonald** is the head of the new Aviation Department of the San Francisco Chamber of Commerce. The new department has been established as part of a program to make San Francisco the passenger and freight air terminal of the coast. MacDonald has been working on committee coordination work for the Aircraft War Production Council, Inc., West Coast, for the past year and a half. He will work in cooperation with **Walter A. Rohde**, manager of the transportation department, in air transport regulatory and rate making matters. The Bay Area Aviation Committee, with which MacDonald will work, was organized by the Chamber of Commerce.

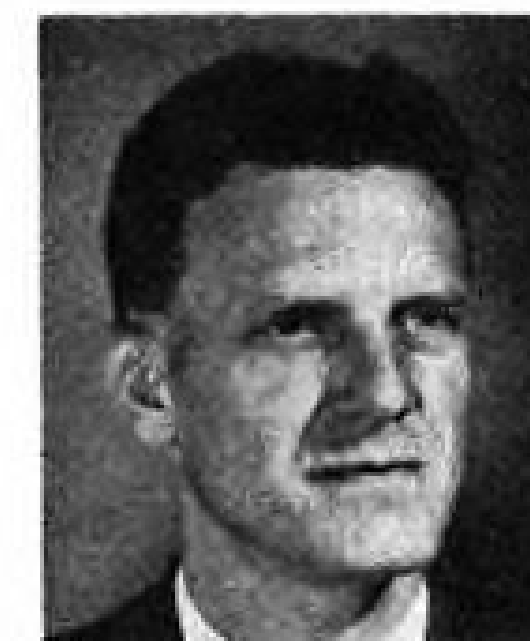


**Henry E. Mooberry** has been named assistant to the president of United Aircraft Corp. Mooberry joined the



public relations staff of United in May, 1942, and was named assistant director of advertising and publicity a year ago. He maintained public relations offices in New York prior to joining United. Mooberry was with Associated Press for eleven years, during which he was chief of the New Jersey Bureau.

**Joel Whitney** (photo), director and manager of Ryan Aeronautical Institute, was named chairman of the San Diego section of The Institute of Aeronautical Sciences at its annual business meeting, succeeding **Ernest G. Stout**. Whitney was formerly vice-chairman of the local chapter of the Institute. He has been with Ryan for four years and previously was a technical instructor of the Army Air Forces aviation cadets for Ryan School's primary pilot training program. Other officers elected include: **Jack Mason**, vice chairman; **Franz Schnaubelt**, treasurer; **Francis Thornburg**, recording secretary; and **Charles L. Blake**, corresponding secretary, all of Consolidated Vultee Aircraft Corp.'s engineering department.



**Norman W. Storey** and **R. L. Sullivan** have been appointed staff assistants to the Miami division manager of Consolidated Vultee Aircraft Corp. Storey, a former member of the contract department staff, will be in charge of contract terminations, while Sullivan, who is chief development liaison engineer, will

report directly to the division works manager.

**Austin Trumbull** has been made resident representative of United Air Lines at the Douglas Aircraft Corp., in Santa Monica. Trumbull has been in the communications department of United since 1930. Trumbull is supervising conversion of DC-3's to commercial use and will assist in United's DC-4 and DC-6 program. He also is representing Aeronautical Radio at Douglas.

The council of the Royal Aeronautical Society has awarded to **Air Commodore Frank Whittle**, a fellow of the society, its gold medal for inventing jet propulsion. This medal is the highest honor the council can bestow. It has been awarded on seven previous occasions: in 1909 to the **Wright brothers**; in 1910 to **Prof. Octave Chanute**; in 1915 to **Prof. Bryan and E. T. Busk**; in 1926 to **Dr. Lanchester**; in 1927 to **Prof. Prandtl**; in 1933 to **Sir Richard Glazebrook**; and in 1937 to **Juan de la Cierva**, posthumously.

**B. T. Cline**, former assistant general traffic manager and district traffic manager for Chicago and Southern



Anishanslin

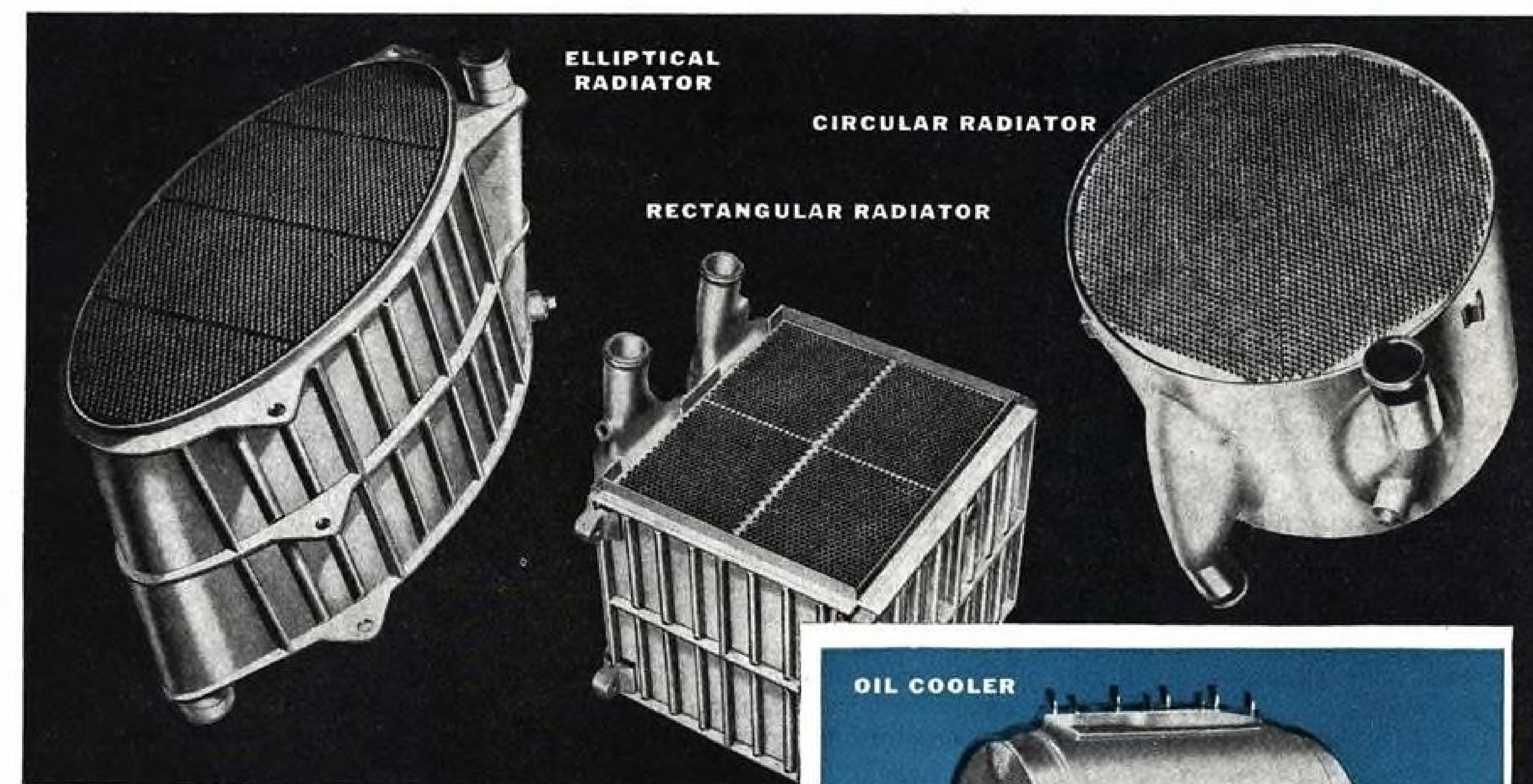
Cline

Air Lines, has resigned and will be replaced by **George E. Shedd**. **Norman Anishanslin**, district traffic manager for Chicago and Southern at Memphis, has been promoted to the position of revenue auditor for the company. He is succeeded by **Lloyd J. Calhoun**, former manager of engine overhaul.



**J. G. Holland** (photo) has been appointed general attorney for Continental Air Lines and the Continental-Denver modification center. He will head the contract administration section of the modification center and handle legal matters for both the modification center and the air line. Holland has been a practicing attorney in Denver since 1925 and will fill the vacancy left by the resignation of **Terrell Drinkwater**, who was also vice president of Continental, and who has now joined American Airlines.

## HOW THIN ALUMINUM TUBING IMPROVES HEAT TRANSFER UNITS



### ...and how Clifford's aluminum brazing makes it possible

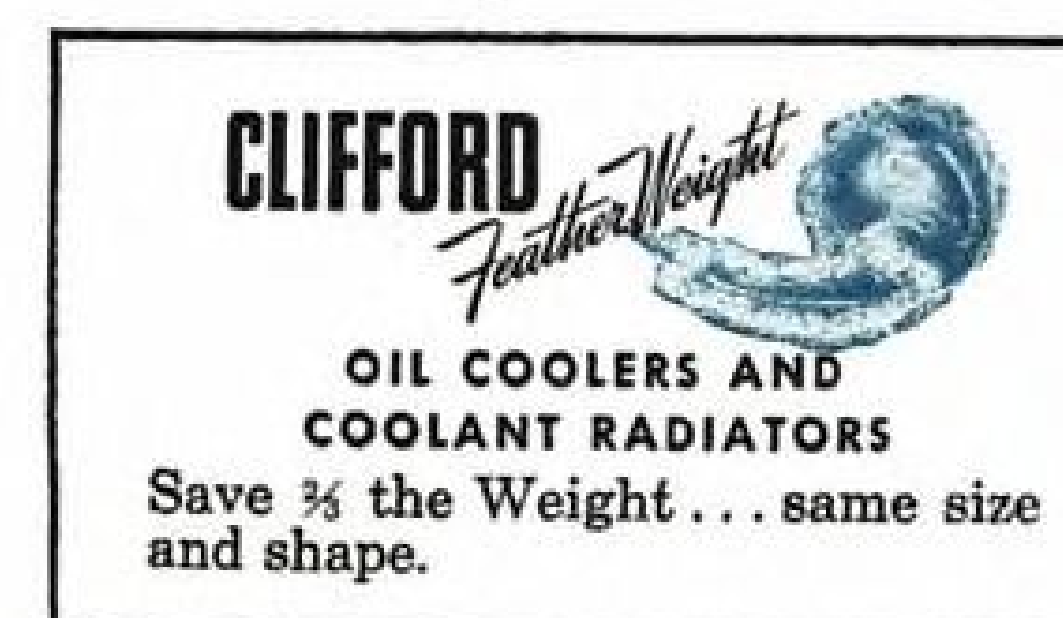
Today, several famous types of planes of the USAAF are flying higher, farther and faster because of the Clifford Feather-Weight Oil Cooler and Coolant Radiators pictured on this page. Their all-aluminum structure saves  $\frac{3}{8}$  the weight of their copper predecessors and throws in longer life as an extra dividend.

When heat transfer units call for lighter weight and more "guts", men who know specify Hydron seamless aluminum tubing... bonded intimately to header plates... by all-aluminum alloy...

brazed by Clifford's exclusive patented method. For, Clifford Feather-Weight Heat Transfer Units provide, for the first time, greater resistance to temperature, pressure and vibration in elliptical and oblong designs as well as in conventional circular cross-sections.



**CLIFFORD MANUFACTURING CO.**  
562 E. First Street, Boston 27, Massachusetts



**CLIFFORD**  
First with the Facts on  
**HYDRON**

• ALUMINUM BRAZING  
• HYDRAULICALLY FORMED BELLOWS





## AIRCRAFT PRODUCTION

### New Light-weight Ranger Engine Presages Plane Design Changes

12-cylinder V-type power plant developed for post-war commercial use is believed particularly adaptable to feeder line operations.

A new light-weight aircraft engine, aimed at the post-war commercial field with feeder line operations especially in mind, has been developed by Ranger Aircraft Engine Division of Fairchild in a move that may forecast new designs of aircraft construction through the adaptability of the power plant.

The 12-cylinder V-type engine

is air cooled and weighs but 870 pounds, complete with standard accessories. It develops 700 hp. for take-off with 100 octane standard fuel, nearly one horsepower for each cubic inch displacement.

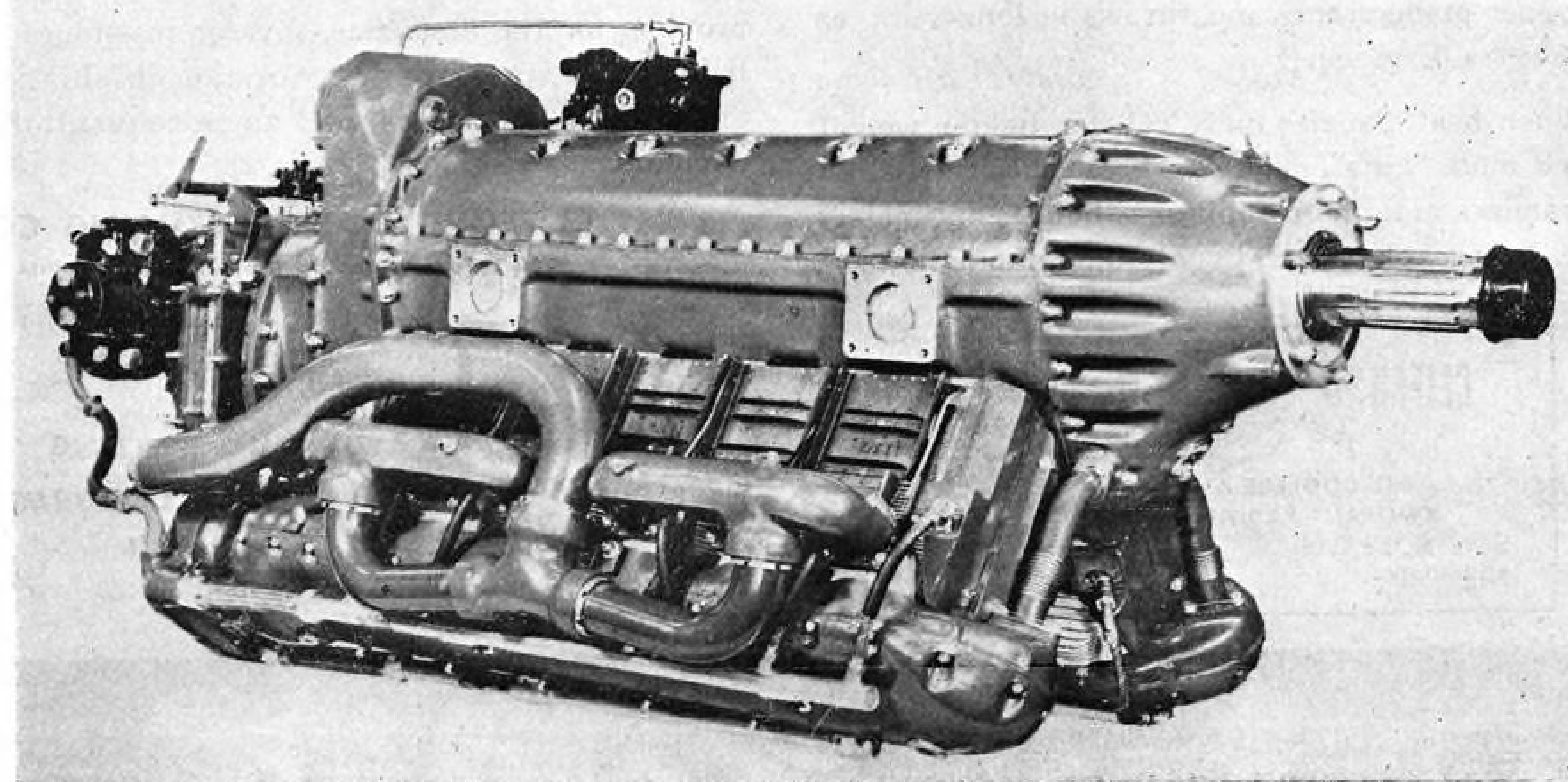
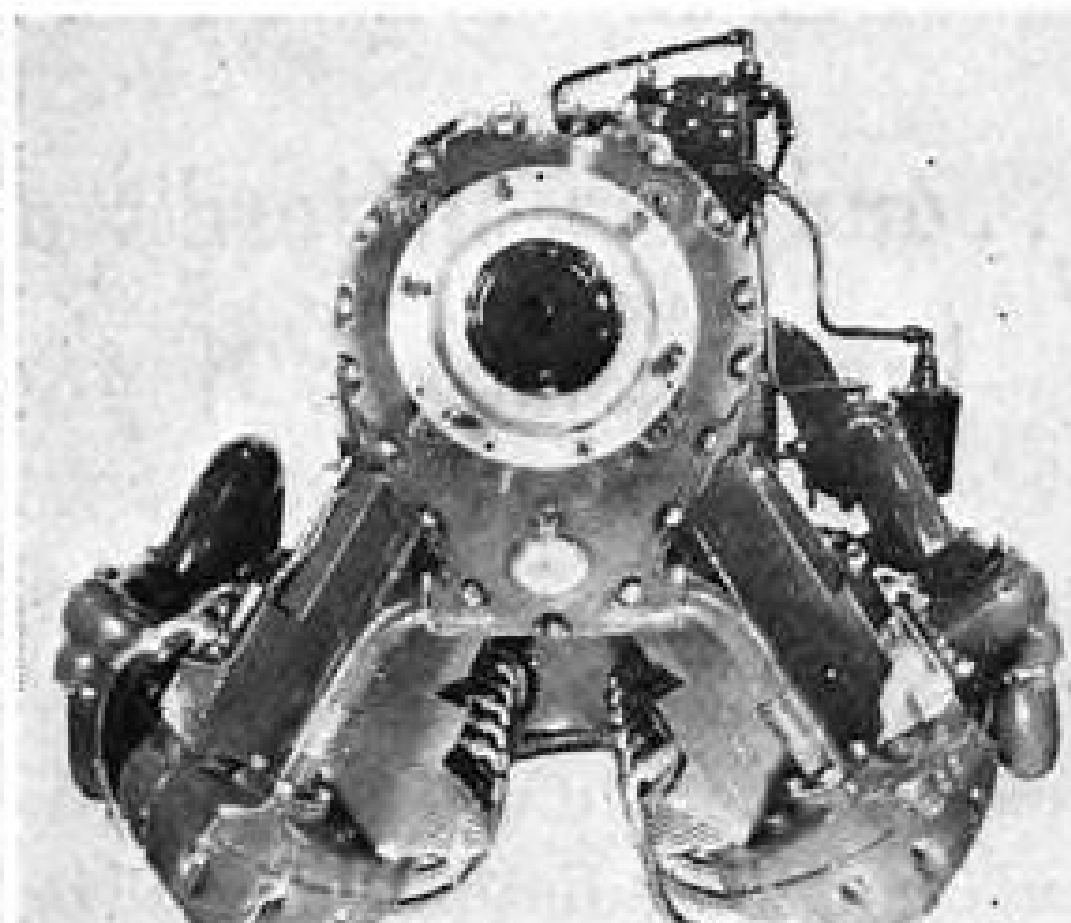
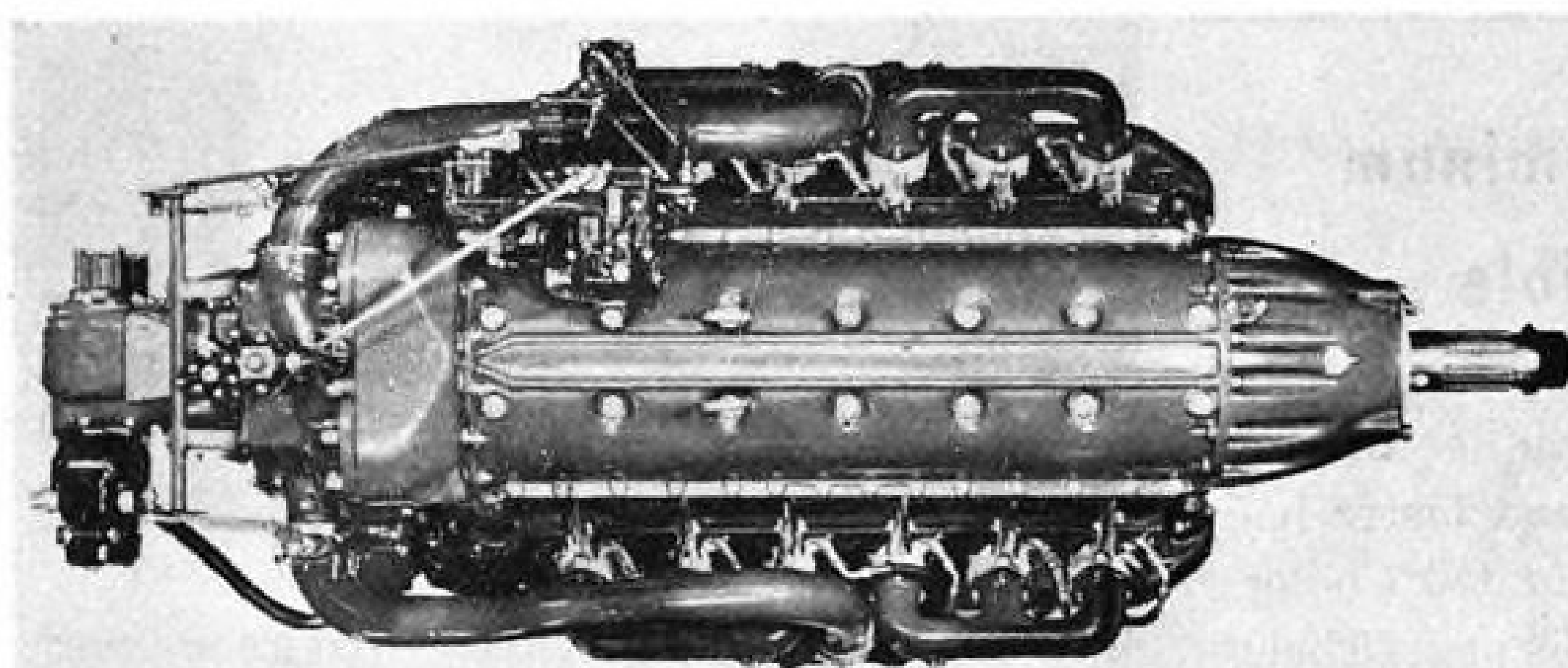
► **Engine Inverted**—Like other Ranger engines, it is inverted, that is, the cylinders extend below the crankshaft rather than above, as in conventional inline types. The

engine has an overall height of 31.11 inches; it is 74.92 inches long and 33.28 inches wide.

Harold H. Budds, Fairchild vice-president and general manager of Ranger Division, said the new engine will be ready for peace-time jobs as soon as the war ends, since Ranger has plants, tools and personnel to produce the commercial model without long delay during reconversion.

► **Aluminum Cooling Fins**—Cooling characteristics are enhanced by aluminum cooling fins chemically bonded to the steel cylinder barrels by use of the Al-Fin process, a recent Fairchild development. Cooling on this engine is accomplished by the pressure of air entering a scoop and directed around the cylinders by an arrangement of baffles which create turbulence in the air flowing around the cylinders.

Budds explained that a minimum of air is required for successful cooling and this fact, coupled with the compactness of



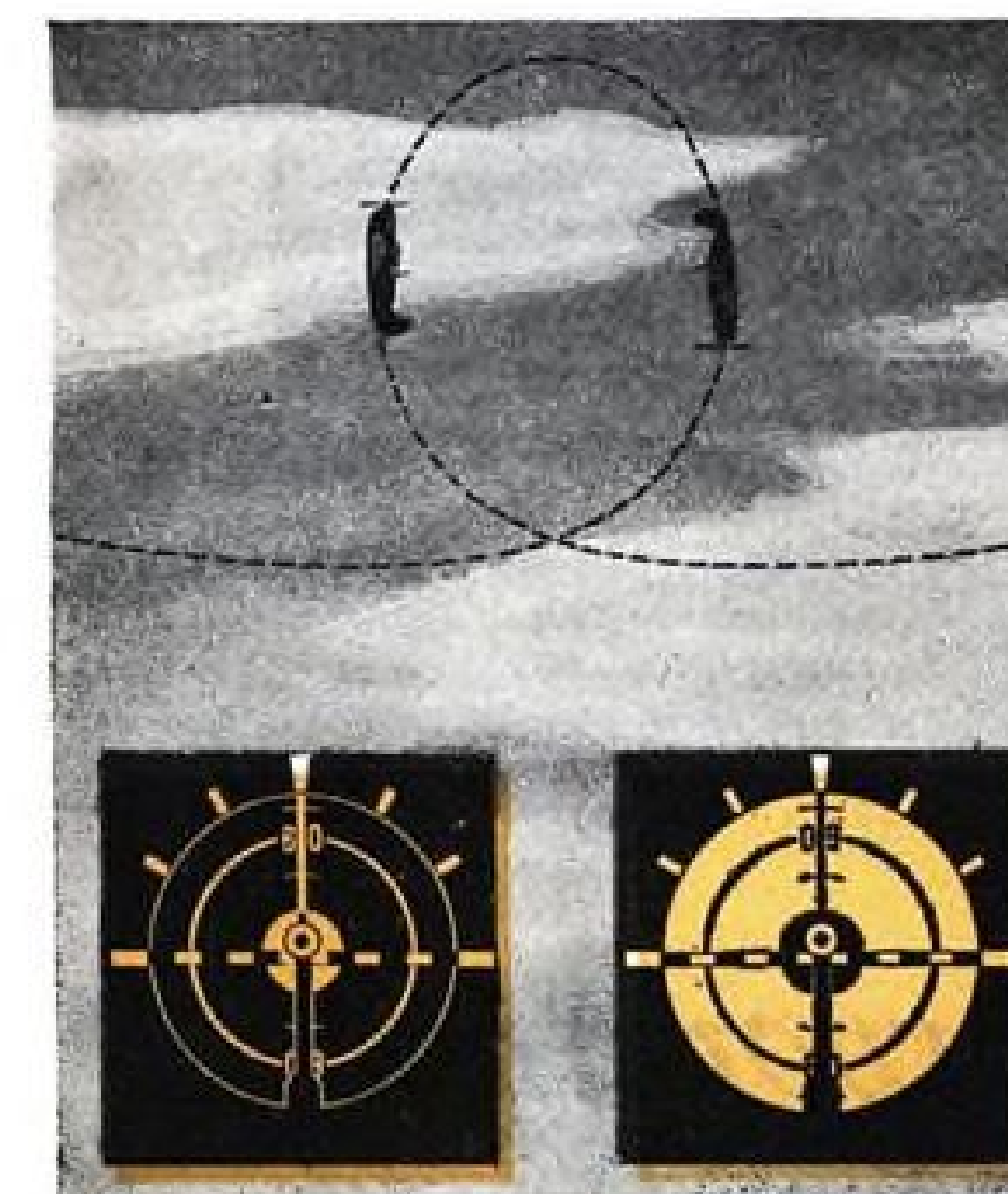
The Ranger Engine: Upper left, top view; upper right, front view; below, three-quarter front.



Pattern indication gives the pilot a visual "picture" of his attitude at all times, regardless of the degree of bank, climb, or dive.



**No angular limitations!** The Sperry Attitude Gyro indicates pitch and bank without any angular limitations!



**No caging!** Because there are no angular limitations, the instrument *never* has to be caged . . . not even in acrobatics!



## Attitude Unlimited!

New Sperry Attitude Gyro provides pattern indication . . .  
has no angular limits . . . needs no caging!

**W**ITH THE NEW Sperry Attitude Gyro Indicator a pilot can, for the first time, loop, roll, dive, climb, or fly at any angle with visibility zero, and still always know the attitude of his plane relative to the earth.

The spherical dial is marked to provide the same "pattern" type of indication whether by daylight or by any artificial light . . . a single glance tells the story.

The suspension for the spherical dial of this new Sperry instrument allows full 360° freedom of indication in the

roll and pitch axes of the airplane.

A small gyro spinning at 23,500 r.p.m. stabilizes the sphere and keeps it erect in relation to the earth's surface. The airplane actually maneuvers around the indicating sphere.

The Sperry Attitude Gyro makes instrument flying safer, easier, and facilitates maneuvers and acrobatic training.

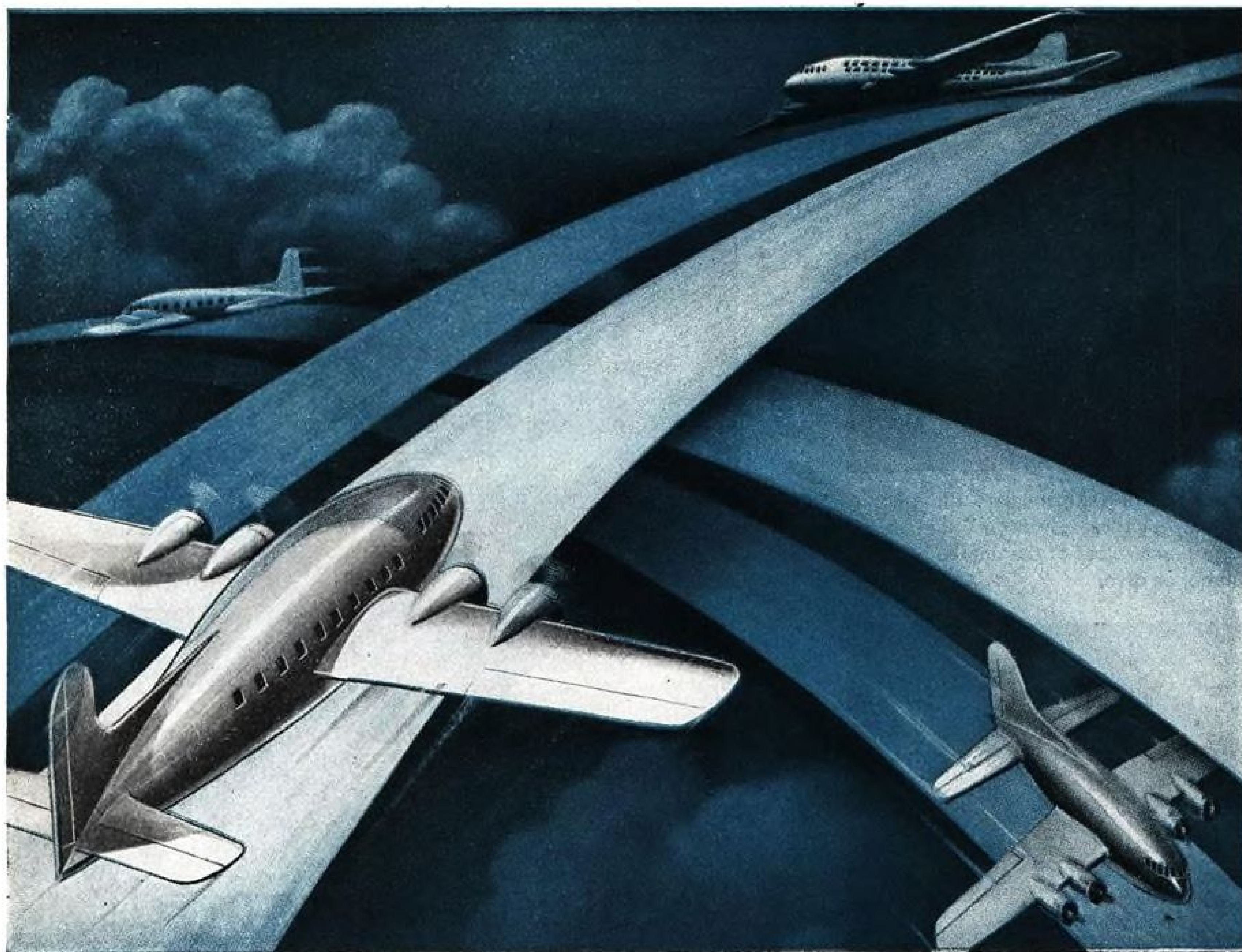
With it there is no possibility of the gyro's tumbling, even in extremely turbulent air. And, of course, its advantages in combat are obvious.

**Sperry Gyroscope Company**  
INC.

GREAT NECK, NEW YORK • DIVISION OF THE SPERRY CORPORATION

Gyroscopics • Electronics • Automatic Computation • Servo-Mechanisms





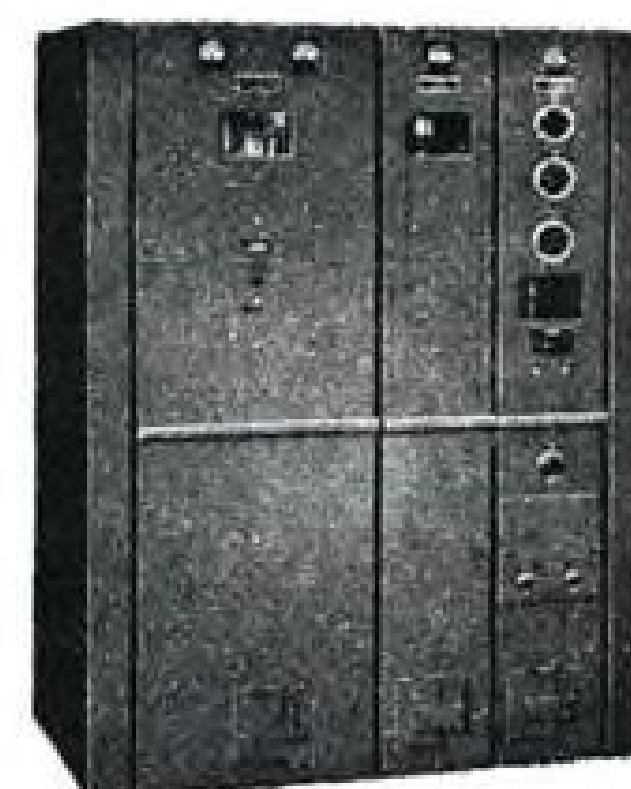
## Highways of the Skies

People will fly!

And a lot of fast express will take to the air tomorrow.

To guide this vast new air traffic safely from ground to ground will require new conceptions of instrument landing, ranging and marking equipment. Federal has had long experience in making aerial navigation equipment. Now, at the great Federal laboratories, still newer and better means of three dimensional traffic control are being developed and perfected.

Here is the logical place to start your plans for tomorrow — *one* design-and-manufacturing organization ready to plan ahead with you. Get acquainted with Federal now!



*Federal designs that extra margin of performance into its radio communication equipment—built in a great variety of frequency ranges and power sizes for aeronautical, point-to-point, radio telephone and telegraph, marine and mobile applications.*

## Federal Telephone and Radio Corporation

Newark 1, N. J.



design, makes the engine suitable for submerged installations where the engine is contained within the structure of the wing or fuselage rather than extended from the nose or leading edge of the wing.

► **Five Major Units**—Basically, the new engine is composed of five major units; the crankcase and cylinders, the right and left camboxes, the nose section and rear section. In disassembling, all can be removed by a single mechanic without use of a chain hoist and with a minimum of time and special tools.

Budds said the engine will be available with two propeller reduction gear ratios; 1.65 to 1 and 2.37 to 1. Planetary reduction gears are employed. At 3600 rpm. for take-off, the propeller shaft speed is reduced to 2180 by the first ratio and 1520 by the second.

Power sections are made of aluminum alloy. The six-throw crankshaft is dynamically balanced and connecting rods are of the fork and blade type. Overhead camshafts actuate the valve mechanisms on each bank of cylinders. Ignition is by high tension dual magnetos. Pressure lubrication is of the dry sump type. Oil is transferred through drilled passages. The hollow accessory driveshaft is the main oil gallery. Splash and spray lubricates the cylinder walls, pistons and piston pins. Valve mechanisms are pressure lubricated.

## U. S. Sets Minimum On Aluminum Scrap

SWPA Chief Clayton establishes price floor to prevent demoralization of market.

Heavy surpluses of aircraft and other aluminum and lack of a market have resulted in establishment of price floors under government-owned scrap. The action, taken by Surplus War Property Administrator W. L. Clayton, was designed to prevent demoralization of the aluminum scrap market.

As disclosed in AVIATION NEWS (Oct. 2, Page 41), only 12 percent of aircraft aluminum excess stocks has been moved into other channels, and it was anticipated that aluminum would be withdrawn from the warehousing plan.

► **May Go to Metals Reserve Co.**—Aluminum scrap that cannot be sold at minimum prices will be turned over to the Metals Reserve Co., Reconstruction Finance Corp. subsidiary, for storage.

The schedule of prices is: all segregated solids, six cents a pound; all mixed solids, 5 cents; any scrap solids mixed with foreign materials, four cents; obsolete aircraft to be scrapped, and sub-assemblies completed or partly completed, two and one-half cents; and, wrecked aircraft, one and one-quarter cents a pound. The minimum prices do not apply to lots of 10,000 pounds or less, to

borings or turnings, or to aluminum scrap in contracts where the claim against the government is less than \$10,000.

## Reverse-thrust Prop In Quantity Output

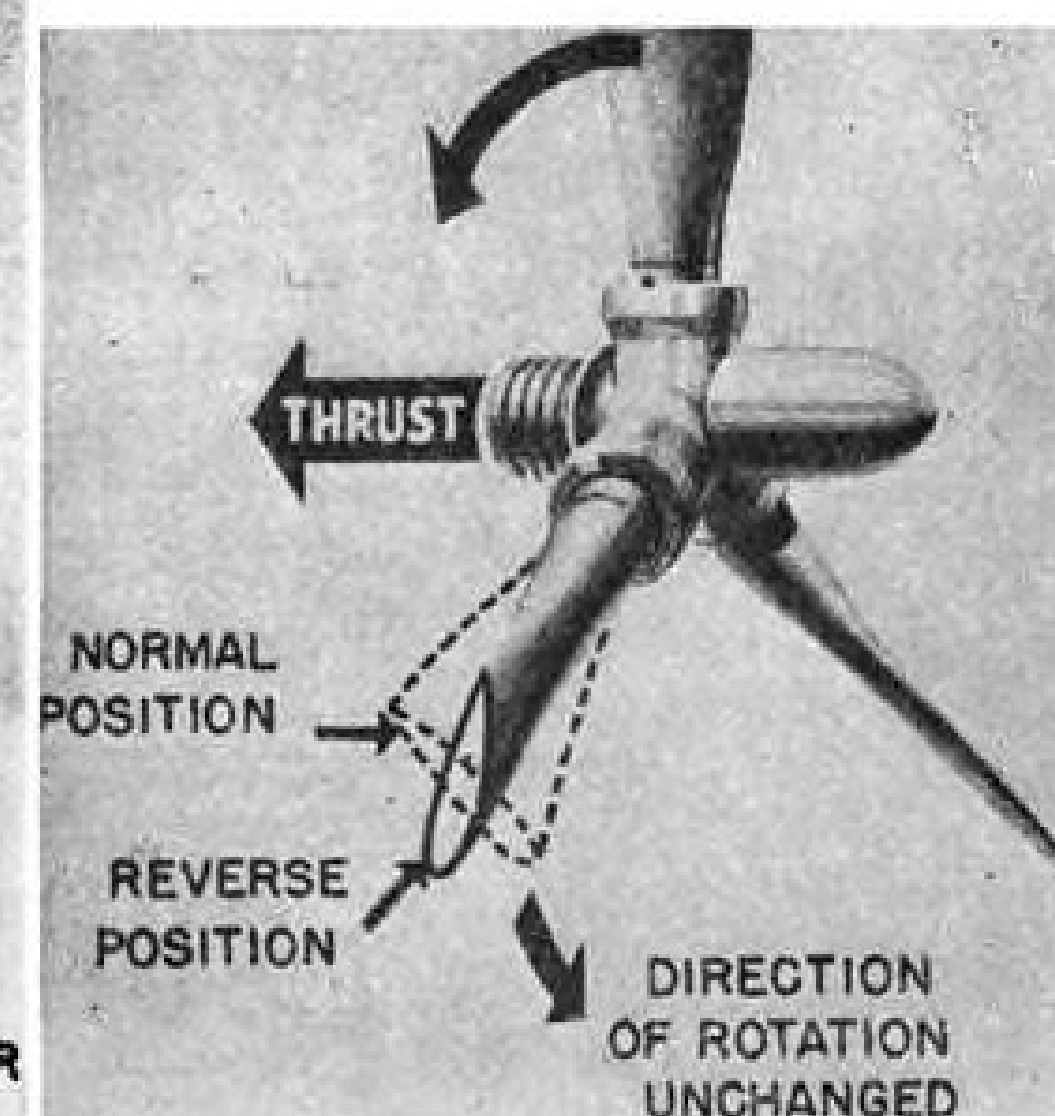
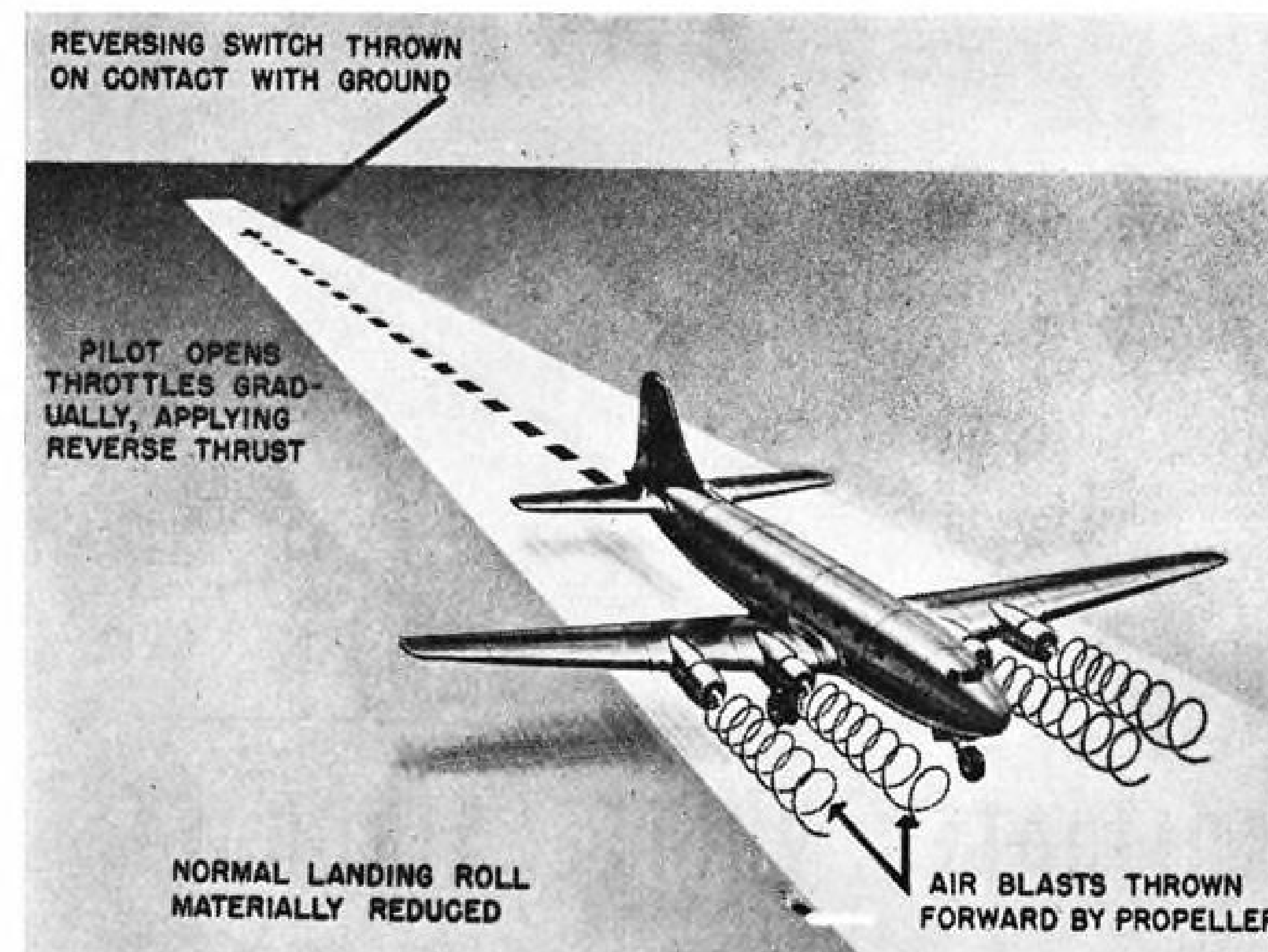
Units produced by C-W for four-engine Army plane.

Use of reverse-thrust propellers has passed from the experimental stage and propellers of this type are now in quantity production by the Curtiss-Wright Corp. for use on a large four-engine Army plane.

Tests with the aerodynamic brake principle of the reverse-thrust propeller on a four-engine plane showed use of thrust from two propellers was equally as effective as normal application of the wheel brakes. Curtiss engineers predicted use of the principle on commercial planes after the war will permit lightening of the wheel brakes on aircraft equipped with the new type propeller.

► **Angles of Blades Changed**—Braking by reverse thrust is accomplished by changing angles of the propeller blades to negative pitch to generate the backward thrust. It does not reverse the rotation of the blade.

Use of the propeller in combination with brakes results in a great reduction of the landing run. Declaration, engineers report, is exceptionally smooth and its application to commercial planes should increase passenger comfort in landing operations. The system reduces taxiing time after landing, increases maneuverability on the ground and reduces tire wear.



**Air-Brake Propeller Use:** The artist's sketch at left illustrates the principle of aerodynamic braking now out of the test stage and scheduled for use on a four-engine Army plane. The sketch at right shows the

propeller blade pitch change by which reserve thrust is obtained. Backward thrust is developed by changing the angles of the propeller blades to negative pitch.



This advertisement is one of a series which is appearing in national magazines and newspapers as Consolidated Vultee's contribution toward a clearer public understanding of transportation's role in the war, and its postwar opportunities and responsibilities.

## To Australia—AND BACK— in 95 hours and 20 minutes!



**1. 12:00 midnight Sunday:** A huge Liberator Express, loaded with a secret cargo, roars down its California runway and soon dwindles to a speck on the horizon. The dispatcher checks off another routine flight for CONSAIRWAY, the military airline established in 1942 by Consolidated for the Air Transport Command.



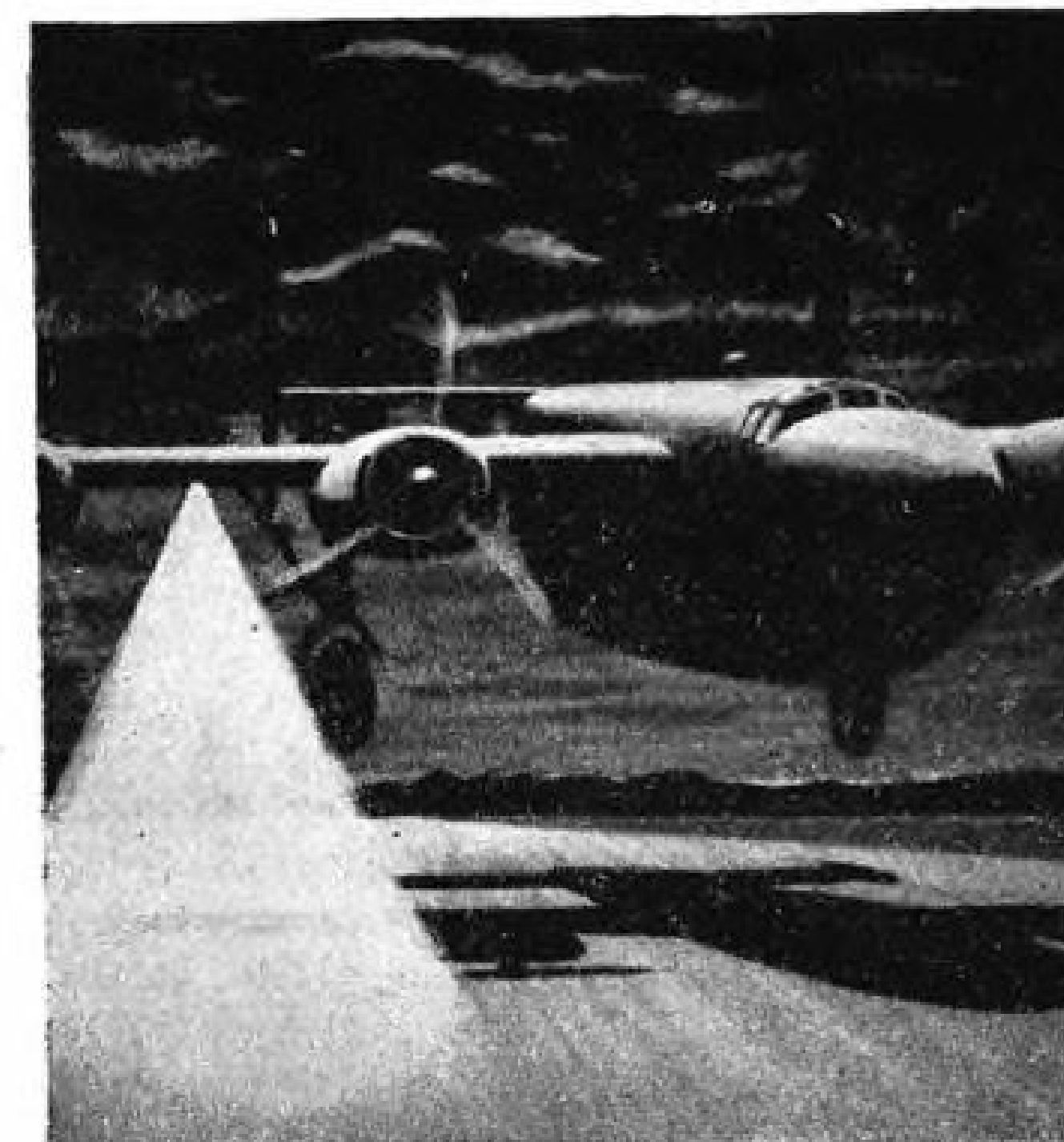
**2. 10:30 p. m. Tuesday:** The ground crew at an Australian airport speedily unloads the Liberator's high-priority cargo... checks the engines... heaves aboard tons of mail for the U. S. A. A new "Pony Express" flight crew jogs out, climbs aboard, and the giant transport streaks down the runway for the return trip.



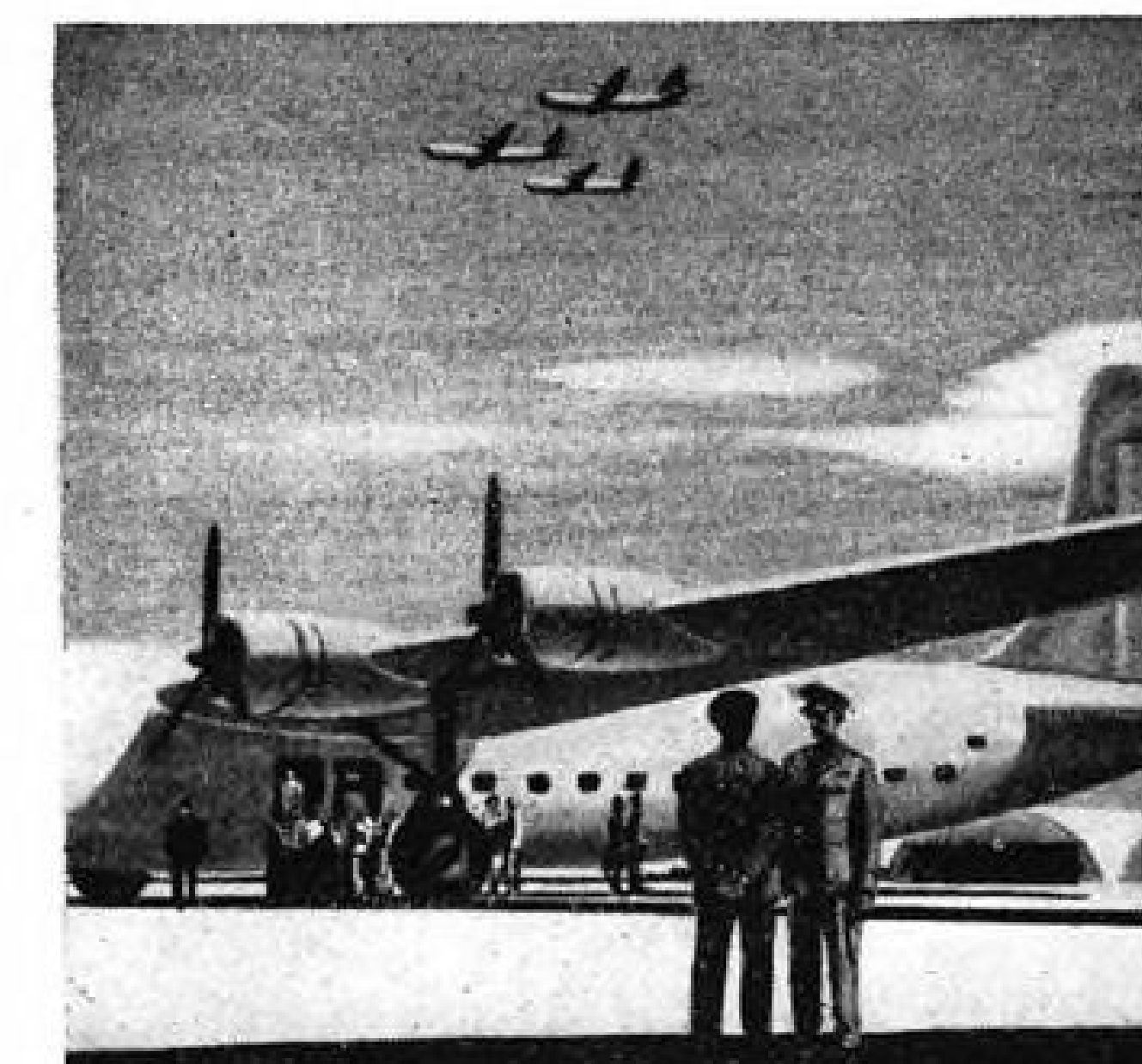
**4. So far,** CONSAIRWAY Liberators have made 1764 round trips between the U. S. and Australia—a total of 25,900,000 over-water miles, without a single fatal accident. The original Liberators that pioneered the Australia run has now completed 84 round trips and is still going strong!



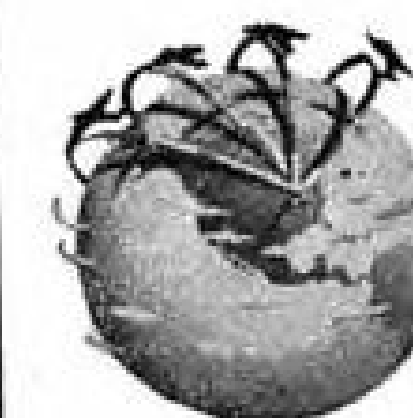
**5. Born of war,** CONSAIRWAY's job, in the beginning, was to bring back Ferry pilots who had delivered bombers to the South Pacific. Westbound cargoes, today as then, consist of tons of spare aircraft engines and parts, medical supplies, and ammunition—in short, *any* supplies that are needed fast by our fighting men "Down Under."



**3. 11:20 p. m. Thursday:** The Liberator contacts the control tower at its California airport... "CONSAIRWAY plane No. 10 coming in!"... and it's back home again. Since it left that same airport, 95 hours and 20 minutes ago, the land-based Liberator Express has logged 14,690 miles over the Pacific—to Australia and back!



**6. After the war,** long-range Liberators will continue to supplement other forms of transportation—the train, truck, and ship—in rebuilding the peacetime world. But airplanes will also have *another* role to fulfill: a permanent postwar Air Force can become America's soundest investment in the interests of a lasting peace.



No spot on earth is more than 60 hours' flying time from your local airport

From "Flying Jeeps" to Leviathans of the air—The planes shown below were all designed and developed by Consolidated Vultee. When peace comes, the company will be in a position to provide the postwar equivalent of such planes, from small, privately owned "air flivvers" to huge, transoceanic cargo-and-passenger planes.



LIBERATOR... 4-engine bomber



LIBERATORS EXPRESS... transport



CORONADO... patrol bomber



CATALINA... patrol bomber



VENGEANCE... dive bomber



VALIANT... basic trainer



RELIANT... navigational trainer



SENTINEL... "Flying Jeep"

### QUICK FACTS FOR AIR-MINDED READERS

**Atlantic "Millpond"**—So far, during the war, Allied aircraft have flown more than 15,000 Atlantic Ocean crossings.

**Life Saver**—Probably one of the smallest warplanes in use, the famous Consolidated Vultee "Flying Jeep" has added a new job to its many other uses. Modified as a flying ambulance (capacity: 1 litter) it is speeding wounded men to base hospitals from small jungle clearings and other inaccessible spots.

**Postwar "sky roads"**—20,000 air strips, placed 10 miles apart in a pattern of squares, would cover the country. Ade-

quately marked, they would enable the postwar small-plane owner to travel cross-country without learning a complicated system of navigation. Cost per strip: \$6000 (about 1/4 the cost of 1 mile of national highway).

"It is becoming increasingly clear to an air-minded America that a greatly expanded Air Transport, a permanent postwar Air Force, and a healthy, competitive Aircraft Industry will be important factors in helping to maintain a lasting peace and prosperity." Tom M. Girdler, Chairman of the Board, Consolidated Vultee Aircraft Corporation.

Consolidated Vultee is the largest builder of airplanes in the world.

# CONSOLIDATED VULTEE AIRCRAFT

# CORPORATION

San Diego, Calif.  
Vultee Field, Calif.  
Fairfield, Calif.  
Tucson, Ariz.

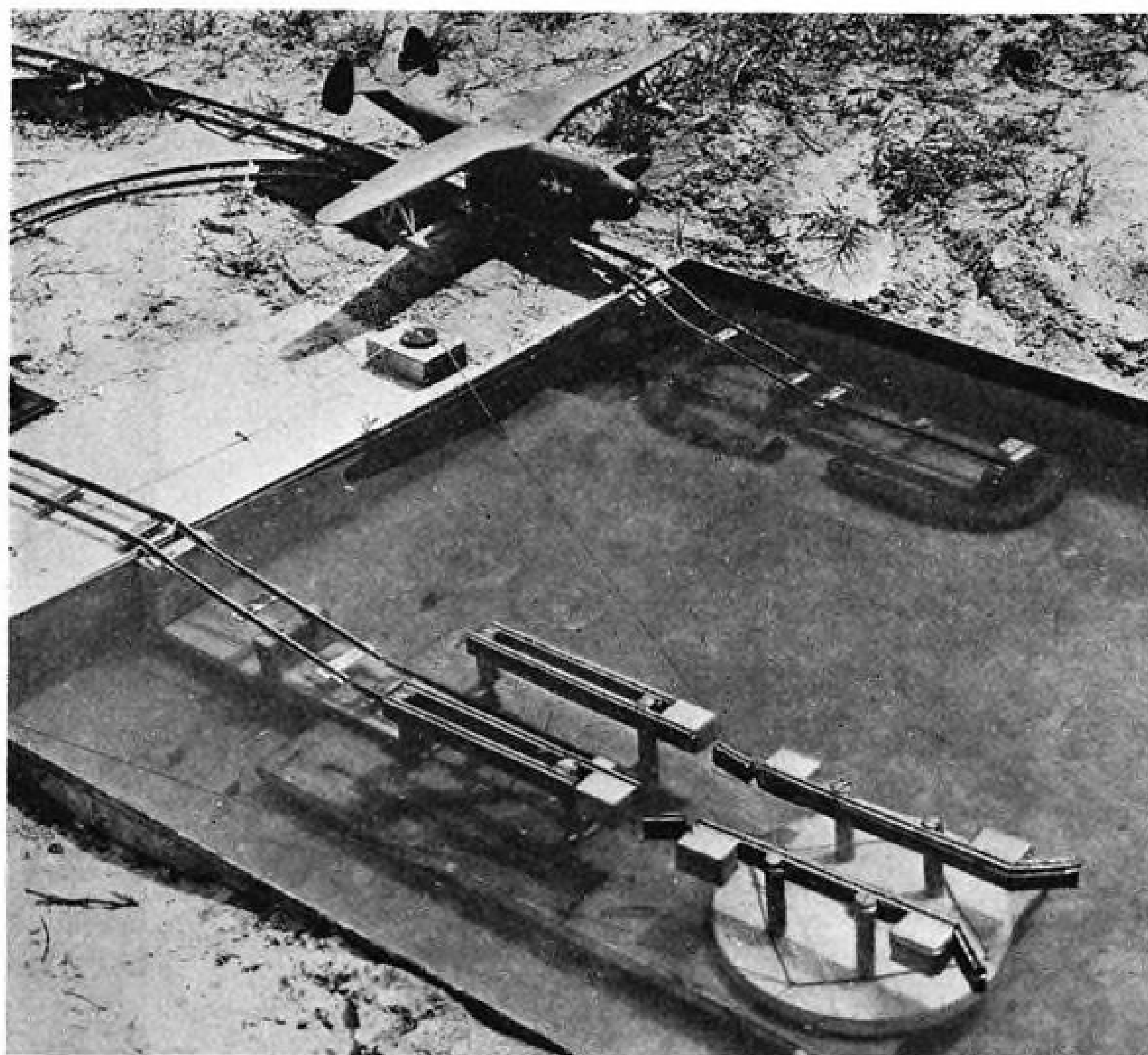
Fort Worth, Texas  
New Orleans, La.  
Nashville, Tenn.

Louisville, Ky.  
Wayne, Mich.  
Dearborn, Mich.

Allentown, Pa.  
Elizabeth City, N. C.  
Miami, Fla.

Member, Aircraft War Production Council





**Model of New Beaching Gear:** Lieut. Frank J. Walters has constructed this working model of the beaching installation for large flying boats at Naval Air Station, Banana River, Fla. In background is the model of a Martin Mariner mounted on cradle car ready for launching. Foreground shows turntable type approach section.

## New Method Eases Seaplane Beaching

System devised by Navy lieutenant simplifies handling of flying boats of *Mars* and *Mariner* class.

Details of an improved method of beaching large seaplanes (AVIATION NEWS, Oct. 2, page 57) have been disclosed by Glenn L. Martin Co. The method, devised by Lieut. Frank J. Walters, USN, is one of a series of new systems being developed to handle flying boats of the PBM *Mariner* and JRM *Mars* class quickly and efficiently.

Installation consists mainly of a ferry type slip mounted on floats, a set of guides, a cradle car and rails. A turntable approach section may be substituted for the ferry slip. Both turntable and slip conform automatically to the tide and are adjusted to wind direction by means of winches. Guides are adjustable to various sizes of seaplanes, making it possible to use the same installation for PBM's and the *Mars*.

► **Beaching Gear Eliminated**—The whole beaching operation is han-

dled by the pilot and one or two men on the beaching machinery so that use of men in the water is rendered unnecessary and heavy beaching gear fittings can be eliminated from flying boats.

The flying boat approaches the beaching installation just as it does a beaching buoy. It is aligned with the guides. When the plane is taxied and aligned over the cradle car, a hook suspended from the tunnel hatch engages an extension on the rear of the cradle car. As plane and car move forward between the guides, the car ascends until the plane rests in the cradle. The plane then can be moved to loading platforms or maintenance hangars. For launching, the hook is disengaged and the plane taxis into the water, the car dropping away as the flying boat becomes waterborne.

The 'slipways also can be used as aircraft docks.

## 10,000th Propeller

Canada recently delivered the 10,000th propeller from Canadian Propellers, Ltd., subsidiary of Canadian Pratt & Whitney Aircraft, Ltd., Montreal. Munitions and Supply Minister C. D. Howe

said propeller production would be reduced in keeping with the curtailment of aircraft production in Canada, which covers all types from training planes to combat aircraft.

## Fisher Body's P-75 Contract Terminates

Halting of work on new secret fighter seen as stressing AAF concentration on few types of planes.

Program of Army Air Forces for concentration on a few types of planes is stressed further by termination of contracts for the new secret fighter which has been in the works at Fisher Body Cleveland Aircraft Division for some time.

Details of the plane, known as the P-75, are still restricted. It was powered with the new Allison liquid-cooled X engine and was the first to be completed, designed and built by an automotive manufacturer.

The discontinuance, forecast recently by the news, was interpreted in some quarters as being due to superior output and performance of models which have been produced by the old-line aircraft companies.

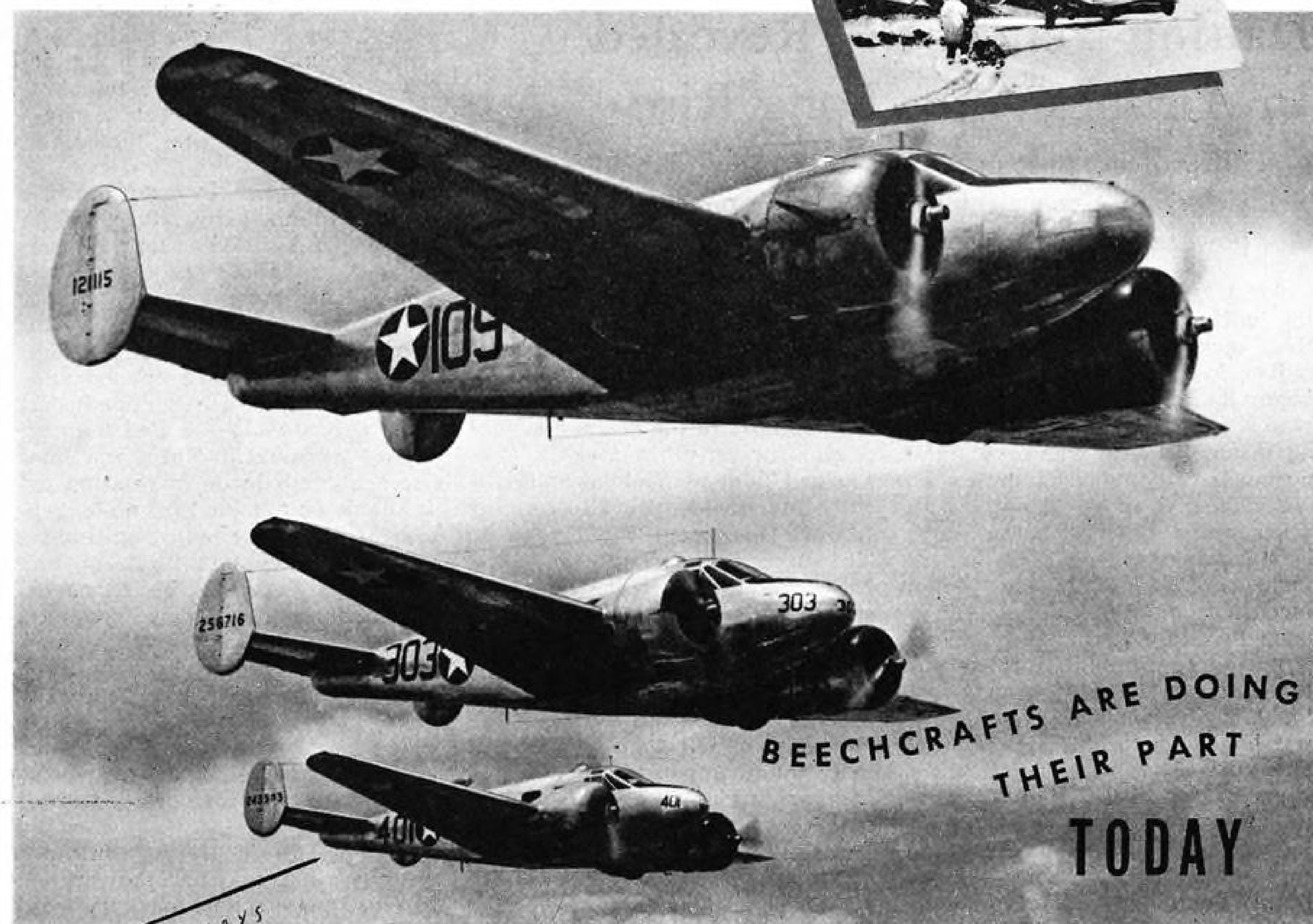
► **Four Off Production Line**—Fisher was given the P-75 contract in July, 1943, and the first plane, designed by Don Berlin, was assembled by hand and the first experimental model flown within about four months, according to company officials.

AAF plans to continue experimental development of the fighter and the Fisher plant will receive other high priority Army aircraft work.

► **Shift to B-29 Assemblies**—About 40 percent of the production workers at the Fisher plant were assigned to the P-75 project. Some of the workers thus relieved will be employed on B-29 *Superfortress* assemblies such as outboard wings and tips, stabilizers, vertical and dorsal fins and wing tips.

The plant will reduce its work week from 54 to 48 hours and likewise stop hiring. Turnover recently has been running nearly 1,000 a month. The combination of new work, transfer to the B-29 and cessation of hiring is expected to absorb nearly all workers released by cancellation of the P-75 contract.

BEECHCRAFTS SERVED 26 NATIONS  
BEFORE THE WAR



(Top) One of Starratt Airways' Beechcrafts used on skis and floats in passenger, mail and express service in the Canadian Northwest

(Photograph courtesy Starratt Airways, Ltd.)

(Center) Most Army Air Forces navigators were trained in Beechcraft AT-7 navigation trainers, like these three flying in echelon formation

(Official Photograph U.S. Army Air Forces)

AND WHEN **PEACE** COMES

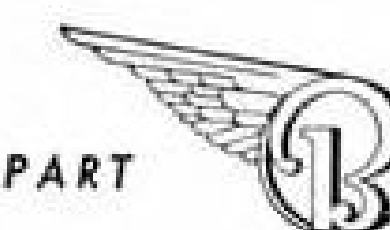
Beechcrafts will be ready. Ready to serve the nations of the postwar world with aircraft refined and proven by millions of miles of accelerated wartime service. Ready with designs ideally suited for feeder airline use, for executive transport, for business and charter purposes, and for exhilarating, swift, safe personal transportation.

After the final V-Day, Beechcrafts will continue to do their part.

Beech Aircraft

CORPORATION

BEECHCRAFTS ARE DOING THEIR PART



WICHITA, KANSAS, U.S.A.



## FINANCIAL

### Halting Tendencies Revealed In Airlines After Long Rise

Prices of air transport equities pushed upward to points where yields are extremely low, based more on potential earning power than current operations.

Air transport shares are showing halting tendencies after one of the most remarkable upward moves in the market. Doubt has begun to appear among investors who sought peace stocks as a hedge against ephemeral war profits and post-war conversion dangers.

Airline equities, along with other peace type securities, have been pushed to the point where yields are extremely low. Main incentive, of course, has always been to attain profits through attempting to capitalize on the future. This necessarily means overlooking current income and staking hopes in capital appreciation of equities involved. This in turn is predicated on the *potential earning power* the enterprise is believed capable of generating. And this evaluation is susceptible to highly fluctuating sentiment on the part of speculators and investors alike.

**War Gains Achieved**—Airline shares have been in the forefront of the peace group and as such have been regarded as endowed with special qualities not present in those industries with a strict war flavor. But it must be remembered that the air carriers have also achieved substantial "war" gains. High earnings of recent years can be attributed, directly or indirectly, to factors arising from the war effort. Accordingly, values and earnings derived from a war economy would no longer exist during peace periods. Furthermore, a high plateau of profits now being recorded may represent a top mark difficult to maintain in the immediate post-war era. This will make subsequent earnings look inferior if only by comparison.

Dividend payments among the airlines have been spasmodic. Only American and Pan American can be said to have maintained regular disbursements for a period of years. United and North-

west, and perhaps Braniff, are in process of building an unbroken series of dividend payments. (Delta Air Corp. has a very regular dividend record but is not considered here because of the relative lack of public interest in its stock).

**Low Dividend Yields**—Fantastically low yields prevail—ranging from 1.47 percent for United to 2.84 percent for Pan American. Now, any further price rises will shrink yields to absurdly low levels. The premium investors appear to be paying for peace shares above their wartime values may be construed to represent the market's belief that peace will more than compensate for the loss of war income. This reasoning may prove fallacious.

According to recognized group averages, air transport shares have advanced 203 percent from the 1942 lows to the 1944 highs. This compares with a rise of only 81 percent for railroad shares during the same period. Obviously, investors have been willing to pay 122 percent more for one type of transportation media over another simply in the hope of participating in the growth and speculative profits of the future.

**Price-Earning Ratio**—This capitalization of the future is indicated by the high airline price-earnings ratios shown in the table. For instance, Braniff's highest earnings are capitalized 23.5 times. Generally, sound, conservative appraisal of securities would capitalize earnings at about ten times. And considerable stability of operations would have to be present.

That airline shares have tended to falter of late is indicated by the accompanying charts. After gaining 14.7 percent since the first of the year or 6.7 percent better than the general market, the air carrier group has begun to turn downward on a relative basis. As a matter of related interest, the aircraft aver-

age while gaining but 11 percent since the outset of the year and about 3 percent better than the market as a whole, has shown strong upward tendencies of late (AVIATION NEWS—Oct. 9, 1944).

It is quite likely that investors who formerly looked at the air transport industry through five or ten year telescopes have found it more realistic to substitute a magnifying lens for the immediate years of peace.

**Expansion**—Large scale expansion is planned by all carriers. Placing of aircraft orders by the major lines is only one manifestation of the huge demands to be made for new capital necessary to finance the industry's expansion.

As new routes are opened and other facilities added, operating costs will tend to rise and outdistance revenues. The wartime boom of high loads in relation to available equipment will no longer exist. Instead, the long, uphill battle to build volume traffic on all route segments will be resumed. Moreover, more intensive competitive conditions will prevail among the airlines themselves now that parallel lines run where none existed before. Further, the railroads may prove very formidable as a competitive factor and their resurgence can prove costly to the air carriers.

**Post-War Profit Margin**—Initially, the airlines may find they are in for costly operations once war restraints permit widespread expansion. It is likely, however, that after all this expansion is successfully launched, subsequent operations can prove very profitable. The fact remains, nevertheless, that during the first few peace years airline earnings may tend to chill much of the ardor that may exist on the part of investors for the distant outlook of the industry.

No special immunity appears to be offered airline stocks as a peace group in the market place. During the July-November, 1943, reaction, airline shares fell along with the war babies. Similar downward action on the part of peace groups developed when the London market declined in September-November of 1943. In the current downward move of August-September of this year, the London and New York markets were no respecter of airline or other peace type securities. Clearly then, air carrier values will be determined more strictly on a basis of what the industry may be able to show in tangible earnings and results.

"HERE'S THE  
*Hayfield*  
WE STARTED WITH"



NOW LOOK AT US . . . WE'RE DOING

## BIG BUSINESS WITH A *Small Airport!*

"We didn't know a thing about running a profitable small airport, but Aeronca showed us! And this hayfield that my son and I picked out is now 'flying headquarters' for our town. Since he's been back, we're so busy I sold the old grocery store and moved out here to help. But we never would have made the grade without Aeronca. They sure gave us the 'know how'!" You'll hear many successful men say these things after Victory. Will you be one of them?

Let Aeronca show you how to start now to build a profitable post-War aviation business! Get the facts about Aeronca's new airplane dealer program—the only complete profit-making program in the aircraft industry! Mail the coupon—right now—to Al Bennett, Aeronca Director of Sales . . . get the real "know how" from the man who has started so many successful airport operators on the road to big money in aviation with this plan.

HERE'S YOUR POST-WAR OPPORTUNITY! Send This Coupon NOW!



The Only Light Aircraft  
Company to Receive the  
Army and Navy "E".

Al Bennett, Director of Sales,  
Aeronca Aircraft Corporation, Middletown, Ohio  
Send me your valuable, illustrated booklet "HOW TO MAKE  
SMALL AIRPORTS PAY WITH AERONCA". I enclose 10c.

Name.....

Address.....

City and State.....X-1016



## TRANSPORT

\*\*\*\*\*

# Return of Last 26 Planes Gives Lines More Seats Than Before Takeover

New allotment increases capacity to 6,205 passengers, compared with 6,145 before U. S. requisitioned craft, as result of return of larger DC-3 type aircraft in place of smaller Lockheed.

The airlines came out of their final allocation of returned planes under the 300 ceiling last week with more seating capacity than they had when the Army took over 166 of their aircraft in 1942. Industry estimates are that the 300, reached with a new allotment of 26 ships of the DC-3 type, will give the lines a capacity of 6,205 seats, compared with 6,145 before the takeover. This is accounted for in part by return of some Boeing 307 Stratoliners and also allocation of DC-3's to some of the lines that previously operated smaller Lockheed planes.

**Allocations**—The new allocations are divided as follows: United Air Lines, Eastern Air Lines and TWA, five each; American Airlines, four; Pennsylvania-Central Airlines, three; Northwest Airlines, Delta Air Lines, Western Air Lines and Braniff Airways, one each.

Total equipment now operated or being prepared for operation by the airlines thus stands at 275 Douglas DC-3's, 16 Lockheed Lodestars, five Boeing Stratoliners, two Lockheed Electras, and two Douglas DC-2's. At the time of the takeover, the lines were operating 257 DC-3's, 13 DC-2's, 13 Lodestars, 16 Electras, and 25 Boeing 247-D's. Stratoliners that had been in airline service already had gone to the military when the big May, 1942, takeover took place.

Despite the fact that a few more seats will be available under the 300 ceiling than there were when the lines were operating 324 planes, industry observers were quick to point out that equivalent facility of operation is not a corollary. Particularly among the smaller lines, seating capacity is not everything, although the war has brought fuller plane utilization. Obviously a line with its seating capacity divided among

half a dozen planes could provide more service than if it operated only two planes with the same total capacity.

**Ceiling Expected to Stand**—How soon all the planes that have been allocated will be in actual operation cannot be foretold with accuracy. The lines had 252 ships licensed and in operation Sept. 15. Others have been and are being reconverted to commercial use after their military service.

Doubt was expressed in some informed quarters that the Army would recommend lifting of the 300 ceiling, set by White House executive order, until reconversion had been finished or nearly so. The airlines have answered argu-

ments that reconversion was slow, however, by pointing out that in many instances war priorities have caused difficulties in release of materials or man-hours to do the job. Much of the equipment originally in the planes has been lost, with the result that the airlines had to purchase new equipment.

**Allocations Expected to Continue**—Generally it was felt, however, that as more transport planes become available, the recommendation will be made that the ceiling be lifted so further allocations may be made to the airlines. That the allocation system will continue during the period of short supply of equipment appeared a certainty.

Under the surplus disposal system, however, allocations now will be handled through the Surplus War Property Administration and an inter-departmental working committee on which the Civil Aeronautics Board is represented with other agencies. The Board's interest in seeing that all possible equipment be made available to the carriers therefore is expected to continue as a prime factor in future allocations.

## PCA Shuffles Operations

Pennsylvania-Central Airlines is reorganizing its operations department into four main divisions for flight operations, ground oper-

ations, personnel and medical. Vice-President J. H. Carmichael continues as overall head of operations, J. A. Brooks superintends the flight division, R. W. Hardesty ground operations, J. T. Rinker the personnel division, and Dr. L. G. Lederer continues as chief of the medical division.

## Australia, N. Z. Ask Airline to America

Immediate opening of civilian air transport service, using military planes during wartime, is proposed.

Spurred by the northward movement of Air Transport Command operations in the Southwest Pacific, away from their areas, Australia and New Zealand are recommending immediate establishment of a civil air transport service between Australia and North America.

The ATC swing to the north has followed the battles of the Pacific. Australian Air Minister A. Drakeford declared at Canberra that the proposed service would use military transport aircraft during the war, and thus pave the way for a commercial post-war operation between Australia and New Zealand, the United States and Canada.

**Link Britain and Dominions**—The service would include an intra-British Commonwealth Air Service to provide transport between Great Britain and the Dominions and India, as already discussed and to be further discussed at the British Commonwealth Air Conference Oct. 23 at Montreal.

At that conference Canada will suggest maximum protection of small countries and incentives for efficient operation of international air routes. Rewards for efficiency of operation under the Canadian revised plan, which likely will be submitted in November at the Washington international air conference also, are based on operating figures. Thus airlines showing the greatest efficiency in payload on a predetermined ratio on international services would be allowed to increase such services if desired. The Canadian delegates will include protection of small nations in the sphere of international air routes and any international regulatory body that may be set up.

**Service to Be Doubled**—Air Minister Drakeford revealed that Australia and New Zealand will re-establish as soon as possible full



## WESTERN'S NEW OFFICES:

Western Air Lines' new offices, in San Francisco, feature the Indian motif. Specially designed leather trimmed counter desks are a feature. Wood carvings of Indian heads, Western's symbol, are on the walls, and chairs are upholstered in Indian design.

passenger, mail and air freight service between their countries and Great Britain, with a frequency at least double that existing before the war. British aircraft will be used as far as possible.

Intra-British Commonwealth air services are to be established only if an internationally-owned and operated service is not established, the Australian government states. The Australians advocate an international air authority to operate and own all international air trunk routes.

## Return Coronados

American Export Airlines and Pan American Airways have been required to return two PB2Y-3's each to the Navy for Pacific operations.

The Navy's directive said needs in the Pacific are such as to warrant curtailment by both carriers of their operation under Naval Air Transport Service in the Atlantic theater. Apparently the supply situation is being handled adequately there by surface craft and the Army Transport Command.

There was no Navy assurance that the four aircraft will be replaced soon. Other ships of the same type, however, remain in the Atlantic for trans-Atlantic operation.

## TWA Asks Local Service On Coast

TWA last week asked the Civil Aeronautics Board to amend its certificate for AM 37 to remove the restriction against serving San Francisco except on flights originating at or east of Albuquerque, N. M.

The TWA application was filed after the Board had issued an economic regulation which will prohibit TWA layovers at Los Angeles of more than 45 minutes for flights serving San Francisco.

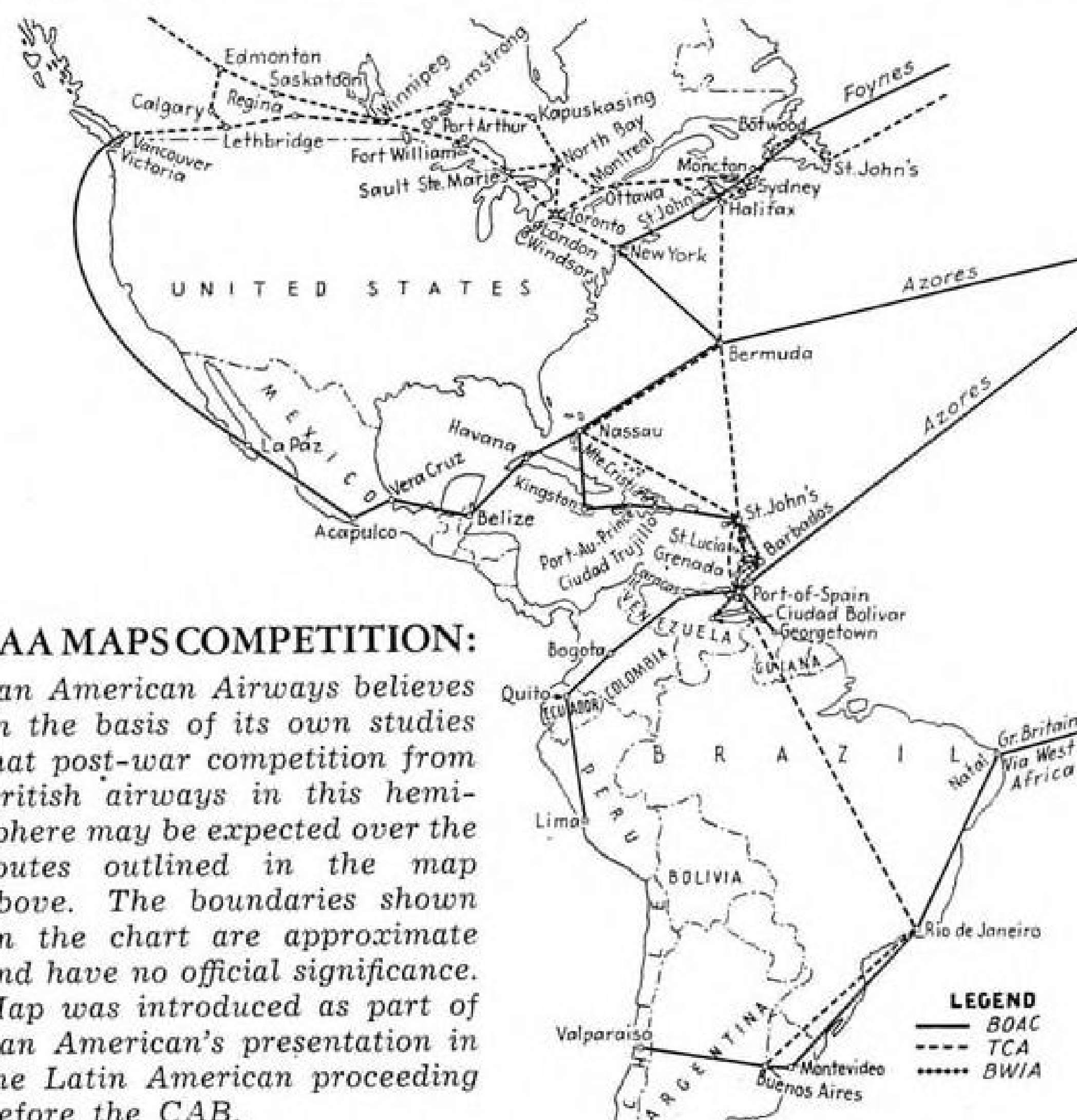
The restriction in TWA's certificate is designed to prevent the carrier from offering local service between Los Angeles and San Francisco. The application for the removal of this restriction, therefore, has the effect of asking authority to provide local service between these points.

## Fly Wounded Home

About 40 percent of all combat casualties returning from overseas are flown home by Air Transport Command's C-54's, at the rate of 4,000 a month. Maj. Gen. David N. W. Grant, AAF air surgeon, said in a Louisville speech.

## PAA MAPS COMPETITION:

Pan American Airways believes on the basis of its own studies that post-war competition from British airways in this hemisphere may be expected over the routes outlined in the map above. The boundaries shown on the chart are approximate and have no official significance. Map was introduced as part of Pan American's presentation in the Latin American proceeding before the CAB.





# PAA Gives Data on 3 Plane Types For Use on Latin America Routes

Predicts New York-to-Buenos Aires round trip fare as low as \$342.90 with DC-7's, modified *Constellations* and "Type 12" aircraft in presenting arguments against "dilution" of service through certification of other U. S. flag lines in area.

Pan American Airways last week piled up statistics and arguments intended to convince the Civil Aeronautics Board that the airline business in Latin America should not be "diluted" by certificating any new U. S. flag carriers in the field.

As the CAB's Latin-American route proceeding swung into its fourth and probably last week, witnesses for the line revealed statistics on three types of planes on which their plans are founded—the DC-7, a modified *Constellation*, and a "Type 12," manufacturer's name unannounced. By use of these aircraft, the company predicted it could offer a passenger fare as low as \$342.90 for a round trip between New York and Buenos Aires. Pan American plans to use 18 modified *Constellations*, 9 DC-7's, and 23 Type 12's in the Latin-American trade.

► **Arguments**—Pan American's arguments against additional U. S. flag competition are, briefly, these: ► Pan American, having pioneered the Latin-American air routes, should be permitted to "carry the development through to a profitable culmination without having that status postponed by dilution of the business between two or more American carriers."

► British and Canadian competition is almost certain to be very stiff in Latin America.

► "If the traffic is to be watered down between two or more American carriers," the use of large, high speed planes will be impossible because their employment depends on heavy load factors to offset the high costs of depreciating the investment and meeting operating expenses.

► Single carrier service is required for efficient coordination of the

various express and feeder services which comprise the Latin-American trade.

► **Panagra Next**—Pan American-Grace Airways was scheduled to follow Pan American in presenting its case. Panagra's president, Harold J. Roig, whose company is seeking CAB authorization for a great circle express route between Balboa and Buenos Aires, will follow the Pan American party line with the contention that introducing additional American flag services in Latin America will inevitably result in feeble and uneconomic operations.

Despite internal friction in Panagra's management, the line endorses Pan American's arguments against additional U. S. flag competition. Roig believes such added competition will require increased mail subsidies from the government to offset the losses that would follow dilution of business.

► **Dilution Theory Attacked**—Some observers pointed out that the "dilution" theory failed to take into account the development of additional traffic which would follow improved services.

The proceeding was expected to close at the week-end after a month-long series of sessions. Following immediately is the North Atlantic case, scheduled to open Oct. 16.

## Western Air Lines Asks Pacific Routes

Seeks certificates for northern link from Anchorage to Singapore; second via Honolulu and Wake to Manila and Batavia.

Western Air Lines filed with the Civil Aeronautics Board last week two applications in which it asks to expand in the international field with trans-Pacific routes.

The North Pacific application seeks to go between Anchorage, Alaska, and Batavia, Java, via Unalaska, Kiska, Paramushiru, Tokyo, Shanghai, Hongkong, Manila, Tarakan (Borneo) and Singapore. The other route would extend across the central Pacific from Honolulu to Midway and Wake. At Wake a northern leg branches off to Tokyo, Shanghai, Hongkong and Manila. The southern leg extends to Guam, Manila, Tarakan, Singapore and Batavia.

► **Export Asks Southern Route**—American Export Airlines applied to the Board for an annual exemption which would permit it to operate its trans-Atlantic service

over a southern route between Oct. 15 and May 31 of each year. Permission is sought to fly westbound between Foynes and New York via Bathurst (Gambia), Belem, and Port of Spain and/or San Juan, P. R., and eastbound via Bermuda. Export also is asking the right to take on and discharge passengers and cargo at Bathurst, Trinidad and Bermuda.

Weather conditions over the north Atlantic during the winter months make operations uncertain, especially during the present period when peace-time weather reporting services in that area are not functioning. Authorization to operate as requested also would permit the line to carry greater payloads than is now possible.

► **Braniff**—Aerovias Braniff, S. A., Mexican airline owned by T. E. Braniff, president of Braniff Airways, has applied for permission to extend its operations to Miami and Los Angeles, and to enter the Canal Zone at Balboa, over these routes:

Mexico City to Los Angeles via Ciudad Victoria, Monterrey, Chihuahua and Mexicali.

Mexico City to Miami via Merida, Yucatan, and Havana, Cuba.

Mexico City to Balboa, C. Z., via Guatemala City, Guatemala; San Salvador, El Salvador; Tegucigalpa, Honduras; Managua, Nicaragua; San Jose, Costa Rica; and Panama City, Panama, the latter co-terminal with Balboa.

Mexican government authorization to fly these routes already has been secured, but permission to serve points in U. S. territory must be sought of the CAB, subject to Presidential approval.

United Air Lines amended its Alaskan route application to include a request for a 256-mile route segment between Anchorage and Fairbanks. As originally applied for, the route extended from Seattle to Anchorage.

Other recent applications include: Prairie Airlines, Inc., Starkville, Miss., for a scheduled mail, passenger and express feeder service to link Starkville with trunk line stops at nearby points in Mississippi, Alabama and Tennessee. Permanent or temporary certificate asked.

North American Airlines, Ltd., Washington, D. C., for routes linking cities around lower half of Lake Michigan. Proposed mail, passenger and express service touches Illinois, Wisconsin, Michigan and Indiana.

Northern Air Lines, Chicago, for a route to link Chicago, Milwaukee, Duluth and Minneapolis with scheduled mail, passenger and express service. Applicant is a group of U. S. Navy airmen. They also are willing to operate a mail and express service only over the same route, using converted PB5A's. Another application asks for an international extension of the route to Winnipeg, Manitoba, and Fort William, Ont.

Illinois Air Lines, Inc., Chicago, for three routes in Illinois. An unscheduled mail passenger and express service is proposed. Texas Bus Lines, Houston, Tex., for three mail, passenger and express routes in Texas. Tri-State Transit Co., of Louisiana, Inc., Shreveport, La., doing business as Tri-State

Trailways, a bus operator, for scheduled helicopter routes in the Southern states. Applicant proposes mail, passenger and express service, and is contemplating possible use of lighter-than-air equipment. Among routes requested are: Dallas-Jacksonville; Dallas-Atlanta; Oklahoma City-New Orleans; Shreveport-Galveston; New Orleans-Houston; New Orleans-Jacksonville; St. Louis-Pensacola; Cincinnati-New Orleans; and Shreveport-Little Rock.

E. R. Leonard, motor freight operator of Hobart, Okla., for feeder routes in Oklahoma, Texas, and Kansas. Mail, passenger and express service is proposed.

W. Dev Lomax, Los Angeles, Calif., an assistant projects engineer of Douglas Aircraft Co., for scheduled and non-scheduled feeder routes among Western Pacific Islands. The mail, passenger and express service proposed would utilize C-46's and C-47's. Routes are laid out in the Marshall, Gilbert, Caroline and Philippine Islands and touch, among other points, Wotje Atoll, Kwajalein, Ponape, Truk, Woleai, Palau, Davao, Makin, Yap, Guam, and Halmahera.

## PAA Night Flights

A further extension of night operations on Pan American Airways' Latin American routes was announced last week as night flights were started between Brownsville, Texas, and Mexico City. The new operation is the first night service Mexico City has had, and constitutes the initial segment of Pan American's Central American route to be equipped with the necessary radio and lighting aids. The line hopes to install this equipment over the entire route as soon as it becomes available.

Pan American's flights connect

with Eastern Air Lines at Brownsville. One night flight leaves Mexico City at 6:00 p.m. and another arrives at 12:00 midnight.

## Airlines Defend Ads In Letter to ODT

The airlines told the Office of Defense Transportation last week, in answer to ODT criticism that some of their advertising fails to deter travel, that the priorities system creates a different situation in air transportation than exists in other methods because they assure adequate space for essential travel.

The lines promised efforts would be made to avoid any future transgression, but at the same time called the attention of ODT Director J. M. Johnson to about a score of railroad advertisements that might be subject to the same criticism he directed at airline advertisements. Earlier Johnson had cited the railroads as "exemplary" but "restive when they see airlines apparently bidding for business."

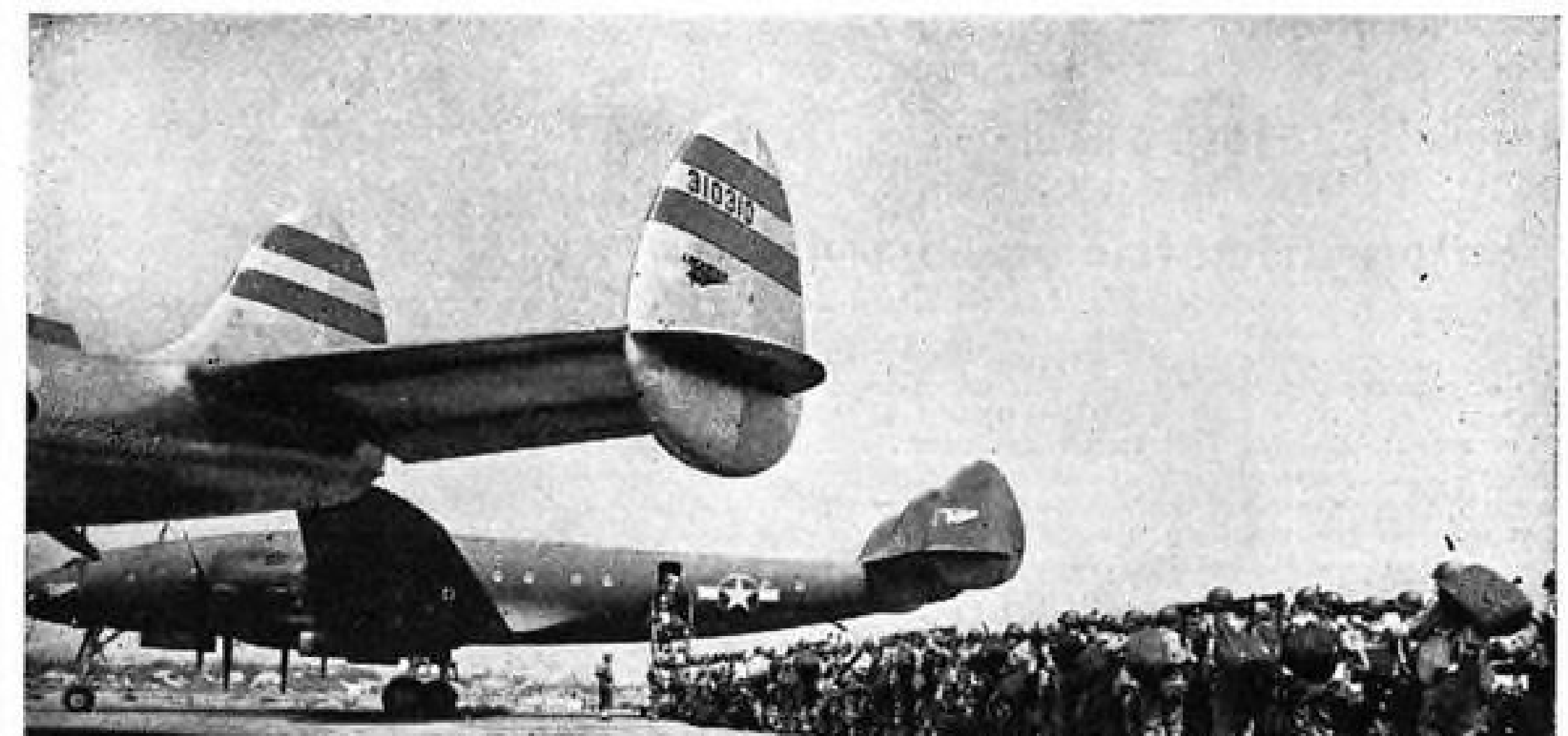
► **ATA Writes Johnson**—The air carriers' stand was outlined in a letter to Johnson from the Air Transport Association, following a meeting of that organization's ad-

## PAA to Spend \$25,973,392 on New Latin American Planes

Pan American Airways has disclosed that its post-war plans for the Latin American service contemplate the use of 50 additional planes at an estimated cost of \$25,973,392. Company also placed in the record of Civil Aeronautics Board's Latin American proceeding operating data and

estimated per unit costs for the three new types of planes it plans to use. These are a modified *Constellation*, to cost \$600,000; the DC-7, at \$1,412,488; and the unidentified "Type 12" costing \$107,000. Pertinent operational data for the three types is shown in the table below:

Modified Constellation	DC-7	"Type 12" (Skybus Variation)
4 engines T. O. hp 2600 rated 2250	4 engines T.O. hp 3500 rated 2800	2 engines T.O. hp 800 rated 700
6 crew 56 seats day service 8 berths 44 seats night	6 crew 108 seats day service 54 berths night 8 berths 92 seats as now planned	3 crew 24 seats
20,000 ft. cruising alt.	20,000 ft. cruising alt.	10,000 ft. cruising alt.
Pressurized cabin 18 planes to be used in Latin American trade by PAA.	Pressurized cabin 6 planes—May 1 to Oct. 31 9 planes Nov. 1 to Apr. 30	Non-pressurized 23 planes
100,000 lbs. max. gross takeoff weight 75,000 gross landing weight	162,000 max. gross takeoff weight 127,500 gross landing weight	20,000 lbs. max. gross takeoff wt.
55,500 weight empty equipped 707 cu. ft. cargo capacity	96,250 wt. empty equipped 1169 cu. ft. cargo capacity	12,230 lbs. wt. empty equipped 120 cu. ft. cargo capacity
Cruising speed 322 m.p.h. at 62 percent hp	296 m.p.h. at 64.3 percent hp	226 m.p.h. at 65 percent hp





**MEANS ACCURACY**

The same kind of accuracy that has made our newest fighting planes the most effective weapons ever devised, with maximum safety for every man carried.

Tel-air precision aircraft parts are produced, with an enviable record of 99.95/100% acceptance, by long experienced Tel-air employees with one unswerving purpose—to protect their sons, brothers, husbands on the battle fronts.

This same accuracy is available for your post-war product. For component parts requiring uniform precision, closest tolerance, concentricity and super accurate finishing, or for complete assemblies—get in touch with us now.

In the Air it's  
**Sel-air**

On the Highway it's  
*Teleoptic*

**THE TELEOPTIC CO.**

720 MARQUETTE ST. RACINE, WISCONSIN



## Data on UAL Stops

A condensation of information frequently referred to by traffic and reservations personnel has been prepared by United Air Lines for use along its system. Each of 50 cities will have a book telling about the others, in loose-leaf form to keep up with schedule changes.

Two pages will be devoted to each other city, showing schedules, elapsed time and fares, comparison with railroads, and information on baggage, tax rates, time savings, hotels and rates, limousine and taxi service, and travel service to nearby cities, military camps or other war production centers.

advertising committee. The director had asked a complete review of the airlines' advertising program.

The reply, to which examples of both railroad and airline advertising were attached for comparison, said the return of additional equipment to the airlines had relieved the situation to the point that the ratio of priority traffic to the total

has dropped and in some parts of the country more space is available for important war traffic that does not qualify for priority.

The airlines disavowed any desire to create more traffic, but said it is no departure from the practice of other carriers to let the public know what service is available. This was an answer to Johnson's question of the necessity for airline announcement of schedules in newspapers and magazines.

The Director had sent ATA half a dozen examples of airline advertising for the committee's perusal, and these were returned him with the railroad displays.

## New TACA Flight

TACA de Mexico, new subsidiary of TACA Airways, made its first flight late last month from San Jose, Costa Rica, to Mexico City via Managua, Nicaragua; Tegucigalpa, Honduras, and San Salvador, El Salvador. Regular flights in its tri-weekly service now originate in Panama City. TACA has an interline agreement with American Airlines. Connections are made at Mexico City.

## AA May Use Local Truckers on Freight

Air service scheduled to start Oct. 15 subject to CAA approval.

By DANIEL S. WENTZ II

American Airlines' airfreight service was scheduled to begin Oct. 15, provided Civil Aeronautics Board approval of the tariff schedule had been obtained by that date, with arrangements for handling one of its principal problems—that of pick-up and delivery service—not finally completed.

It was learned last week that the ground hauling ancillary to the airfreight operations will be handled by local trucking firms with whom American is negotiating contracts. In some instances, the trucking company will operate in the trade area of only one American stop; in other cases, one company, whose operations are more widespread, will take care of the ground haulage in several cities.

American had been considering some contractual relationship with the Railway Express Agency whereby the latter would provide truck services, but this arrangement has been abandoned in favor of the individual contracts now being made.

To encourage the shipper to bring his cargo to the plane in his own trucks, American's tariff provides a discount allowance, based on 20 cents per hundred pounds actual weight, with a 20 cent minimum. The tariff also envisages "consolidation stations" to which users of American's service might bring their shipments. Goods collected at such stations are listed in the schedule of tariffs as eligible to receive a discount of 10 cents per hundred pounds actual weight, with a minimum of 10 cents discount. Presumably the airline would handle transportation between the consolidation station and the plane by means of a contract with a local hauler.

The tariff, as filed, offers service to many small communities located within the trading areas of large cities at the same rates as are published to the city at which the airport is located. These outlying points are generally within a 10 to 15 mile radius, but in one instance rates published for Chicago apply also to Gary, Ind., 29 miles from the center of the city. The net effect of including many small communities at the same tariff as is set for large cities will be to

## 500 Mph Airliners

Late dinner in London and breakfast the next morning in New York is a distinct probability within two or three years after peace, with the use of turbine jet propelled air transports, Geoffrey Smith, editor of the British magazine *Flight*, forecast in a talk before the Wings Club in New York.

Predicting a trans-Atlantic night express flying 500 to 600 mph., equipped with pressurized cabins, Smith said the turbines were only half the weight and half the complexity of the ordinary orthodox reciprocating engine of equal power, and could be manufactured in one quarter of the time required to produce any new orthodox airplane engine.

He estimated improvements in aerodynamic design by use of the new powerplants might reduce total drag from 33 to 50 per cent, making possible reduction of power used or greater loads, speed and range.

broaden greatly the trading area from which potential cargoes can be drawn.

Tariff experts say they can find many minor flaws in American's proposed schedule. None of these is serious, and all may be ironed out within a few months after the plan goes into operation.

The announcement of the low tariff proposal caught many airlines unprepared, and some criticism of American has developed, based chiefly around the contention that one of the largest domestic lines should not have moved into the lucrative cargo field with a sharply lowered schedule of cargo tariffs until other and smaller domestics were prepared to follow suit.

This argument is seen by qualified observers as having little effect upon the CAB, which is expected to approve the tariff.

Meanwhile, other carriers are studying American's tariff minutely, weighing the pros and cons of filing schedules of their own.

## PAA Course Ends

War Department's curtailment of AAF training programs has closed Pan American's "Clipper classrooms," in which 5,000 cadets of the AAF, Navy and RAF were trained in aerial navigation since August, 1940.

## Ask Court Review of CAB Opinion

Panagra co-owner seeks action in Terminal Case.

W. R. Grace and Co., Inc., one of the co-owners of Pan American-Grace Airways, has filed a petition in the U. S. Circuit Court of Appeals for the Second Circuit (Southern New York) asking for a judicial review of the Civil Aeronautics Board's opinion in the Panagra Terminal Case.

The judicial proceeding thus set in motion may require the CAB to consider the Panagra Terminal proceeding as a question of convenience and necessity. In its former treatment of the problem, the Board concluded that its jurisdiction did not enable it to grant, without application by the carrier, a route which would radically change the character of the carrier's system. It did not, therefore, enter into the convenience and necessity aspects of the link between Balboa and a point in the U. S.

The Circuit Court proceeding will deal chiefly with the problem of whether the Board has correctly interpreted the scope of the

authority granted it under the act.

One possible outcome of the case may be that the court will find that the Board has erred in its interpretation of the scope of its jurisdiction, and may then remand the Terminal case to the CAB for further consideration on its merits as a problem in convenience and necessity.

W. R. Grace owns Panagra jointly with Pan American Airways.

## Action on Present Case Bill Unlikely

Recent developments make it unlikely the House Interstate and Foreign Commerce committee will call up the Case Bill (H.R. 4514) to permit Civil Aeronautics Board to issue temporary route certificates without hearing.

Chairman Lea, of California, believes there is little point in considering the measure, since CAB Chairman L. Welch Pogue and Secretary of State Cordell Hull, who originally supported it, now believe it should be changed extensively, as cited in AVIATION NEWS, Oct. 2.

Action on the bill likely would precipitate a steamship-airline

## aerial maps - -

How to make them

## aerial photographs - -

How to interpret them

## photogrammetric equipment - -

How to operate it

Here is the opportunity for non-technical men to become trained quickly and effectively for work in the field of photogrammetry. In a simple, 1-2-3 method of illustration never before applied to this essential field, this important new book clearly describes present-day methods of aerial photography and map-making and the operation of modern photogrammetric equipment. This material is presented in a step-by-step, handbook manner especially adaptable for quick reference and self-study.



### CONTENTS

Mathematics, Simplified and Abbreviated  
Surveying  
Maps and Globes  
Map Projections  
Orientation and Location  
Topographic Drafting  
How Aerial Photographs Are Made  
Stereovision  
Interpretation  
Ground Form Lines  
Stereoplotting Instruments  
Topographic Relief Models  
Restitution and Rectification of Aerial Photographs  
Template Methods of Radial Line Control  
How to Make a Mosaic from Aerial Photographs  
The Tri-Metrogon System of World Charting  
Glossary

### SEND THIS MCGRAW-HILL COUPON

McGraw-Hill Book Co., 330 W. 42 St., N. Y. C. 18  
Send me Abrams Essentials of Aerial Surveying and Photo Interpretation for 10 days' examination on approval. In 10 days I will send \$3.00, plus few cents postage, or return book postpaid. (Postage paid on cash orders.)

Name .....  
Address .....  
City and State .....  
Position .....  
Company .....  
AVN. 10-16-44  
(Books sent on approval in U. S. only)

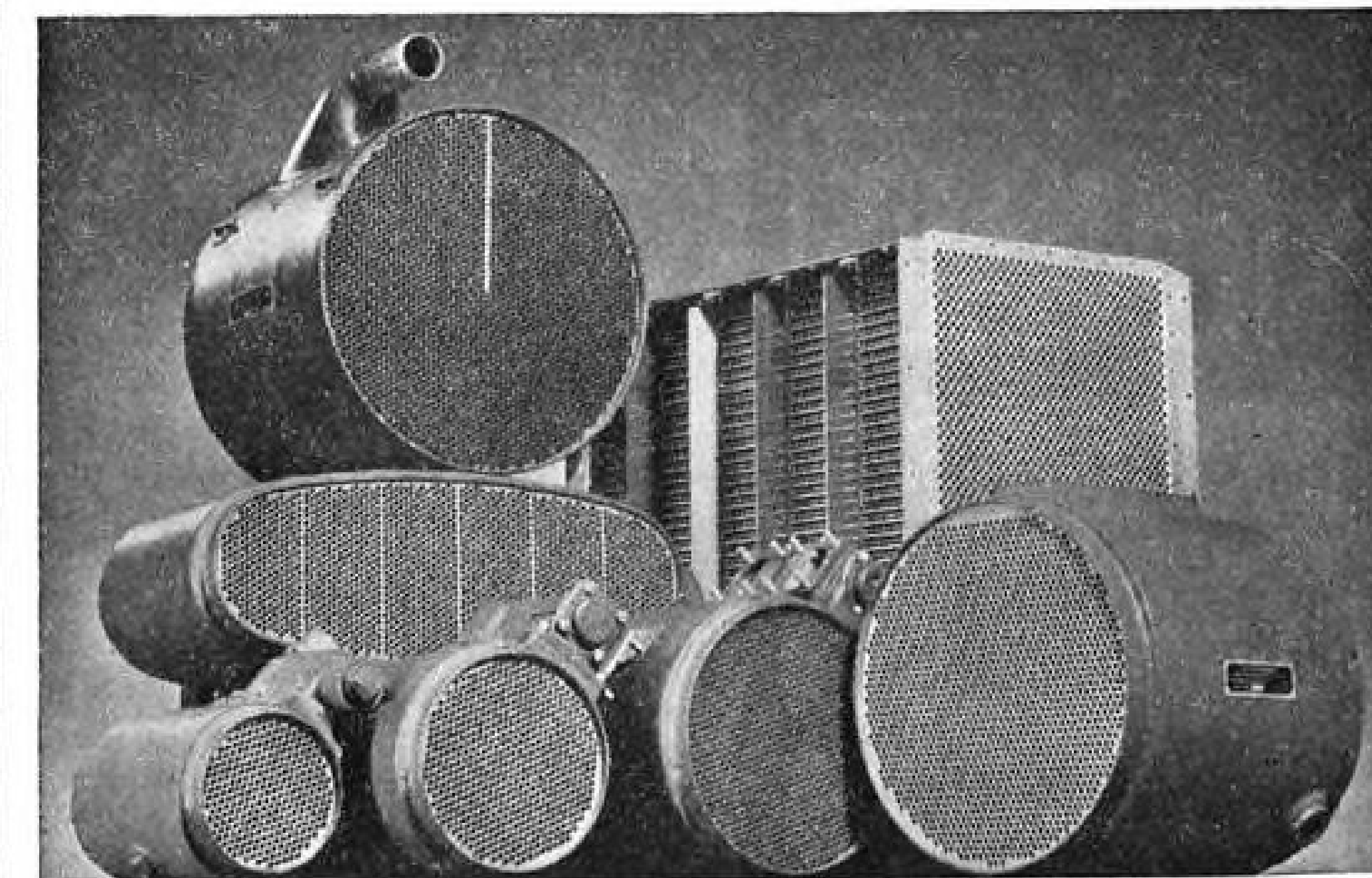
## Just Published! Essentials of AERIAL SURVEYING and PHOTO INTERPRETATION

By TALBERT ABRAMS

President, Abrams School of Aerial Surveying and Photo Interpretation; President, Abrams Explorers, Inc.  
289 pages, 5 x 7 1/2, 210 illustrations.....\$3.00

This new book brings together the many outstanding lectures and demonstrations conducted by the staff of the Abrams School of Aerial Surveying and Photo Interpretation, presenting the HOW of aerial mapping in its simplest and most useful form. It offers complete information on photo interpretation, necessary mathematics and surveying, mosaic map making, planimetric map making, and the construction of relief models. Particularly valuable are the detailed chapters on mosaics and mechanical triangulation, as well as the material on the tip and tilt graph discussed here for the first time.

For those with no technical background who want to be trained quickly and effectively for work in this field, the book is basic enough for complete mastery, and comprehensive enough to prepare them for service in government or private photogrammetric work.



## HIGHER AND FASTER with FEDDERS

The above photograph shows several types and sizes of Fedders air, engine and oil cooling units.

They are helping America's foremost plane manufacturers deliver the kind of fighting performance which is skywriting the word VICTORY on combat fronts throughout the world.

**fedders**

As specialists on heat transfer equipment since 1896, Fedders skill and experience are responsible for high heat transfer efficiency, light weight and reliability.

**Aluminum  
INTERCOOLERS  
AFTERCOOLERS  
OIL COOLERS  
RADIATORS**

**FEDDERS  
MANUFACTURING  
CO., INC.  
BUFFALO 7, N. Y.**



fight in the Congress, since members of the House Merchant Marine and Fisheries Committee have been prepared to tack a steamship amendment to it.

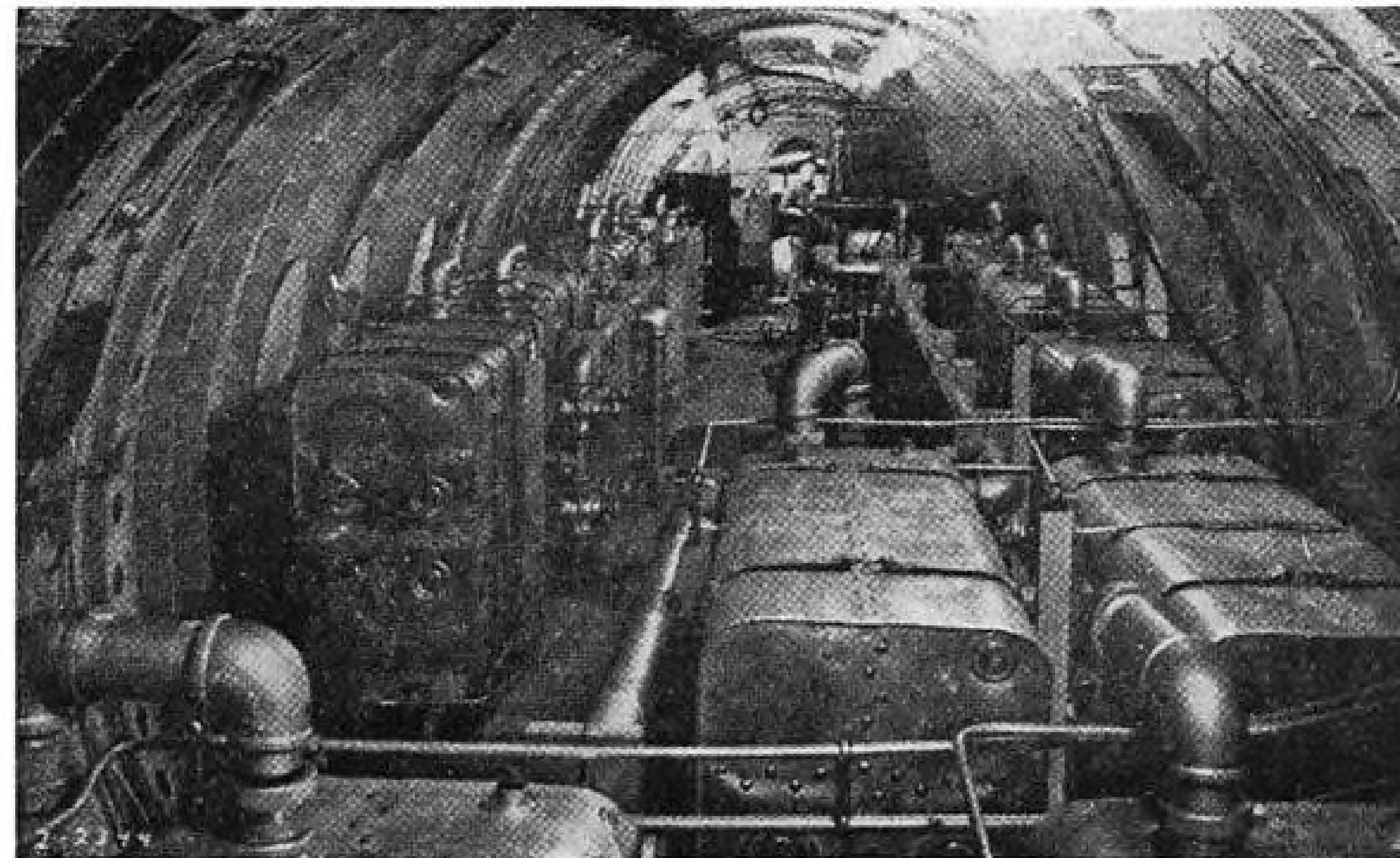
In the meantime, Lea says, Army and Navy transport services will carry on commercial air service to occupied countries until permanent U. S. commercial certificates are granted by the CAB.

## State Dept. Pushes Air Parley Plans

International conference on civil aviation to open in Chicago Nov. 1.

Planning for the forthcoming international civil aviation conference was proceeding last week behind the scenes. State Department disclosed in a brief announcement a few days ago that the meeting will be held at the Stevens Hotel in Chicago, and further details are expected this week. The conference starts Nov. 1 and is expected to continue two or three weeks.

Department sources say that, since the original announcement a little over a month ago, followed by the conference agenda, several replies have been received from



### SHIFTING C. G. IN CONSTELLATION:

Interior of Lockheed Constellation equipped with 17 134-gallon tanks in series for center of gravity adjustments and simulation of actual load conditions during flight tests. Weight Engineering says operation of a centrifugal pump less than five minutes suffices to shift the c. g. from forward to rearward limit.

the more than 50 countries invited to the meeting. There had been no rejections late last week.

► **Airlines' Role**—Speculation was growing somewhat on the part U. S. airlines will play at the conference. Here a secondary role was indicated. One high official said the airlines will have opportunity to be heard, but the carriers will not be members of the conference and the supposition is that this opportunity will consist of consultations with the American delegation, of which Assistant Secretary of State Adolph Berle, Assistant Secretary of Commerce William A. M. Burden, and Civil Aeronautics Board Chairman L. Welch Pogue will be members. Stokeley Morgan, head of the State Department's aviation division, will serve in an important post with the U. S. delegation.

It was learned that this country's air carriers have been, are being and will be consulted at intervals as the conference and plans for it progress.

► **Chosen Instrument Issue**—The fact that U. S. airlines are divided on the chosen instrument issue might call for caution in any presentation of their views at the conference, and may have been what a Department source had in mind when he said it was most unlikely that airline representatives would sit in the meetings. Prime consideration here, of course, is that the conference will be on intergovernmental policy, rather than on a business basis.

The fact that the meeting is to be held in this country seemed a natural sequence to the International Monetary Conference at Bretton Woods, the International Security Conference at Dumbarton Oaks, and the earlier International Food Conference at Hot Springs. Reports persisted last week, however, that before the aviation conference was called by the State Department as a sequel to preliminary bilateral talks, there were certain evidences in London that the British planned to call such a meeting in England.

► **British Conference** — Indicative of the high interest the British have in the civil aviation question are two recent activities. One is the arrangement for a British Commonwealth Conference at Montreal, Oct. 23, to discuss operational and technical aviation problems, review the British military air program and make policy recommendations in anticipation of the Chicago meeting.

The other is the announcement that a new Ministry of Civil Aviation has been created at London. At the head is Viscount Swinton, Air Minister from 1935 to 1938. Swinton is expected to head the British delegation at the international conference. His designation as Minister of cabinet rank and separation of commercial aviation from control of the Air Ministry, where the line has been faint between military needs and civilian requirements, reflect the importance Britain places on the latter.

## CAB SCHEDULE

- Oct. 16. Oral argument in Kansas City-Tulsa-New Orleans case (Docket 651 et al.) Postponed from Oct. 9.
- Oct. 16. Exhibits due in the New England Feeder case. (Docket 399 et al.)
- Oct. 16. Hearing date, North Atlantic routes.
- Oct. 16. Hearing in application of Pan American-Grace Airways for a route between Lima and Iquitos, Peru, via Juanjuí, Peru. (Docket 1403).
- Oct. 20. Date for exchange of rebuttal exhibits in the Oklahoma-Texas case.
- Oct. 21. Briefs due in Braniff Airways application to acquire stock of Aerovias Braniff from T. E. Braniff.
- Oct. 25. Briefs due in the Washington-Canada case (Docket 609 et al.).
- Oct. 26. Date for exchange of exhibits in the New England feeder case (Docket 399 et al.). Postponed from Oct. 16.
- Nov. 1. Rebuttal exhibits in the Florida cases due. (Docket 489 et al.)
- Nov. 1. Hearing in the West Coast Case (Docket 250 et al.) before Assistant Chief Examiner Francis W. Brown and Examiner F. Merritt Ruhlen in the Civic Auditorium, San Francisco, Calif. Postponed from Oct. 16.
- Nov. 13. Deadline for rebuttal exhibits in the New England feeder proceeding (Docket 399 et al.).
- Nov. 20. Hearing at Ketchikan, Alaska, on application of Ellis Air Transport and Ketchikan Air Service for additional service in southeastern Alaska. (Docket 876 et al.). Postponed from Sept. 25.
- Nov. 27. Hearing date for the Florida case before Examiner William F. Cusi. (Docket 489 et al.)
- Dec. 4. Tentative hearing date for applicants for feeder routes in the New England states. (Docket 399 et al.).
- Dec. 10. Exhibits due in South Atlantic route case. (Docket 1171 et al.) Postponed from Oct. 16.
- Dec. 13. Tentative hearing date, North Pacific routes.
- Dec. 23 Exhibits due in the Pacific proceeding.
- Jan. 10, 1945. Hearing date for South Atlantic case. Postponed from Nov. 1. (Docket 1171 et al.)
- Jan. 10, 1945. Tentative hearing date, Central Pacific routes.
- Feb. 1, 1945. Tentative hearing date, Australian routes.

## CAB ACTION

- The Civil Aeronautics Board authorized Inland Air Lines to suspend temporarily passenger service to and from Spearfish, S. D., on AM 35. Reason for suspension is condition of Spearfish Airport, presently certified by the Civil Aeronautics Administrator as unfit for passenger operations with any type of equipment.
- The Board approved an agreement between Braniff Airways and Eastern Air Lines under terms of which Eastern's planes are air conditioned at San Antonio, Texas, by Braniff.
- CAB Examiner Thomas L. Wrenn has announced the order of appearances in the North Atlantic route proceeding, starting Oct. 16. First to be heard will be city representatives. These will be followed by Northeast Airlines, American Export Airlines, American Airlines, PCA, TWA, U. S. Midnight Sun Air Lines, Trans-Oceanic Airlines, Pan American Airways, Moore-McCormack Lines, National Airlines and U. N. Airships, in that order. The interveners, United Air Lines, Eastern Air Lines, Department of Justice and U. S. Lines, Inc., will present their cases following the applicants. Public Counsel's presentation will close the proceeding.
- Board denied petition of United Airlines seeking to have American Airlines application for a San Francisco-Los Angeles route removed from the West Coast case (Docket 250 et al.). American had petitioned to have this application included after the consolidation order for the case had been issued. Board then approved this request. United's petition specifically asked that the Board reconsider its order consolidating American's application.
- CAB approved a contract between PCA and Northwest Airlines relating to maintenance services provided by PCA at Milwaukee.
- Also approved was a contract whereby Braniff will air condition Chicago & Southern's planes at Houston, Texas.
- Board approved the interlocking relationship resulting from Jack Frye's holding positions as President and Director of TWA and as a director of TACA Airways, S. A.
- At request of Puget Sound Airways, Inc., Board has dismissed that company's application for routes in the Northwestern states. Application had been consolidated in West Coast case (Docket 250 et al.).
- Interlocking relationship resulting from E. Lee Talman's simultaneously holding the posi-

tions of executive vice president and director of TWA and director of Air Cargo, Inc., was approved by CAB.

- Board has ordered withheld from public disclosure two exhibits placed in docket of Fairbanks-Anchorage-Kodiak (Alaska) mail case, Docket 864 et al., by Public Counsel. Both exhibits are statements of Director of Federal Airways containing secret information relating to national defense.
- Board granted a temporary exemption order to Alaska Airlines to permit the carrier to operate between Anchorage and Juneau via Cordova and Yakutat. The exemption order carries a restriction against offering local service between Anchorage and Cordova. The Board found an "acute temporary need" for air service exists between these points, and that the service is required by the national defense.

## SHORTLINES

► Indicative of manufacturer interest in feeder planes is the speed with which responses are coming in to the Feeder Airlines Association from plane makers to whom they sent the specifications they consider desirable for such equipment. Half a dozen replies were received in the first week, some saying FAA's requirements were close to projects the companies already were working on.

► Some industry leaders are urging the airlines to plan to absorb, so far as is possible, both returning veterans and workers laid off because of war production cutbacks.

► The question whether the Air Transport Association shall send counsel before the Civil Aeronautics Board to oppose applications that would mean entry of steamship companies into air transportation is to come before ATA's board of directors at their meeting later this month. Such applications are involved in cases now being heard by CAB examiners and scheduled for the winter.

► Air Transport Command is not calling Air Corps Enlisted Reservists to active duty this month if they are employed by companies with fewer than 10 such employees.

► Prospects for Airline expansion and its attendant airport problems are under constant surveillance by the air transport industry. Expecting a public attitude that their growth has taken them from the small into the large business classification, the airlines would not be surprised if some airport leases come up for review before they have expired.

• The U. S. Office of Education has produced a total of 498 visual aids units for training war workers, including 78 in aircraft manufacturing and aircraft engine maintenance. The office reported that the aircraft manufacturing units have been planned to aid in training beginning workers in the basic essential skills involved in operating manufacturing equipment. Procedures and practices demonstrated in the films conform to usual practices in aircraft plants.

THIS SOLVES  
OUR PROBLEM  
ON POST-WAR  
PRECISION  
PARTS!



WRITE for THIS  
**ADECO**  
GUIDE - BOOK

It points the way to a dependable source of supply for precision parts and assemblies for your post-war requirements on a contract basis. As specialists in close-tolerance production, the Adeco organization offers complete facilities to meet your most exacting specifications—particularly in the field of hydraulics.

Send for this helpful book today.



AIRCRAFT & DIESEL EQUIPMENT CORP.

4405 North Ravenswood Avenue

Chicago 40, Illinois

Your Partners in Precision

**DARNELL  
CASTERS**

the exact caster or  
wheel for your individual requirements



DARNELL CORP. LTD.  
LONG BEACH 4, CALIFORNIA

60 WALKER ST., NEW YORK 13, N. Y.  
36 N. CLINTON, CHICAGO 6, ILL.









## Workshop on Wings

THESE G-E engineers work "upstairs"—sometimes as high up as the substratosphere. Their workshop is this unusual-looking airplane which is turbosupercharged and equipped with many new and special aircraft devices. Their job? They test, often at ultra-high altitudes and subzero temperatures, new aircraft products and systems born in the laboratories and engineering divisions of General Electric.

Exhaustive testing of new designs has long been a cardinal General Electric practice. Undoubtedly, this is one of the principal reasons why G-E aircraft products have established such splendid performance records on every fighting front. These products comprise the turbosupercharger, gas turbine for jet propulsion, motors, control, instruments; G-E systems—such as turret control, autopilot, power generation, and many others. They are proving in aerial warfare (as other G-E products have proved on America's production lines) that you can get the job done easier, faster, and with less wear and tear on manpower if you work with top-grade "tools"—the kind that General Electric has always built. *General Electric Company, Schenectady 5, N. Y.*



**PRECISION PRODUCTS  
AND  
ENGINEERED SYSTEMS  
FOR  
AIRCRAFT**

Buy all the BONDS you can—  
and keep all you buy

**GENERAL  ELECTRIC**

674-29-8872