

# Aviation News

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**Production Tempo Quickens At Lockheed:** *First aerial photograph of Lockheed Aircraft Corp. since removal of wartime camouflage, reveals size of the Southern California factories where Constellation transports for commercial use and P-80 jet-propelled Shooting Stars for the AAF are in full production. At right are several Constellations, below them are PV-2 Harpoons, Navy bombers. The prototype of the Constitution also is being produced here.*

## **Trans-Atlantic Trip Frequency Seen Air Fare Cut Issue**

Unknown commercial operating cost of C-54's also cited as top factor in charge determination; allowable trips per week split.....Page 31

## **AAF Reveals Accident Study to Guide Lightplane Safety**

Report on details of liaison plane mishaps during 2,000,000 flying hours, studied closely for application of "lessons" to civil aviation.....Page 9

## **East Coast Executives Tell Congress of Policy Needs**

Defense Program Investigating Committee urged to speed post-war airpower action; basis for future needs is keynote.....Page 7

## **Political, Economic Bars Set for PICA Council Study**

Session reconvenes in Montreal; first annual meeting of International Air Transport Association also slated to open there.....Page 37

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## THE AVIATION NEWS

# Washington Observer

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**EXPORT LICENSES**—End of the war has brought resumption of dickering by foreign firms for licenses to build U. S. aircraft and engines abroad. France is seeking rights to produce Pratt & Whitney's R2800-C, but the State Department must approve all such negotiations, and clearance has yet to be received. Grounds exist for the belief that the Navy is holding up this deal, as this is the engine powering the Grumman F8F, Vought F4U4, as well as other military aircraft.

\*

**SWEDEN, TOO**—Also reported to be interested in manufacturing P&W engines under license is Sweden, although the State Department has no record of an application from that country. Sweden built these engines before the war. Another pre-war P&W manufacturer abroad that wishes to resume the connection is Czechoslovakia.

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**PLANT DISPOSAL**—Handicapping surplus plant disposal is Army's failure to outline its needs to the Surplus Property Administration, and a parallel delay in declaring as surplus plants no longer in military production. More than a month ago, Army issued a press release listing some 30 aircraft facilities as "surplus." SPA has never received a declaration on any of them. To add to the confusion, most of the plants listed do not belong to the Army, and the service consequently has no authority to declare them surplus.

\*\*\*

**STANTON FOR PICAQ**—Serious thought is being given in Washington to the appointment of Deputy CAA Administrator Charles I. Stanton to a responsible technical post on PICAQ. Until the death of President Roosevelt, Stanton was slated to replace Edward Warner on the Civil Aeronautics Board, Warner's recent appointment to the international organization having been agreed upon last February. Under present circumstances, Stanton probably could not be appointed to the international group because of limita-

tions on the number of persons who may be named from any one country. It is believed, however, that certain waivers might be made because of Stanton's particular and unique qualifications for the job.

\*\*\*

**TAX CARRYBACK**—Only a few airplane manufacturers are in line for large refunds under the tax carryback provisions. Only two of the major companies, according to reports in Washington, appear to have had a high enough base of normal earnings before the war to benefit with large refunds should net profits decline substantially below their excess profits credits. These are Douglas and United Aircraft. Most of the other companies would have to operate during 1946 at a loss to benefit from the carryback provisions, even though during the war they paid heavy excess profits taxes. Payment of these heavy taxes, in fact, is what negates their relief under the carryback program.

\*\*\*

**BEFORE CONGRESS**—Sharp reductions made by the Bureau of the Budget in proposed military aircraft appropriations has not only the industry worried, but also friends of aviation in Congress who want to see our air supremacy maintained. The present Congress is generally economy-minded, a situation which may work to the detriment of the maintenance of air power leadership and the aircraft industry.

\*\*\*

**PLANES VS. SHIPS**—In the midst of the verbal tussle over relative roles of battleships and aircraft carriers in the future Navy, the Navy itself perhaps unwittingly furnished potent ammunition for air proponents with its complete list of all vessels sunk during the war. Two battleships were sunk (at Pearl Harbor), both by planes. Of the five large carriers sunk, aircraft accounted for three; three of the six escort carriers lost also fell to air attack. Ratio was less with cruisers; one by aircraft, out of 10 sunk, and with destroyers, 25 out of 71.



The Mitsubishi Ku 8 Japanese military glider is shown in this photograph from The Aeroplane. Known also as the Goose, it has a wing span of 72-ft. and carries about 15 troops.



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## News at Deadline

### AAF Reveals Plans

Confirming what the aircraft industry was told by Gen. Arnold several weeks ago, the AAF late last week revealed to the Senate Military Affairs Committee that its peacetime air force was planned to include 6,500 airplanes and 600,000 men. Inasmuch as the annual AAF procurement rate for 1947 and subsequent years is believed to be set at roughly 1,500 planes, the 6,500 total figure would mean a yearly replacement of about 24 percent. This is near enough to the previously-discussed 25 percent to be encouraging to the industry. The annual production rate would be in addition to the delivery of a number of experimental types.

### Approved Lightplanes

Problem of obtaining CAA approved type certificates on new postwar personal planes is a current headache for many of the manufacturers while they are struggling to get into production. Globe Aircraft at Ft. Worth now has 12 all-metal *Swifts* in their assembly line, expects to produce at least 80 this year, but the ones built thus far still wear NX numbers, since the new all-metal version has not yet completed the type tests. Piper's *Skycycle*, although displayed for sale at \$995 at a New York store, likewise still wears an NX number.

Revision and simplification of CAA type testing procedure, long a sore spot with manufacturers, may be necessary to relieve this bottleneck.

### Naval Research Office

As a joint Senate committee began hearings on five research bills (AVIATION NEWS, Sept. 17) last week, the efforts to formulate a national policy on the encouragement of research were further complicated by introduction in the House by Rep. Carl Vinson (D-Ga.), of a bill to establish an Office of Naval Research within the Navy Department.

Vinson's proposal would enable all naval research to be coordinated and supervised by a single bureau.



► Navy has cancelled 10 of the 50 Curtiss-Wright *Commandos* (R5C) it had on order through the AAF from Curtiss-Wright, Buffalo.

► Piper Aircraft Corp. production has increased to 10 planes a day, with double that output contemplated in a few months.

► Laister-Kauffman non-aviation products will include radio cabinets, toys, and possibly metal furniture and store fixtures. Both military and civil gliders will be continued.

► Airworthiness certification of the C-54 by CAA is expected from day to day.

► Bill Stout's new consulting work with Graham-Paige has no connection with aviation. Under study are problems concerning automotive design. As a clue to his current activities, the topic of a recent talk before an engineering group was "Frames, and the Frameless Car."

► Expectation in the industry that Bendix Aviation Corp. would enter the light-plane production picture are justified to the extent that Bendix is now building a prototype of a small, four-place pusher amphibian, described as cleaner aerodynamically than most light craft of this kind. A Franklin power plant is contemplated.

► Navy expects to complete its *Privateer* contract with Convair of San Diego sometime this month with delivery of 15 PB4Y-2s.

► Northwest Airlines will use its recently allotted C-54 for pilot training and cargo only.

► Switlik Parachute will supplement its production line with various nylon, silk, duck, and cotton articles for department and sporting goods stores, and by airplane seat covers and leather jackets. Development will continue on cargo chutes.

► It is now revealed that two Lockheed P-80's were sent to Italy last spring to give our air forces there a preview. According to an official AAF source, these figures applied to the P-80 at that time: Sea level speed approximately 560 mph., rate of climb at sea level about 4,500 ft. per minute, and approximate rate of climb at 30,000 ft. is 2,000 ft. per minute.

► Consolidated Vultee has relinquished operating control of the Navy modification center at Elizabeth City, N. C., to the naval air station there. Navy also took over about 40 *Mitchell* bombers at the center, all marked for salvage.

► Although the air service pattern is not to be removed for probably a week, CAB already is approving virtually all requests filed by airlines for permission to operate commercial charter flights, which were prohibited during the war except for emergency purposes.

► The Douglas dive bomber program of the Navy has been reduced to less than 300 XBT2D's. There has been considerable delay in getting this model into production. About a third of the tooling has been set up for the line.

► Some national system whereby air travelers could rent motor cars near airports at major cities is being urged by certain airline officials as a desirable service. Spokesmen of PCA and United recently requested that an Air Transport Association committee look into the possibilities of interesting a company in this potential business.

► The largest single production program for the Navy for 1946 involves about 265 Grumman F8F fighters, with Chance Vought F4U fighters expected to number 250.

► Sikorsky Division has reduced helicopter production to two a month.

► Washington observers do not expect a decision from CAB on the approval of American-Mid-Continent merger for almost a year, although a date for the hearing will be set for the near future.

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## PEACETIME PREPAREDNESS

### East Coast Aircraft Executives Tell Congress Of Policy Needs

Defense Program Investigating Committee urged to speed post-war airpower action; Army-Navy procurement, research, tax aid, plant availability, development financing stressed as vital; basis for future plans is keynote.

By SCOTT HERSHEY

Leading East Coast aircraft executives emphasized to Congress last week the importance, to the industry and the nation, of a clearly expressed and understood policy for maintaining American airpower in the post-war world.

J. Carlton Ward, Jr., president of Fairchild, reflected the views of the industry leaders who appeared before a Senate subcommittee of the Committee Investigating the National Defense Program when he said:

► **Joint Effort**—"Let me keynote and emphasize these facts: It is clear to the aviation industry that the fields of commercial air transportation and private airplane ownership, by themselves, can not insure maintenance of American airpower.

"It is equally clear to the aviation industry that research and de-

velopment must continue if our air might is to be preserved. Development alone will not maintain a healthy industry. Nor without sufficient production procurement can the Army, the Navy and the air force keep tactically up-to-date."

While the views of the aircraft executives differed on some details, they were entirely in accord in their opinion that a research and development program for aircraft and associated equipment must be put into being at once to preserve technical staffs and the accumulation of skills and facilities which has made the nation supreme in the air.

► **Buying Bar**—They felt generally that pre-war procurement regulations, as presently constituted, are inadequate to maintain a necessary program as a foundation of

### Airport Dangers

Maintenance and operation of airports must be improved if private flying is to achieve greater safety, the AAF says, on the basis of a study of liaison plane accidents. Of 216 accidents in a 12-month period, 47 were the outgrowth of "inadequacies in the airport or its operation." Cited were: errors in the control tower; improperly marked runways; careless handling of gasoline; vehicles parked on or too near runways; poor drainage. Frequent accidents occurred during engine warm-ups because chocks were not in place or because no one was in the plane.

airpower. The company executives recommended that the traditional service order of 13 airplanes be thrown into discard. On the number of planes for future service orders, they varied from 30 to 40 up to 200.

H. M. Horner, president of United Aircraft Corp., told the committee it was his belief that the aircraft industry urgently requires three things from the government. These are:

► "A definite and continuing production program for the Army and Navy against which we can make future plans.

► "A satisfactory way by which we



### THE GERMAN HORTEN V:

Described by the AAF as similar to but "further developed" than the Northrop flying wing, this Horten V is one of the several versions of airfoil fuselage aircraft developed by the Germans. The first version originally was a two-place plane, later was rebuilt and converted to a single-seater and extensively test flown in 1943. A newer version, equipped with jet units, is believed capable, as a fighter-

bomber, of a 550-mph. speed at 25,000-ft. The single-seat model was built almost entirely of plastics. With a span of 52-ft., 6-ins., length of 19-ft., 8-ins., the wing area was 454 square feet. Power was provided by two Hirth 80-hp. engines driving two fixed pitch pusher propellers. Maximum speed for the pictured version was 162-mph with a maximum load of 990-lbs. and a total weight of 2,420-lbs.

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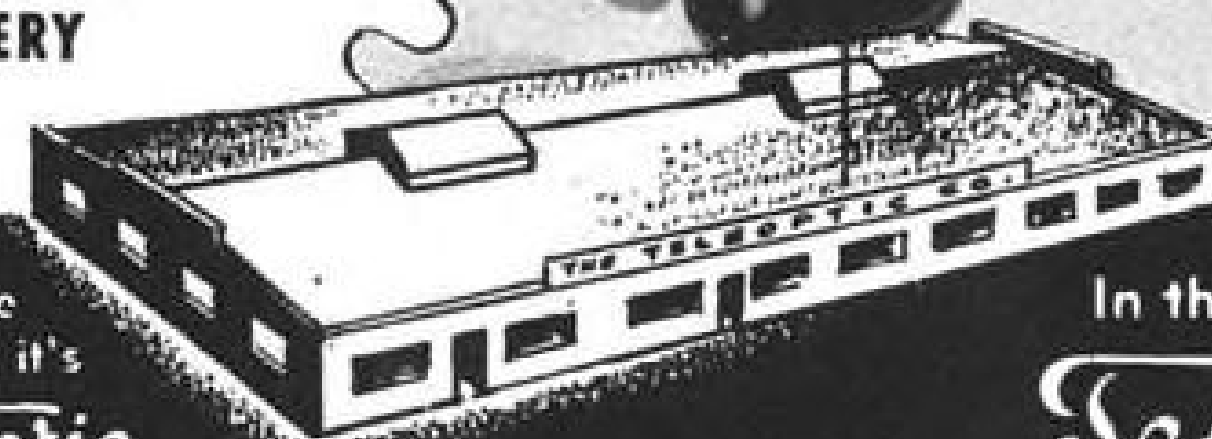
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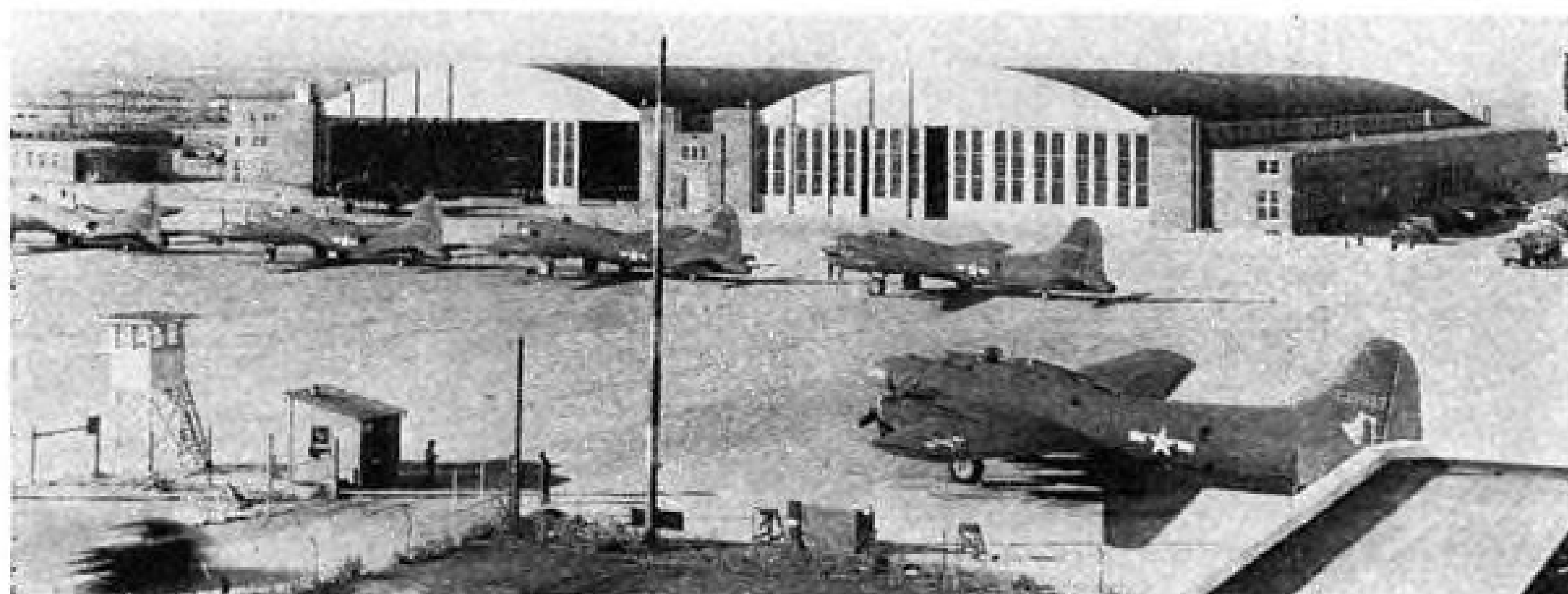
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## MODIFICATION CENTER BECOMES SURPLUS:

The government has offered for sale as surplus the \$5,000,000 Denver modification center formerly operated by Continental Air Lines. The construction includes a 90-acre concrete apron, two hangars 600-ft. long, 400-ft. wide and 35-ft. high inside, office wings, tool rooms and shops, a cafeteria to serve 800, a headquarters building, and power and heating plant.

can acquire the facilities in which to produce that program.

►“A method by which we can finance our all-important experimental and development program.”

Horner added that decisions on these three points by the government are needed quickly lest in the interim, the presently highly trained production and engineering staffs of the industry be dissipated.

Guy W. Vaughan, president of Curtiss-Wright, commented to the Senators that while there has been a great deal of talk of the necessity for developing sound, long-range government policies for National Defense, no clear cut government program has emerged to date.

►**Needed**—He recommended: A well coordinated military aircraft requirements program; clear cut military procurement policy; well-defined government policies on surplus aircraft; the maintenance of a healthy aircraft manufacturing industry, and strong expanding air commerce.

Ward reflected the general view of the other witnesses when he said it was his opinion that the Secretary of War and the Secretary of the Navy will require extreme flexibility for the procurement regulations under which they are to operate if the national need is to be met.

►**Contract Change**—L. D. Bell, president of Bell Aircraft, emphasized more latitude for the Army and Navy in future military aircraft procurement, and urged a change in the present cost-plus-fixed-fee contracts in develop-

Aeronautical progress will lag, Leroy R. Grumman, president of Grumman Aircraft, told the committee, if some method is not found to provide adequate financial assistance to carry on necessary research and development.

►**Points Agreed**—Harry T. Rowland, first vice-president of The Glenn L. Martin Co., said the thinking of the industry runs closely parallel on the importance of private aircraft research, development, manufacturing ability and potential to our national defense.

The tremendous implications of such advanced weapons as the atomic bomb and guided missiles, he added, place more of a burden than ever upon both public and private science to develop improved methods of employing them and defense against them.

►Alfred Marchev, president of Republic Aviation, told the committee that the people of the United States are at the point where they have to make an important decision. They can, he added, emasculate our airpower in being, force retention of airplanes that, though only a few months old, are already obsolete, or nearly so. Or, they can look facts in the face, realize that it costs something to keep a peace as well as to win it, and give to their Congress and their Army and Navy the mandate to keep strong and modern and elastic.

## National Aviation Clinic Sets Four Main Topics

Program for the National Aviation Clinic in Oklahoma City Nov. 19-21 will cover four general divisions of aviation and its related interests: aircraft manufacturing and its allied activities; air transportation, including major airlines, feeder systems and chartered services; private flying, and national air defense.

Stanley Draper, chairman of the Clinic executive committee, has announced four of the speakers, in addition to President Truman who will deliver an address at the opening session.

►Charles E. Wilson, president of General Motors, will speak at the banquet. At the two clinic luncheons, speakers will be Vice Admiral Marc A. Mitscher, deputy chief of Naval Operations, Air, and Lieut. Gen. Ira C. Eaker. Lieut. Gen. James H. Doolittle will address one of the principal sessions.

# AAF Reveals Accident Study To Guide Lightplane Safety

Office of Flying Safety report on details of liaison plane mishaps during 2,000,000 flying hours, studied closely by branches of private flying for application of “lessons” to civil aviation.

By WILLIAM KROGER

Based on more than 2,000,000 flying hours with liaison planes, the Office of Flying Safety of the AAF has released a detailed report of causes and factors in 2,400 major accidents that is being studied with the keenest of interest by those concerned with private flying.

This survey constitutes probably the greatest amount of data ever compiled on accident hazards in the type of aircraft generally used by pilots flying for pleasure.

Being noted for possible application to private flying are these AAF facts, all arising from operations only within the U. S.:

►Pilot error was involved in four out of every five accidents.

►Error on the part of ground or maintenance personnel was a factor in 21 percent.

►Failure of the equipment figured in 22 percent, with power plant failure a cause in 13 percent of the accidents.

►There is a tendency for pilots not to take the lightplane seriously, a feeling that “it is safe to take unnecessary chances with the light, maneuverable type of aircraft.”

Aircraft used by the AAF, and on the operation of which the figures are based, were Vultee L-1, Taylorcraft L-2, Aeronca L-3, Piper L-4, Stinson L-5, and Interstate L-6. During most of the one year for which fullest information is supplied, July, 1944, to June, 1945, far more flying was done by the Army in these types of planes, than by civilians.

During that period, the AAF used an average of 1,500 liaison planes, with 216 major accidents. There were 71 major accidents for every 100,000 hours in liaison aircraft, compared to 42 for the AAF as a whole. There were 25 liaison aircraft wrecked per 100,000 hours, compared to 13 for all AAF aircraft.

►With thousands of service pilots returning to civilian life, many of whom are expected to continue flying in lightplanes, one prime fact emerges from the AAF accident study:

*Better than 80 percent of the pilots involved in liaison accidents in the 1944-1945 period, had less than five hours experience in the model aircraft involved.*

*Perhaps significantly, the next highest rate was among pilots with from 101 to 200 hours experience—a possible indication that familiarity with the airplane produced a false sense of capability.*

Partly allied to experience are the statistics on the phase of flight in which the accidents occurred. Landings accounted for 31 percent, takeoffs for 11 percent, and in-flight accidents for 13 percent.

Errors on the ground, and failure of equipment principally figured in the statistics on accidents in other phases of flight. Twenty percent of the 1944-1945 accidents occurred during forced landings, the chief cause of which was engine failure—responsible in 30 of the 44 forced landings. Many of the engine failures, however, were attributed to faulty maintenance.

►**Vision Hazard**—A surprisingly large proportion, 19 percent, of accidents occurred during taxiing. Manufacturers can note the reason: the difficulty of obtaining forward vision in the aircraft made it necessary to zig-zag in taxiing, and at walking speed. When this was not done, collision with air-

## Accident List

The following percentage comparison of types of accidents in liaison planes, and in all other types of Army planes was compiled by the AAF Office of Flying Safety:

Accident Type	Total AAF Liaison	
Collisions with aircraft	2.6	0.6
Collisions with other objects	6.8	5.8
Spins and stalls	9.7	12.2
Forced landing	14.6	20.5
Landing	34.9	23.3
Takeoff	8.4	10.3
Taxiing	13.3	23.7
Fire	2.9	0.7
Miscellaneous and undetermined	6.8	2.9
Total	100.0	100.0

craft or other obstacles generally resulted.

“The aircraft manufacturer,” states the AAF report, “has the task not only of building an airplane which will not fail, but one which will also remove as far as possible the difficulties of flying and the opportunities for pilots to make mistakes.”

The conditions of AAF liaison plane operation, and the conditions under which private flying will be conducted are similar, the Office of Flying Safety believes. “Unsafe aircraft designs, improper maintenance, poor airports, inadequate traffic control, careless personnel, improperly trained pilots, difficulties of weather and navigation—these and other basic accident causes persist regardless of whether the operation is military or civil.

►**Foreboding**—Accordingly, the report states a conclusion that is certain to provoke argument. If there should not be an improvement in the private aircraft accident rate,



## LATE GERMAN SPEED CHALLENGE:

Capable of climbing to 20,000-ft in 10.7 minutes and developing a speed of 390-mph., this Messerschmitt 410, developed during the late days of the war in Europe, is eligible for placement in the higher speed category of propeller driven craft. (America's newest prop-driven fighter, the Navy's Bearcat, is listed for speeds above 400-mph.) Powered by two 12 cylinder inverted “V” liquid cooled engines of 1,720-hp., the ship pictured was used as a two-place fighter-bomber with three versions fitting it for heavy fighter, fast bomber, and long range reconnaissance classification.

## Training Aid

Better training procedures for lightplane operation are indicated by the AAF's report of liaison plan accidents. "The fact that instructors contributed to a considerable number of accidents is evidence of the importance of adequate instruction," the report states. Recommended is standard instruction and uniform training literature.

and if personal plane use should expand as expected, "specifically, with 300,000 private aircraft operating an average of 20,000 miles per year, there would be an annual total of 48,000 private aircraft accidents."

## General Staff Backs AAF Peace Buying

The Army Air Forces will have full backing of the general staff in any plans for an intensified research program, larger procurement than previously in peace, and more voice in Army affairs, it is indicated in the biennial report of General of the Army George C. Marshall.

However, in his recommendations for the defense of the U. S., Gen. Marshall seems to throw cold water on the separate air force idea. "The Regular Army," he says, "must be composed of a strategic force, heavy in air power, partially deployed in the Pacific and the Caribbean ready to protect the nation against a sudden hostile thrust and immediately available for emergency action wherever required."

► **Commercial Stress**—In pointing out the necessity for research, the report traces the link between civil and military aviation. "Many of the aeronautical principles that helped give this nation the greatest air force in the world grew out of commercial development and our production know-how at the start of this war was partially the fruit of peacetime commercial enterprise."

The AAF's repeated efforts to extricate itself from the embarrassing position of seeming to be second to the German development of jet planes and rocket propulsion find support in the section of the report dealing with weapons.

Earlier in the document, Gen. Marshall quotes Gen. H. H. Arnold saying that "when World War II began we had no rockets." This is laid by Gen. Marshall the fact that "between the two world wars we permitted Germany to far outpace us in the development of instruments which might have military use."

► **Jet Endurance** — Germany first

introduced the jet engine in combat, it is conceded "but not because we had made no progress in this field. . . . The German jet fighters were limited to a maximum endurance of a little over an hour. Ours already had the endurance to fly nonstop from San Francisco to New York." Gen. Marshall does not state if such a flight has actually been made.

## Avco Disposition Of AA Stock Seen In Wake Of CAB Action

Board's show-cause order regarding 22 percent holding in American expected to precipitate move; sale would follow corporation's growing diversification trend.

Prodded by a CAB show-cause order issued last week, Aviation Corp. will probably dispose of its holdings of 287,538 shares of American Airlines stock. This move will materially strengthen Avco's financial position, and is in line with the holding company's policy of diversification into non-aviation activities.

In its order last week, CAB found that Avco's 22.28 percent holdings of AA common stock constitute control of the carrier within the meaning of Section 408 of the Civil Aeronautics Act, and that such control has been acquired since passage of the Act.

► **Trust Ends**—Further, it took cognizance of the fact that the agreement under which Avco's AA stock was held in trust by Jesse H. Jones is due to end with the termination of the national emergency, termed "reasonably imminent." At that time, the voting powers of the stock would return to Avco. Accordingly, the Board instructed Avco to show cause by today why it should not be ordered to divest itself of AA control by reducing its voting stock to not more than four percent of the stock outstanding.

Such divestment would have to be completed by July 31, 1946. Meantime, the corporation would have to file monthly reports, up to August of next year, on the amount of stock disposed of and still held.

The American Airlines investment now is carried on Avco's books at \$1,797,113. At current prices of about \$80 per share, this stock has a market valuation of \$23,003,040. Under normal circumstances, this profit of \$21,205,827 is subject to a capital tax of 25

percent. Tax experts assert, however, that if Avco sells its stock under CAB orders, no capital tax will be liable.

► **Profit**—In any event, assuming the very worst on the tax matter in this respect, Avco at current market prices, stands to show a net profit of at least \$15,900,000 in disposing of its American Airlines stock.

Informed sources look for Avco to further dispose of the 366,954 shares of 9.2 percent of Pan American Airways stock it now holds. This investment, carried on Avco's books at \$1,360,131, has a current market value of around \$21 per share of \$7,706,034. Allowing for a 25 percent tax, a net profit of around \$4,750,000 would result from this sale.

It is obvious that these moves would materially improve the book value of Aviation Corp's equity as the balance sheet would reflect the cash received from the sale of the airline shares.

► **New Growth**—Avco, however, may expend such cash as rapidly as it is received. The company is broadening out into non-aviation fields. This is evidenced by the purchase of 88 percent of the stock of Crosley Corp., and a substantial interest in the New Idea Co., manufacturers of farm machinery. (AVIATION NEWS, Oct. 8)

A few months ago, a \$25,000,000 three year credit was negotiated by Avco and it now plans to substitute for such bank credit, an issue of \$15,000,000 convertible preferred stock to be sold to common stockholders through rights.

As far as can be determined, Avco will most likely retain the 410,417 shares or 29.6 percent of

the common stock of Consolidated Vultee Aircraft Corp. This holding is carried on the books at \$5,299,014 but with the stock selling around \$25 per share, has a market valuation of \$10,260,425.

► **Trend**—The Aviation Corp. received its initial financial impetus and strength from the aviation industry, but its present evolutionary process clearly discloses entry into other industrial fields with aviation assuming a progressively smaller role in its fortunes. Some quarters expect Avco to change its corporate name to reflect the broadening activities.

## Airpower Emphasis Sought For Navy

Air operations chief stresses aircraft import as Navy weighs carrier role.

Carrier-based air "proved beyond the shadow of a doubt that air power and sea power are one and the same thing," according to Vice Admiral Marc A. Mitscher, deputy chief of Naval Operations for Air, in a statement of particular import in view of current discussions in Washington as to the place of the carrier in the post-war fleet.

One report had it that the Navy's plans for its post-war fleet allocates a secondary position to aircraft carriers. A Navy spokesman, however, denied that carriers would be relegated to a secondary role and added that the ratio of carriers and battleships, when compared to the pre-war Navy, would show an increase in favor of the carriers.

► A report submitted to the Naval Affairs committee by Secretary Forrestal shows the active fleet would include 11 battleships, 15 aircraft carriers, including two 45,000-ton carriers, and 21 escort carriers. The laid-up reserve would include seven old battleships, 22 carriers all built since 1940 and 58 escort carriers, all new since 1940.

The admiral, speaking to midshipmen at Annapolis, commented that there is no new principle of naval warfare involved in carrier warfare. The carrier's plane range, he said, is 250 to 300 miles while the maximum range of our longest main battery gun is approximately 25 miles. Consequently, he added, "our carrier plane becomes the weapon of offensive action against the enemy."

► **Self-Defending**—Further, as Admiral Mitscher pointed out, these same carrier planes defend themselves against enemy attack while en route to the target, and at the same time take offensive action against enemy aircraft intent upon destruction of our own forces.

Such enemy planes as may pierce the offensive-defensive screen of aircraft are brought un-

der fire by the carrier and its supporting vessels whose function is the defense of the carrier.

Admiral Mitscher said "in short, the carrier-based plane is the present day medium for enunciating the principles of naval warfare."

► **Tomorrow's Fleet** — Looking ahead to the Navy of tomorrow, Admiral Mitscher told the midshipmen that "we must not for a



He-162 . . . a secret no longer



Pickaback jet for the People's Fighter



## GOERING'S SECRET WEAPON REVEALED:

Germany's air marshal, with characteristic optimism, called this Heinkel 162 jet-propelled, single-place fighter, pictured here for the first time, "one of our foremost secret weapons," when it first appeared in combat on April 4, 1945. Called Volksjaeger, People's Fighter, the plane was used to split bomber formations by virtue of a rate of climb that hoisted it to 19,700-ft. in six minutes; at that altitude the He-162 cruised at 522-mph. Twin-tailed, the plane was marked particularly by the radical "topside" mounting of the BMW 003 turbo-jet unit and an unusual 55 degree angular downturn of the wing tips. Flush, inclosed, gear retraction was featured. The jet unit is rated at about 1,760-lbs. of static sealevel thrust—corresponding to about 565-hp. at 120-mph. or approximately 2,000-hp. at 500-mph. Details: Span—24-ft.; Length—34-ft.; Wing area—120-sq. ft.; Horizontal tail span—8-ft., 8-ins.; Gross weight—5,940-lbs.; Service ceiling—39,400-ft. Sealevel high-speed—490-mph.; Range, maximum fuel economy—242 miles.

moment lose sight of the fact that our carrier supremacy defeated Japan and that carrier supremacy should be maintained. . . . Carrier supremacy is not the application of airpower alone—it is the well rounded, integrated team of air-surface-ground forces working towards the same objective, destruction of the enemy. . . .”

Under present Navy plans, the number of large carriers would be cut to less than a third of the present total afloat or building, while the number of battleships would be reduced only about half.

Discussion of these plans by air admirals is frowned upon by top

Navy officials who look to battleships as the prime unit of the fleet. Proponents of air power both within and outside the Navy are hopeful that Congress will give some time, in pending hearings, to their story.

### Col. H. E. Hartney Dies, After Long Air Career

Lt. Col. Harold Evans Hartney, World War I flyer and long a prominent figure in aeronautics, died in Washington, D. C., of heart disease, on Oct. 5. He was 57 years old.

At the time of his death, Col.

Hartney was an aviation consultant. Previously, he had been adviser to the CAA and to a Senate committee investigating air safety. Born in Canada, he learned to fly with the Royal Flying Corps during the first World War, and was later sent to this country to train American flyers.

► **Historic Associates**—He went back to France and was commander of the First Pursuit Group, a squadron of which was commanded by Capt. Eddie Rickenbacker. Following the war, Col. Hartney was executive officer for Gen. William Mitchell, and was in charge of training of the Army Air Service.

A crusader for aviation progress, Col. Hartney was one of the founders of the National Aeronautic Association and other groups to promote aeronautics.

### Jap, U.S. Features Joined in Bearcat

Maneuverability of Nip designs, power and armor of American planes combined to give Navy a “400-mph. plus” fighter.

Real secret of the Grumman F8F Bearcat fighter (AVIATION NEWS, Oct. 8), according to the Navy is that Grumman and the Navy have combined in it the best features of both Japanese and American fighters.

It combines the light weight and consequent excellent maneuverability and climb of Jap aircraft with the high horsepower, protective armor and toughness of previous Navy fighters.

► **‘Kin-Ships’**—The Bearcat bears a close kinship to the F6F Hellcat and the FM-2 Wildcat. Like them, it stresses high horsepower and toughness. The F8F is powered by a single-stage Pratt & Whitney 2800-C Double Wasp engine which turns out 2,100-hp. under military rating and better than 2,800-hp. with the aid of water injection.

Yet, it is about 3,000-lbs. lighter than the Hellcat with its 2800-B 2,000-hp. engine and only a little heavier than the 1,350-hp. Wildcat.

The new plane’s powerplant turns a four-blade Aero-Prop propeller which the Navy reports is lighter in weight and simpler in construction than previous comparable propellers.

The Bearcat combines recognition features of both the Hellcat

### Air Coordination

Myron Tracy, former acting director of Aircraft Resources Control Office, has joined the Air Coordinating Committee as secretary. The committee is interdepartmental and composed of the Undersecretaries of State, War, Navy, and Commerce departments and the chairman of the Civil Aeronautics Board. Theodore P. Wright, Civil Aeronautics Administrator, acts as executive secretary.

This committee of five proposes the national aviation policy as far as the five government agencies are concerned. Under a memorandum of the Secretary of War their functions are to:

“Examine aviation problems and developments affecting more than one department or agency, and to coordinate activities of government departments and agencies interested in this field and recommend integrated policies for any actions by the departments represented on the committee or by the President or any other government agency charged with responsibility in the field, all in accordance with and subject to the provisions of any present or future applicable federal statutes.”

and the Wildcat. Like the F6F it has a low mid-wing. Like the FM-2 its nose is round, its wing unbroken with dihedral from the roots. From above the F8F might be mistaken for the Wildcat, but both wing and tail surfaces have a more pronounced taper, and the tailplane lacks the bite found in the older Grumman planes.

► **Compact**—The F8F is more compact than either of its predecessors. Its wing span is shorter than that of either the Hellcat or Wildcat. The short span makes quick blanks easy, and together with light weight and the use by pilots of anti-blackout suits makes possible extreme maneuverability.

Despite the fact that the war is over and that restrictions are supposedly off, no detailed specifications on the Bearcat were released by the Navy. It was announced that the sea level speed is more than 400-mph., a speed “believed to be the fastest in the world at this altitude for propeller driven aircraft.” The plane climbs over 5,000-ft. a minute with the aid of water injection and its ex-



**New Views of F8F “Bearcat”:** This lightweight, high powered fighter, built by Grumman for the Navy, is smaller than its close kin, the Hellcat and Wildcat. Consequent lower drag makes it possible to put more aboard carriers, and the high horsepower makes it possible for them to take off with almost zero wind coming over the flight deck. The nearly 20 knot wind needed by most shipboard fighters has been a handicap to escort carriers.



treme range under ferry conditions is 1,500 miles.

### Canadian Surplus Plane Sales Listed

Forty aircraft were sold last month by the War Assets Corp., Canadian government surplus disposal agency, for a total of \$121,859.

Ten of the planes, five Anson IV twin-engine transports, three Hudson VI and two Hudson III twin-engine transports, were sold to Aeronaves de Mexico, TACA Airways, and Transportes Aereos Mexicanos, for use in Mexico and Costa Rica. This brings to a total of 309 the number of surplus aircraft sold by the corporation outside of Canada, since its inception in April, 1934.

► **Other Sales**—Aircraft sold in August also included one Anson

IV, six DeHavilland Tiger Moths, one Stranrear flying boat—to Siple Air Transport for use in the West Indies, 21 Cessna Crane twin-engine aircraft and one Fairchild 24K transport.

Royal Canadian Flying Clubs Association bought the Tiger Moths, Cessna Crane and Fairchild. Other Canadian purchasers were Laurentian Air Service, Ottawa; Superior Airways, and Johannesburg Flying Service, Winnipeg.

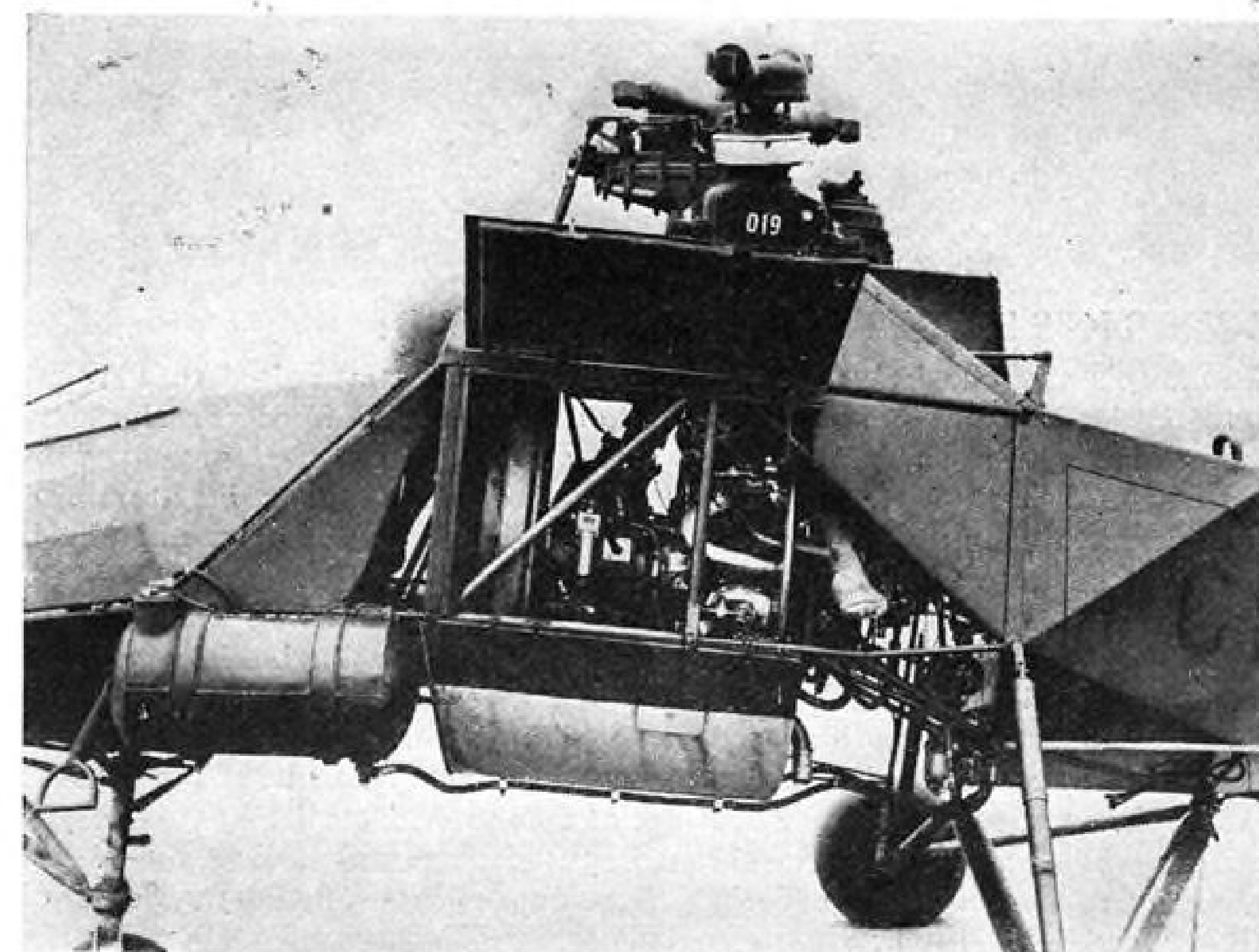
The corporation sold 23 surplus engines in August including five Jacobs L6MB, 14 Pratt & Whitney Wasp Jr., three Wright Cyclones and one Gypsy Major. Engine and other aircraft equipment sold during the month totalled \$108,332.

► **Income Tally**—Total aircraft and components sales by WAC from April, 1944 to Aug. 31, 1945, amounted to \$3,809,685, of which \$1,861,476 was for 708 aircraft, and \$1,948,208 was for aircraft materials.



### GERMAN FLETTNER HELICOPTER:

This unusual design, the FL 282, is a single-seat helicopter which was used as an artillery spotter, working with tank spearheads and in courier service. The two-blade rotors—not shown—are on closely adjacent, laterally separate hubs. Rotors turn in opposite direction and are inclined away from each other. Craft is powered by a 150-hp. Sh-14 engine. Externally mounted fuel tank has 25 gallon capacity. In forward flight, glide speed is 160 kilometers per hour. Large total vertical tail surface area is required to directionally stabilize the short fuselage in forward flight. Same is true of the large horizontal tail surfaces.



# New Lightplane Materials Era Seen By Aero Science Group

Institute of the Aeronautical Sciences meeting marked by agreement of engineers and executives on outmoding of fabric-tubing construction and replacement by all-metal fabrication.

By ALEXANDER MCSURELY

The era of the prewar lightplane, manufactured out of steel tubing and aircraft fabric, with a welding torch and a pair of scissors, appears to be rapidly drawing to a close.

Death-knell for the steel tubing-fabric airplane was rung, not too mournfully, at the recent two-day Lightplane Meeting of the Institute of the Aeronautical Sciences, in Detroit.

Other trends reflected in papers and discussions included:

► The roadable plane is not to be counted out of the personal plane picture, but is still years from production.

► The low-wing monoplane came out winner over the highwing in an argument which still left the high-wing advocates some points of merit.

► VHF personal plane radios hold out bright future hopes to the private flyer.

Chief "death-knell ringers" for the fabric-tubing method of construction were Alfred Marchev, president of Republic Aviation Corp., and F. B. Lane, engineer of

the Engineering & Research Corp., who presented papers, respectively, on production methods and tooling for all-metal aircraft, and the most desirable materials for personal aircraft.

It is not surprising that these two men, whose companies make the Republic *Seabee* amphibian and the *Ercoupe*, among the leading examples of metal construction, should have taken such stands; but the complete lack of argument from engineers of other companies, which currently are rolling out fabric-steel tubing planes as fast as they can, was the best indication of how far this all-metal construction trend has already gone.

► **'Thick Skin'**—Elimination of many of the bulkheads and supporting members, now used in conventional all-metal fuselage and wing construction, by use of "thick skin" coverings of magnesium for the wings and aluminum for the fuselage, which can support the loads without much internal bracing, is seen by Lane as a likely future trend.

Metallic beryllium, he believes, would be the ideal aircraft material, but because of its cost, now prohibitive, he does not expect its use to be general. Using beryllium, a fuselage could be produced which would satisfy all strength requirements and yet weigh half as much as its equivalent in aluminum, he reported.

He believes that wartime developments of anti-corrosives for magnesium will make possible this material's use to a far greater degree than heretofore. As an example of thick-skin construction, he showed a sketch of a wing with a single spar and no rib structure, which satisfied all strength requirements due to the strength of the thick magnesium covering.

► **Weight Value**—He pointed out the total weight of metal used in an all-metal plane was 300 to 400 pounds, costing 60 cents a pound, for aluminum. The balance of the plane's cost is in fabrication and accessories, and it is here the savings must be made if the personal plane is to drop its price to reach a real mass market. His company, he said, expects to produce as many as 40 to 50 planes a day, when full production is reached.

The Republic president startled the meeting by the announcement that Republic can produce the *Seabee* for 60 cents a pound, including labor, tools and overhead. At this figure he said, the tooling would be paid for in the first year.

His company has planned a production schedule of 5,000 planes a year. Using modern tooling and all-metal construction, with planes designed for such production, the Republic president contemplates profitable future production of a \$2,500 four-place amphibian, an \$1,800 four-place landplane, and a \$1,200 two-place landplane which would have a good cruising speed and a 100-hp. engine. He gave no indication that his company was planning such a program however.

► **Item Costs**—Marchev emphasized the need for reduction in cost of accessories and parts, and pointed out that differences in weight are over-emphasized. An aircraft engine distributor which weighed only four ounces less than an automobile engine distributor and would perform the same function, cost \$8 more, he said. A radio for the *Seabee* has been obtained for \$46, although the original figure for this accessory was \$200.

Roadable personal planes came in for three-way emphasis:

► George Spratt, developer of the Spratt controllable wing, now being flown on a four-wheeled roadable type fuselage, described flight experiments with this plane and with earlier flying boats which used the same type of wing. The wing he said had been designed so it could be folded or removed from the "universal joint" above the fuselage which is its only point of attachment. This would make possible the use of the fuselage as an automobile. Controls respond with the same "feel" whether the craft is flying or on the road, he said.

► John Geisse, assistant to the CAA Administrator, wrote for quotation in the high-wing low-wing debate, urging the importance of high wing design for roadable planes, and for types like the Spratt design, which obviously could not use low-wing design.

► Reinhardt Rosenberg, Consolidated-Vultee engineer, stressed advantages of four-wheeled undercarriage for roadable planes, and reported results of a study on riding comfort of a roadable plane as an automobile, vs. shock absorbing qualities for landings. He indicated one possible design compromise would make possible a shift in the center of gravity when the plane became roadable, would design spring suspension of the fuselage for ground travel only, and would provide an additional "damper" whose maximum stroke would absorb the energy of landings.

► Ralph Upson, consulting engineer, who led the campaign for low-wing personal plane design with his paper on this subject, cited superior vision, better crash protection, low center of gravity, and advantages in plane construction, as favoring the low-wing. He urged elimination of the high-wing type, and standardization on the low-wing for personal aircraft.

► H. T. Sagert, Lear Inc., aviation radio sales manager, appealed for a setting of new standards for improved technical features in aircraft radio and for better pilot care and understanding of equipment. He predicts a trend toward 12 volt systems in single-engine planes and 24 volt systems in twin-engine planes. Small, thin, feeler-like antennae will supplant current antennae with the advent of VHF, he said, and urged importance of more adequate mechanical care of radios, in installations, shielding, and in periodic preventive maintenance overhauls.



## LOOKING AHEAD:

While Piper Aircraft Corp.'s immediate production models are essentially their pre-war, three-place Super Cruiser and two-place Cub Trainer, the Lock Haven, Penna., company is planning the experimental four-place Skysedan, shown above in a new drawing, for a next year production model. The plane, previously described in AVIATION NEWS, Jan. 29, has a design cruising speed of 125-mph. with a 165-hp. engine. An original price plan of \$2,995 is expected to increase as a result of labor costs. The Skysedan prototype is reported in final assembly.

## Big AAF Stinson Unveiled; All-Metal

Commercial interest centering on newest, largest liaison lightplane; cargo, pickup uses seen.

Largest liaison lightplane yet developed for the AAF, the new Stinson XL-13, announced last week, which can carry as many as six passengers in an overload arrangement, is also the first all-metal military lightplane. It has a number of interesting features with possible application to civilian lightplane designs.

The XL-13 has a 41-ft. wingspan, 6-ft. longer than the wing of the commonly used Stinson L-5 to which it is the design successor. Wings are slotted and flapped, and are designed to be folded so the plane can be carried on a 2½ ton truck if necessary.

► **Full Panel**—A 245-hp. Franklin engine drives a wooden-blade controllable propeller, and the cockpit is fitted with dual wheel controls and complete blind flying and radio equipment.

Special features of the XL-13 also include:

► Litters for two persons, in double-deck rack at right side of plane.

► Removable panels in fuselage so that cargo may be dropped from cabin door.

► Hatch in cabin floor for cargo pickup, and a camera hatch.

Plane is of conventional high wing monoplane type with fixed landing gear, and rounded plastic canopy.

A monococque tailcone supports the empennage. Wings are of unusual profile, with leading and trailing edges parallel at the base,

while trailing edges taper sharply near the wingtips.

► **'Haulable'**—A spindle arrangement on the landing gear vertical struts makes it possible for the plane to be hauled, trailer-fashion, by a jeep.

Folding wings have long been considered one solution to the hangar storage problem, and a civilian plane which could fold its wings, for transportation by truck or to be towed along a highway behind the family automobile, has obvious advantages.

The XL-13 is the first lightplane design which Stinson has produced with all-metal materials, and as such is the military forerunner of the experimental all-metal Stinson civilian planes

## NATA Action

A meeting of the board of directors of The National Aviation Trades Association, expected to be called at Indianapolis Oct. 20, is the first indication in several weeks of an effort to revitalize the organization.

► It is reported that Roscoe Turner, NATA president, may submit his resignation at the meeting.

The association has not yet named an executive director to take over the duties relinquished by Clarence R. Mooney, and it is understood that John H. Wilson, former executive director, has definitely declared himself "out of the picture" as far as this job is concerned. There has been no action to move the NATA office from Kansas City to Washington, D. C., as was planned at an August meeting.



## AIR SALES TOUR:

Using the Howard plane shown, and a twin engine Cessna to transport its executives, the Wilcox-Gay Corp., manufacturer of the Recordio radio-phonograph, is conducting regional distributor meetings at Chicago, Salt Lake City, Oklahoma City, Atlanta and New York. Headed by W. L. Hasemeier, vice-president in charge of sales, the executive group is using planes chartered from Hughes Flying Service, Lansing, Mich. The time-saving factor provided by chartered executive planes for such trips offers an interesting sales argument for other charter service flight operators.



### BRITISH TAYLORCRAFT AUSTER:

Provisional selling price of £825 (approximately \$3,300) has been set in England for this new three-place Taylorcraft Auster J-1. A development of the original British Taylorcraft, built from the American design under license, the new design is modified in many ways from the original. Powerplant is a Blackburn Cirrus Minor II engine of 100-hp. Flaps are supplied as optional equipment at extra cost. Top speed of 125-mph., cruising speed of 100-mph., and 280-mile range are reported.

which are now reported in development.

► **Possibilities**—The plane, or a civilian version of it, offers interesting possibilities as an airmail pickup and light cargo plane since it is specially designed for getting in and out of small landing fields. The interest is heightened by the fact that the Stinson Reliant, which was the favorite pre-war airmail pickup plane, is now out of production and is not likely to be manufactured again.

## Department Store Plane Sales Start

Pipers, Ercoupes marketed "over counter" in New York, Chicago; Skycycle offered in surprise move.

Heralding their new venture with extensive newspaper advertising, New York and Chicago department stores were selling two personal airplanes "over the counter" last week — Ercoupes and Pipers.

Many plane market analysts have long contended that one trouble with the past small volume of sales was the fact that planes were merchandised largely at airports away from the mass of potential buyers. They are watching the sales results at Marshall Field's, Chicago, and Macy's, New York, for Ercoupe, and at Mandel's, Chicago, and John Wanamaker's, New York, for the Piper, as the best test of this theory.

► **Initial Impetus**—Whatever the results in sales, the two plane manufacturers were getting at the beginning at least, invaluable publicity for their products, not only through the advertisements,

but through newspaper stories, and the crowds of customers in the stores attracted by the sight of the planes on display.

Piper offered a complete line of three planes, including the one-place Skycycle at \$995, the two-place Cub Special at \$2,010 and the three-place Super Cruiser at \$2,995.

Introducing the Skycycle, low-wing monoplane, on the market came as a surprise move, since Piper had previously announced that its only two immediate post-war models would be the two-place and three-place Cub and Cruiser.

► **More to Come**—At a dealer meeting in Pittsburgh last week, President William T. Piper promised a rapidly increasing production of the Skycycle, aimed mostly for students wishing to increase their solo time inexpensively, and for salesmen who wish to travel by air at low cost.

He expects a production of approximately 5,000 planes of various models a year at his Lock Haven plant. The Skycycle, he said, would cruise at 105-mph. and average nearly 30 miles to a gallon of fuel.

Sales of two planes each were reported by both Macy's and Wanamaker's on the opening day. Macy's added that of 284 inquiries received the opening day, 82 definitely indicated intent to buy planes.

► **Store Interest**—At least two other major department stores in New York are reported planning to retail airplanes from their sales floors within the near future.

Meanwhile, an advertising display show, in the Macy's Ercoupe department, called "Patterns for Postwar Living," was scheduled to

"go on the road" for display at department stores in 50 other cities, following the Macy showing. The show features an Ercoupe just off the assembly line, while related displays tell a story of the part private flying will play in the next few years.

There are displays on how to fly, planning community airports and airparks, traffic rules of the sky, and regulations for flyers. Included is the Esso model airport, prepared by Standard Oil of New Jersey, which shows a complete miniature airport, with runways, hangars, shops, showrooms, service facilities, control tower, beacons, and lights.

► **Radio**—A Bendix plane radio display is also included, which demonstrates the use of a two-way radio for the personal plane, through a sound-color film reproducing the use of radio on a cross-country flight.

### French Honor Hawthorne

In recognition of work done in training French Air Force Cadets, Beverly E. Howard and William G. Catron, president and flight director, respectively, of the Hawthorne School of Aeronautics, Orangeburg, S. C., have become two of the few civilians ever awarded the wings of France's air force.

Presentation, which also included award of the Medaille d'Aeronautique, was made during a ceremony at Maxwell Field, Ala., by French Gen. Hartman, liaison chief of the AAF-supervised flight training program.

### Be Alert!

Lack of alertness on the part of two solo student pilots which contributed to an air collision while landing at Cliff Maus Airport, Corpus Christi, Tex., and consequent injury to both airmen, caused the Civil Aeronautics Board Safety Bureau to stress visual alertness by pilots as a preventive against air collisions.

The Safety Bureau suggests that pilots:

► Develop an inherent habit of looking around.

► Be visually alert at all times.

Errors of poor technique, bad judgment, and carelessness were the cause of 70.3 percent of total number of accidents over a period of a year according to the bureau.

### CERTIFICATIONS

## Surplus Lightplanes Get CAA Licenses

Civil Aeronautics Administration has issued 37 new airworthiness certificates for private planes, purchased from military surplus by individuals and firms.

List of the aircraft, purchaser, engine, and date of manufacture follows:

NC 49145—Henry P. Troh, Rte. 14, Box 1289, Portland, Ore. Aeronca, Continental A658, Mfd. Dec. 1942.  
 NC 49546—Giles Flying Service, Clinton, S. C. Aeronca, Continental A658, Mfd. Jan. 1943.  
 NC 50255—Adamson Airways, Perry, Iowa. Aeronca, Continental A658, Mfd. July 1942.  
 NC 50439—Norman Clothier, Florence, Kans. Aeronca, Continental A658, Mfd. Sept. 1943.  
 NC 51377—Gordon Lackey, 8500 E. 21st St., Indianapolis, Ind. Aeronca, Continental A658, Mfd. Mar. 1942.  
 NC 52448—Guy M. Miller, Allegheny County Airport, Pittsburgh, Penna. Aeronca, Continental A658, Mfd. Aug. 1942.  
 NC 44590—Glenn H. McCarthy, 15th Floor, Sterling Bldg., Houston, Tex. Beechcraft, P. W. Wasp Jr. T1B3, Mfd. Apr. 1945.  
 NC 48177—Harry A. Langley, P. O. Box 513, West Plains, Mo. Boeing, Continental W6706N, Mfd. Jan. 1941.  
 NC 50071—Ralph L. Hampsmire, Newton, Iowa, Boeing, Continental W6706N, Mfd. Apr. 1941.  
 NC 53128—James N. Dean, 6556 El Cajon Blvd., San Diego, Calif. Boeing, Continental W6706A, Mfd. Mar. 1941.  
 NC 53178—Fred L. Truxa, 15418 South Central, Compton, Calif. Boeing, Continental W6706A, Mfd. June 1942.  
 NC 46370—Genesee Aviation Sales Co., East Henrietta Rd., Henrietta, N. Y. Fairchild, Ranger 6440C2, Mfd. Aug. 1943.  
 NC 46376—F. W. McCormack, 1616 Walnut St., Philadelphia, Penna. Fairchild, Ranger 6440C2, Mfd. Apr. 1943.  
 NC 46380—Russell T. Latshaw, R. D. 1, Spring City, Penna. Fairchild, Ranger 6440C2, Mfd. July 1943.  
 NC 46381—John C. Steiff, 550 W. Oak St., Frackville, Penna. Fairchild, Ranger 6440C2, Mfd. Aug. 1942.  
 NC 46383—Wesley B. Nyce, Pottstown Airport, Pottstown, Penna. Fairchild, Ranger 6440C2, Mfd. July 1943.  
 NC 46387—F. Wells McCormack, 1616 Walnut St., Philadelphia, Penna. Fairchild, Ranger 6440C2, Mfd. May 1943.  
 NC 46402—Harold D. Swank, Scranton Airport, Clarks Summit, Penna. Fairchild, Ranger 6440C2, Mfd. Aug. 1943.  
 NC 46411—George Hudson, Ransomville, N. Y. Fairchild, Ranger 6440C2, Mfd. June 1943.  
 NC 46469—Charles J. Belotte, 2317 15th St., Troy, N. Y. Fairchild, Ranger 6440C2, Mfd. Apr. 1943.  
 NC 46499—Lisle A. Lindsay, Portsmouth, Va. Fairchild, Warner SS165D, Mfd. June 1943.  
 NC 46548—H. H. Lancaster, Gainesville, Ga. Fairchild, Ranger 6440C2, Mfd. May 1944.  
 NC 46553—Richard I. Tyner, Candler Rd., Gainesville, Ga. Fairchild, Ranger 6440C2, Mfd. July 1941.  
 NC 46799—E. C. Patterson, Jr., P. O. Box 110, Chattanooga, Tenn. Fairchild, Ranger 6440C2, Mfd. Dec. 1941.  
 NC 46939—Charles Kells, 619 Easton Drive, Lakeland, Fla. Fairchild, Ranger 6440C2, Mfd. Jan. 1944.  
 NC 46940—W. L. Laney, Box 145, Arcadia, Fla. Fairchild, Ranger 6440C2, Mfd. Apr. 1942.  
 NC 46944—Herbert R. Wilson, 520 Lakehurst St., Lakeland, Fla. Fairchild, Ranger 6440C2, Mfd. Dec. 1942.  
 NC 46981—Lakewood Airport, Inc., Atlanta, Ga. Fairchild, Ranger 6440C2, Mfd. Jan. 1941.  
 NC 47045—Lawrence H. Watkins, R. D. 2, Box 488, Barberton, Ohio. Fairchild, Ranger 6440C2, Mfd. Feb. 1943.  
 NC 47053—The Pure Oil Co., 35 East Wacker Drive, Chicago, Ill. Fairchild, Warner SS165D, Mfd. Nov. 1942.  
 NC 52324—Robert F. Turner, Spartanburg, S. C. Taylorcraft, Continental A658, Mfd. Apr. 1943.  
 NC 52344—Charles W. McGlothlin, Box 653, Arcadia, Fla. Taylorcraft, Continental A658, Mfd. Mar. 1943.  
 NC 53514—Alvin A. Mueller, 420 No. Main St., Hartford, Wis. Taylorcraft, Continental A658, Mfd. Jan. 1944.  
 NC 53536—Ohio State University, Columbus,

## Briefing For Private Flyers and Non-Scheduled Aviation

Bright spot in the two-day Institute of Aeronautical Sciences light-plane meeting at Detroit, recently, was the "miraculous" production accomplishment attributed in the meeting's printed program, to Republic Aviation Corp. "Through redesigning and retooling, the number of parts for the Republic Seabee amphibian was reduced from 42 to 10." Context of the paragraph indicated the reference was to the Seabee's stabilizer, not the whole plane.

► **SPRATT DUCKED**—George Spratt, developer of the Spratt controllable wing, had some of the more orthodox aviation engineers at the Detroit meeting wide-eyed as he showed movies of his early Spratt wing flying boat, which he flew in Chesapeake Bay, before he tied up with Consolidated-Vultee. "Frequently there was fog on the bay, when I was flying and I could not see the water, just the trees on the sides of the bay," Spratt said. "My standard method of landing then, was just to line up the flying boat with the two sides of the bay, cut the power, put my arms over my head, close my eyes and duck. Finally I would hear the hull go squash-h, as it hit the water, and I knew I was all right."

► **WOOD IS NO GOOD**—Advocates of wood construction in personal aircraft were conspicuously absent at Detroit, with virtually every speaker on materials agreeing in principle with the words of one engineer who said he followed the slogan: "Wood is No Good!" Trend of engineering thinking appears to be more and more toward all-metal construction of personal planes as soon as tooling and changeover from present construction methods can be accomplished, which may be years in some cases.

► **HIGH-WING VS. LOW-WING**—Admitting many advantages of low-wing design, Walter Jamoneau, Piper chief engineer, cited other points in favor of the highwing, among them: The mechanic won't sit on your wingtip to eat his lunch; hangar sightseers won't climb on your wings; wings are less susceptible to damage from rocks while taxiing; there is less possibility of "mowing down" bystanders with a highwing when taxiing.

► **HEADPHONES ELIMINATED**—The headphone nuisance is eliminated in the new General Electric personal plane radio receiver, which is complete with speaker, and which is now being tested in the Stinson Voyager 150 at Wayne, Mich. GE and Stinson cooperated in this development. Stinson's cooperation consisted in providing insulation for the Voyager 150 cabin, and putting a muffler on the engine, which reduces the decibels to a point where the pilot can hear the radio above the general noise level. Headphone went out of use with home radios back in the early 1920's but it has taken two more decades, and a good soundproofing job, to eliminate them from the personal aircraft radio receiver. Presumably other plane manufacturers will get busy soundproofing their plane cabins so they can use this type receiver, and other radio manufacturers will come out with similar receivers. That the ordinary private pilot will still want to pin his ears back with a pair of headphones if he can get a receiver which gives good performance with a speaker, is not to be seriously considered.

► **NOISE REDUCTION**—Besides the primary advantage of reducing noise interference with the radio, the Stinson soundproofing job, and other noise reduction efforts being made by other manufacturers, are an important step toward eliminating the airplane noise handicap. The GM lightplane engine, whose shrill whine irritated many a Detroit, has recently muffled its racket, and the post-war "Ercoupe" has noise insulation and a muffler, as have Republic, and Globe planes, among others. Greater adaptability of all-metal plane construction to soundproofing may be another factor in hastening the switch of personal plane fabrication to metal materials.

—Alexander McSurely

Ohio, Taylorcraft, Continental A658, Mfd. Jan. 1944.  
 NC 53670—Clyde A. Robertson, Jr., c/o Postmaster, Desloge, Mo. Taylorcraft, Continental A658, Mfd. Aug. 1942.  
 NC 53759—John C. Hagan, Box 296, Mexico, Mo. Taylorcraft, Continental A658, Mfd.

Feb. 1944.  
 NC 53774—John C. Hagan, Box 296, Mexico, Mo. Taylorcraft, Continental A658, Mfd. Oct. 1943.  
 NC 54158—Liss Aircraft Products Co., 16 Mechanic St., Silver Creek, N. Y. Taylorcraft, Continental A658, Mfd. July 1942.

## Swift Production Sets Tooling Pace

Newly unveiled two-place Globe lightplane produced with no hand-made parts in contour surface.

The rapid emergence of the lightplane into mass production consideration, is highlighted in the disclosure that the newly unveiled post-war Globe *Swift's* contour surfaces do not contain a single hand-made part.

Described by the company as the "very first" all-metal lightplane to be produced by this full tooling method, the new *Swift* is coming off the Fort Worth line headed toward a market that in-

cludes a stated order backlog in excess of \$10,000,000. Distributors tips covering the entire U. S. and parts of Mexico and South America have been established or are in the negotiation stage.

► **Output Rate**—Present plans call for 4,000 *Swifts* to be ready for delivery by the end of 1946.

Backing up the mass-production hopes of the company are a string of owner-convenience features indicative of the growth of the lightplane to a point where it must recognize such "appeal" as have the automobile designers.

► **Comfort** is stressed in the two-place, 42-ins. wide cabin; seats are entirely cushioned by foam rubber and a stepping block is provided between them to eliminate

the once necessary soiling of upholstery by pilot and passenger laboriously climbing into their plane. Wing catwalks provide access through the sliding panel of the 360 degree vision canopy.

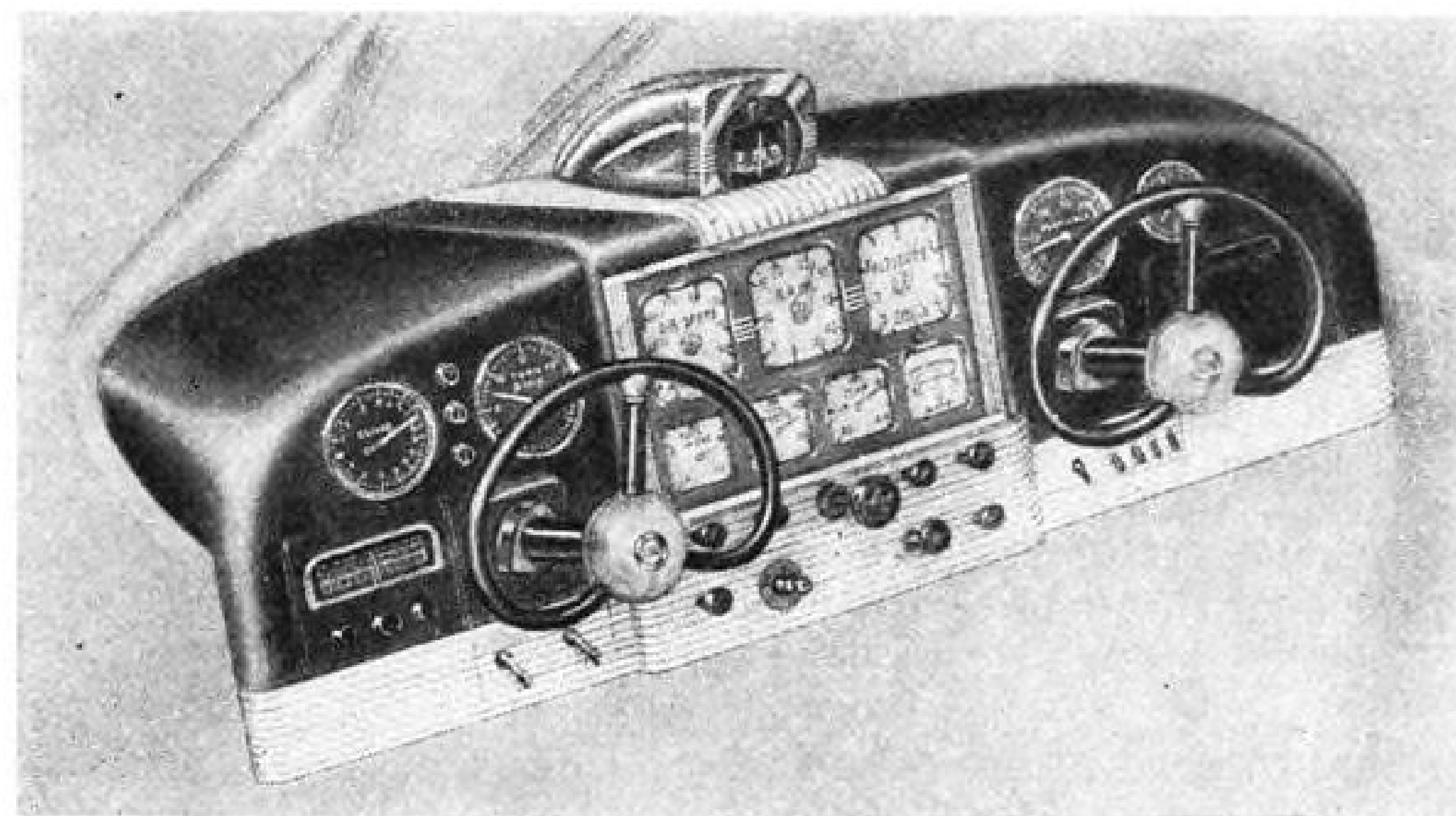
► **Soundproofing**, more than a half inch thick, walls the cabin and the canopy's top panels are tinted to shield the flyer from sun glare.

► **Engines** offered are the four-cylinder 85-hp., or the six-cylinder 125-hp. Continental. Both are available with either carburetion or fuel injection. Fuel is fed from two fifteen gallon wing tanks tapped into a common trap on the centerline for equal consumption and resultant constant lateral trim.

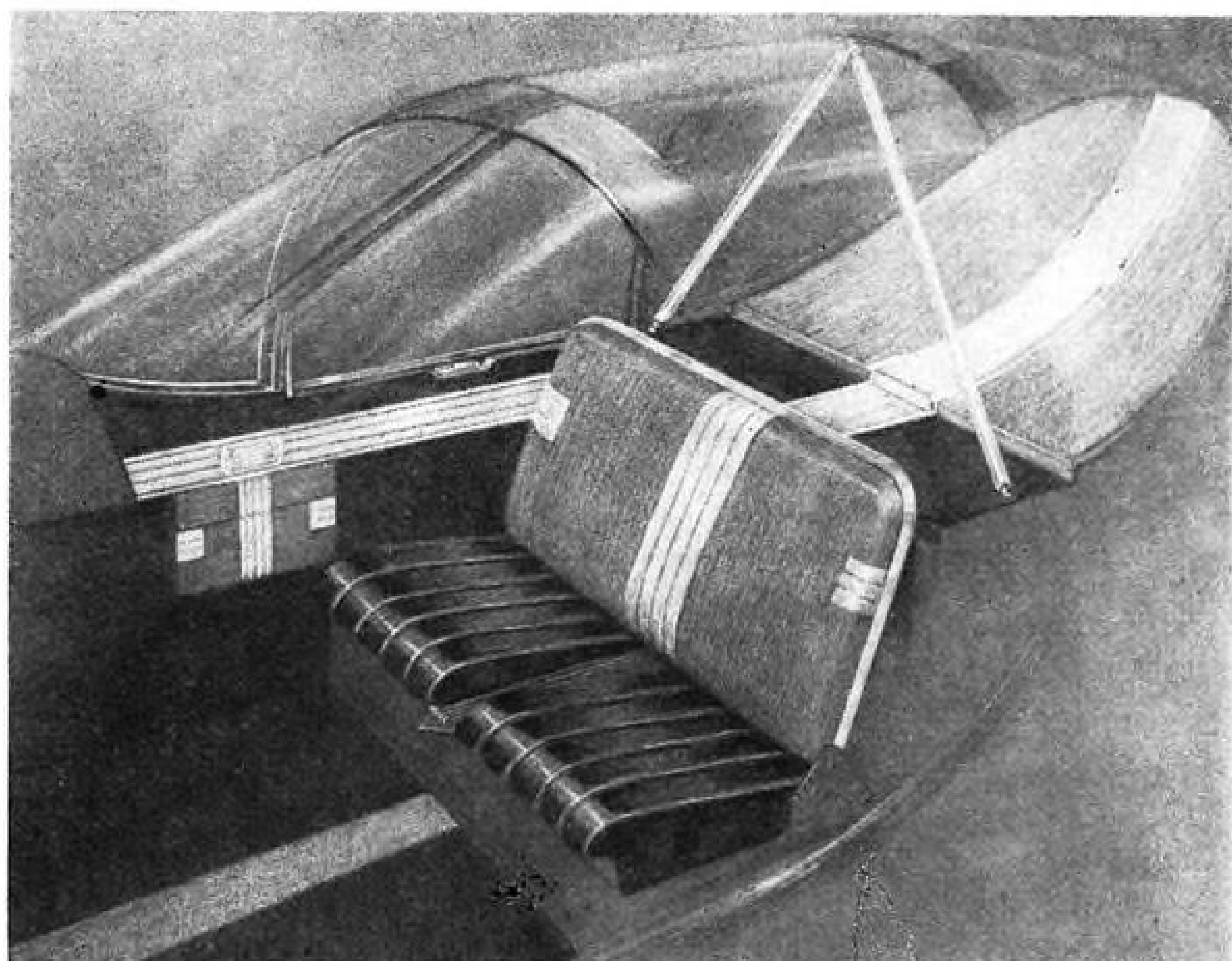
► **A twelve volt electrical system** includes a spill-proof battery, engine driven generator and navigation and position lights.

► **The panel** is removable as one unit with stamped plates ready for introduction of new instruments and radio.

► **Cruising speed** is listed at 125-mph.; six hour range, and takeoff is said to require 550-ft. into a 12-mph. wind.



Globe "Swift" Interior: Modernistic instrument panel of the new all-metal Globe Swift, and view of the seating accommodations of the plane show another manufacturer's step forward in "dressing up" plane accommodations for post-war buyers. Starter is a pullbutton near the throttle.



### Giant Airpark

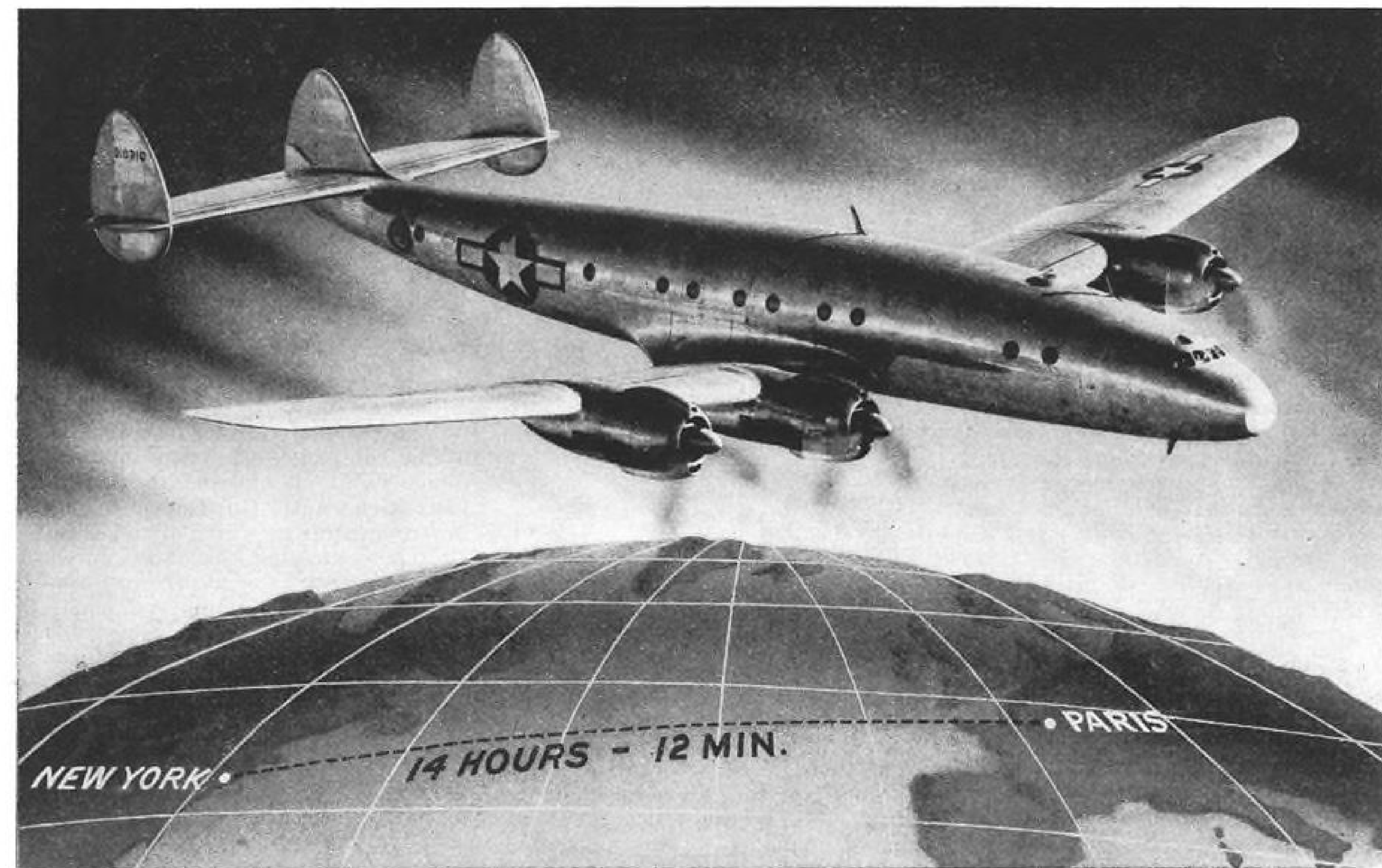
Conversion of Seattle's King County Airport (Boeing Field) from a major air terminal to a giant airpark capable of housing and servicing more than 2,000 personal and charter aircraft is in immediate prospect.

Ernest Cluck, airport manager, has begun a survey of the airport preliminary to the construction of quadruple unit hangars on the field's perimeter.

► **Hangar Estimate** — King County commissioners believe that small hangars of fireproof construction can be built at a cost of not more than \$1,500 per unit and can be rented for from \$15 to \$20 a month to be self-liquidating in eight to ten years.

Actual conversion will begin when major airlines move to the new Seattle-Tacoma Bow Lake Airport. The move will be made as soon as temporary building facilities are installed.

The King County Airport manager already has received applications for space for aircraft show rooms, sales offices, hangars, overhaul shops, schools and charter facilities. Consideration also is being given to the use of a portion of the field for air cargo operations.



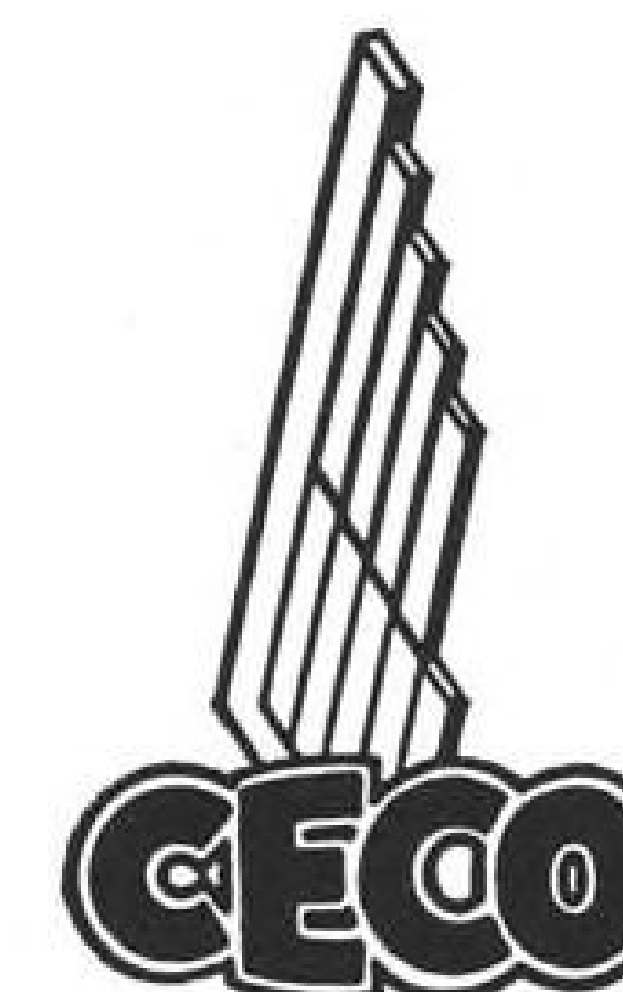
## OCEAN-SHRINKER -- 45 Tons of Speed

On May 20, 1927, a young unknown named Charles A. Lindbergh climbed into a tiny monoplane at New York and 33 hours and 30 minutes later landed at Paris, France. Immediately he became a world-wide hero.

But on August 1, 1945, the ATC's C-69 Lockheed "Constellation" made a casual 3,600 mile N. Y. — Paris flight in 14 hours and 12 minutes breaking all trans-Atlantic transport records. Yet this hardly rated a mention in the newspapers.

The progress of aviation is so swift that new records are made almost daily as new designs and greater power plants step up speed and efficiency. Helping the C-69 to this newest record were four great Wright engines developing 2,200 h.p. each . . . and each is equipped with CECO carburetors.

As new records are broken and greater aviation advances are made, Chandler-Evans will continue to use all its war-proved engineering and production resources to keep pace with America's aircraft engine builders.



CARBURETORS  
FUEL PUMPS  
PROTEK-PLUGS

CHANDLER-EVANS CORPORATION



SOUTH MERIDEN  
CONNECTICUT, U.S.A.

## PERSONNEL

### W. G. Lundquist Named Chief Wright Engineer

W. G. Lundquist, who has been directing the Wright Aeronautical Corp.'s engineering work in the development of an aircraft gas turbine, has been named chief engineer of the company, succeeding Raymond W. Young, who was named vice-president in charge of engineering. Lundquist has been with Wright's engineering organization since 1929 and has worked on all their major projects.

**R. Randall Irwin** (photo), director of industrial relations service, Aircraft Industries Association, has been named substitute industry member of the National War Labor Board. He will continue to serve part time on the NWLB's National Airframe Panel, of which he has been a member since April, 1944.



**James M. Riddle**, RCA Victor Division, aviation section, Radio Corp. of America, was named chairman of the Committee on Aircraft Radio of the Aviation Distributors and Manufacturers Association.

**John B. Macauley** has been named director of engineering research at the laboratories of Ethyl Corp. He formerly was chief of the engine laboratory at Chrysler Corp., and for the past two years chief of applied research at Pratt and Whitney Aircraft Division. He succeeds **Earl Bartholomew** who now becomes general manager of the Ethyl research laboratories.

**Maj. H. W. Peterson** (photo) has returned to his position of district sales manager of Pan American Airways at Los Angeles, after three years of duty in handling priorities and traffic for the Air Transport Command. After organizing the Southern California regional priorities control office, he was transferred to Brazil and there received the Brazilian government's high military honor,



the Ordem Nacional do Cruzeiro do Sol.

the Ordem Nacional do Cruzeiro do Sol.

### NAL Promotes Three; Amos Heads Personnel

National Airlines announces the following executive and managerial



promotions: **D. H. Amos**, formerly assistant to the vice-president in charge of operations, has been appointed manager of the personnel department for the entire line. **L. W. Dymond** (left), chief flight superintendent for National, has been appointed assistant to the vice-president in charge of operations. **P. A. Williams** (right) has been named assistant chief flight superintendent.

**John E. Cook** (left) has been appointed general traffic manager for



Continental Air Lines. He joins Continental from Braniff Airways where he was general traffic manager. Cook is chairman of the schedule committee in the passenger traffic section of the Air Traffic Conference of America. Continental also announces that **Dorothy Rylander** (right) has been named assistant secretary of the airline. For the past two years she has been confidential secretary to **Robert H. Purcell**, vice-president, secretary-treasurer.

Braniff Airways announces the return of **Maj. Langhorne Reid**, as systems reservations manager. Reid was with Braniff before going in the Army and served in reservation control at Dallas, which he now heads. **Walter M. Staples** becomes district traffic manager of the Pueblo, Colo., area for Braniff.

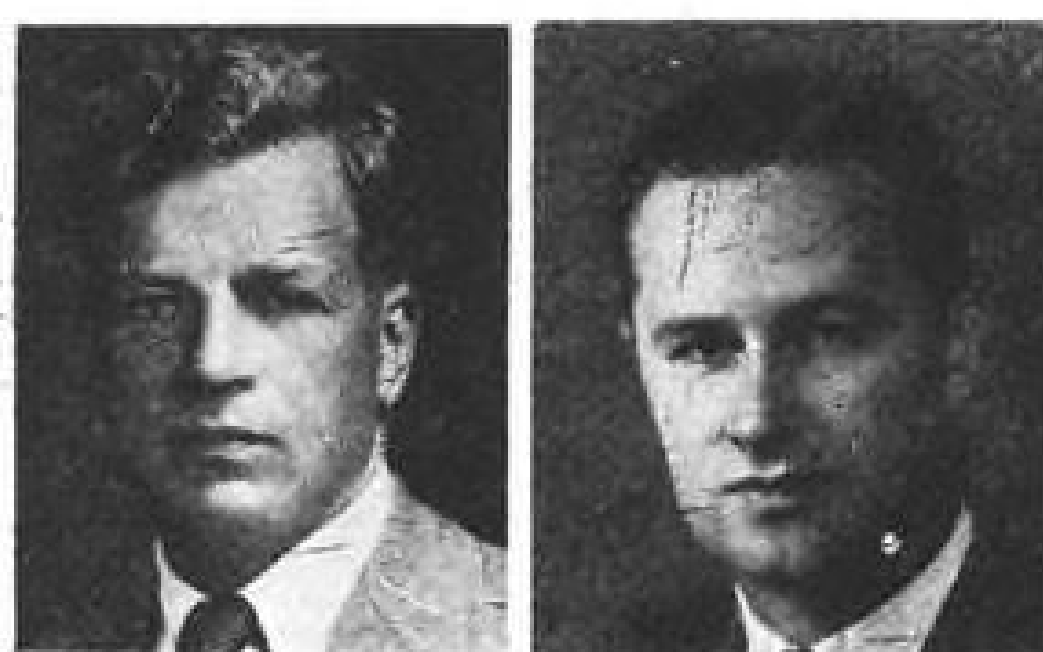
**T. H. Showalter** (left), for the past three years assistant regional direc-



tor of personnel for United Air Lines' western division, has been named regional director of personnel at the company's Cheyenne maintenance base. He succeeds **E. J. Galbos**. **Richard W. Goodspeed** (right) becomes interline traffic manager for United to have charge of the interchange of business with other airlines, railroads and bus companies.

**D. B. Martin** has been appointed New York City representative of the Boeing Aircraft Co., with offices at Rockefeller Plaza. Martin, who will develop foreign and domestic sales, joined Boeing's engineering division in 1937 and has been manager of the Boeing London office.

**Stanley Washburn, Jr.** (left), has resumed his post with American Air-



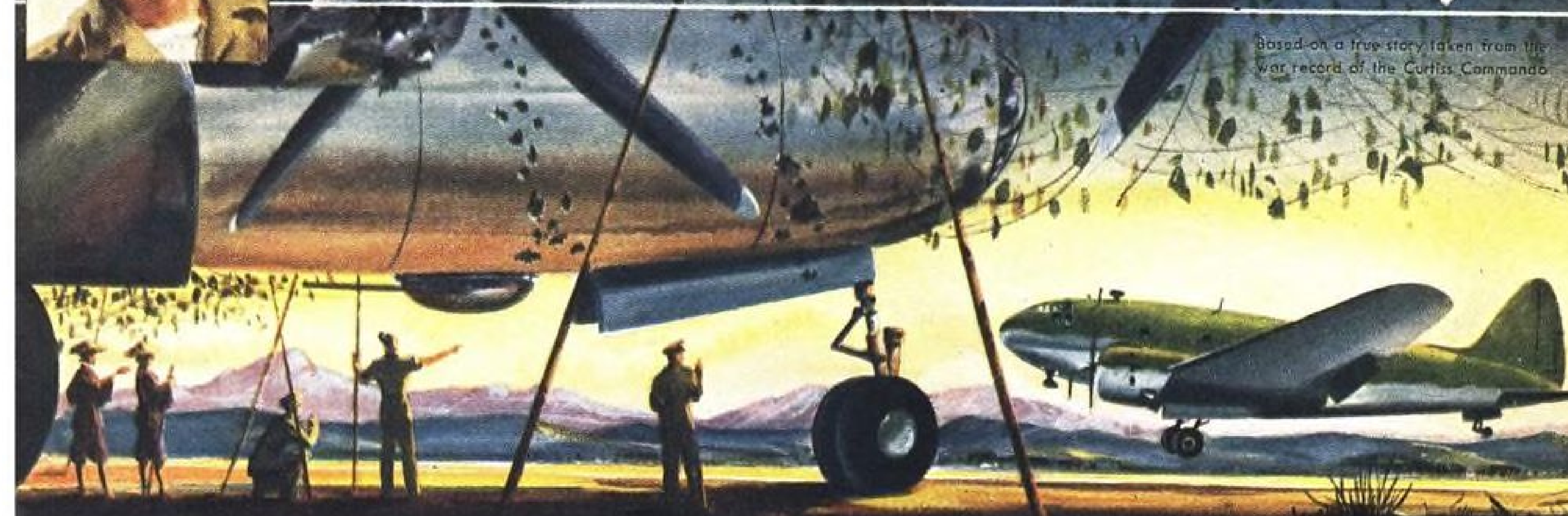
lines, Inc., as promotional director after three years in the Air Transport Command. Washburn formerly was New York press representative before becoming national promotion manager. **Robert K. Warner** (right) has been named eastern regional cargo traffic manager for American, succeeding **Joseph D. Boylan** who was appointed general airfreight agent. Warner has been in the cargo traffic department for the past two years.

**Dean J. Hanscom** (photo), has been appointed director of traffic for the international division of Transcontinental and Western Air, Inc. Hanscom will be in charge of traffic in the 16 countries on TWA's international routes. TWA's existing traffic organization under the direction of **E. O. Cooke**, vice-president, traffic, will handle traffic development in the U. S. for the international division.



## "Now you see it—Now you don't.. a Machine Shop in a Burma Jungle"

Based on a true story taken from the war record of the Curtiss Commando.



**A Zero Strikes...** and one of our bombers is down in the wilds of Burma, badly shot up. Repair parts must be had at once! By land routes, it takes weeks or even months to get help in. But there's one chance... an S.O.S. for a flying machine shop. And presto! There it is! A Curtiss Commando, equipped with a complete machine shop... from heavy drill presses to welding equipment... a huge

power plant... spare parts... and a crew of mechanics. In record time, all four engines are purring smoothly. The bomber is ready for another blast at the enemy. And the Commando is off on another rescue flight "somewhere" in the China-Burma-India theater. Here's another reason why pilots say, "When it comes to carrying loads and getting there, it pays to Fly Commando!"

THAT'S WHY  
I WANT TO WORK FOR  
THE AIRLINES THAT WILL

*Fly Commando!*



Over Six Tons of heavy machines and men are handled easily by this flying machine shop. Think what that will mean for the airlines that Fly Commando! When it comes to carrying greater pay loads... on the medium-range flights which make up the majority of daily airline hops... the Commando will be first on the list of profit-producers.

THE CURTISS

*Commando*

Today's Great Lifeline  
Tomorrow's Great Airliner

Curtiss

Wright

FIRST IN FLIGHT

**Ace-high Comfort** aboard a smooth-flying Commando is sure to delight your passengers, whether they play bridge, dine or just nap. And the Commando's unusual aerodynamic cleanness, coupled with the power of Wright Cyclone 18 engines, makes it much faster than any of today's airliners.

**On the Nose!** Flight stops are shorter when you Fly Commando, because the Commando is so much more accessible for easy servicing. Here a mechanic opens the nose cone access door by means of three quick-type fasteners. Through this door, he has ample room to check all units forward of the instrument panel, quickly and comfortably.

# AIRCRAFT INSTRUMENTS

by GENERAL ELECTRIC

## REMOTE-INDICATING PRESSURE EQUIPMENT



### OTHER TYPES OF AIRCRAFT INSTRUMENTS

Ammeters and voltmeters  
Position-indicating equipment  
Temperature-indicating equipment  
Tachometers and synchrosopes  
Liquid-level-indicating equipment  
Remote-indicating compasses  
Electric gyroscopes

**E**LECTRIC, remote-indicating pressure equipment is meeting such widely divergent needs as the manifold-pressure indication on PT boats and the new pressure-indication requirements of jet-propelled planes.

Used for such indications as oil pressure, manifold pressure, and fuel pressure, both differential and absolute, this electric equipment has the advantage that the fluids or gases being measured need not be carried to the instrument panel. This not only eliminates the hazard of broken lines in the cockpit, but also makes unnecessary the installation and maintenance of many feet of tubing and fittings.

As the size of airplanes increases—making greater the distance from cockpit to engines—electric pressure-indicating equipment becomes even more essential. To meet the conditions which these changes in the size and design of aircraft create, G-E engineers will gladly work with you. Apparatus Dept., General Electric Co., Schenectady 5, N. Y.

**GENERAL ELECTRIC**



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## PRODUCTION

\*\*\*\*\*

## Boeing Makes New Market Bid With Three Feederliner Designs

Re-entry into smaller transport planning marks end of long inactivity in that field; plans now being circulated stress high wings, fuselage, gear retraction and baggage handling ease as most desirable features.

With its giant Model 277 transport established as a competitor for long-haul trunk airline use, Boeing Aircraft Co. has now framed plans to re-enter the small transport field on the basis of designs for three different feederline or short-haul aircraft.

The company has been inactive in this category of transports since it discontinued production years ago of the 247D, one of the first low-wing, two-engine "modern" transports.

► **The Planes**—Designs now being circulated are for Models 431-16, 431-17 and 417-22. All are rather a departure in post-war designs, utilizing high-wing, rather than low-wing construction, and with main landing wheels, as well as the nose wheel, retracting into the fuselage. This permits smaller, and cleaner engine nacelles. The 431-17 is powered by four engines, the others by two.

Both of the Model 431's are planned for short-haul operation on trunk routes. Both are to carry 30 passengers, both are 72-ft., 8-ins. long. The 431-17, because of the additional engines, has a larger span, 101-ft. as opposed to 96-ft. Cargo capacity is the same, 262 cubic feet, dispersed in both models between two holds forward and one aft. Disposable load for the 431-17 is 12,435-lbs., for the 431-16, 11,377-lbs. Gross weight for the former is 40,500-lbs., for the latter, 36,000-lbs.

Only apparent reason for the four engines in the 431-17 is to take advantage of safety factors inherent in four-engine equipment. There is little difference in speed. The four engines of the 17 would total 4,800-hp., while the powerplants of the 16 would total 4,200-hp. At 10,000-ft., the 431-17 would cruise at 253-mph., while the 431-16 would cruise at 252-

mph. Landing speed for both would be 80-mph.

► **Operating Cost**—The increased power of the 431-17 is reflected in the operating costs. The 431-16 could operate most economically, at 10.8 cents per ton mile direct cost for trips of approximately 400 miles. At that distance, the 431-17 direct cost is figured to be 12.7 cents per ton miles. However, the 17's best range is about 500 miles, at which the direct operating cost is calculated to be 12.2 cents per ton mile.

These cost figures are above those for Boeing's other new design, the 417-22, a twin-engine

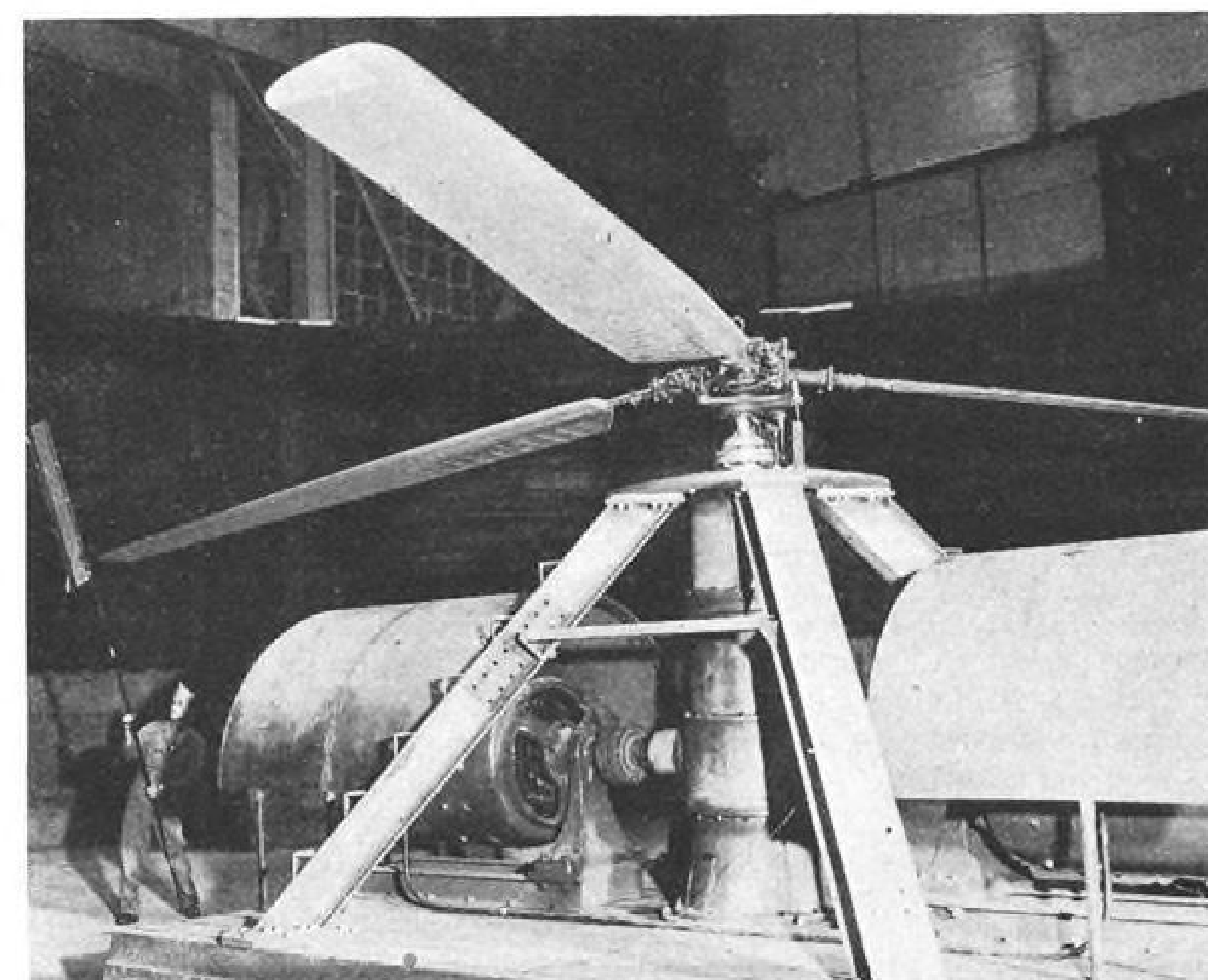
20-passenger feederline transport designed to operate from Class II airports. Takeoff, over a 50-ft. obstacle is 1,958-ft.

The 417-22 is planned to be 55-ft., 4-ins. long, with an 80-ft. span. Gross weight would be 18,175-lbs., with a payload of 5,965-lbs. Because of its contemplated use, its cargo capacity of 226 cubic feet, compares favorably with that of the larger aircraft.

► **Performance**—The 417-22 would have a maximum speed of 243-mph.; and cruise at 200-mph., at 8,000-ft. Direct operating cost would reach its lowest point, 10 cents per ton mile, on trips of about 200 miles. It ascends gradually to about 10.7 cents per ton mile for a 500 mile hop.

In all three aircraft, an effort has been made to meet the present passenger baggage difficulties. The 417-22 has space for the passenger to store his baggage just forward of the entrance door, which is placed amidship. While no such arrangement is present in the larger types, the smallest of the three cargo holds of the 431-16 and 431-17 could be so used.

Seating arrangements in all three types are flexible. Because of the wheel wells in the sides of the fuselages, there are two passenger compartments, with the in-



### ROTOR TEST STAND:

Giant test rig now in use by Air Technical Service Command at Wright Field provides a method of studying helicopter rotor performance. Among tests is an endurance run during which the motor functions at greater than normal operating speed for 100 hours followed by an hour of rotating at excessive speeds.

tervening space being used for baggage or cargo in the 417-22. In the other two models, most of this space is pre-empted by the wheels. However, in all three types, the forward passenger compartment may be quickly converted into a cargo hold.

### Prop Feathering Pump

A new propeller feathering pump has been announced by Pesco Products Co., Cleveland. The unit weighs 14.4-lbs. and has a capacity of four gallons per minute at pressure of 400-lbs. per square inch or three gallons per minute at 1,000-lbs. per square inch. The pump is designed to operate two out of every 15 minutes at 1,000-lbs. per square inch. A "bleed hole" drilled through

the valve seat permits circulation of oil through the pump when it is idling or inoperative.

### British Export Bids Stress Output Lag

Manufacturers rush to reserve foreign market share with shipments of converted bombers.

While still lagging in production of post-war civil transports, Great Britain is bending every effort to reserve a share in the export market by sending abroad a variety of types of converted bombers.

This is seen as one reason for the recent gift by the U. S. of a C-54 to Gen. Charles de Gaulle. France's provisional leader had

previously been presented an Avro York by the British.

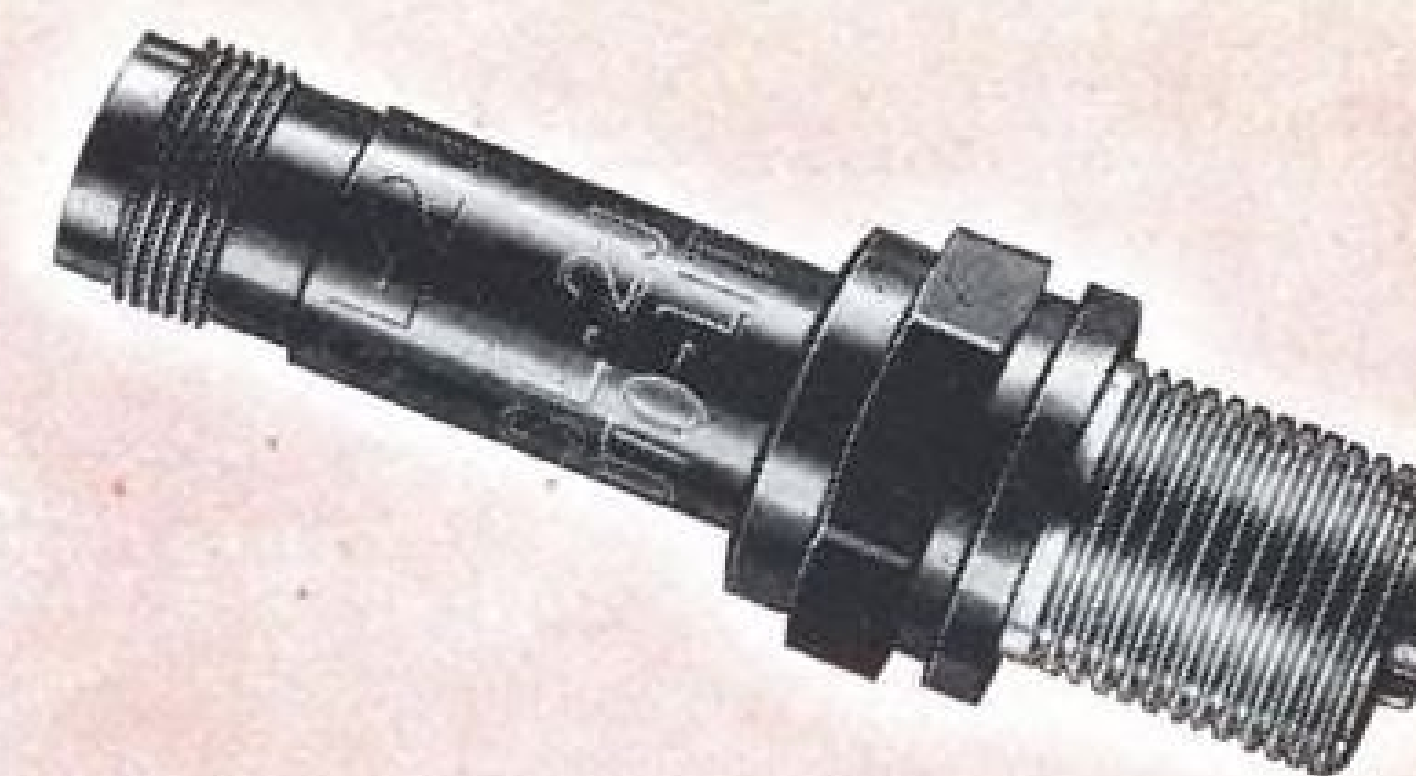
► **French Commentary**—The fact that the RAF Transport Command depended upon U. S.-made transports for most of their continental runs has been such a subject of comment in France that it has been proposed that British manufacturers stage an exhibition of their products in Paris.

Aware of the fact that the U. S. will soon be in a position to furnish new transports to foreign purchasers, the British are converting four principal bombardment types, pending large-scale production of post-war transport designs.

The "civilianized" aircraft are: Short Sunderland, flying boat, to carry 30 passengers; Short Stir-



Available in both 12 volt and 24 volt types. All batteries are equipped with special non-spill vent plugs and assembled in either hard rubber or radio-shielded aluminum containers. The heavy duty battery has a capacity of 105 A.H. at 5 hr. rate; others have capacity of 34 A.H. at the 5 hr. rate.



These spark plugs feature: (1) Direct contact non-inductive resistor located in coolest position in plug; (2) Improved copper cooled center electrode; (3) Deep drawn nickel alloy center electrode tip; (4) High Dielectric strength and superior mechanical properties of "Corundum," Auto-Lite's insulator material.

# Auto-Lite

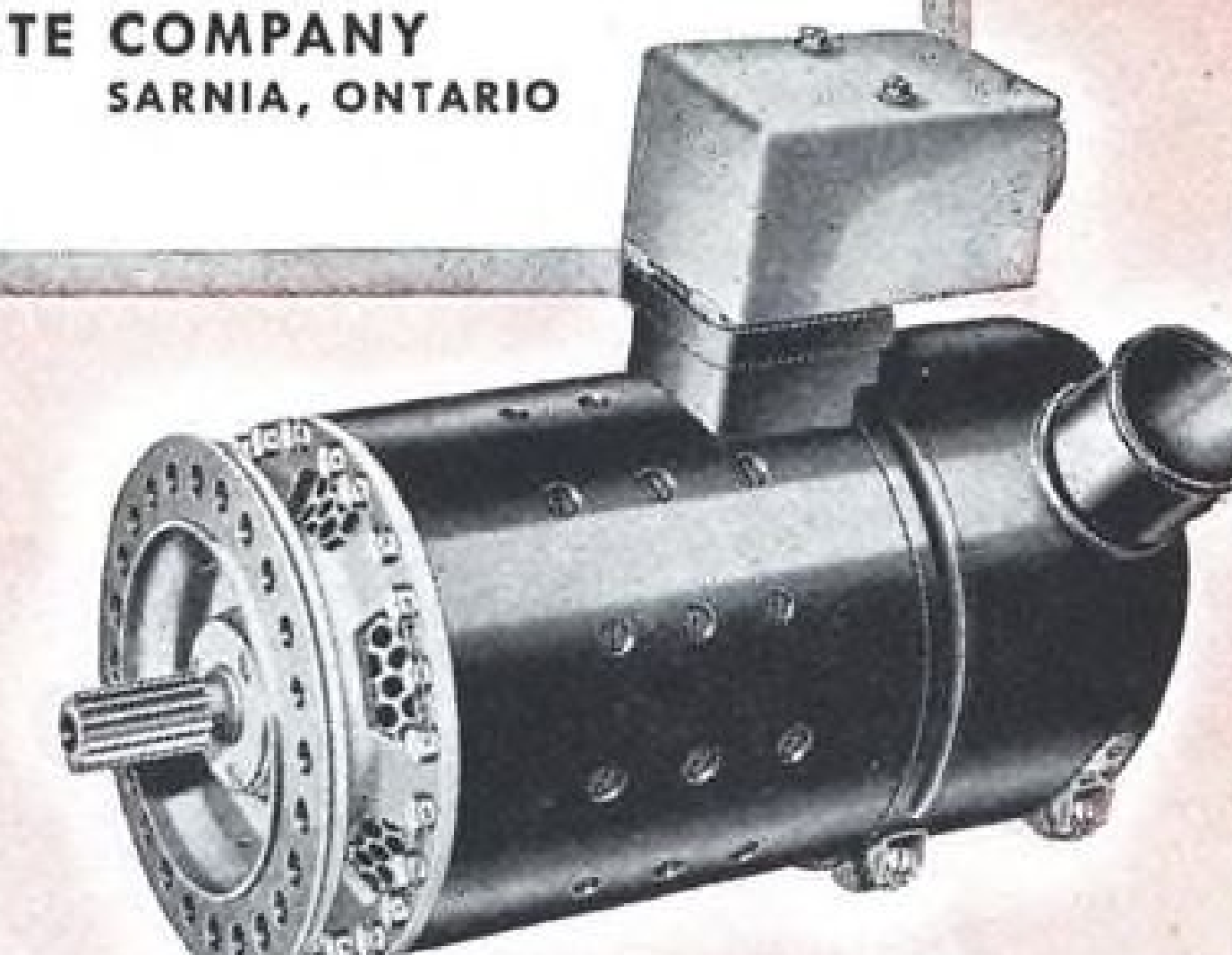
## EQUIPMENT FOR AIRCRAFT

On every battlefield of this war where American-built planes are flying you'll find the products of Auto-Lite's 22 great manufacturing plants. Precision-built to meet the most exacting tests, these products, some of which are shown below, are enhancing the Auto-Lite reputation for quality, craftsmanship and dependability.

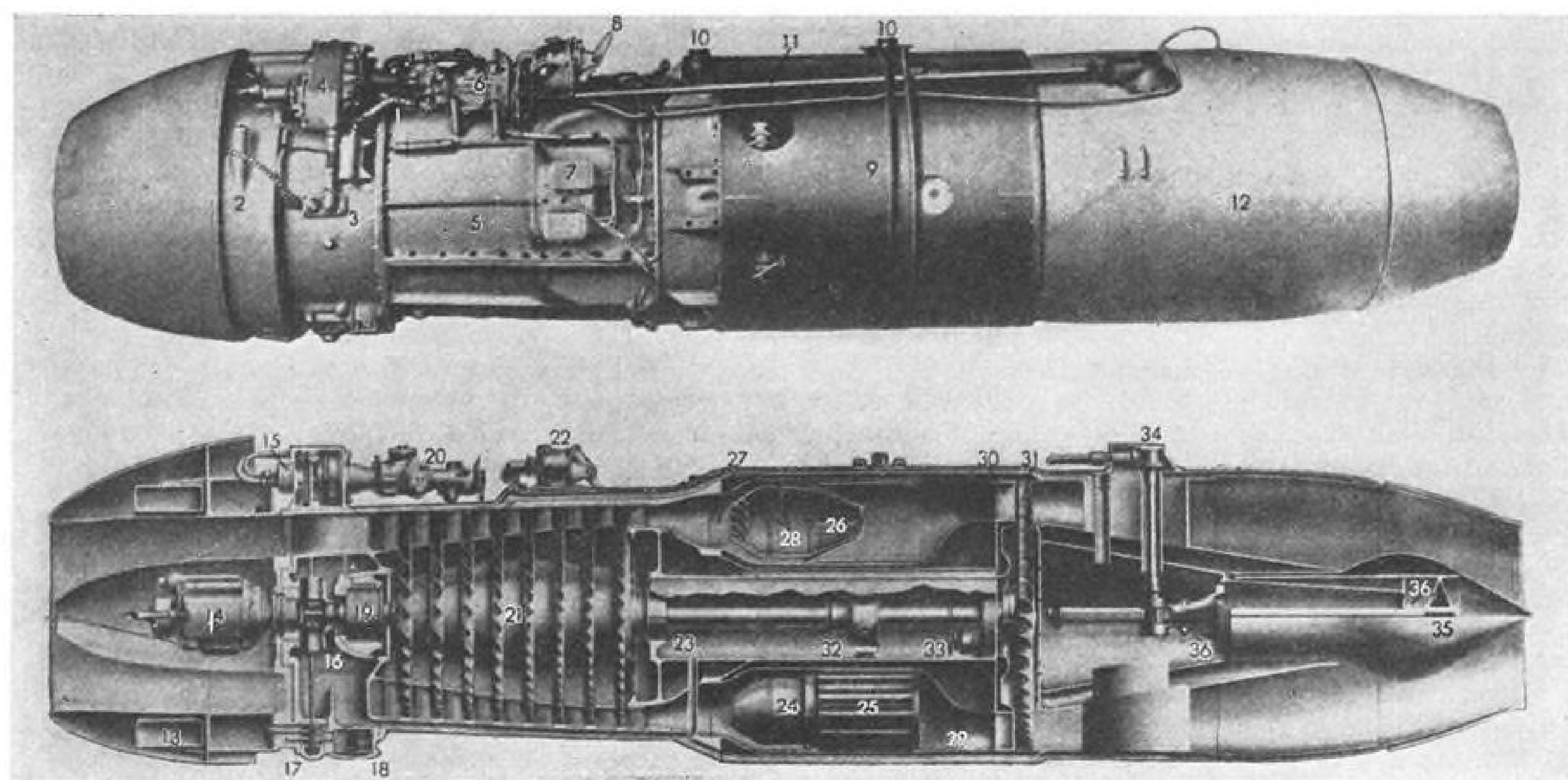
THE ELECTRIC AUTO-LITE COMPANY  
TOLEDO, 1, OHIO      SARNIA, ONTARIO



This dual oil pressure gauge is one of several space and weight saving gauges precision-built by Auto-Lite. It records oil pressure from two engines on same dial, has easy readability and high degree of accuracy. Auto-Lite builds gauges and thermometers to Army-Navy Air Service specifications.



High output, light weight Auto-Lite aircraft generators have compensating windings resulting in long brush life—improved commutation and a remarkable ability to carry over loads. These generators are direct engine driven and designed to deliver 140 amperes at 28.5 volts at 2275 to 4500 r.p.m.



### GERMAN TURBO-JET UNVEILED:

After a long term of secrecy, the British Air Ministry has at last revealed detailed particulars on the inner construction of a German turbo-jet unit. The unit pictured above, with identification numbers for the following listing, is the Jumo 004B with an overall length of 12-ft., 8-ins.; maximum diameter of 2-ft., 7¾-ins.; weight, 1,585-lbs. (Sketch shows right side and sectional cutaway.)

Points marked:

1. Nose cowling.
2. Oil tank.
3. Entry casing.
4. Auxiliary gear box.
5. Compressor casing.
6. Servo motor.
7. Ignition apparatus.
9. Cuter casing.
10. Attachment points.
11. Movable bullet control shaft.
12. Exhaust casing.
13. Annular fuel tank.
14. Riedel starter.

15. Injection pump.
16. Auxiliary drive.
17. Oil pump.
18. Oil filter.
19. Front compressor bearing.
20. Speed regulator.
21. Compressor rotor.
22. Fuel filter.
23. Rear compressor bearing.
24. Flame tube.
25. Combustion chamber muffle.
26. Diffusing grill.
27. Combustion chamber.
28. Injection nozzle.
29. Turbine entry ducting.
30. Turbine stator blades.
31. Turbine.
32. Forward turbine bearing.
33. Rear turbine bearing with oil scavenge pump.
34. Movable bullet operating gears.
35. Movable bullet.
36. Movable bullet support.

# AUTO-LITE

TUNE IN "EVERYTHING FOR THE BOYS" STARRING DICK HAYMES—CBS—SATURDAYS 8:00 P. M., ET

*Luscombe Presents: Your Postwar  
Companion of the Clouds...*

America's  
Finest  
Popular  
  
Priced  
Personal  
Plane

*THE ALL-METAL Silvaire*

# NEW SILVAIRES ARE NOW IN PRODUCTION!

*Luscombe, first in America to build  
all-metal personal planes, now presents  
its finest all-metal **SILVAIRE!***

*For Details, Send For Full-Color  
Descriptive Booklet Today!*

**A**LREADY rolling off the assembly lines is the thrilling new SILVAIRE everybody's been waiting for!

It's the latest—and finest—all-metal personal plane ever made by Luscombe, who pioneered all-metal light planes. You'll be thrilled at the sight of it...sure to like its extra speed, the rugged durability of its all-metal construction, and its economical and easy maintenance.

Speed, beauty, safety, economy—for all that's best in a "plane-of-your-own", take to the air in a SILVAIRE!

Mail the coupon today for full-color booklet.



**LUSCOMBE AIRPLANE CORPORATION**  
DALLAS 1, TEXAS • TRENTON 7, NEW JERSEY • U.S.A.

Luscombe Airplane Corporation  
Sales Promotion Dept. K-1  
Trenton 7, New Jersey  
Gentlemen:

Please send me a free copy of the new SILVAIRE booklet, "Your Post-War Companion of the Clouds."

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## P-59 Altitude Record Revealed

An unofficial American altitude record, made by the Bell jet-propelled P-59 *Airacomet*, almost two years ago, has just been disclosed.



Jack Woolams (photo), chief test pilot for Bell Aircraft, took the No. 1-YP-59, first production model of the *Airacomet* series, up to 47,600-ft. in a flight from a test base near Muroc, Calif., on Dec. 15, 1943. Four months later, the late Maj. E. W. Leach, test pilot for the Air Technical Ser-

vice Command, reached 47,700-ft. in the same plane.

► **Increase Seen**—At the maximum height reached by Woolams, one of the General Electric turbo jet engines ran out of oil. Woolams shut off that jet engine and landed on one power unit. He expressed the opinion he would have reached 50,000-ft. if he had not had engine trouble.

Both of these flights are in excess of the United States altitude record of 43,166-ft. for heavier-than-air aircraft set June 4, 1930, by Lieut. Apollo Soucek in a Wright *Apache*. The international mark of 56,046-ft. is held by Col. Mario Pezzi, of Italy, who set the record on Oct. 22, 1934, in a Caproni 161.

ling, four-engine bomber, to carry 18 passengers; Avro *Lancaster*, four-engine bomber, a nine-passenger luxury version; Handley Page *Halifax*, to carry 11 passengers.

► **South America** — The *Lancaster* is scheduled to be used on Atlantic flights, and to Australia. Perhaps significantly, four of the *Sunderlands* have been bought by Argentine ship firms. Representatives of English plane builders also have been active in Chile.

Sir Roy Dobson, managing director of A. V. Roe, recently stated his company has built more than 100 *Yorks*, and that production of *Lancastrians* (civil version of the *Lancaster*) is continuing. At the same time, however, the company's post-war transport prototype *Tudor I*, is already flying. *Tudor II* is on the way.

## Lumber Price Ceilings Revised For Aircraft

All aircraft lumber for which specific dollar-and-cent ceilings were established during the war will hereafter be priced under whatever regulation governs sale of the particular species of lumber involved.

The Office of Price Administration asserts that special prices for aircraft grades of lumber will be issued to applicant manufacturers only when they can show the lumber is not of standard grade, already priced under the applicable regulation, and that it is to be manufactured into aircraft parts.

► **Demand Factor**—Previously, aircraft lumber manufactured to meet

the requirements of the Army and Navy was priced under MPR 109-aircraft lumber. This regulation was issued to speed production of specially graded lumber urgently needed in the construction of aircraft parts. With the war over, demand for this type of lumber has diminished to the point where the price agency deems it advisable now to place it under regulations operating in greater uniformity with the normal practices of the lumber industry.

## Jet Experiments Proceeding Slowly

Work on experimental jet and gas turbine aircraft engines is reported by authoritative industry sources to be proceeding rather slowly, although production of standard jets has been most satisfactory and often above schedule.

Westinghouse is said to be having some metallurgical trouble with soft centers in turbine discs for the 19XB jet and, meanwhile, work on the Westinghouse 24-C has not made marked headway. Pratt and Whitney is arranging for production of the 19XB-2B engines and expects to make tests early this fall. Current contract calls for delivery of approximately 200 of the 19XB-2B engines by August, 1946. Original contract was for 500, but slightly more than 200 were cancelled.

► **FR Revisions**—The Navy is said to have enough I-16 engines on hand for the Ryan FR-1 *Fireball* and this has resulted in revisions of that program for both General

Electric and Allison. GE delivered more than 50 of the I-16-6 gasoline burning jets to the Navy in August; 20 above schedule. The FR revision resulted in cancelling half of the more than 400 I-16's on order from GE. All engines on this order now have been delivered.

Allison delivered five I-16's in August. Work on the I-20 is understood to have been already terminated.

## Bellanca Skyrocket Built In Dominion

Northwest Industries Ltd., Edmonton, is now making the Canadian-built Bellanca *Skyrocket* (AVIATION NEWS, Oct. 1) which will sell in Canada for \$31,000 on wheels less engine. The engines will be reconditioned used powerplants and will sell at approximately \$3,000.

Standard equipment on the airplane is covered in the price and includes landing lights, extra doors, baggage compartment, directional gyro, extra gas tanks and gyro horizon. Ski wheel landing gear, Edo floats and radio are extra.

► **Details** — Specifications of the aircraft include a payload of 3,010-lbs. Gas tanks carry 200 gallons, oil tanks 12.5 gallons. The craft has a maximum speed of 180-mph., cruising speed of 160 and service ceiling of 25,000-ft., a cruising range from 600 to 1,000 miles. Wing span is 50-ft., six-ins., overall length 27-ft., 11-ins., height 8½-ft., wing area 359 square feet. The plane uses Pratt & Whitney Wasp S3H1 engines rated at 550-hp.

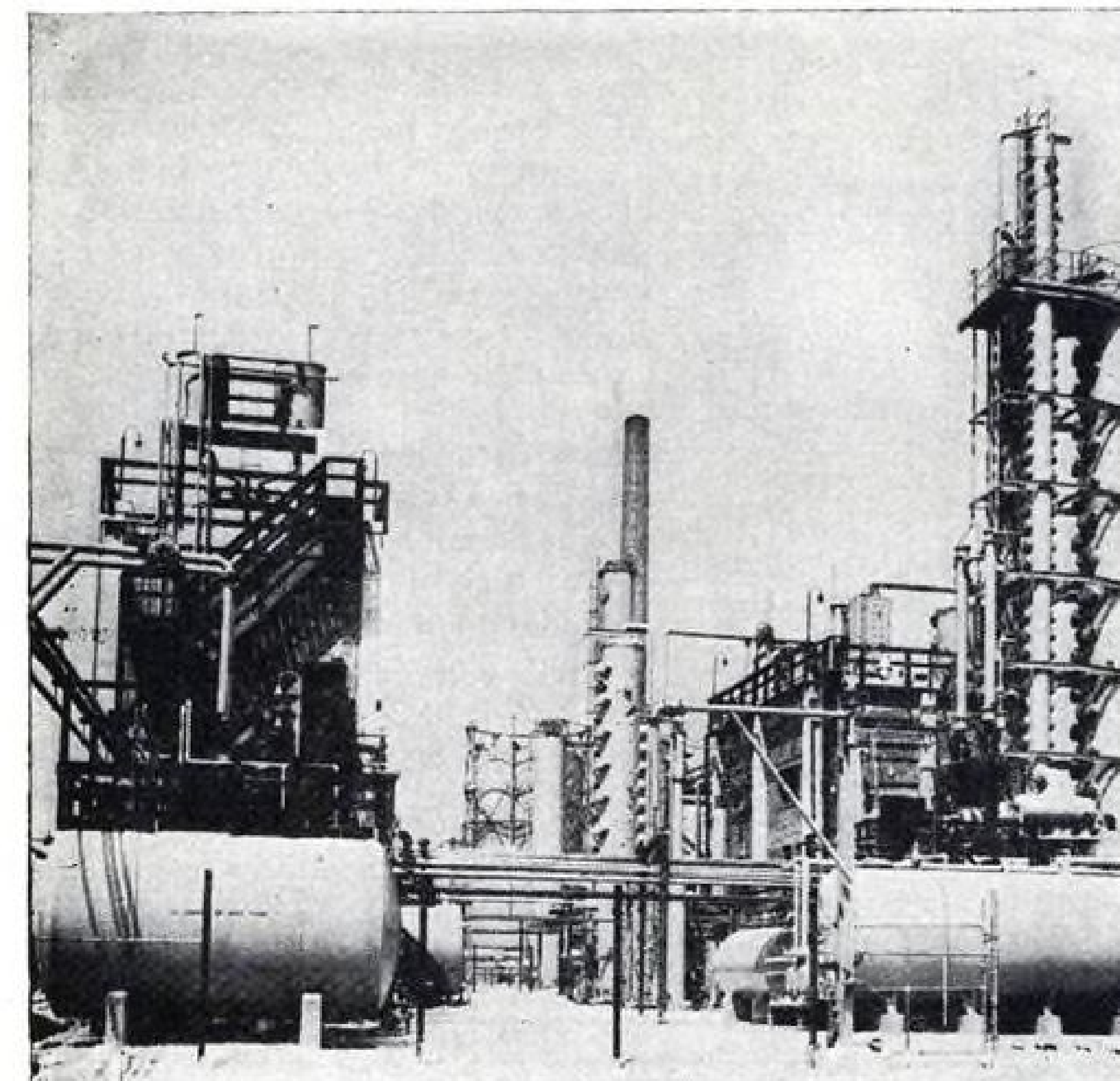
The plane has been used in the past and is now being used in northern Canada and Alaska for freight, aerial photography and ambulance duty.

## Bell Engine Order

A contract for more than \$1,000,000 worth of 5-hp., one-cylinder engines for the Warren City Manufacturing Co., of Warren, Ohio, has been received by Bell Aircraft Corp.

The engines, which will be used on the Rototiller, a farm implement which combines the work of a plow and disc harrow, will be manufactured at Bell's Burlington, Vt., plant.

# KOPPERS AND AVIATION

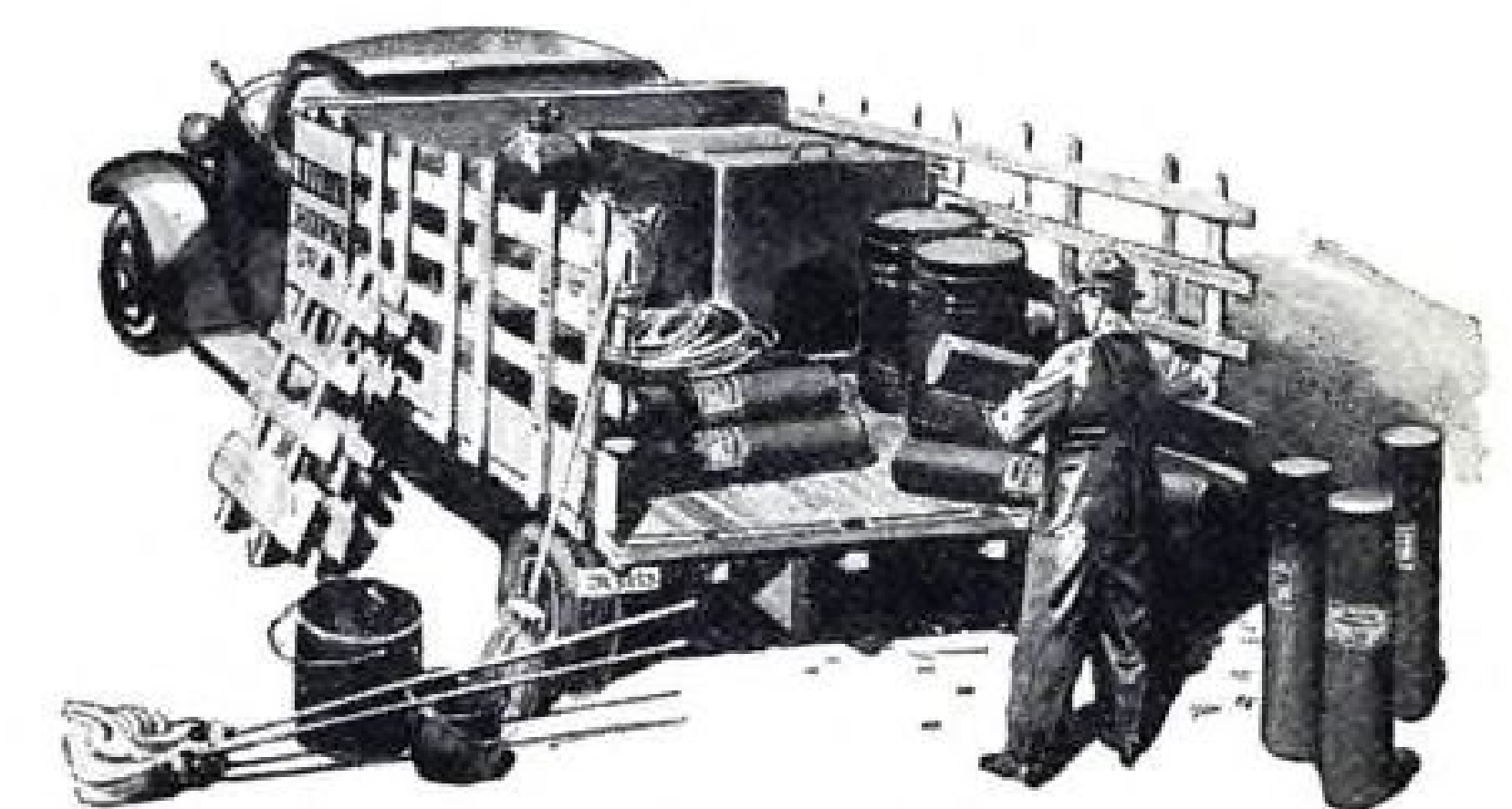


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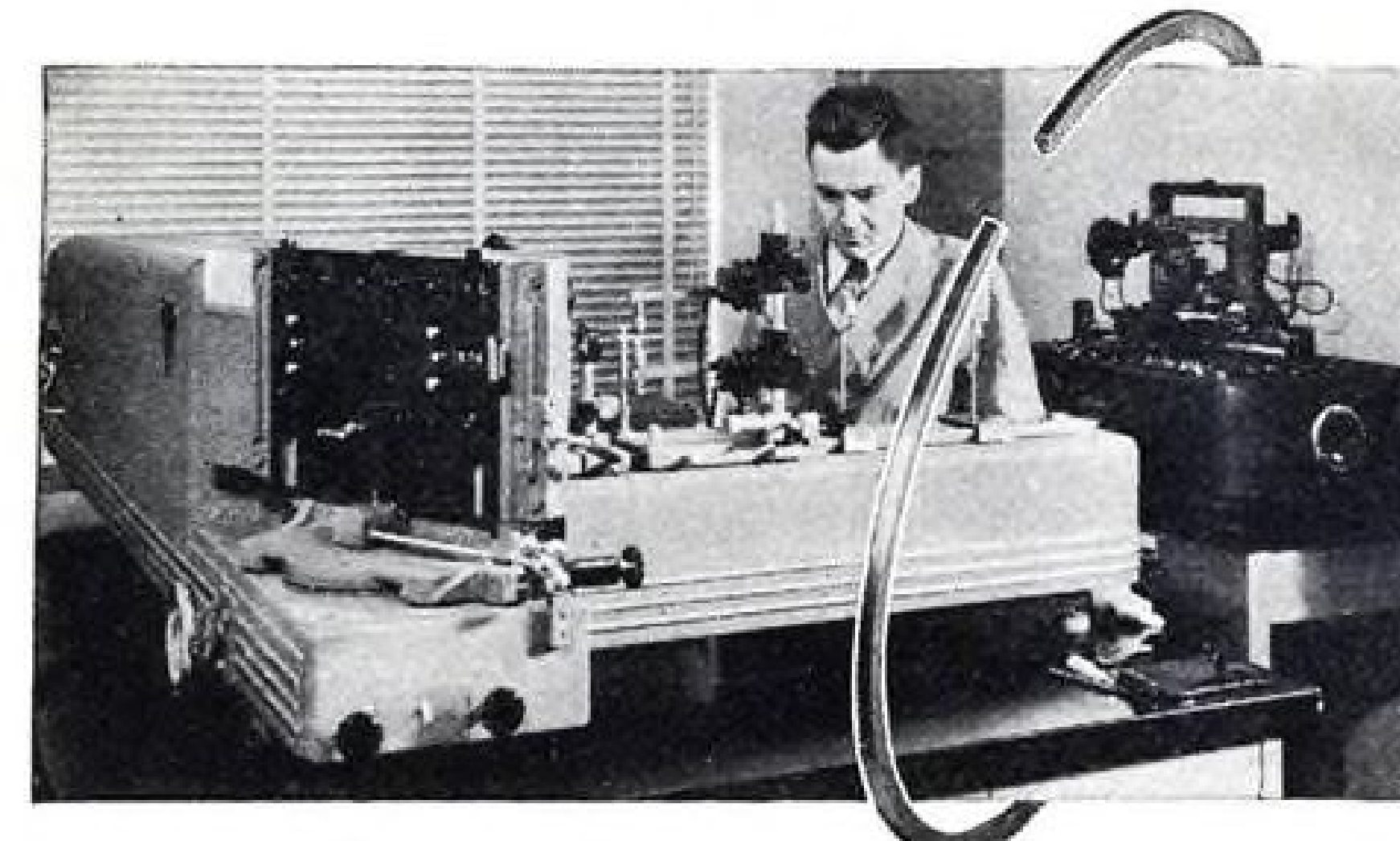
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## COMMENTARY

### Loran Network Installations Become Major Military Project

Plans to equip AAF airways with all-weather, highly accurate position system placed immediately after aircraft in importance; British adopt technique as standard for round-the-world operations.

In his recent testimony before the House Military Affairs Committee, Lt. Gen. Ira C. Eaker, Deputy Commander of the Army Air Forces, stated that the largest amount of aeronautical equipment and supplies, other than aircraft, will be radio and radar-type scopes to equip with the Loran system the air routes along which the AAF must continue to fly for some time.

Loran (LONg RANGE Navigation), developed in 1941 and early 1942 by a small group of physicists at the Radiation Laboratory, at MIT, who were pioneers and specialists in pulsed hyperbolic radio navigation, first went into service in the western North Atlantic area about three years ago.

► **Global Coverage**—A check taken last April revealed that the Loran network covered some 50,000,000 square miles of the earth's surface; the area has since been greatly increased, especially in the Pacific.

Several months before the end of the war, more than 1,000 surface vessels of the U. S., Canadian and Royal navies, and tens of thousands of Allied aircraft were equipped with shipborne or air-borne Loran gear and were using the new system in all kinds of weather.

Loran stations transmits high-frequency radio pulses from related pairs of ground beacons known as master and slave, located mostly along coastlines. When these pulses are received they appear as sharp-pointed "blips" on the cathode-ray screen of an airborne or shipborne Loran receiving set, which resembles a radar "A" scope with horizontal indication rather

than the circular map-like indication of the PPI scope Plan Position Indicator).

► **Quick Plot**—By measuring the time difference in microseconds between the reception of the blips, the navigator can plot his line position in relation to this pair of stations on a special Loran hyperbolic chart. By obtaining a reading from a second pair of master and slave stations and plotting another line position, an exact "fix" shows up where the two curves intersect on the Loran chart.

Another indication of the extent to which Loran was in use during the past year is found in the number of these charts turned out each month. Production and distribution of the Loran charts to all using agencies is a responsibility of the U. S. Navy, and during the first six months of 1945 the figure was well above one hundred thousand per month.

During the last full month of the war, July 1945, considerably more than 200,000 of the charts were produced and distributed.

► **Advantages**—In addition to being fully as accurate as the complicated celestial navigation system, Loran has a number of distinctive features of its own. It is almost completely independent of the weather, working in rough sea or air, and under all conditions except nearby heavy lightning. Over water standard Loran can obtain accurate fixes with direct radio waves at ranges up to 700 miles in the daytime, and up to 1,300/1,400 miles at night.

A more recent development known as SS Loran (Skywave Synchronized) permits the master and slave stations being placed

much farther apart, and is effective over both land and water, mostly at night. SS Loran proved highly successful in RAF night bombing.

A skilled operator can obtain Loran fixes in 2 to 3 minutes. No elaborate calculations are required, and no reference is necessary to sextant, compass or chronometer—special Loran equipment tells the whole story. During war, radio silence may be maintained, as no transmission from ship or plane is necessary, and because transmitted signals are coded and of use only with special Loran charts, enemy radio receivers or direction finding equipment cannot follow them on their course.

► **English Enterprise**—Loran is related to a short-range radio pulse navigational system developed by the British in 1939-40 known as Gee. Gee and Loran are not radar in that they do not use reflected radiation, or echoes.

A hint regarding the Gee system was dropped by Sir Henry Tizard, head of the British scientific mission to the United States in the summer of 1940. This was enough to set Dr. Alfred L. Loomis, New York lawyer, financier, scientist, and head of NDRC's "Microwave Radar Committee," off on the trail of the system.

Early in 1941 a small group of engineers and physicists at Radiation Lab, under the direction of Dr. J. A. Pierce, borrowed from Harvard's Cruft Laboratory, went into action, and by September 1941 had the elements of the Loran system ready.

► **Service**—Tests during the winter and spring ironed out the bugs and brought several improvements, so that by October, 1942, the system went into service in the North Atlantic, and was later extended to Greenland, Iceland and the U. K.

It proved a great boon to our precious convoys and to flyers on the vital ATC ferry route. Loran installations by the Coast Guard in the Aleutians in 1943 kept operations going in that difficult area and, as the system spread, navigators of the AAF Air Transport Command, Naval Air Transport Service and the Royal Air Force, as well as the Allied navies, were soon landing it.

Loran has been officially adopted by the British as their 'round-the-world navigation system, and with Army Air Force and Navy interest, it looks as though Loran will find itself in a permanent post-war job.

NAVIGATOR

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### Aviation Securities Trading Listed For August By SEC

Report of transactions by company officials shows even distribution of sales and purchases among seven air transport companies; manufacturers' record moderately brisk series of portfolio revisions.

August trading by "insiders" of air transport companies was about evenly distributed between purchases and sales, according to an official summary of securities transactions made public by the Securities & Exchange Commission.

► **C. G. Adams**, secretary and treasurer of Braniff Airways, Inc., reported the purchase of 700 shares of his company's common stock during the month, bringing his ownership to 3,000 shares.

► **Hugh Knowlton**, director of Eastern Air Lines, Inc., purchased 200 shares of the common stock, increasing his holdings to 400 shares. L. S. Rockefeller, a director, sold 1,000 shares of EAL common stock, leaving him 20,000 shares at the end of the month.

► **Gardner Cowles, Jr.**, director of United Air Lines, Inc., reported that the Register & Tribune Company purchased 500 shares of United's common stock during August, bringing its ownership to 3,700 shares. Martin C. Ansorge, a director, sold 200 shares of the common stock, leaving him a like number of shares.

► **Eric H. Johnston**, then president of the United States Chamber of Commerce and recent addition to the board of directors of United Air Lines, Inc., reported the ownership of 100 shares of the common stock of the company.

► A report filed by Amos Culbert, vice-president of American Airlines, Inc., disclosed the purchase of 100 shares of the common stock, representing his entire holdings of American's common.

► **Franklin Gledhill**, vice-president of Pan American Airways Corp., reported the exercise of rights for 1,066 shares of the capital stock, bringing his holdings to 3,198 shares.

► **J. H. Carmichael**, vice-president of Pennsylvania-Central Airlines Corp., reported that on Aug. 28 he

exercised an option to purchase 875 shares of the company's common stock. On Aug. 29, according to reports of the SEC, Carmichael sold 875 shares of the common stock—his entire holdings in the company.

► **Hayes Dever**, secretary of PCA, reported the exercise of an option to purchase 50 shares of the company's common stock. John W. Donaldson, a director, reduced his holdings of PCA common to 1,000 shares through the sale of 500 shares.

► **John C. Franklin**, vice-president of Transcontinental & Western Air, Inc., reported the sale of 62 shares of the common stock, leaving him 150 shares in his portfolio at the end of August.

► **Manufacturers**—Among the aircraft manufacturing companies, James Work, director and principal stockholder of Brewster Aeronautical Corp., reported the sale of 1,000 shares of common stock, reducing his direct ownership to 80,650 shares. Work reported holdings of 136 shares of the common stock through a Trust.

► **W. T. Schwendler**, vice-president of Grumman Aircraft Engineering Corp., sold 2,000 shares of the common stock during August, reducing his stock ownership to 14,000 shares. L. A. Swirbul, executive vice-president, reported the sale of 4,000 shares and a gift of 550 shares, reducing his holdings to 9,450.

► **Hall L. Hibbard**, vice-president of Lockheed Aircraft Corp., reduced his holdings to 7,922 of capital stock through his sale of 900 shares.

► **Raymond H. Rice**, vice-president of North American Aviation, Inc., reported the joint purchase with his wife of 1,000 shares of capital stock, increasing their holdings to 1,100 shares.

► A June report filed by G. L. Ster-

ling, Jr., vice-president of Northrop Aircraft, Inc., showed the sale of 300 shares of common stock, leaving him an ownership of 1,000 shares.

► **G. C. Woodard**, vice-president and director of Ryan Aeronautical Co., reported that in July he disposed of his entire holdings in the company, consisting of 300 shares of common stock.

► **W. T. Piper**, president and principal stockholder of Piper Aircraft Corp., reported the sale of 10,000 shares of the common stock in June, reducing his holdings to 163,766 shares. Franklin Field, a director, filed reports for December, 1944, and February, May and June of 1945, over which period he liquidated his entire stock interest in Piper. His June report showed the sale of 1,400 shares of the common stock.

► **Thomas A. O'Hara**, director of Aviation Corp., sold 200 shares of the capital stock in August, leaving him 500 shares.

Other transactions included: the sale of 500 shares of common stock of Fairchild Engine & Airplane Corp. by S. M. Fairchild, director and principal stockholder, leaving him a direct ownership of 216,727, and an additional 26,100 shares through Mills Land Corp.; the sale of 100 shares of Consolidated Vultee Aircraft Corp. common stock in July by George E. Allen, a director, leaving him a similar number of shares at the close of that month, and the sale of 400 shares of common stock of Fairchild Camera and Instrument Corp. in July by Ernest Robinson, executive vice-president and general manager, leaving him 1,000 shares.

### Thompson Reorganizes To Meet Sales Boom

Major reorganization of manufacturing operations in all Cleveland plants of Thompson Products Co., has been announced by Frederick C. Crawford, president.

The reorganization involves establishment of five divisions, grouped along product lines, including one on Valve and Jet Propulsion, of which Harry D. Bubb, is manager.

► **Income Forecast**—Crawford said a survey of the company's markets shows prospective sales for the next four years surpassing earlier estimates and that the company has reason to expect that within next 15 to 18 months over-all sales will hit a rate of from \$50,000,000 to \$60,000,000 a year.

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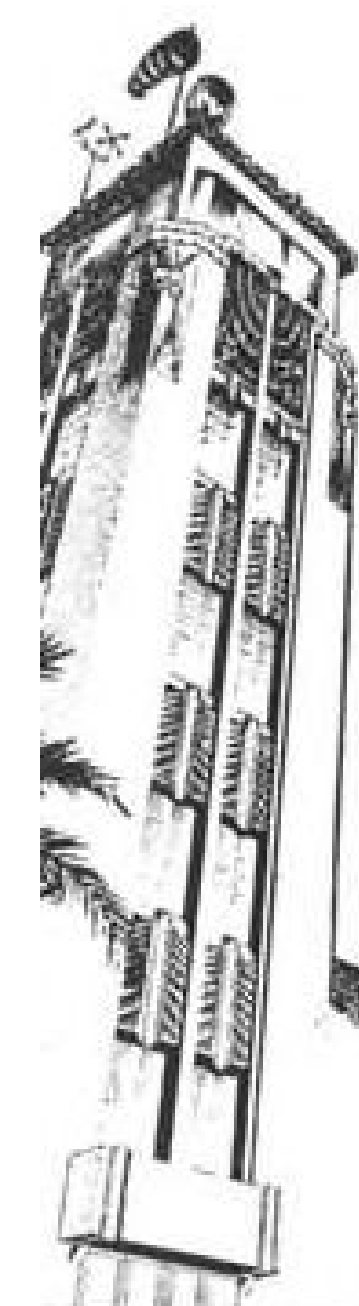
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## TRANSPORT

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### Trans-Atlantic Trip Frequency Seen Air Fare Reduction Issue

Unknown commercial operating cost of C-54's also cited as top factor in charge determination; State Department splits allowable six trips per week to England between Pan Am, American Overseas.

By BLAINE STUBBLEFIELD

Passenger fares on trans-Atlantic air services now about to start, will depend extensively on as-yet-unknown commercial operating costs of C-54's and later of Constellations and other craft. They will depend also on frequency of trips.

Pan American Airways last week told AVIATION NEWS their present rate of \$525 could be reduced if they could get authorization for three trips per week instead of two. Further inquiry revealed that the State Department is dividing the six weekly round trips to England allowed this country under pre-war agreement; three to Pan Am and three to American Airlines Overseas.

► **Presumption Upset**—Apparently most airline officials had presumed that the six trips would be divided three ways, two each for PAA, American, and TWA. Fact is, however, that TWA stops at Foynes, Eire, goes directly to France without touching the United Kingdom, and is therefore outside of the U. S.—British agreement. England has four round trips to the U. S. per week which, of course, are taken by British Overseas Airways.

Not the least factor affecting initial cost of an Atlantic air ride will be skill on the part of operators in bluffing the other fellow to lay down his rate cards first. One Civil Aeronautics Board source explained that identical rates have been arrived at competitively among some domestic airlines.

If the three Atlantic operators should agree on identical rates before they start, he said it might be called collusion. But if they agreed the next day after one of them published a tariff, it wouldn't be—a nonsensical legality, in his opinion.

► **Competitive Drop**—For instance, if Pan American reduced its rate first, as a result of three trips per week, American and TWA might match the figure, for competitive reasons alone if no other. American Airlines Overseas is charging \$525, the same as Pan Am. The Air Transport Command is charging \$611.

ATC allows 65 pounds of luggage as compared with 55 on the commercial lines, but this difference does not justify the fare difference. Incidentally, the certificated operators still were wondering last week whether, if the Army drops priorities on ATC Oct. 15 along with commercial lines, many pay customers will take advantage of any superior military services for instance a direct and quicker hop to Paris.

## Flight Costs

Army Air Force figures on operational cost per hour of three important military transports—each with a commercial counterpart—show \$227.40 for the Douglas C-54, \$179.35 for the C-46 Curtiss Commando, and \$127.96 for the Douglas C-47.

These are calculated by addition of depreciation per hour on the basis of an average life of 3,000 hours, maintenance material and labor costs per hour, and per hour cost of gasoline and oil. For the three planes these are:

► C-54 — depreciation, \$75; maintenance material, \$85.06; maintenance labor, \$37; gas, \$28.80; oil, \$1.54.

► C-46 — depreciation, \$73.34; maintenance material, \$57.13; maintenance labor, \$28.02; gas, \$19.80; oil, \$1.06.

► C-47 — depreciation, \$27.14; maintenance material, \$51.94; maintenance labor, \$28.02; gas, \$19.80; oil, \$1.06.

Total airplane cost was estimated at \$224,993 for the C-54, \$220,024 for the C-46, and \$81,421 for the C-47. The first is a four-engine plane, the others twin-engine.

A Pan American spokesman said his company still aims toward future 8-hour crossings at a fare of \$100 or so. This drastic cut would be accomplished chiefly, he



### CARGO OFFICERS:

These officers of the cargo traffic section of the Air Traffic Conference, an Air Transport Association group, were named recently at Indianapolis. Left to right: Guy M. Springer, Jr., Braniff Airways, chairman; Robert E. Whitmer, TWA, vice-chairman; W. A. Weeks, Eastern Air Lines, chairman of the section's tariff committee, and W. H. Pluchel, TWA, chairman of its standard practices committee.

explained, by carrying a large number of passengers at high speed in big airplanes—such as the Consolidated Model 37, 204-seat plane at 340-mph.

► **Equipment Flow** — All three trans-Atlantic operators have received nearly all of their allotted surplus C-54's. All three privately expressed uncertainty as to when they will get their first *Constellations*.

In addition to foreign services now entering the United States, five have filed application with CAB. They are: Royal Dutch Airlines, Willemstead to Miami; Royal Dutch and Royal Netherlands, Amsterdam to New York, and Batavia to San Francisco; Swedish Intercontinental Airlines, Stockholm to New York; British Overseas Airways, Trinidad to Baltimore.

The French want to come in eventually, but are aiming first at Brazil, Argentina, and Chile. Spain hasn't enough airplanes to run its own services, and has no trans-Atlantic plans. Russia has filed no application to enter the U. S. but is operating into Persia, Poland, Roumania, Germany, Hungary, and out to the Chinese border.

## Feeder Opposition Shaped By Airlines

Testimony by representatives of the major air carriers in the Great Lakes area case indicated last week that they will fight certification of feederlines for routes which can be provided with local service by trunk line operators.

As hearings continued at Indianapolis for the second week, E. Lee Talman, executive vice-president of TWA, said that as soon as equipment is available, TWA plans a variety of services for "those cities within the vicinity of its routes," including aerial commutation, increased schedules between major cities, express flights, and long-range non-stop schedules. ► **Disputed Route** — Highlight of other testimony was continuation of argument for the Cleveland-Indianapolis-St. Louis route sought by American Airlines, TWA, and United Air Lines (AVIATION NEWS, Oct. 8).

C. Bedell Monroe, president of PCA, testified in behalf of PCA's applications for route extensions to provide non-stop service between Chicago and other central



### NEW EXECUTIVE:

Marshall C. Hoppin, above, is new president of Alaska Airlines, succeeding Theodore N. Law, who will continue as a member of the carrier's executive committee. Hoppin resigned as regional administrator of the Alaska Division of the Civil Aeronautics Administration at Anchorage to take the new job. He was assigned as superintendent of airways in the Territory in 1939, to supervise construction of the federal airways system there, and had been regional administrator since the Eighth region was established in 1941. Thirty-four airports and 92 radio facilities costing \$57,000,000 were installed under his direction. He is also a pilot with 6,800 hours.

industrial cities and Washington and Norfolk. He charged that service now rendered between these cities by other lines is largely incidental to transcontinental service.

### Essair Feeder Operation Exceeds Success Hopes

After 10 weeks of operation, Essair, Inc., is "doing much better than expected with our ships (three Lockheed Electras) and flying at just about capacity loads," according to L. H. Luckey, vice-president and general manager.

Maintenance and operation headquarters are at Houston, whence Essair's AM 64 goes along a 678 mile circuit to Austin, San Angelo, Abilene, Lubbock and Amarillo. Application has been made for routes from Abilene and San Angelo to Dallas. If approved, planes will be added and maintenance

and operation will be directed from Dallas. Certificated by Civil Aeronautics Board on an experimental feederline basis, the company also wants to become an interstate operator with an extension to New Orleans.

► **ATA Dues**—Essair has been approved for membership in the Air Transport Association, whose directors were to act late last week on a resolution setting at \$649 its dues for the remainder of 1945. Regular formula of percentage of operations revenue could not be applied because of the line's brief operating history. Dues were prorated on a basis of those paid by ATA's lowest paying member during the last half of this year.

## NATS Experience Shifts to Airlines

Rapid demobilization of service frees key officers to carry extensive over-ocean training into commercial practice.

Naval Air Transport Service is confronted with drastic curtailment of operations after having flown approximately 541,000,000 ton miles of passengers, cargo and mail. Demobilization of NATS is under way at a rapid rate.

However, Rear Admiral John W. Reeves, Jr., commander of NATS, predicted last week at his Oakland, Calif., headquarters, that a nucleus of his war organization will be continued, and that approximately 100 transports probably will be maintained to fly to domestic and foreign points which commercial airlines cannot reach profitably.

► **The Heirs**—What NATS has accomplished in military flying will be reflected in the post-war development of commercial trans-ocean air services. Many key NATS administrative officers, pilots and maintenance officers are returning to commercial airline posts they held before the war.

They will carry to airlines now planning global operations a vast amount of operating experience and "know how" covering the long-range flying of four-engine aircraft, the meteorology, flight control technique, operating economies, ground service and equipment upkeep.

Since activation in March 1942, and despite the hazards of exploratory and combat zone flying, NATS has developed a passenger

safety record close to that of commercial airlines.

► **Plane List**—With a peak equipment strength of 428 transport planes, 163 of them DC-4 type Douglas transports (designated R-5-D by the Navy), NATS to date has carried approximately 1,300,000 passengers and close to 200,000 tons of war-essential cargo over routes spanning the Atlantic, the United States, Alaska, and the Pacific.

NATS has developed for the maintenance of its four-engine Douglas transports a progressive heavy maintenance system which offers to airlines using similar equipment the consolidation of practically all-overhaul operations in periods of engine overhaul.

► **Time Saver** — Lt. Cdr. E. L. Ryder, engineering officer, Com-NATS Staff, believes that four-engine major overhaul time can be cut to from three to four days, and cites a NATS "demonstration" engine change that was completed in 31 hours and 20 minutes on a four-engine Douglas. Commander Ryder is one of many former airline executives who joined NATS for the war's duration and now are returning to civilian jobs.

How much of NATS' end-of-the-war 55,922 route miles will be retained after peacetime pruning cannot be estimated at this time.

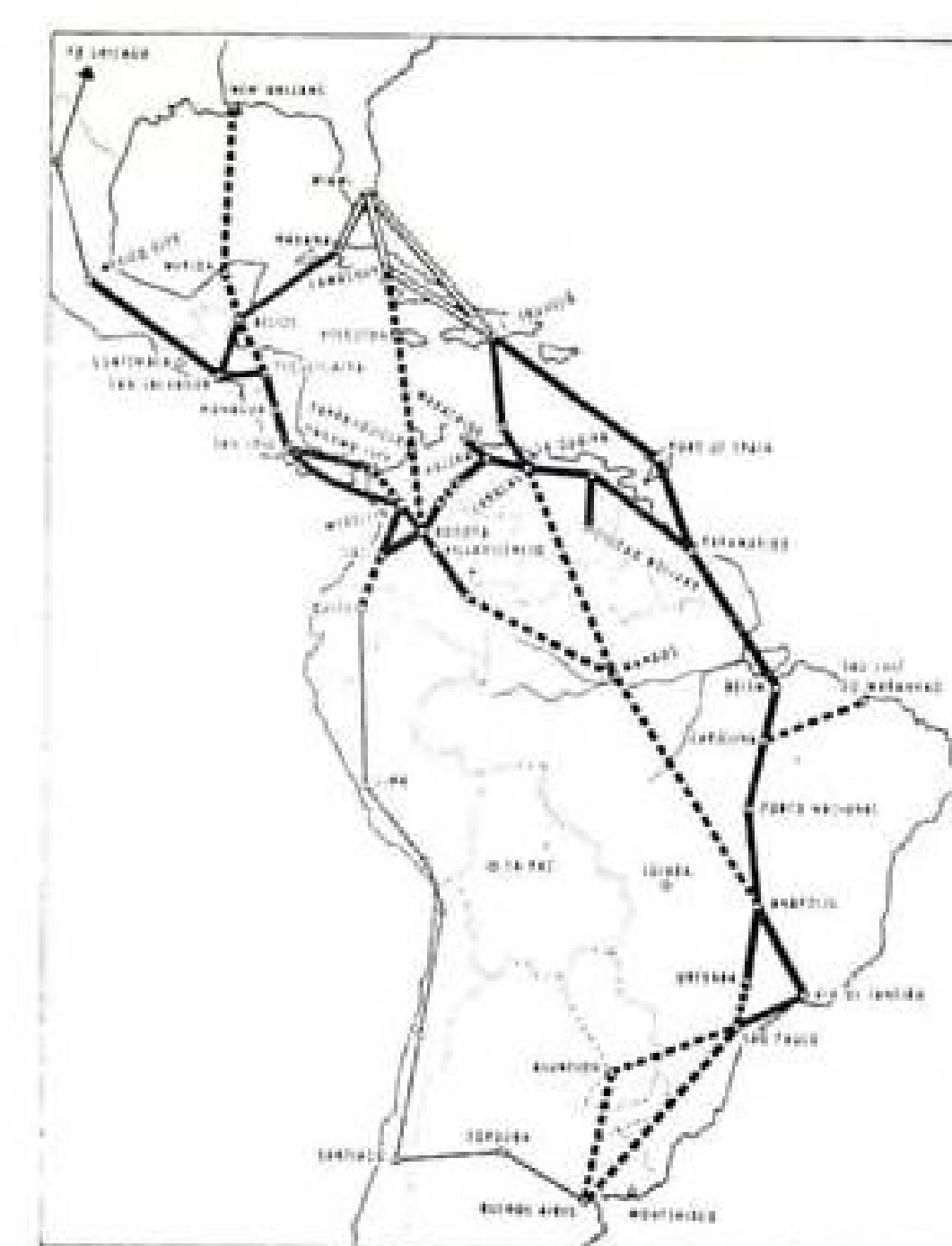
Admiral Reeves believes, however, that the final reduction of

### Foreign Permits

Danish Air Lines (DDL) and Swedish Intercontinental Airlines (SILA) have applied to the Civil Aeronautics Board for foreign air carrier permits to operate between capitals of their respective countries and New York City.

Operations would be conducted in collaboration with one another and with Norwegian Air Lines. Schedules would begin with one round trip weekly, with a maximum of seven anticipated. Equipment at the start would consist of rebuilt *Flying Fortresses*, but both carriers have DC-4's on order and DC-6's or *Constellations* under consideration.

► **Line Chart**—Routing would be via Iceland, Labrador and Canada. Alternate routes, depending on weather, would go via British Isles and Newfoundland or Ireland, Azores, and Newfoundland.



### TACA SYSTEM:

TACA Airways, which recently announced arrangement for a \$1,000,000 equipment purchase credit, has issued this map showing present and proposed routes in Latin America, including the main routes of 11 affiliated and associated companies in Colombia, Venezuela, Brazil, Argentina and Paraguay. Heavy solid line shows scheduled routes, dash line shows projected routes, parallel lines show contract routes, and light solid line the connecting routes. The equipment purchase credit will be available 18 months, 90 percent through the Export-Import Bank of Washington and 10 percent through the Commercial National Bank & Trust Co. of New York. The step completes TACA's refinancing program, inaugurated early in 1945 with sale of \$1,400,000 of convertible debentures.

NATS to peacetime strength will not come before the Navy has completed the task of returning to the United States troops no longer needed in the Pacific, wounded now being flown in from Pacific hospitals, and recovered allied military personnel from Jap prison camps. He believes NATS participation in this work will last for at least eight more months.

## AAF Pilot Group Asks Job Seniority

A Military Pilots' Association, with a claimed potential of 8,000 members and a present roster of 400, has been formed at Miami to seek seniority rights, with commercial airlines, for pilots whose experience has been limited to the armed forces.

Basis of the association's credo is that air carrier pilots who joined the airlines during the war have seniority, while pilots such as those in the military division of the Air Transport Command, flying the same equipment as that used by ATC's contract carriers, start at the bottom of the seniority ladder if they get an airline job after their release.

► **ALPA Contacted**—A non-profit organization, with headquarters at Little River Station, Miami, the association's first objective is to get the Air Line Pilots Association to modify contracts between ALPA and the airlines, which now "completely block any possibility of adjusting veteran pilots' seniority."

The pilots wrote Dave Behncke, president of ALPA, for help and advice, suggesting that any Army pilot obtaining an airline job be given seniority dating from the time he received Army pilot's rating, provided he then could have qualified as an airline co-pilot. As an alternative, they propose that seniority date from the time the pilot started flying scheduled Army transport missions. Similar proposals have been submitted to the Air Transport Association and the Civil Aeronautics Board.

### ATC Base Closes

One large Air Transport Command base in the process of being temporarily inactivated is that at Gore Field, Great Falls, Mont.

Gore has functioned during the war as an ATC freight terminal, service and maintenance base. It will remain under a caretaking detachment pending determination of whether it will be declared surplus, reassigned, or disposed of in some other manner.

Gore is among more than a score of army fields and bases of varying size that have been temporarily inactivated or declared surplus. Those temporarily inactivated continue under War Department jurisdiction until definite decision is reached on whether they will be required for post-war use.

Of the total, two (Langley Field, Va., and Lockbourne, Ohio) are possible exceptions to eventual surplus declaration. Two auxiliary fields and one landing strip are among the facilities that have been declared surplus.

## ATC, NATS Keep Commercial Traffic

Airlines expected to take over by April; presidential order extends essential civilian travel on service planes.

An executive order under which Air Transport Command and Naval Air Transport Service were directed to carry commercial traffic essential to the war effort, when space was available, has been extended six months by President Truman. It was to expire late this month.

Since the directive was designed to accommodate such traffic until commercial facilities were available, the length of the extension indicates that the military expects commercial carriers to have their international routes in operation by next April. If earlier, the order probably will be cancelled before the extended termination date.

ATC cited these figures last week to show its growth in four years of war:

► On June 5, 1941 (while still the Ferrying Command) it had no planes. Two officers and one civilian made up its entire personnel. At peak, just after VJ Day, ATC had 3,386 aircraft in operation. Of these, 2,860 were major transports. Another 321 were on their way to various divisions, or in excess or storage. Estimated value of the entire fleet was \$780,000,000. ATC's personnel strength on Aug. 31, 1945, was 41,520 officers, 166,026 enlisted men, and 23,752 civilian personnel, a total of 231,298.

► ATC planes landed, during last June, at 336 points on foreign shores. Domestic operations were from "countless" other airports, among them its own bases in 43 states and the District of Columbia.

► The Command estimates, in the absence of complete records on early operations, that it carried 3,525,000 passengers, of whom 305,600 were sick or wounded. Passenger miles flown, 90 percent in foreign operations, totaled 6,653,000,000, and cargo ton-miles, 92 percent abroad, totaled 2,371,000,000. All operations, including transport, ferrying, training, rescue and special missions, ran up 11,774,000 hours and a total of 1,549,938,000 ferrying and transport plane miles, the equal of 64,580 round-the-world flights at the Equator. ATC ferried 49,778 com-

## Priorities End

Curtailment of priorities through the 30-day period prior to their total elimination today, Oct. 15, was reported last week to have brought this type of airline travel to a virtually negligible amount. Airline sources said little, if any, difficulty would be experienced in the change-over to a completely non-priority basis.

Some reports were that priority travel was down to 5 percent of the total. One line, Mid-Continent, reported it as less than 1 percent of total volume. Increasing requests for non-priority space, many of them for advance reservations after Oct. 15, still left airlines unable to supply the demand for seats in many instances.

bat planes overseas and delivered 220,139 in the U. S.

## Cargo Experiments End

Completion of experimental transcontinental cargo flights with Consolidated Vultee's Model 39 transport has been announced by American Airlines. Thirty-five flights were made.

The air freighter, which carries a gross load of 18,500 lbs. was used in a cooperative air cargo research program. James A. Wooten, American cargo traffic manager, expressed satisfaction with the trial operation. The experimental flights complete, the Model 39 has been returned to Consolidated. Wooten cited the operation as

proof of air transport's ability to carry anything from heavy machinery to perishable drugs.

## Cargo Rates Set By Skyway Freight

National Skyway Freight Corp., organized by former *Flying Tigers*, has settled upon basic long-haul charges of 26 cents per ton mile for perishable produce and cut flowers, and 23 cents per ton mile for dry cargo.

Company spokesmen declare that they could carry "all the cargo we could handle" if able to obtain a transport with an operating cost sufficiently low to permit a charge to customers of 15 cents per ton mile.

► **Passengers** — Based at Long Beach Municipal Airport, the company has been maintaining cross-country service to New York and Washington, with some hauls between California produce centers and the midwest and south. On return trips following deliveries the company has carried passengers, unable to get airline space, at airline rates.

The company's fleet of *Conestoga* transports was ground briefly recently following the burning of a furniture-loaded plane shortly after its takeoff. The crew escaped. A CAA crash report held the company blameless, and stated the fire was caused by the loosening of an exhaust stack and ignition of oil escaping from an adjacent scavenger oil line, which had melted from exhaust heat.

## Airline Statistics Released By CAB

Civil Aeronautics Board statistics for the first seven months of this year show that the 19 domestic airlines completed 94.26 percent of total flight miles scheduled.

	7 Months Ended July 31, 1945	7 Months Ended July 31, 1944	Percent of Increase
Revenue miles flown	116,074,020	74,057,440	56.74
Revenue passenger-miles	1,847,286,526	1,149,047,653	59.90
Mail ton-miles	88,851,242	26,656,951	45.75
Express ton-miles	14,510,832	9,100,965	59.44

► Average plane load for the periods was:

	1945	1944
Passengers	17.16	16.88
Pounds of mail	704.7	758.1
Pounds of express	250.2	246.0

Disclosure of net operating rev-

enue in June showed the 19 carriers totaling \$4,687,160, compared with \$4,216,655 in June 1944. Net operating revenue for the year ended June 30 was \$44,666,235, against \$26,643,878 for the previous year.



## Now—it's the *STINSON VOYAGER 150*

**There's no standing still at Stinson!**

Your new Stinson Voyager will take to the air with a 150-h.p., instead of a 125-h.p. motor, as originally promised. Yet, there's *no increase in list price* for this 20 per cent increase in power.

And more good news! The new Stinson Voyager 150 will soon be rolling off the production lines.

Here's a roomy, four-place ship that has everything you've always looked for. The Voyager 150 has power to spare. And its high-altitude performance (1350-ft. take-off at 8700-ft. altitude . . . and a service ceiling of 14,000 ft.) makes it a versatile plane anywhere. With its 500-mile range, its extra comfort, and low operating costs, this Stinson is a stand-out among cross-country planes.

The Voyager 150 will take you there and back in a hurry. It has a top speed of 133 m.p.h. and a cruising speed of 125 m.p.h. And even on long, cross-country trips, you'll fly comfortably.

The scientifically shaped, richly upholstered seats really let you relax . . . in the soundproofed, ventilated cabin of the Voyager 150. A cabin heater keeps you warm, no matter how cold it is outside.

In addition to the traditional Stinson stability, and proven wing-slot feature, the new Voyager 150 has a new tail design and other features to make it even more spin-resistant. And its flaps make even the shortest runways seem comfortably long.

The seven-foot landing-gear tread, steerable tail wheel, and push-button parking brakes give this Stinson extraordinary ground safety.

**You'll have the assurance**, too, that this plane is backed by Stinson's 20 years of experience in building quality planes, and by the vast research and manufacturing facilities of Consolidated Vultee Aircraft Corporation.

Let us send you a fine illustrated brochure telling all about the Stinson Voyager 150. Write Stinson Division, Consolidated Vultee Aircraft Corporation, Wayne, Michigan.

# Stinson

... EASY TO BUY, EASY TO FLY

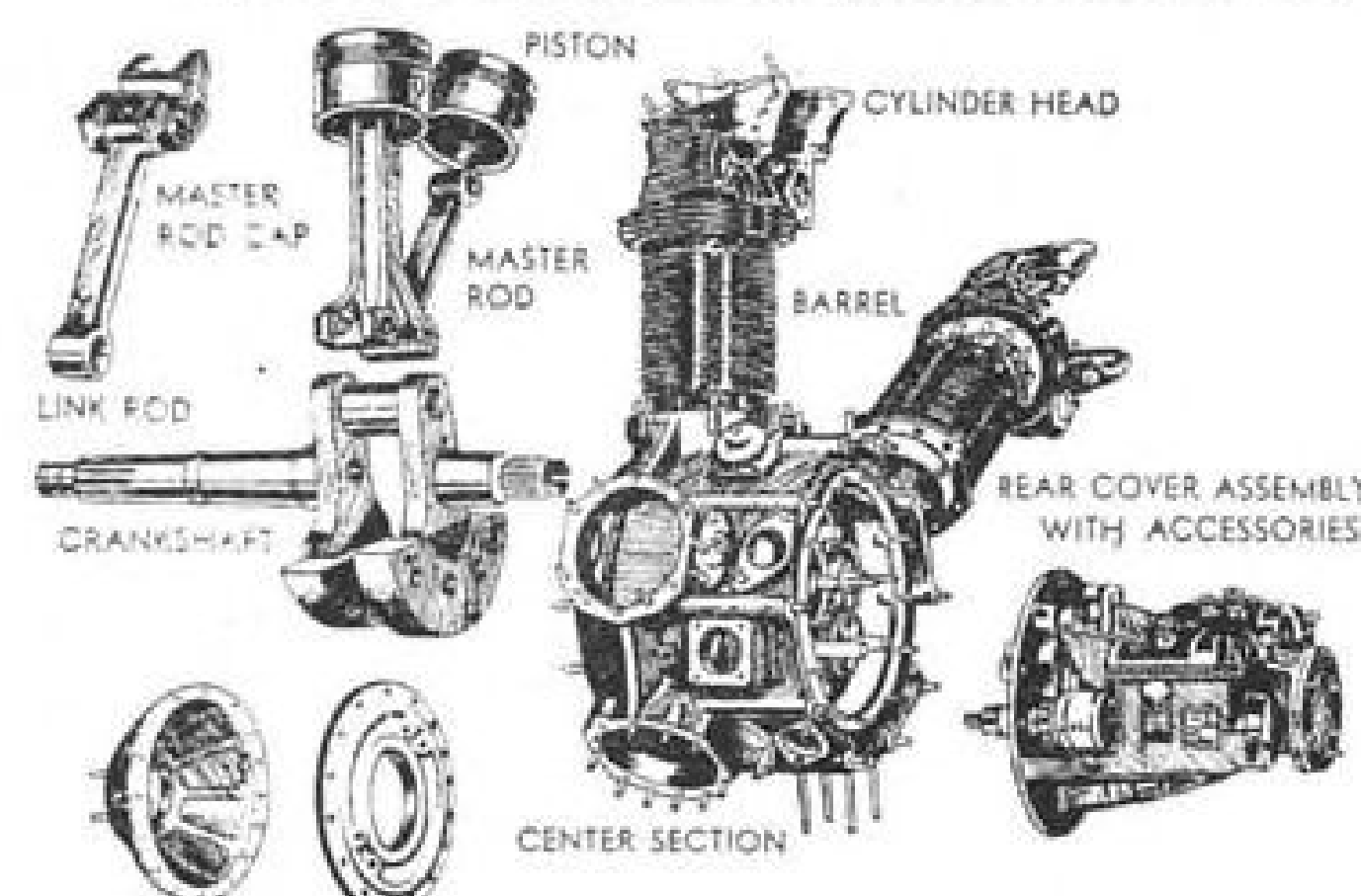
Stinson Division, Consolidated Vultee Aircraft Corporation, Wayne, Mich.

# Stars in the sky... Kinner Motors

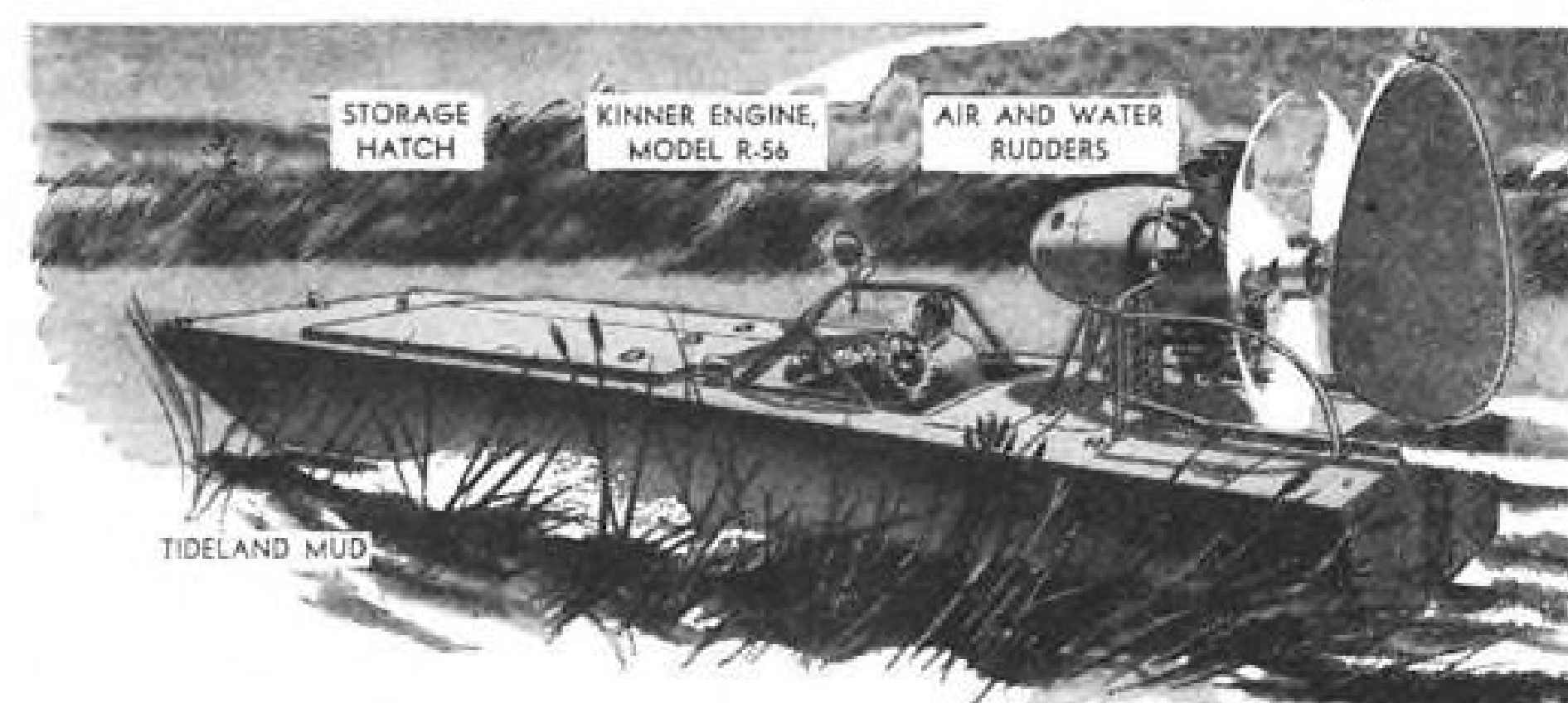


## famous engines that make their trial runs on Chevron Aviation Gasoline

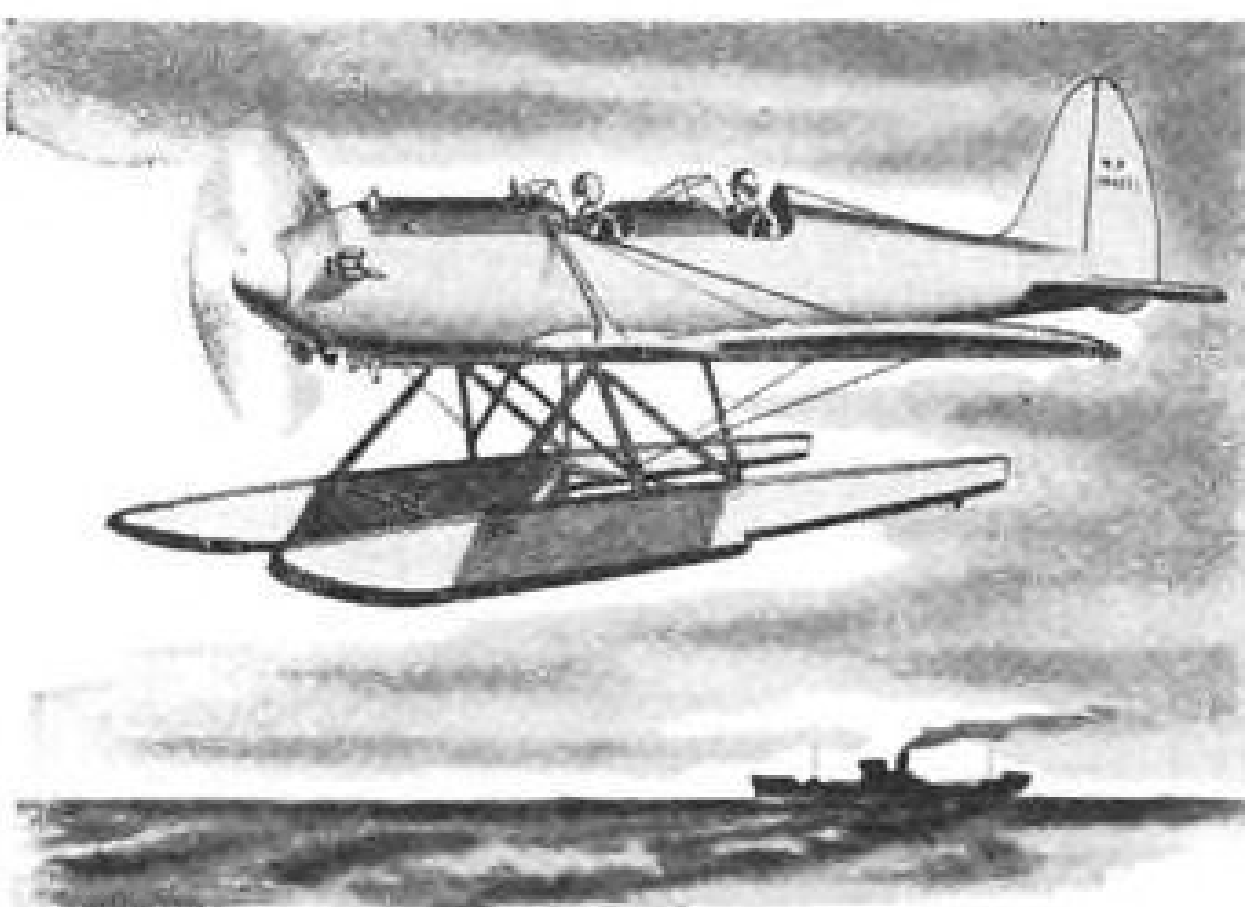
**AIR CADETS** the world over have thrilled to their first fast turn in a Kinner-powered trainer. Kinner Motors, Inc. has built aircraft power plants for a quarter of a century. Today its motors fly under the flags of 21 United Nations. To make sure Kinner engines will hum smoothly in the sky, they are first run-in at the factory on Chevron Aviation Gasoline.



**WORK HORSE** of the air, Kinner's ruggedly-built radial engine is simple of design and parts are easily accessible. High-octane Chevron Aviation Gasoline is specially manufactured and blended to develop full-power efficiency in radials and all other type aircraft engines.



**MUD OR WATER** are the same to this Kinner-designed and built craft, often used for aircrew rescue work. It navigates easily where no other vehicle can go. With an extra-power, smooth-burning super fuel like Chevron Aviation Gasoline firing its radial type engine, this mud sled attains a speed on mud comparable to its speed in open water. The outstanding performance of Chevron Aviation Gasoline has made it the favorite of many engine builders.



**FLOATPLANE FLYING** in tight places is easy when Chevron powers Kinner engines. The high anti-knock qualities of Chevron Aviation Gasoline permit fast, even acceleration and top power output for takeoffs in limited space.



**PRIVATE AIRPLANES**, too, with power units like Kinner engines, get peak performance from Chevron Aviation Gasoline. Use it in your plane—Chevron will make it, too, a star in the sky.

**CHEVRON  
AVIATION  
GASOLINE**

STANDARD  
OF CALIFORNIA  
San Francisco, Calif.

## Political, Economic Air Bars Set For PICAQ Council Study

Session reconvenes in Montreal; first annual meeting of International Air Transport Association also slated to open there; compromise of aviation impeding issues largely dependent upon actions taken.

The Interim Council of the Provisional International Civil Aviation Organization, under the presidency of Dr. Edward P. Warner, reconvenes in Montreal today, and before its deliberations are adjourned the world may have a better idea than it now has of the extent to which political and economic issues impeding aviation advancement can be compromised.

Tomorrow, in the same city, the first annual meeting of the International Air Transport Association will open, with representation expected to number about 100. Presiding will be H. J. Symington, president of Trans-Canada Airlines, elected to that position at IATA's organization meeting in Havana last spring.

**Delegate Powers**—How far the PICAQ Council may advance in filling in the disputed articles of the Chicago treaty is a matter of conjecture at this point because of uncertainty regarding the extent to which delegates can commit their governments. The articles disputed, and hence left vacant, at Chicago have to do with freedom-of-the-air, traffic quotas, future participation in aviation of war-torn countries not now able to enter the field, and the regulation of rates.

The Council's committee on air transport, however, made a start on some of these matters last week and it is expected this committee may be able soon to forward proposals to the Council which in turn, presumably, will present its conclusions to the PICAQ assembly meeting presently planned for next spring.

**Under consideration** by the air transport committee are such matters as filing of agreements and contracts, statistics and traffic surveys, procedure to be followed in arbitration of disputes, provision of airports in countries that can not afford to build them on their own initiative, regional agreements and special studies—all in addition to study of the controversial issues mentioned above.

**Also at work** last week was the

air navigation committee, the other main statutory committee of the Council. This group has the task of drawing up minimum standards on the technical side of aviation based on the technical annexes adopted at Chicago. A subcommittee on airways systems, landing areas and ground aids met last week under Dr. Warner's chairmanship. He said later that revisions of the Chicago text would be mainly editorial with only minor modifications of substance.

Details of the IATA agenda were unknown last week but the body is expected to consider first new membership applications and naming of legal, financial, technical and traffic committees. A report is expected on international traffic and IATA's general financial setup.

IATA hopes to relate its work as much as possible to that of PICAQ, inasmuch as the Chicago treaty and agreements impose certain obligations on international air carriers which they feel they best can handle through joint effort.

**Bilateral Progress**—Meanwhile, the United States is going ahead with bilateral arrangements with those areas which are diffident about generalized freedoms. Conclusion of an agreement with Norway under which fifth freedom, or intermediate traffic, privileges are exchanged, brings up to date an arrangement between the two

### C-54 Fleet

Pennsylvania-Central Airlines plans to become the first airline in the country with a full fleet of C-54's. PCA was allocated 12 basic type C-54's recently by the Surplus Property Board, and will rush re-conversion in the hope that some may be placed in operation early in December.

Expectation is that the 12 four-engine ships will double the capacity of the DC-3's PCA now operates and of which it expects to have about 26 in service by the end of the year.

countries dated October 16, 1933. The agreement follows in general outline the proposed standard form of agreement adopted at the Chicago conference.

The government has started negotiations with Mexico looking to the conclusion of a bilateral agreement similar to that framed last winter with Canada. United States negotiators are Civil Aeronautics Board Chairman L. Welch Pogue; Member Oswald Ryan; Stokeley Morgan, chief of the State Department's aviation division, and John W. Carrigan, chief of the Mexican affairs division.

Swedish and Danish airlines, meanwhile, have applied for routes to New York.

## NATS Flight Plan Eases Pacific Jam

Two Naval Air Transport Service policies disclosed recently at NATS command headquarters at Oakland, Calif., may influence strongly commercial air transport operating methods between San Francisco and Honolulu and on other long transoceanic routes.

Largely because of traffic congestion, NATS employs on the Pacific route what is described as "positive flight control," under which a ground flight controller dictates the flight plans of all scheduled trips.

**Procedure**—Before takeoff, the captain of the departing transport receives from a flight control officer information on three prospective flight tracks. In selecting one of the three, the pilot is expected to follow the course accurately. He may request additional fuel if he feels it will be needed. When approved jointly by the pilot, flight control officer and weather officer, the selected flight plan is submitted to oceanic air traffic control (CAA) for final clearance of the flight.

**An original extension** of this pre-flight procedure is NATS' "reciprocal release," under which the Pearl Harbor traffic control center authorizes the release of flights westbound from San Francisco, and the San Francisco control center authorizes the release of flights bound for the mainland from Honolulu.

Developed by Lt. Comdr. Newton Lieurance, discharged this month and returning to Transcontinental & Western Air, the reciprocal release has been in use by

NATS since last May. The procedure has been found to provide greater control of aircraft in flight, with the effect of "pulling" a plane

toward its destination and giving the flight crew complete assurance that landing conditions are satisfactory at the destination point.

## Possible Non-Scheduled Policy Seen In CAB Examiner's Report

Principles are set forth in investigation of Trans-Marine Airlines of New York; liberal "rule of thumb" for future considerations believed possible if Board accepts conclusions.

A report by a Civil Aeronautics Board examiner last week set forth principles which, if followed by the board, may well establish a rule of thumb for a future liberal policy toward non-scheduled airlines.

Charles J. Frederick, examiner in the board's investigation to determine whether Trans-Marine Airlines of New York had compiled with provisions of the Civil Aeronautics Act in its operation between that city and the Cape Cod area, recommended that the board find Trans-Marine had not failed to comply, and dismiss the investigation.

► **Enterprise Aids**—He did so on the basis of such factors as an inadequate period of observation of Trans-Marine's activities and "the policy of the Act to encourage and develop civil aeronautics." Trans-Marine, Frederick said, should have the benefit of any doubts as to its operation.

"An adverse finding on a record as incomplete as the record in this proceeding," he wrote, "could well be a blow to new enterprise in the field of commercial aviation."

Main issue was whether Trans-Marine was a non-scheduled operator, and within the board's exemption of such carrier from certain economic provisions of the Act, or had held out regular service to the public and hence was a common carrier.

► **Clean Slate**—Frederick concluded that "the operation of Trans-Marine falls short of constituting a well-defined, regular, or even reasonably regular operation as is commonly engaged in by the industry, and that the holding out practiced by Trans-Marine fails to measure up to the clear, concise, and aggressive types of advertising and publicity descriptive of regular, scheduled service as such advertising and publicity are sponsored by the airline industry generally." He therefore concluded that Trans-Marine activities

fall within the non-schedule exemption.

Because of the bearing they may have on similar cases in the future, the examiner's general considerations in arriving at that conclusion are printed in full:

A condition precedent to arriving at recommendations in this proceeding is to determine whether Trans-Marine held out to the public by advertisement or otherwise that it would operate one or more airplanes between any designated points regularly or with a reasonable degree of regularity. It is conceivable that a carrier could hold out that it was conducting a regular scheduled operation but that, in point of fact, no such operation was being conducted. In such a case, it appears that the carrier would fall within the exemption. It is also conceivable that a carrier could be operating according to a regular or reasonably regular schedule, but that, by not holding out to the public that it was so operating it would nonetheless, fall within the exemption. Therefore, in the interest of brevity it is best to determine at the outset if Trans-Marine falls within the exemption because it did not hold out to the public that it did operate a regular or reasonably regular service to and from the points served.

The only unchallenged instance where it would appear that a responsible official of Trans-Marine authorized a statement for public consumption in which it is indicated that daily service would be conducted is the New York *World Telegram* article of June 27, 1945, but Trans-Marine did permit newspapers and magazine articles describing daily service to go uncorrected and uncorrected and admitted that

these stories told the truth about its plans for service.

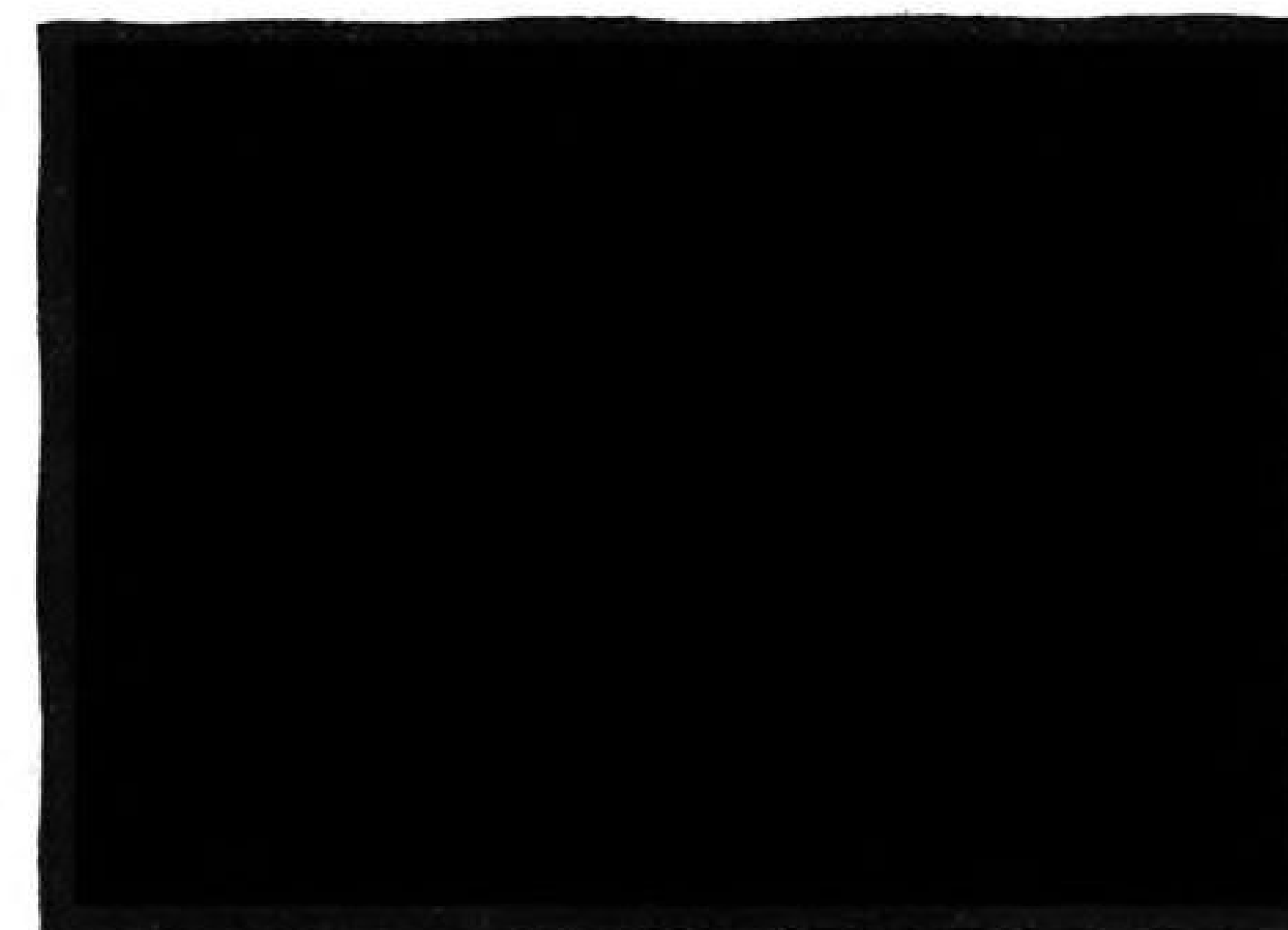
However, the flight plans, which Trans-Marine alleges were for its own administrative use, were frequently changed, and no efforts were made to convey information of these changes to the public. No one connected with the organization had any experience in the operation of an airline or with the administration of the Civil Aeronautics Act and the Board's Regulations. Prior to the commencement of operations, while the idea of conducting the airline was in its incipency, Trans-Marine's president came to Washington and conferred with the Board's General Counsel as to the meaning and application of the Board's Economic Regulation 292.1. According to his testimony, he was told to proceed with the operation with the knowledge that the Board would keep an eye on it. Thereafter, on June 25, 1945, flights were commenced and the venture was immediately successful, much to the surprise of Trans-Marine's officials. All persons connected with the airline found that their entire efforts were necessarily devoted to its activities, the president himself piloting the plane at least 50 percent of the time. There is conclusive evidence that the agents were literally swamped with telephone calls and inquiries by telegraph and mail, a circumstance that renders it probable that the carefully worded instructions to the agents were not strictly adhered to in some instances.

The operation did not commence until the latter part of June and the hearing itself occurred only a few weeks later in the early part of August. Due to flight cancellations for one reason or another, the net actual flying period under observation only amounted to about three weeks. If the business were one of much more extended duration with the result that its operations had achieved a normal pace and definitive of schedules which had become well-fixed by reputation in the public mind, it would be justifiable to impute to Trans-Marine a holding out of a regular or reasonably regular service even though its publicity activities remained as passive through such duration as they appear to be at the present time. Therefore it seems unreasonable, at almost the outset of the enterprise, to hold this organization immersed in the press of a bewildering flow of business, responsible for the proper technical construction of a hitherto unconstrued regulation, or to demand that it deny and eschew what appears to be unauthorized and unsolicited publicity which could, by prolonged acquiescence in it, cast a different legal complexion upon the operation. Taking into account the fluctuation of flight plans, the uncertainty of departure times and arrivals, the fact that the organization itself had not achieved a balance whereby it could proceed with an administration of its operations such as to make them easily cognizable as scheduled or nonscheduled, regular or irregular, it is manifest that the period of observation covered by this proceeding is too short to settle the issues with the same assurance of justice as would be possible if the period of operation were considerably extended. An example of the difficulty encountered in attempting to label the operation or to settle the question of holding out, is the fact that the operation thus far has been conducted during that part of the year when vacation patronage would normally be expected to be highest. There is no way of knowing what the operation will be during the fall, winter, and spring months. It is possible that the company's private flight plans will be abandoned and passengers will be carried only on charter trips or that



# The Birdmen's Perch

By Major Al Williams, ALIAS, "TATTERED WING TIPS,"  
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.



THAT'S an action picture of the hottest pilot in the Navy at work.

He's a night fighter (VF-N) or torpedo (VT-N) pilot and his gold wings hardly do him justice. Wings only signify that a fella can fly.

This guy can fly, all right! He can get an F6F or an F4U or a TBF off a carrier, complete a mission and get back on his carrier . . .

... and he can do it at night during a storm!

He flew Combat Air Patrol over Task Forces at night, so that day fighters got needed sleep . . .

He got over Nip bases and kicked 100 pounds out all night long so the slope-heads didn't get needed sleep . . .

When they wanted to make something of it, he whistled down and smacked 'em before they even got off

their runway . . .

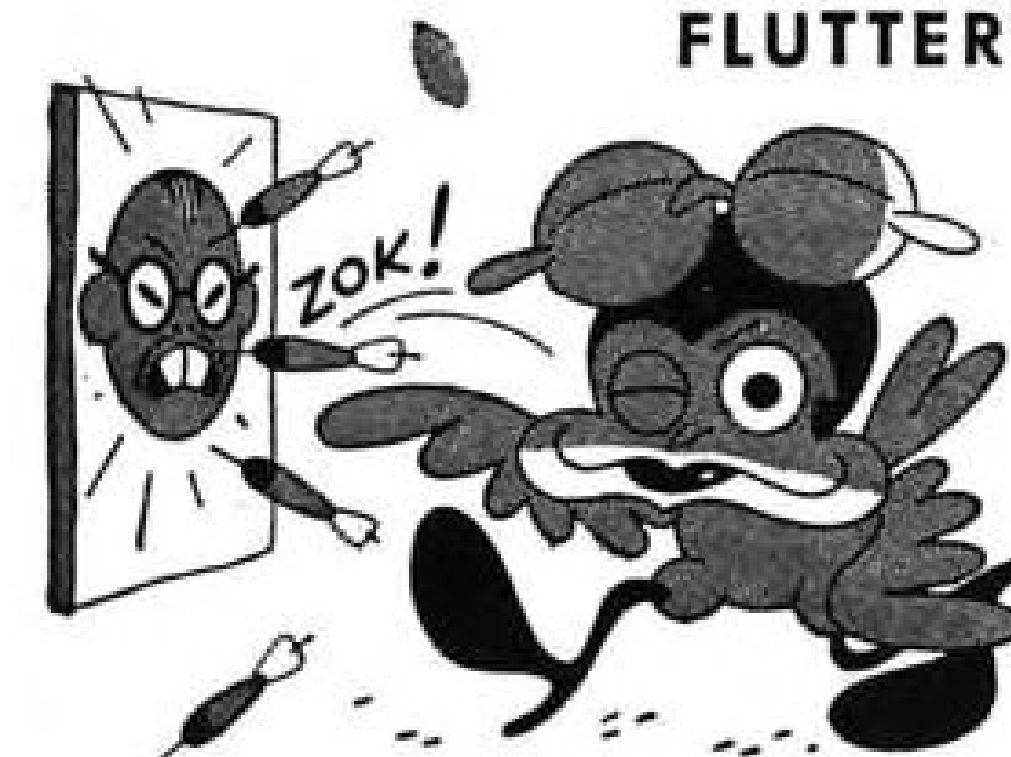
He led day groups to the target on pre-dawn strikes, with his special electronic equipment . . .

He led them back to the carrier when night fell during a mission, too!

The Gloom Glamor Boy of the Fleet begins his night training as one of the Navy's best pilots! Because only a qualified pilot whose flight work is flawless, whose navigation is perfect, and who has a high-compression I.Q. gets through the flint-eyed selection board.

Then he studies and trains for 9 solid months—even though he's flown combat with the Fleet! When he's through, he's jammed so full of so many sciences and skills (electronics, night-indentification, special navigation, etc.) that it doesn't seem possible.

But it was!



### FLUTTER'S DITTY BOX:

Said a Nippo CO, "Nighttime tleat!...  
We fly out—sink Amellican Fleet!"  
But a night fighter group  
Splashed 'em all in the soup.  
Hissed the Nip, "Solly, so indisleet!"

## INSTRUMENT COURSE (CONTINUED)

### Oil Temperature

Excessive oil temperature may be caused by any of the following:

#### a. Insufficient oil.

(Put some more Gulfpride in the oil tank!)



#### b. Diluted or contaminated oil.

(The Alchlor Process super-refines Gulfpride—but it can't change it for you!)

#### c. Wrong viscosity or grade of oil.

(Sure you're getting Gulfpride in the grade recommended by the engine maker?)

#### d. Prolonged overheating of engine.

(Watch that gage!)

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



# Colossus' Little Woman

AND now meet Mrs. Colossus . . . wife of the American Farmer. She's the little woman, the *big* little woman, whose gigantic family and rural neighbors buy nearly 40% of all the consumer goods America produces. And right now, giving her added stature as a prospect, are 14 billion dollars which she and her husband have accumulated in War Bonds and savings!

She's an important woman to know—and to be known by. For make no mistake, her close partnership with the man of the family makes her opinion a potent factor in every purchase made for the farm.

Yes, this little woman means business, a fact well shown by readership studies of *Country Gentleman*. Maybe you never thought of her as devouring articles on hog houses or soil conservation or Herefords—but she does. Periodic reader-traffic studies show that women's interest in *farm articles*—not to mention fiction and home service features—is almost as great as the men's.\* No doubt about it, the preference farm families give to *Country Gentleman* is shared by *both* sides of the family.

And remember, the 2,000,000-odd families which read *Country Gentleman* cover-to-cover are concentrated among those families which buy 72% of all merchandise which flows to America's farms. Q.E.D.: That colossal market beyond the suburbs is a *Country Gentleman* market:

\*Ask a *Country Gentleman* representative to show you the latest reader-traffic study, just completed. Proves conclusively: women, too, read *Country Gentleman* cover to cover.

What business can ignore the farmer's strength?



no trips of any character will be made. Uncertainty as to the hourly, daily, seasonal, and annual characteristics of any operation which Trans-Marine may conduct necessarily leads to an uncertainty as to the type of holding out to the public which can be articulated by the airline and hence ascertained in a proceeding of this sort. The evidence is not sufficient at this stage of Trans-Marine's history to warrant a finding that the Act had been violated.

Consideration must also be taken of the "Declaration of Policy" which appears as section 2 of Title I of the Civil Aeronautics Act of 1938, wherein it is said that:

"The Authority shall consider the following, among other things, as being in the public interest, and in accordance with the public convenience and necessity—  
"(f) The encouragement and development of civil aeronautics."

At least part of the rationale of the promulgation of Economic Regulation 292.1 must have been the Board's desire to encourage and develop civil aeronautics. It is not in the public interest to develop civil aeronautics (in any specific instance) at the expense of other values to be fostered and safeguarded by the provisions of the Act, but it would appear to be the duty of the Board to encourage and develop civil aeronautics where there is no injurious conflict between the public interest on the one hand, or the provisions of the Act on the other hand. In the instant matter there appears to be no conflict between the public interest and the encouragement and development of civil aeronautics as engaged in by Trans-Marine. Where, as in the case with the operations of Trans-Marine, it is not possible to state beyond a reasonable doubt that the board's regulation, promulgated by authority of the Act, has been violated, the fact seems conclusive that there is no conflict between the activities of Trans-Marine and the purpose of the Act. An adverse finding on a record as incomplete as the record in this proceeding, could well be a blow to new enterprise in the field of commercial aviation.

## SHORTLINES

▶ Western Air Lines has submitted to Railway Express a new rate scale reducing rates on air express from 70 to 61.4 cents a ton-mile, a 13 percent cut. The new rate is expected to become effective early in December. . . . WAL increases in August, compared with the same month last

year: revenue passenger miles, 66.42 percent; traffic on its Los Angeles-San Francisco route, 117.67 percent; express pounds, 107.77 percent. Western's subsidiary, Inland Air Lines showed a revenue passenger mile increase of 84.52 percent.

▶ Mid-Continent Airlines' operating revenue was 76 percent higher in August than the same month last year, and 24 percent above July. Revenue passengers carried were up 139 and 25 percent respectively. Net profit after income taxes was \$35,792 for August, 1945, compared with \$27,627 in August, 1944, and \$17,573 in July, 1945. Increases were due in large part to the new Kansas City-New Orleans route, inaugurated Aug. 10, on which passenger load factor for 21 days in August was 67 percent, compared with a system load factor of 80 percent.

▶ United Air Lines began eight daily round trips between San Francisco and Honolulu, Oct. 1, for the Air Transport Command. As previously, C-54's are used. United already has made 4,000 trans-Pacific ATC trips. . . . The company is again employing registered nurses as stewardesses on its domestic routes, a registered nurse's certificate being accepted in lieu of two years' college credit. Recruiting of College girls also will continue. . . . UAL's training center at Oakland is to close Nov. 10, with graduation of the last of 1,281 Navy mechanics and technicians. About 5,000 Army personnel also have been trained at the center.

▶ Delta Air Lines' new traffic vice-president, Leigh C. Parkér, announces that the line's passenger traffic last month was 66 percent above September, 1944. Priority travelers were less than 10 percent of the total. Revenue passenger miles were up 54 percent.

▶ TWA, which recently extended its Air Transport Command contract operation from Casablanca to Karachi, reports that its Intercontinental Division flew 1,552,616 plane-miles during August, flying hours were 8,794, against the previous record last March of 8,270.

## MILLAR CELESTIAL COMPASS

A new lightweight and compact precision compass which is unaffected by magnetic or electrical disturbances. True heading, bearing or compass correction data obtained with extreme accuracy.

Uniquely designed to be rigidly mounted to the top dead center of the astrodome with a free swinging octant hanger as part of the instrument. Complements or replaces a pelorus.

As a result of extensive flight tests it was found to be an invaluable piece of operational equipment for intercontinental flying.

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## Second Globester

Air Transport Command's second round-the-world *Globester* flight was due back in Washington late last week within its 6½-day schedule.

ATC officials said the first flight, completed the week before in 6 days, 5 hours and 43 minutes, demonstrated that the time set was sufficient.

Six planes were used on the first flight because of engine trouble that forced one back to Guam, but five are expected to be the rule on the regular run.

## Seven Lines Shift Service Schedules

New service changes have been reported to the Civil Aeronautics Board by the airlines, as follows:

► **Chicago and Southern**—Inaugurated service at Fort Wayne, Ind., on AM 53 with five arrivals and five departures daily. Some non-stop service between Fort Wayne, 16th city to be served by the carrier, and Detroit will be provided.

► **Eastern**—Cancelled a cargo flight between Washington and Miami via Atlanta and added a flight between New York and St. Louis.

► **Mid-Continent**—Resumed service at Huron, S. D., on AM 35.

► **Northwest**—Added one round trip daily between New York and Twin Cities on AM 69, bringing the total to five.

► **TWA**—Resumed service at Fort Wayne on AM 36, which had not been served since May because of airport conditions.

## AERONAUTICAL ENGINEER WANTED

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► **Colonial Airlines**—Announced separately that acquisition of one plane and anticipated early delivery of 11 more will permit inauguration of service on its recently granted New York-Ottawa route by Jan. 1 and on its Ottawa-Washington route by Feb. 1.

► **Pan American Airways**—Announced a 48-hour schedule between Rio de Janeiro and Miami, cutting 15 hours from the previous time.

## CAB ACTION

The Civil Aeronautics Board:  
• Permitted American Airlines to inaugurate non-stop services between Nashville, Tenn., and Roanoke, Va.; Roanoke and Washington D. C.; and Bristol, and Lynchburg, Va., on AM 23.

• Consolidated into Mississippi Valley case (Docket 548 et al.) applications of Dixie Airways (Docket 1978), Essair (Docket 2006), and Green Rayner Gaillard, et al. (Docket 2001); and granted permission to intervene in the case to American Airlines, United Air Lines, Missouri-Kansas-Texas Railroad Co., Missouri-Kansas-Texas Railroad Co. of Texas, Department of Justice, Orleans Airport Commission, East Baton Rouge Parish Policy Jury, and cities of Little Rock and El Dorado, Ark.; Shreveport, Baton Rouge, Monroe-West Monroe, and Natchitoches, La.; Kansas City and St. Louis, Mo.; Nashville, Tenn.; Natchez, Miss.; and Marshall, Tex.

• Rescinded service suspension order of Sept. 13, because of allocation of an additional aircraft to Continental Air Lines, to permit CAL to resume service at Hutchinson, Kans., on AM 60; Las Vegas, N. Mex., on AM 29; and La Junta, Colo., on AM 43; and permitted CAL to inaugurate non-stop services between Pueblo, Colo., and Santa Fe, N. Mex., on AM 29, and Pueblo and Hutchinson on AM 43.

• Granted George S. Schwamm, doing business as Petersburg Air Service, temporary exemption from Section 401 of Civil Aeronautics Act to permit transportation of persons and property between Wrangell, Alaska, and Telegraph Creek, British Columbia, via undesignated intermediate points on Stikine River.

• Dismissed, at complainant's request, complaint of Air Line Pilots' Association against rates of compensation of National Airlines.

• Dismissed, at applicant's request, application of Cordova Air Service, Inc., for temporary exemption order.

• Dismissed from Southeastern States Case (Docket 501 et al.), at applicant's request, application of Virginia Central Airlines.

• Denied motion of Page Airways, Inc., to dismiss for want of jurisdiction, Board's economic investigation of Page and to present oral argument in support thereof.

• Notified Delta Air Corp. that national defense no longer requires delay in inaugurating service on AM 54 from Cincinnati, Ohio, to Chicago, Ill., and from Knoxville, Tenn., to Charleston, S. C., and Miami, Fla.

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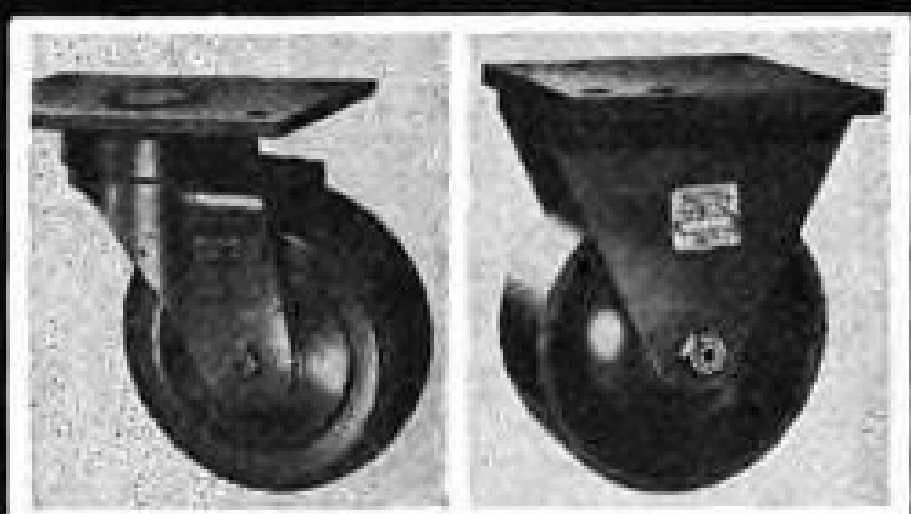
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### CAB SCHEDULE

- Oct. 15. Briefs due in Pacific case. Postponed from Oct. 1. (Docket 547 et al.)
- Oct. 15. Briefs due in Northern Airways-Harold Gillam transfer case (Docket 1928.)
- Oct. 15. Briefs due in Copper River (Alaska) case. (Docket 1814 et al.)
- Oct. 15. Exceptions due to examiners' report in New England case. (Docket 399 et al.)
- Oct. 17. Prehearing conference on Pan American Airways' application for domestic routes. (Docket 1803.)
- Oct. 17. Briefs due in Inter-Americas complaint against proposed acquisition of control of Caribbean-Atlantic Airlines by National Airlines. (Docket 1907 et al.)
- Oct. 22. Prehearing conference in Board investigation of agreement between Pan American Airways and Panair do Brasil, S. A., relating to services and facilities. Postponed from Oct. 8. (Docket 2032.)
- Oct. 22. Briefs due in American Airlines' Oklahoma City-Tucson and Oklahoma City-Phoenix nonstop case. Postponed from Oct. 14. (Docket 1895.)
- Oct. 22. Oral argument in West Coast case. Postponed from Oct. 8. (Docket 250 et al.)
- Oct. 22. Rebuttal exhibits due in Mississippi Valley case. (Docket 548 et al.)
- Oct. 25. Briefs due in Pan American's Juneau-Ketchikan local service case. (Docket 1972.)
- Oct. 25. Hearing in Board investigation of suspensions of, and failure to provide, service at Clarksburg and Morgantown, W. Va., by American Airlines, Pennsylvania-Central Airlines, and Transcontinental & Western Air. (Docket 2030.)
- Oct. 29. Briefs due in South Atlantic route case. Postponed from Oct. 18. (Docket 1171 et al.)
- Oct. 29. Briefs due in Cincinnati-New York case. Postponed from Oct. 1 and 15. (Docket 221 et al.)
- Oct. 29. Oral argument in Pacific case. (Docket 547 et al.)
- Nov. 1. Briefs due in Bristol-Bay case. (Docket 1809.)
- Nov. 5. Hearing in Mississippi Valley case. (Docket 548 et al.)
- Nov. 5. Briefs due in New England case. (Docket 399 et al.)
- Nov. 12. Oral argument in South Atlantic route case. (Docket 1171 et al.)
- Nov. 20. Rebuttal exhibits due in Middle Atlantic case. (Docket 674 et al.)
- Dec. 3. Kansas City-Memphis-Florida hearing. (Docket 1051 et al.)
- Dec. 3. Tentative hearing date in Middle Atlantic case. (Docket 674 et al.)
- Dec. 7. Exchange of exhibits in Kansas City-Memphis-Florida case. Postponed from Nov. 1. (Docket 1051 et al.)
- Dec. 14. Exchange of exhibits in Middle Atlantic case. Postponed from Nov. 1 and 30. (Docket 674 et al.)
- Dec. 24. Rebuttal exhibits due in Kansas City-Memphis-Florida case. Postponed from Nov. 20. Hearing, previously set tentatively for Dec. 3, postponed to unspecified time in January. (Docket 1051 et al.)
- Dec. 28. Exchange of rebuttal exhibits in Middle Atlantic case. (Docket 674 et al.)
- Jan. 18. Hearing in Middle Atlantic case. (Docket 674 et al.)

### Airline Landing Fees Boosted By Cleveland

Commercial airlines will pay \$52,000 more, annually, to the city of Cleveland in landing rates under a new schedule negotiated by

Cleveland Airport Commissioner Jack Berry and representatives of carriers using the Cleveland Municipal airport.

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### STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of Aviation News published Weekly at New York, N. Y. for October 1, 1945.  
State of New York } ss.  
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared J. A. Gerardi, who, having been duly sworn according to law, deposes and says that he is the Secretary of the McGraw-Hill Publishing Company, Inc., publishers and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management of Aviation News, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 2, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the name and address of the publisher, editor, managing editor, and sales manager is: Publisher, McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York 18, N. Y. Editor, Robert H. Wood, National Press Bldg., Washington, D. C. Managing Editor, C. Scott Hershey, National Press Bldg., Washington, D. C. Sales Manager, Robert W. Martin, 330 West 42nd Street, New York 18, N. Y.

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J. A. GERARDI, Secretary  
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**P-157, AVIATION NEWS**  
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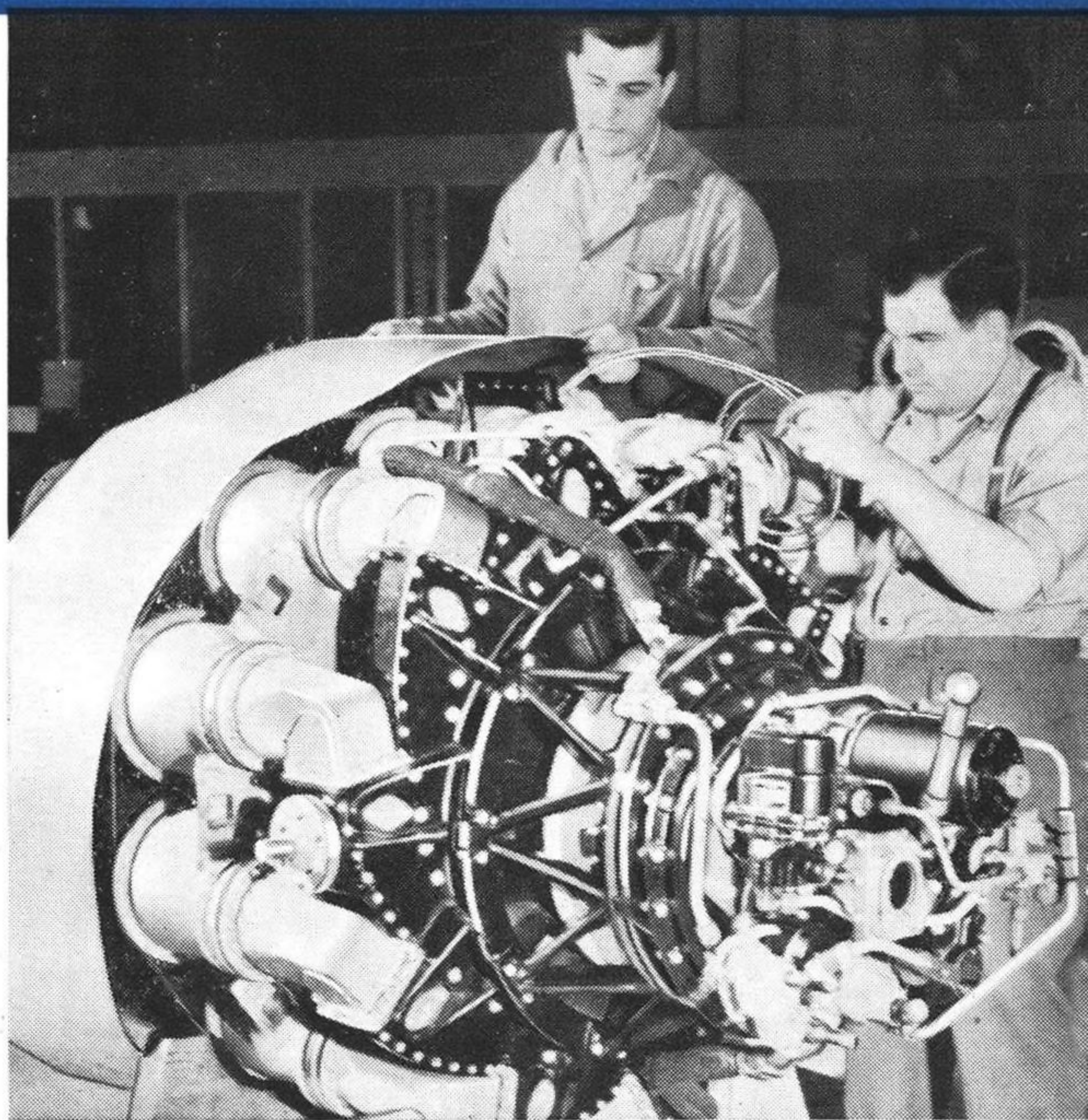
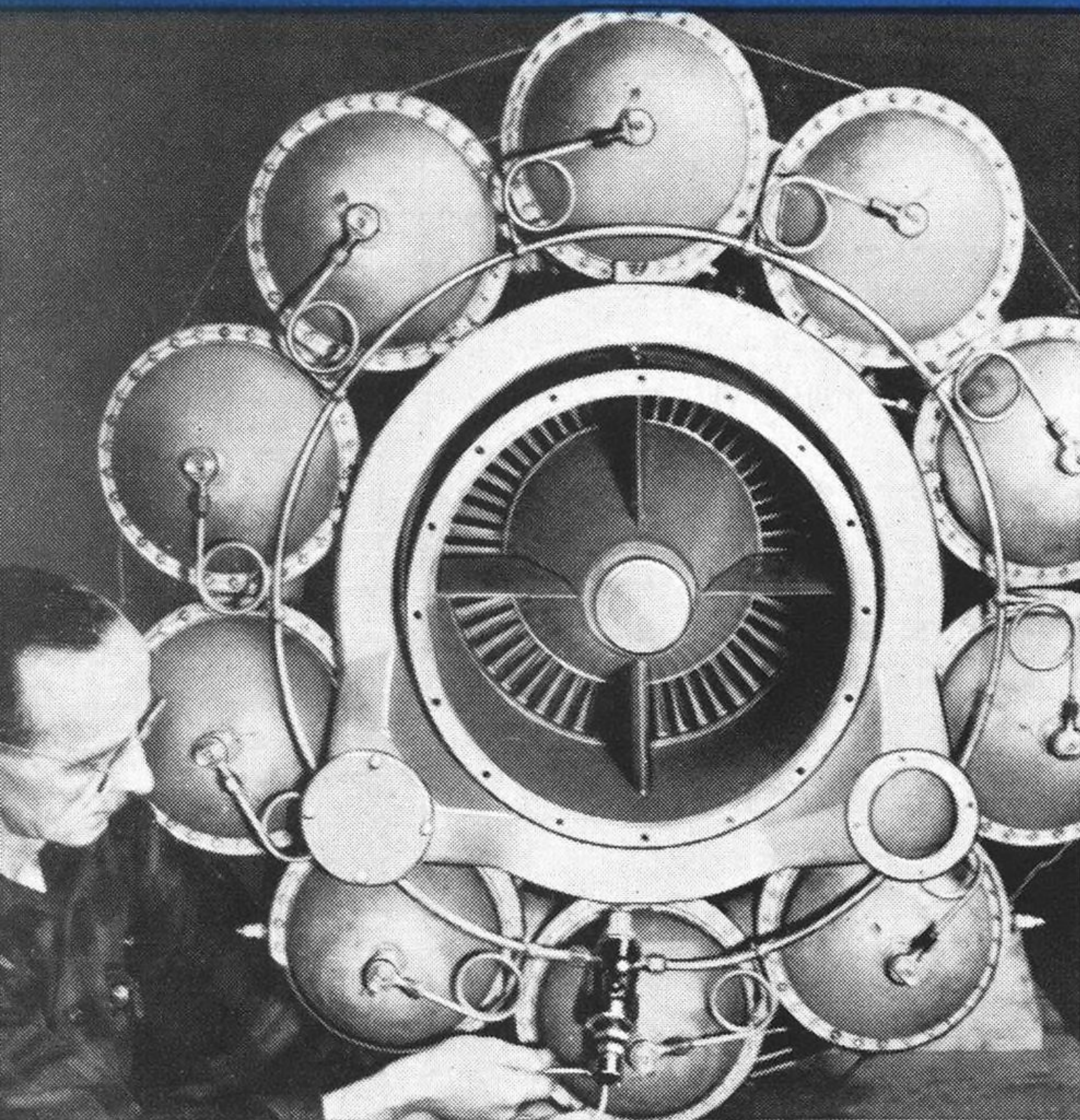
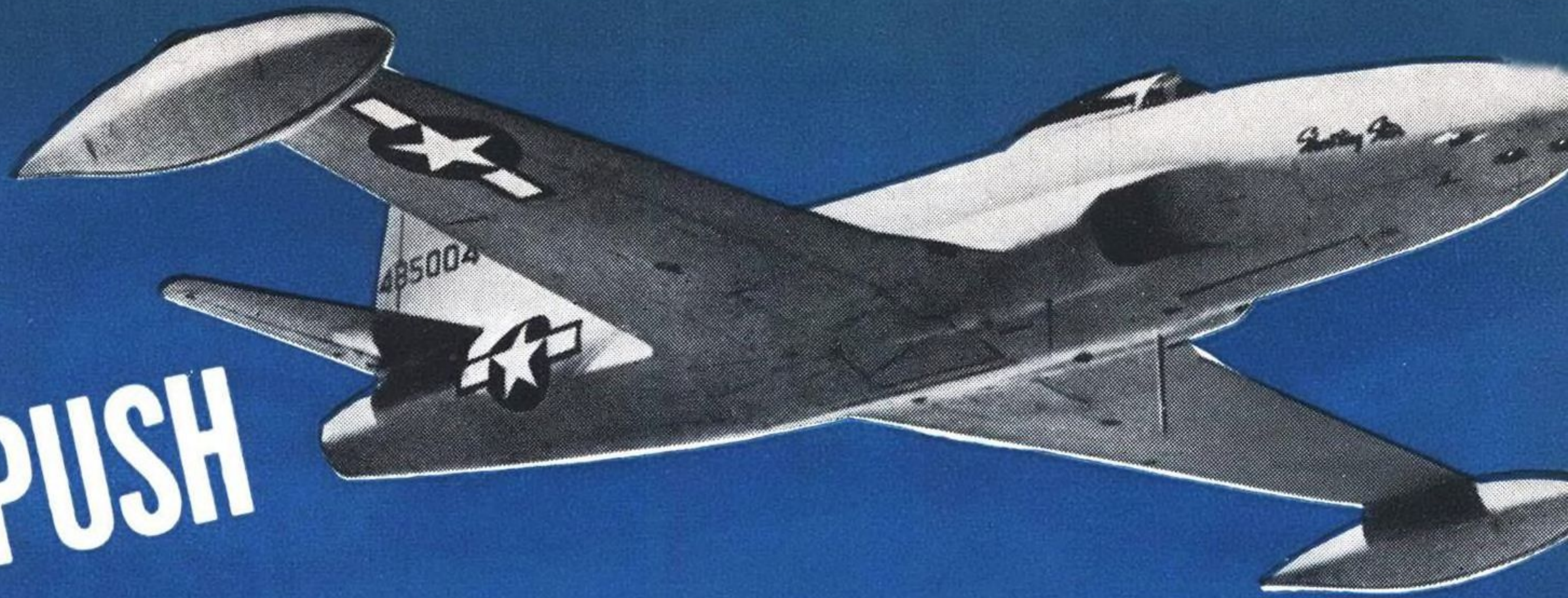
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