

Aviation News

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DECEMBER 27, 1943



Bomber Builder—P. G. Johnson, head of Boeing Aircraft, builder of famed Flying Fortress and new upcoming super-bomber, next week will become president of National Aircraft War Production Council, as well as head of Aircraft War Production Council, West Coast.

War Plants Adequate, Says Nelson

WPB chief reports 1943 plane factory construction is 35 percent below last year.....Page 21



Rush South American Engine Plant

Brazil factory expected to go into production on Wright Whirlwinds early in 1944.....Page 20



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90 Ford Tri-Motors Still on Job

Craft performing heavy duty, mostly on routes in Latin America, according to firm's report...Page 14



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Research Bases Test Warplanes

Army and Navy put new aircraft through battle paces at special proving grounds.....Page 16



OWI Reports Airlines' War Roll

Public told of industry's vital transport, modification, and trainingPage 7



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ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

THE AVIATION NEWS

Washington Observer

THE WRIGHT DINNER—The gathering in Washington honoring Orville Wright on the 40th anniversary of the historic flight at Kitty Hawk was an historic occasion. Leaders in every line of aeronautical endeavor were on hand. It was a brilliant affair and, as many of the guests remarked afterward, the hit of the evening was made by Orville Wright himself. Mr. Wright, of course, never makes speeches.

★

THE COLLIER TROPHY—A high light of the evening was the award of the Collier Trophy to Gen. Arnold. He has built a combination of men and planes into the most powerful Air Force the world has seen. As the general noted, the Army Air Force is one component of America's military service that has been in continuous contact with the enemy every day since that savage attack at Pearl Harbor. The general commented, in accepting the award that, in adding his name to the roster, the National Aeronautic Association, repository of the trophy, honors every man and woman in the Army Air Forces.

★

FLYERS FEW—Although notables were at the head table, the best count showed only three were aviators—Mr. Wright, Gen. Arnold and Admiral King. Perhaps there were others, certainly there were others in the large audience who deserved a place at the table of honor and should have been there.

★

PRESIDENT MISINFORMED — President Roosevelt, in his message read at the dinner, said in part: "I am told they (the Wright Brothers) flipped a coin to see which one would attempt the flight. Orville won the toss and was the first to feel the thrill of flying." Orville Wright's own story of the flight and events leading up to it tells how the brothers tossed a coin and the toss was won by Wilbur. Wilbur's first attempt, from the side of Killdevil Hill, was unsuccessful and the plane settled to the ground at the foot of the hill, suffering minor damages. After two days of repairs, the plane was again ready for a flight attempt, which was made on level ground, and this time it was Orville's turn, resulting in the first of their four successful flights on Dec. 17, 1903.

★ ★ ★

"SELECTIVE RECONVERSION"—Newest pet phrase and program of WPB Chairman Donald M. Nelson is "selective reconversion." This is significant in more ways than one—particularly that the WPB is now definitely thinking in terms

of reconversion, a thought taboo until recently. Selective reconversion means, in effect, that reconversion will start in areas where the manpower situation will not hinder the war production program. There appears little doubt that 1944 will see an accelerated reconversion of some war industries, starting slowly and increasing in tempo during the war. Nelson has indicated that reconversion already has started in some lines and he believes that WPB, with its industry committees, is the agency to direct it.

★ ★ ★

PRODUCTION DATA RELEASED—WPB's new policy of releasing production data is an indication of the reconversion trend, to keep industry advised. Of interest to the aircraft industry are plans for clearing information on monthly shipments by types of aluminum castings, aluminum ingot, magnesium ingot and stocks of softwood plywood. Figures on allotments of critical materials under CMP also are being readied for release. Board officials believe manufacturers must have the coordinated fundamental facts of details of the war production program to aid them in the reconversion task.

★ ★ ★

WAR PAINT OFF—As noted in "Aviation News" last week, the AAF has ordered removal of war paint from almost all of its aircraft. Lockheed's P-38 "Lightning," shown here, is believed



to be the first to shed its dark coat and henceforth will strike in gleaming silver. The dark spots are anti-glare patches of dark lacquer on

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December 27, 1943

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BARBARA FREDERICK.....	Editorial Assistant
DALLAS MALLARD.....	Art Director

Editorial Headquarters,
1252 National Press Building,
Washington, D. C.

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the nose and nacelles of its twin engines to protect the pilot's vision. Although it was not announced, air officers will tell you that the greater part of camouflage was ground camouflage. While the picture is "easy to see" an unpainted airplane in most sky positions is more difficult to sight and estimate.

NAZI AIR OUTPUT—The day and night bombing of German industry is having its inevitable effect on Nazi production. Best recent guesses from overseas estimate that the Germans' fighter production is falling below 650 monthly and it was reliably reported that the German aircraft industry in a recent month was able, by most strenuous efforts, to turn out only about 1,900 combat planes—bombers and fighters. Insiders say it should be even below that figure by now.

NAZI GREETINGS TO EAKER—Lt. Gen. Ira C. Eaker received a radio message from the Luftwaffe the other day which startled the general a little at first and then left him feeling pretty proud of the bombers in his Eighth Air Force. The message congratulated the American bombers on their avoidance of a hospital during the attack on Regensburg. Airplane plants that were the target occupied three parts of a rectangle, according to Boeing's Wellwood Beall, just back from Britain, the fourth corner being a hospital. Beall said so accurate was the bombing that the factories were destroyed, while the hospital was undamaged.

TARGET: GERMANY—For a graphic, gripping story of the now almost legendary Eighth Air Force, there is none better than that presented in *Target: Germany*, the official story of the first year of the Eighth's Bomber Command over Naziland. Gen. Eaker detached two of his officers to write the story. All royalties from the sale of the book go to the Army Air Forces Aid Society.

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1942		666
1943		940

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Washington Observer

CHANGES IN THE WIND—Some war industries are beginning to feel the changes in production which hang over the nation. Even the aircraft manufacturers are involved. Chevrolet and Buick, with big Pratt & Whitney engine contracts, are said to have had their schedules cut back and there have been lay-offs. There are buzzing rumors of changes at Willow Run in the near future, course yet undetermined. Cut backs and cancellations, particularly in the automotive industry, are reported to have upset manpower calculations.

SOUTH OF THE EQUATOR—It can now be disclosed that tiny Ascension Island, 500 miles south of the equator in the middle of the South Atlantic, has been of great aid in the ferrying of short-range fighter planes to southern European and African fronts. The British possession, of about 34 square miles, has been a stopping place and a good one, being about 1500 miles east of Natal and about equidistant from British and American air bases on the southern coast of the African bulge. It took a bit of doing for the Air Transport Command to make arrangements with the British, first, which was easy, and then the construction of an airport. This perfectly situated base may come in for some discussion when postwar air transport problems are tackled.

BIGGER AIRPLANE CANNON?—Installation of 75 mm. cannon on North American's B-25 "Mitchell" bomber naturally opened up speculation on the prospects of mounting even larger guns on our aircraft. Since aircraft engineers and Army Ordnance has been able to solve the problems attendant upon the installation of a 75 mm. cannon, it stands to reason there must be experiments going on involving even larger guns, perhaps as large as 105 mm. Artillery truly has sprouted wings and there may be great things in the offing.

AIRCRAFT CARRIERS AGAIN—Rear Admiral DeWitt C. Ramsey, chief of the Bureau of Aeronautics, has some pertinent words to throw into the perennial discussion anent aircraft carriers. The admiral says it is not an overstatement for him to say that this type vessel with its complement of aircraft, capable of striking the enemy at ranges of 250 miles or more, has completely revolutionized Naval strategic thinking and Naval tactics. Despite the authority behind this statement there are still a few deep water admirals who are reluctant to believe it. As to the vulnerability of the carrier, Admiral Ramsey concedes that, but points out that the hazards of their operation must nevertheless be accepted in appreciation of their terrific offensive power.

LENGTHENING SHADOWS OF PROGRESS...



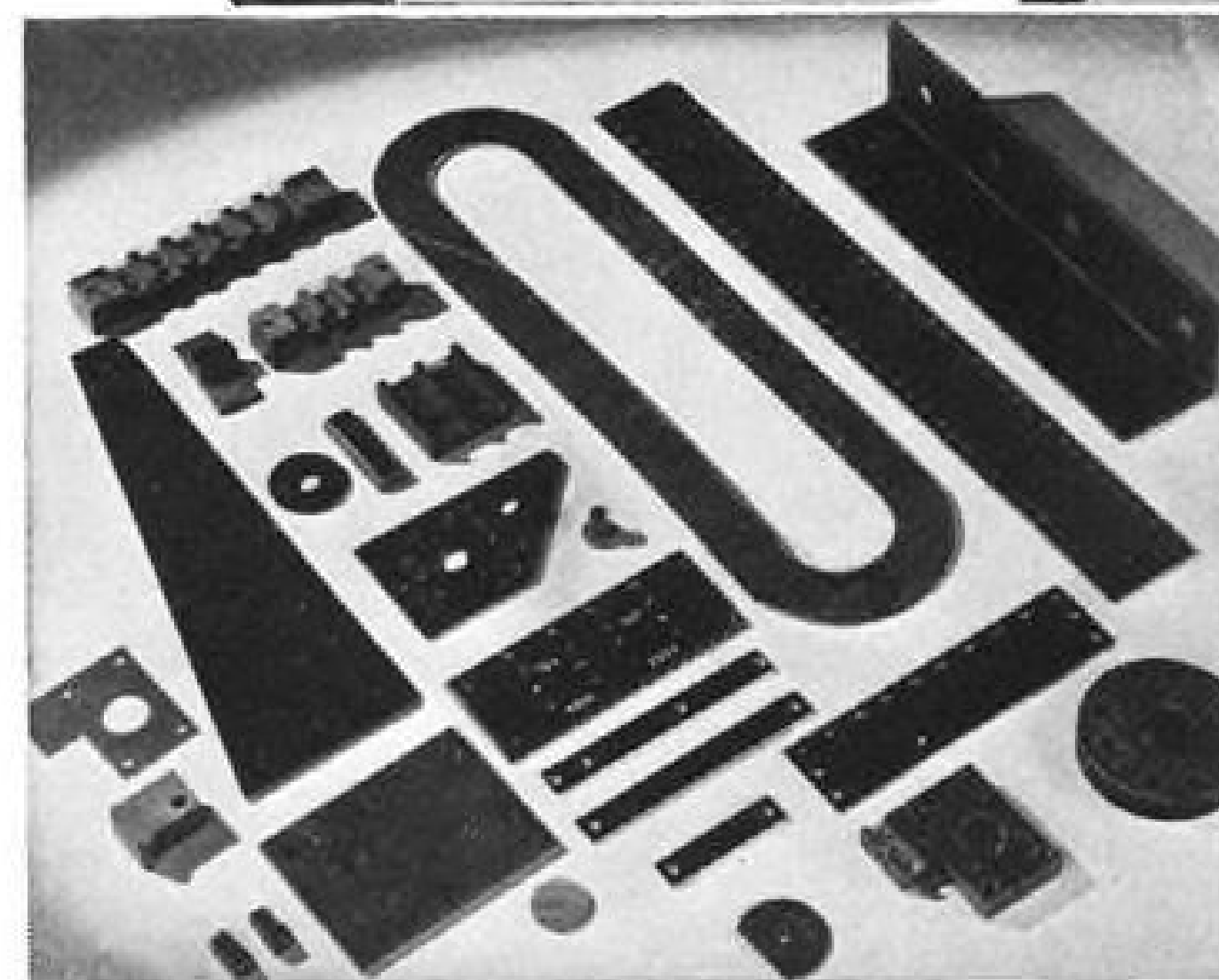
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Aviation News

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DECEMBER 27, 1943

OWI Report on U.S. Airlines Says 14 Fly Foreign Routes

First official roundup of air transport industry's war operations by 21 companies is released to press.

By ROBERT H. WOOD

The first comprehensive description of the "highly strategic war roles" played by the U. S. air transport industry was released to the press last week by the Office of War Information.

Although industry people have been familiar with the airlines' participation since they were organized for war the Sunday after Pearl Harbor, the public generally has been permitted to have little in the way of information on the scope of operation.

► **Airlines Data Used**—The 13-page mimeographed report was written by James Aswell, of OWI's writers' staff, and was compiled from data gathered from the individual airlines and from War, Navy, CAB, and Air Transport Association.

Numerous passages from the original version of the report, without military importance, were blue penciled by an assistant on the staff of the Army's Air Transport Command. The report was held up in the same office for some days. For a time, resistance was so strong in this office against any report that OWI had difficulty getting belated approval to start it. The Navy cooperated fully. The report was scheduled and written by OWI as the result of an editorial in AVIATION NEWS, Aug. 16.

► **Contract Airlines**—"The NATS owes much to its contract airlines (Pan American and American Export)," the Navy's Air Transport Service told OWI. "Internal operation and organization of NATS squadrons is modeled on Naval usage, coupled with the best commercial practice. It is with reference to personnel, however, rather than to any other particular, that NATS is indebted to the airlines. An early call sent out to the airlines brought

into the service a nucleus of highly trained and experienced airlines personnel."

Maj. Gen. Harold L. George, ATC commanding general, said of the lines: "If it had not been for their wholehearted cooperation, it would have been nearly impossible for us to carry on the job in the way it has been done."

► **Greatest Aircraft Fleet**—The work of the 18 domestic lines, including Hawaiian, and the three international companies, has resulted in crea-

tion and operation of the "greatest fleet of world-girdling transport aircraft in existence."

Fourteen companies, including Consairway, subsidiary of Consolidated Vultee Aircraft Corp., are flying internationally. They are Pan American, American Export, Braniff, American, Eastern, Northwest, TWA, Northeast, United, Western, Pan American-Grace, Hawaiian, and Colonial. No information on their individual routes was approved for publication, although this material has been published at one time or another in national magazines. Four routes were mentioned—North Atlantic; Africa-India-China; South Pacific; Alaska-Aleutians. These companies, as well as the other domestic lines, also are flying military cargo schedules in this country. This phase also was barely mentioned.

► **No Hocus Pocus**—"There is no hocus pocus about flying oceans," the report quotes a pilot. "Men have to be skilled and mechanics efficient, but flying is flying and navigation is navigation, whether it's over land, sea, mountains, or deserts."

Greatly increased commercial service of the lines this year, despite loss of a third of their trained personnel and half of their planes to the services, was due to aircraft loads of 80 to 100 percent instead of 68 percent last year, to more economical maintenance and overhaul due to fewer types of aircraft, to flying planes 10 to 12 hours a day instead of 8½, as in 1941 (1,725 miles per plane instead of 1,100), to fewer stops and schedules, and to passenger and express priority.

► **Safety Devices**—New safety devices have "vastly improved existing ones," but most are still secret, although application to postwar aviation "will bring revolutionary changes," OWI says.

Training activities of 19 airlines for the services involved organizing the Airlines War Training Institute, which correlated and standardized transitional training of military personnel. Nineteen of the companies gave instruction, including twin-engine courses for pilots, training of navigators, radio operators, mechanics and meteorologists, and transocean work. This flight train-

Aided Aleutians

Retaking of the Aleutians by the U. S. would have been postponed for months if ten airlines had not rushed men and cargo quickly and in great quantity, the OWI report on the airlines' war work discloses.

"They transported special troops and military equipment to Dutch Harbor. Airline pilots delivered Army bombers, with their crews and bombs. NATS flew personnel and material into Alaskan and Aleutian bases in squadrons of three planes each—utilizing one pilot familiar with the territory, the other two pilots flying in formation.

"Even as the Japanese were attacking Dutch Harbor, airliners were coming in at the airport with war materials. Full evaluation of the airlines' contribution to the successful defense of Alaska will probably have to await the conclusion of the war."

The lines aiding were Pan American, United, American, Northwest, PCA, TWA, Chicago and Southern, Western, Braniff and Pan American-Grace.



SOUTHWEST'S CARGO LINE PRAISED:

Southwest Airways completed its first year of all military operation by chalking up 1,527 scheduled flights and 548,204 miles without loss or damage to cargo. Ted Mitchell, manager of Southwest (right), is congratulated by Brig. Gen. Lucas V. Beau (center) and Col. William Centner, of San Bernardino, Calif., Air Service Command, who established the service. The record means an increase of 162 percent, in a year, of Southwest's scheduled route mileage, which amounts to about 75,000 miles a month, and quadrupling of daily flights and installations.

ing for the ATC is nearing an end.

► **Research and Tests**—"Experimental and research work of the commercial airlines has been of incalculable benefit to ATC and NATS. . . . Important improvements have been made on tires, wheels, propellers, instruments, accessories, and operations technique. Tests are constantly being made on pressurized cabins and superchargers for high altitude work, lighter fabrics and other structural material, packaging, and on safety equipment."

Less bulky packaging, made of strong, specially processed cardboard and fiberboard, have replaced wood and metal wherever possible. Heavy wrapping paper and burlap also are used. . . . The payload of one type of seaplane has on occasion been increased from 4,000 to 6,000 pounds by reducing tare weight of cargo.

► **Space Saving**—A shipment of airplane engines, which by old packaging would have weighed 26,625 pounds and required five or six transports, was reduced by NATS to 8,862 pounds and shipped in one plane. New securing gadgets also have aided.

Pan American, American, and TWA helped develop self-inflating life rafts with complete equipment. New maintenance short-cuts were adopted by the lines. Airline engineers keep precise performance data

Pioneering Past

The world system of U. S. military airways has passed the pioneer stage, according to OWI. The effect on future commercial air transport is obvious. "Transport pilots no longer run risks of being unable to land in the far north. Remote atolls and jungle rivers have become seaplane bases. Large airfields and adequate installations are strung through jungles where, a matter of months ago, trail-blazers from the AAF and Pan American were dickering with natives to clear runways.

"Today our military airways have made any spot on the globe less than 60 hours' flying time from your home town airport in the U. S."

on all military planes they fly, aiding in redesigning or replacements. Tests on new super-fuels are under way, "invaluable in production of today's high octane gasolines."

► **Modifications**—"One of the most spectacular of the airlines' war contributions" was work done by the modification centers, where "any standard plane can be tailored for a variety of operations under totally dissimilar weather and tactical conditions." Pontoons were put on DC-3's, bombers are improved, special jobs prepared for such as Doolittle's Tokyo raid with "souped up" Mitchells, obsolete models are altered for towing targets, duster planes are equipped (by Delta) to spray insect poison on swamps, cargo planes become flying hospitals or meteorology labs. Only Continental's \$12,000,000 plant is mentioned.

► **Flew World Leaders**—Ocean flying planes sighted subs and survivors. They flew world leaders, including Churchill and Roosevelt. "The President's trip to and from the Casa Blanca conference was a joint undertaking of ATC and NATS, using Pan American and TWA crews. Emergency cargoes were carried—serums, salves for burns, plasma, anti-toxins, machinery, currency to Brazil, as well as service mail. Eastern Air Lines is a "flying weather bureau" issuing bulletins along the east coast.

The report was prepared with approval and cooperation of the Air Transport Association.

War May Determine Brewster Outcome

Threat to cancel contract studied in view of current aircraft requirements.

What the Navy may do if advised by the House Naval Affairs Committee to cancel Brewster contracts for Corsair shipboard fighters depends upon tactical developments in the air war. The Committee investigated Brewster's production failure from Oct. 13 to Nov. 30.

Actually the probe is merely suspended, is officially still in effect, which puts the Committee in the unprecedented position of holding surveillance over a contract operation which is in charge of an executive office—the Navy.

► **"Corsairs" in Demand**—Right now, the Navy needs all the Corsairs it can get, but weeks or months from now, if advised by the Committee to do so, it might give up its output from the Brewster Johnsville, Pa.,

plant, press Vought and Goodyear for more Corsairs than they are now delivering, and assign more facilities to production of the newer Grumman Hellcat. Just what the fighter problem will be cannot be determined exactly, until the assault on Japan is further developed.

The Committee has no executive authority to order Navy to cancel out of Brewster. But actually the power of Congress is unlimited because it controls authorizations and appropriations.

► **May Revert to DPC**—If Navy dropped Brewster, the \$8,000,000 Johnsville plant probably would revert to the Defense Plant Corp., which financed it. The Long Island plant would become eligible for new jobs, but its DPC-owned tools and other facilities would be taken out. The Brewster plant at Newark Airport, in a converted hangar, does not figure in the Corsair picture; it makes wing panels for Consolidated-Vultee.

Committee spokesmen admit they have thought of turning the Johnsville plant over to some other management, with a high performance record, but they say it might possibly not be producing Corsairs. There is no reflection whatever on the Vought-designed fighter; Navy reports its work excellent.

► **Faults Analyzed**—The Congressional report on Brewster is signed by Rep. P. H. Drewry, chairman of the Naval Affairs Subcommittee which made the weeks-long study. It is forthright in its criticism of a long series of Brewster managements, analyzing the faults of succeeding presidents. It says the Navy failed to take prompt and vigorous steps to remedy the difficulties when production failure was brought to its attention.

"It is plain that the major responsibility for the failure of production at Brewster rests with the short-sighted union leaders . . ." the report states, and it says that Thomas DeLorenzo, leader of Local 365, whose real name is Harry Posner, is a "self-confessed perjurer, openly contemptuous of his country's laws, and of the Navy."

► **Ten Recommendations**—The Committee makes ten recommendations in detail to the Navy and other federal agencies involved, and it suggests that the Navy and the War Labor Board write a new labor contract for Brewster and its 18,000 workers. It requests a monthly report from the Navy itself on Brewster production, on the schedule, on acceptances and deliveries, manpower utilization, and on any disturbances that may occur.

The report says that Brewster never succeeded in getting mass production of Corsairs. In August, 1943, it had delivered only 8 airplanes. The original order was for 260 airplanes; this was increased later to 508, and last March another 1,000 were added. The first delivery was ten months behind schedule, in August this year. The SB2A dive-bomber program, if it had not been cancelled in November, would have been completed last December, 18 months late, after the planes had become obsolete. None of them was ever assigned to combat.

Army Chief Analyzes Helicopter Outlook

Gregory, Wright Field, sees popular use delayed by high cost and operation difficulties.

The helicopter, a favorite hangar-flying topic for airmen and laymen alike, is not ready yet for the average man, in the opinion of Col. H. F. Gregory, chief of rotary-winged aircraft development, Wright Field.

Gregory suggests that automatic push-button controls may be the solution to make the helicopter a family car that the man-in-the-street can fly, but until some such development comes along the rotary-winged aircraft takes too much coordination of controls for any but an expert.

► **Addresses SAE**—Col. Gregory, speaking before the Southern Ohio

section of the Society of Automotive Engineers, said automatic control development was not unlikely eventually, but that it was not just around the corner.

"Why anybody should think that a helicopter, which can do anything an airplane can do and besides that can fly sideways, backwards and ascend and descend vertically, should be easier to fly than a conventional plane is hard to understand," he said.

► **Production Problem**—It is Gregory's opinion that it will take "sizeable production" to get even a two-place helicopter down to the cost of an expensive automobile, and a family-sized helicopter will be considerably more expensive, since it probably will require about a 300 hp. engine.

Gregory, who has been flying autogiros since 1936 and who was the second man to fly the original Sikorsky helicopter, pointed out that besides operating conventional rudder and stick controls, the helicopter pilot must coordinate throttle and pitch control of the rotor, and must coordinate rudder with increases and decreases in pitch because of the necessity to counteract torque of the main rotor.

► **Tells of First Flight**—"I felt just like I was sitting on top of a greasy ball and was having a hard time staying on top," Gregory said, describing his first flight in the first Sikorsky helicopter at Bridgeport, Conn., in 1940, a flight which led to his recommendation for the Army to order larger models.



NEW FIRE EQUIPMENT FOR AAF:

A demonstration at Bolling Field, Washington, D. C., shows the use of new equipment, built to AAF specifications, in extinguishing fires involving large amounts of high octane aviation gasoline. This development, being adopted for AAF airfields, employs carbon dioxide in large quantity and at a high discharge rate, and is incorporated in the airplane crash fire truck produced by Cardox Corp. This fire was put out in 45 seconds. The truck has a capacity of three tons of liquid CO₂, and 500 gallons of water, used to cool the material and atmosphere.

Col. Gregory outlined helicopter studies dating back to Leonardo da Vinci, pointing out that American Army airmen had been interested in helicopter possibilities since 1918, studied on the Cooper Hewitt helicopter. He described the first flight of the old De Bothezat helicopter at

McCook Field, Dec. 18, 1922, as the most successful of its day, and referred to later tests on the Berliner helicopter, and European developments by Brequet, Sikorsky, Pescara, D'Aecani, and finally the first successful helicopter flown in Germany, the Focke-Achgelis FW-161.

Omnibus Contract Termination Bill Urged to Speed Postwar Settlements

Senator Murray presents preliminary outline of measure with request for clear track when Congress reconvenes in January.

Triple A priority for contract termination legislation by Congress when it reconvenes in January has been urged by Senator James E. Murray, of Montana, who holds that the present confusion on how terminated war contracts shall be settled "impedes the progress of the war and threatens the very foundations of our post-war economy."

Murray has submitted to the Senate a preliminary outline of an omnibus contract termination bill calling for a director of Contract Settlement under the Office of War Mobilization. Joining with Murray were Senator Harry S. Truman, of Missouri, and Senator Chapman

Revercomb, of West Virginia. Their bill outline is a part of the report made to the Senate Military Affairs committee by a war contract subcommittee composed of the three senators.

► **Conclusions**—While the subcommittee's report emphasized that final conclusions have not yet been reached on specific provisions of the bill, three general conclusions are set forth. They are: An omnibus contract act is called for—instead of "a host of separate, conflicting and ill-related acts." The importance of constant Congressional vigilance over the administration of the legislation is stressed.

Air Exports Gain

Studies by the foreign trade division of the Bureau of the Census show air exports are increasing, both in volume and variety. Eighty-six percent of the value and 73 percent of the volume of the cargo shipped from this country by air during July consisted of textiles, machinery and motor vehicles, chemicals and miscellaneous commodities.

Forty-four percent of the exports went on the North American continent, mostly to Cuba and Mexico. South America received 38 percent and Africa 8. The list included shippings by air under Lend-Lease agreements. Censorship limitations prevented an elaboration.

► **Responsibility** — The legislation must be based on "a declaration of policy that imposes on the Government and the executive agencies the responsibility to provide all business enterprises having claims arising from terminated war contracts, whether prime contracts, subcontracts or purchase orders with the opportunity to obtain quick, equitable final settlements and adequate interim financing during the period between termination and final settlement; to protect the interests of small business in contract termination and to protect the government's interest by preventing overpayments, recovering excess payments and vigorously prosecuting all cases of fraud."

► **Subcontractors**—With regard to subcontractors' claims, the contracting agencies are instructed to encourage the prime contractors to negotiate the bulk of the settlement. Where this is not feasible, the contracting agencies—with the consent of the prime—are to deal directly with the subs.

Policies to be followed with regard to materials on hand and goods in process are outlined in detail. Registration of released manpower with the United States Employment Service is required. Provision is made to coordinate contract settlement with renegotiation, to maintain the responsibilities of sureties, to protect the rights of assignees and to handle the problem of informal or defective contracts.

► **Advance Payments** — Mandatory advance payments of at least 75 percent of the amount certified are to be paid to prime contractors within 30 days after application under the proposed legislation. The director of contract settlement is directed to de-

cide on the information required in the application and on the type of investigation to be made by the contracting agencies before payment. Any overpayments are subjected to penalty interest rates and both direct and guaranteed loans are authorized under the proposed bill.

Navy Breaks in Mars As Cargo Carrier

Giant craft took 13,000 lbs. of Christmas mail to Natal.

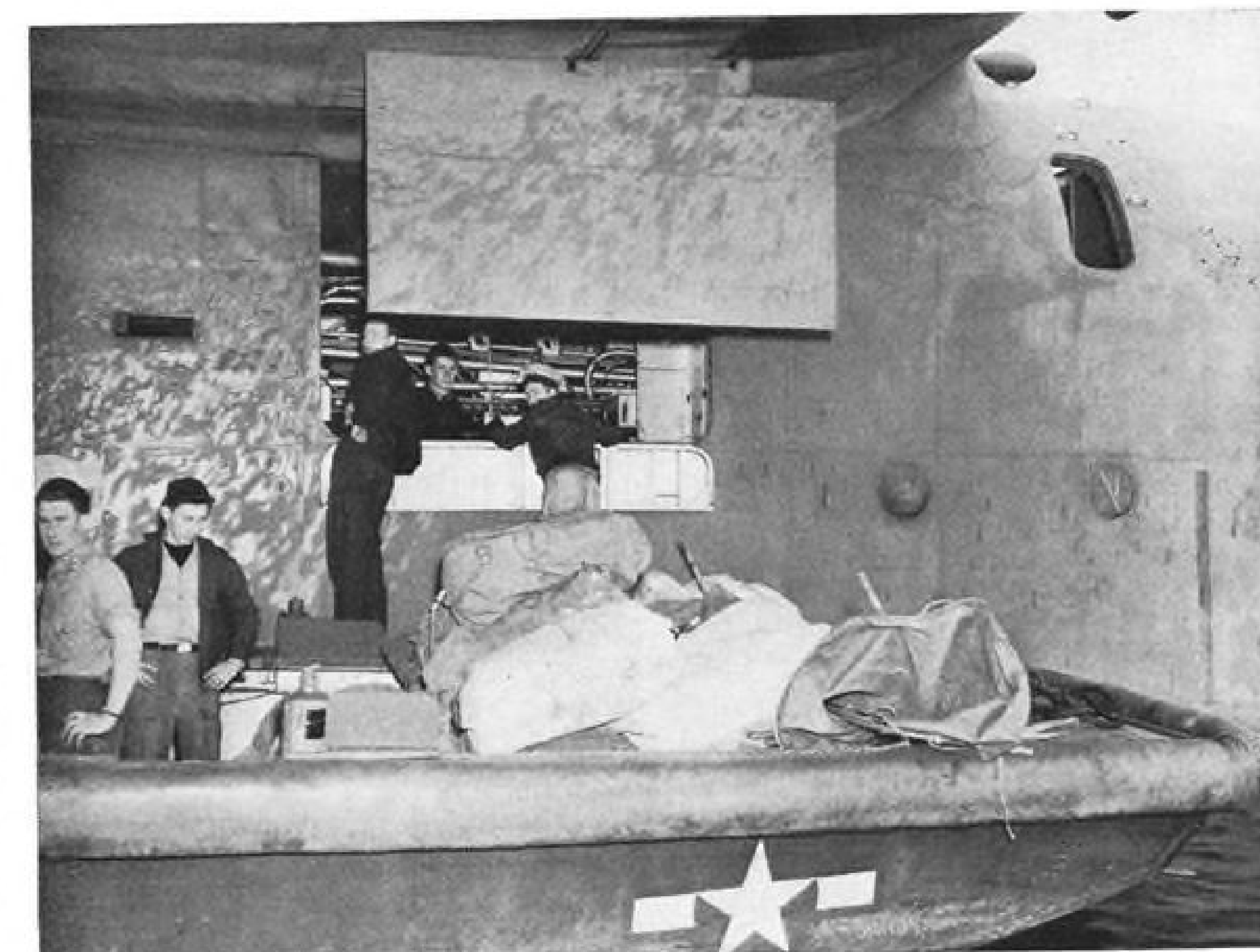
There is more behind the recent record-breaking flight of the Martin *Mars* than an extraordinary performance of the world's largest plane—it is the unflagging confidence of the manufacturer, Glenn L. Martin and the confidence of the Navy crew which has lived with the craft for more than a year.

There have been many times since the *Mars* first was projected, originally as a patrol bomber, when many airmen were ready to give up on the giant. She had her growing pains and they were severe and the bugs that beset any new plane were even bigger in the *Mars*, commensurate with her size. The bugs were stubborn. But so were the men who were making the flying boat and so were the Navy men who were working on her and flying her.

► **4,375 Miles Non-Stop**—These men must have had more than a modicum of satisfaction when the *Mars* landed safely at Natal, Brazil, after a 4,375-mile non-stop flight from the Naval Air Station at Patuxent River, Md., and then home again by comparatively easy stages, meanwhile surpassing all existing records for overwater flight and air cargo transportation.

Mars carried a crew of 16 commanded by Lt. Comdr. William E. Coney, 37-year-old veteran of Navy flying operations and for ten years a pilot for Eastern Air Lines. His first and second pilots were former Eastern Air Lines colleagues—Lts. Joseph A. Baker and Kenneth W. Winsor, both former Navy flyers, too. Navigator was Lt. L. H. Wither- spoon.

► **Carries Christmas Mail**—From Patuxent to Natal, the *Mars* carried 13,000 pounds of Christmas mail to the armed forces. From Natal, the *Mars* returned home with stops at Belem, Brazil; Port of Spain, Trinidad; and Bermuda, carrying a record-breaking cargo of critical war materials. From Natal to Belem, the cargo weighed 23,000 pounds; from Belem to Port of Spain, 35,000



Greatest Air Cargo Load: The Martin *Mars* established four world records on her first war mission, one of which was a new non-stop air cargo carrying mark. Unloading the giant is a man-sized job. The hatch is hydraulically-powered. Cargo pictured here is being unloaded at Patuxent River, Md., Naval Air Station, after the *Mars* returned from her non-stop hop to Natal and more leisurely flight with stops on the way home.

pounds, from Port of Spain to Bermuda, 23,000 pounds, and from Bermuda to Patuxent, 27,400 pounds.

Some of the records set by the *Mars* were: 1. Longest overwater flight, Patuxent to Natal; 2. Greatest air cargo, 35,000 pounds; 3. Heaviest load ever lifted by a plane, 148,500 pounds, gross takeoff from Patuxent and 4. Longest non-stop cargo flight. ► **8,972 Miles in 55 Hours**—In all, the *Mars* covered 8,972 miles in 55 hours and 31 minutes flying time. Thus, a load of 48,000 pounds of priority war material, as much as ten standard cargo planes could carry, and well over the capacity of a regular freight car, was transported at an hourly average speed of 161 miles. The massive 35,000-pound load was flown from Belem to Port of Spain, straight over the Amazon jungles, on a beeline to Trinidad.

The Natal flight took 28 hours and 25 minutes. All told, the flying boat was gone eight days, during which cargo was carried a distance more than a third the way around the world at the equator.

► **Tested by Navy**—Extensive tests, reported by AVIATION NEWS, preceded acceptance of the *Mars* by the Navy. The flying boat finally was accepted for the Naval Air Transport Service only a few days before its historic flight.

Capt. Donald Smith, U.S.N., head

of NATS, rushed it into war service immediately to test its utility as a cargo plane. Airmen on the trip said the craft performed excellently throughout the flight. Its range and load-carrying ability are expected to contribute heavily to volume transport of critical cargo.

Texas-Mexico City Night Flights Begun

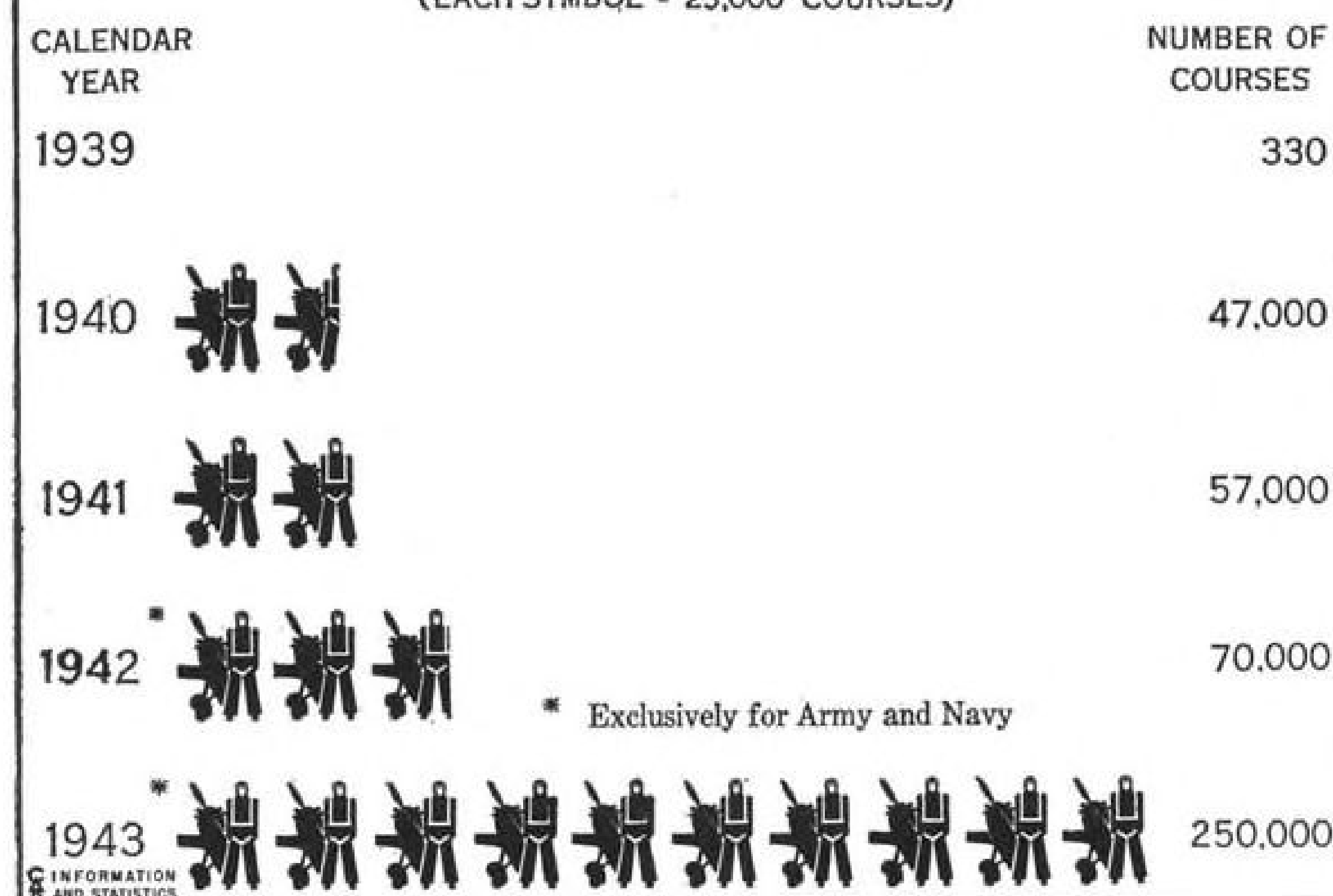
New directional system set up by American Airlines.

New directional range airways installed at Mexico City and Monterrey by American Airlines have made possible night flights by the company over part of its route from Texas to the Mexican capital. First night flights were started early this month from Ciudad Victoria, Mex., through Monterrey to the vicinity of Wink, Texas.

► **Night Flights**—This marks the first official night flights approved by the Civil Aeronautics Administration for a United States airline to make in Mexico, according to Delos W. Rentzel, American's director of communications.

This directional airway is also said to be the first installed in any Latin-American country by a domestic airline.

CAA WAR TRAINING SERVICE FLIGHT INSTRUCTION COURSES (EACH SYMBOL = 25,000 COURSES)



GROWTH OF WAR TRAINING SERVICE:

This official chart, released by the Civil Aeronautics Administration, depicts the expansion of the activities of War Training Service during the past twelve months.

Mid-Continent Job Ratings Approved

NWLB Approves Classification of Office and Technical Workers.

National War Labor Board unanimously approved the establishment of a job classification system affecting office and technical workers in four mid-continent aircraft factories.

The companies covered by the approved wage plan are Douglas Aircraft Co. (Tulsa, Oklahoma City and Chicago plants); North American Aviation (Kansas City and Dallas plants); Consolidated Vultee Aircraft Corp. (Nashville plant); and Higgins Aircraft Co. (New Orleans plant).

As it will apply to these companies, the job classification system will include 14 labor grades with 125 job classifications. The rate ranges vary from 60-75 cents for trainees to \$1.40-\$1.75 for the highest grade of skilled technicians. Though not all of the workers will receive increases, the number varying from 25 to 78 percent, the amount of increases, on a plant average, ranges from 1.6 cents to 9.2 cents an hour. Any increases that result are subject

to the approval of the director of economic stabilization.

► **The Request of Douglas Aircraft** for extension of a vacation and sick leave schedule to its office personnel, and for certain shift differentials, was also unanimously approved by the Board to bring these benefits in line with those applying to the factory workers.

► **A Modification** of a group incentive plan proposed by Republic Aviation Corp. to cover all but executive employees at its Farmingdale, N. Y., plant, has been approved by NWLB. About 16,000 workers are affected.

The plan provides for the payment of a bonus calculated after employees have reached 85 percent of the efficiency called for in a standard set by the company. The bonus would be 1 percent of earnings after each percent of efficiency over 85 percent. As originally submitted by the company, the plan had called for bonus payments after 80 percent has been reached.

The Board denied the company's request that it be permitted to change the established standard as conditions warrant. The new plan is to be retroactive to October 1, 1943, but is to be effective only for three months after the date of the Board's action.

► **NLRB Certified**—The Mechanics Educational Society of America as bargaining agent for tool-makers of Northern Aircraft Products division, Aviation Corp., Toledo. At the same plant, UAW-CIO was certified for production and maintenance employees.

► **War Department** adopted a new and liberalized policy governing the release of information concerning the award of construction contracts. Under the new policy exact locations and exact amounts of such awards will be announced. More specific information about the work to be done will also be announced.

Although formerly announcements of contracts and authorizations have included only those projects involving the expenditure of \$1,000,000 or more, they will now be made about contracts involving \$500,000 or more. Further information on any project will be supplied on request, when available, from division and district engineers.

► **Engineer contract** awards amounting to more than \$1,500,000 were announced by the War Dept. for construction of various sorts at airfields. Both municipal airports and Army airfields received awards. Largest single contract was for the construction of warm-up pads at Gore Airfield, Great Falls, Mont. This will cost approximately \$185,703.74. Two contracts to cost over \$158,000 were awarded to firms for the construction of additional facilities at Berry Field, Nashville, and for construction of temporary frame buildings at Tyndall Field, Panama City, Fla.

► **Component Scheduling** henceforth will be undertaken only after it has been definitely determined that utilization of surplus stocks, deflation of order boards, increased production through industry advisory committee procedure have failed to bring requirements in line with productive capacity, in all G. F. E. Components. Col. E. W. Rawlings, administrator of the aircraft scheduling unit at Wright Field, announced the procedures for the components under WPB's general scheduling order M-360. When scheduling is inevitable, the ASU will give advance notice to those affected. Scheduling activity thus will cease when causes of shortage have been eliminated.

► **Three Million** has been allotted to Beech Aircraft Corp., Wichita, by Defense Plant Corp., for additional facilities at a plant in Sedgwick County, Kansas. Beech had previously received \$850,000 from DPC. An increase in contract with Rohr

Aircraft Corp., Chula Vista, Calif., was also announced by DPC, for additional plant facilities in San Diego County. The cost will be approximately \$735,000, which brings the over-all commitment to about \$4,000,000.

► **Ceilings** on aluminum scrap and secondary aluminum ingot at the producer level were generally reduced one and one-half cents a pound by the OPA. New base price for secondary ingot is 12½ cents per pound. It is expected that this order will aid in stabilizing the market for secondary ingot, although no change in prevailing market prices will result, as these products have been selling for some time at or below the new ceiling levels established.

One exception in the general reduction on secondary ingot is made on "primary grade ingot." This grade is lowered only one-half cent per pound. The reduction on old sheet and utensils in the scrap classification is likewise reduced only one-half cent. These are the most desirable grades of obsolete scrap, and OPA feared that a further reduction in this level would interfere with the normal flow of this type of scrap. The separate classification for wrought alloys was discontinued by the order, and the maximum price for this grade is now the base price.

► **War Manpower Commissioner McNutt** disclosed that local U. S. employment offices in six major cities will become experimental stations next month for the re-employment of war veterans.

Year-end inventories of the Apprentice-Training Service, Bureau of Training, WMC, show that 3,300 additional plants have adopted short-term training programs in the twelve months ending November, 1943.

Renegotiation Bill Still Undecided

The question of contract renegotiation, of vital concern to the aircraft and other war industries, was still unanswered as Congress went home for the holidays in the wake of a sharp exchange between Senator George, chairman of the Finance Committee, and Secretary Morgenthau, who, to say the least, do not see eye to eye on this problem.

Changes made by the Senate Finance Committee in the renegotiation provisions of the Revenue Bill "hold the seed of a national scandal" in the opinion of Morgenthau, who said he referred particularly to pro-



Wind Tunnel Demonstration: An educational program, sponsored by Curtiss-Wright, is now providing technicians in engine and propeller plants after ten months' intensive training at leading colleges. Photo shows apparatus for wind tunnel and other tests.

visions such as those eliminating from renegotiation the makers of so-called standard articles and the retroactive exemption of subcontractors whose goods do not enter the final product.

Senator George responded by saying that "Mr. Morgenthau knows nothing about the renegotiation of contracts act and less about how it is actually administered."

"Morgenthau has said that the changes in the renegotiation provision which have been proposed 'will make renegotiation so complex as to be practically unworkable and also will cost the government large amounts.'"

George said that Morgenthau's denunciation of the renegotiation sections came "with exceeding bad grace," that Morgenthau had "failed to take a position on renegotiation and had offered no suggestions or recommendations."

"Mr. Morgenthau not only has failed to take appropriate steps to protect the revenue," George commented, "but has been of no help at all to the Finance Committee concerning renegotiation since it was absorbed into the Revenue Law."

And there the matter rested as Congress quit for the holidays, but it undoubtedly will be taken up again when Congress reconvenes.

Co-Ed Engineers Take Men's Places

Curtiss-Wright trains 650 girls to replace men in plane and propeller plants.

A unique approach to the manpower situation is paying dividends for Curtiss-Wright with employment of 650 women engineering cadets in airplane and propeller plants, from seven colleges.

They were chosen by Curtiss-Wright from thousands of applicants for ten months' intensive training in aeronautical engineering subjects as part of what is believed to be the first engineering program of its kind. They were graduated recently from Rensselaer Polytechnic, Cornell University, Penn State, Purdue University, Iowa State, University of Minnesota and University of Texas.

Assigned directly to engineering departments in nearby plants, these women are performing such duties as detailers in drafting, computers, graph makers in stress analysis, assistants and testers in the materials laboratory and service manual delineators and computers in aerodynamics. They have released male technicians to more advanced duties.



SIMPLE DEVICE TESTS FABRIC:

Civil Aeronautics Administration has developed and is distributing to its inspectors a mechanical tester for airplane fabric. Similar to a spring center punch, the device applies a center plunger through a disk pad against the fabric with known force. Effect of the blow determines state of fabric. The instrument eliminates need for cutting out pieces of fabric for laboratory testing and does away with the old method of thumb-pressure-plus-experience. In the picture, the tester is being demonstrated by A. L. Morse, chief of the aircraft section of CAAI's technical development division.

90 Ford Tri-Motors Still in Operation

Craft performing heavy duty in Latin America, company reports.

Ninety Ford tri-motors—the ship that embodied daring ideas when it came out, notably its all-metal construction—are still in operation, mostly in Latin America.

Ford Motor Co., in a sequel to its announcement that Willow Run has sent away more than 1,000 B-24 Liberator bombers, reports that 200 or more were built at Dearborn, Mich., from 1926 to 1933.

► **Innovations**—In describing the tri-motor as “the first successful multi-engine passenger and cargo airplane built,” Ford recalls that, in addition to “innovations” such as full cantilever wing and multi-engine equipment when it was introduced, the plane has been an experimental laboratory for subsequent developments like sound-proofing, ventilation, engine cowlings, metal propellers, radio, brakes and large tires.

The ship's rugged construction and ability to lift heavy loads out of small fields are credited as factors in its Latin-America operation. TACA, using the tri-motor principally for freight, is the largest operator, with 15 of these planes, powered by 420-hp. Wasp C I engines. TACA's nine Fords in Nicaragua, four in Costa Rica and three in Honduras flew 783,484 miles, logging 9,192 hours, in 1942.

► **Cuban Routes**—Avianca de Colombia has six Fords on a 5,900-mile route, and Compania Nacional Cubana de Aviacion uses five on 890 miles of Cuban air routes. Four are used by two Pan American affiliates in Latin America.

Another pair is operating in scheduled flight for the Island Air Service, an airline and tour service between Port Clinton, Ohio, and Kelleys, Put-in-Bay, Middle and North Bass islands in Lake Erie.

Ford reports that its tri-motors also are being flown by private owners in many countries, but again mostly in Latin America. Many owned by American oil companies, plantations and mining corporations are used to carry personnel and machinery to otherwise inaccessible fields.

► **Alaskan Emergency**—Ford discloses a story of its tri-motors in the present war. In answer to a call for help from the Nome garrison last June, after enemy ships were reported headed in that direction, an assortment of commercial planes was commandeered to carry anti-



This Ford Flies in Colombia: Rebuilt innumerable times during its long life, this Ford tri-motor now flies through the foothills of the Andes on regular service for Avianca, the national airline of Colombia.

aircraft guns and crew personnel. Two Ford tri-motors were in the group.

“Altogether that day,” says Ford's report, “39 flights were made, on each of which the faithful lumbering tri-motors ferried as much as six other ships combined.” The task continued for 18 days. In 213 flights, the Nome force was augmented by more than 2,000 men, 85 officers, and guns, ammunition and military supplies.

Air Medicine to Aid Other Industries

Chief of Wright Field medical laboratory makes forecasts for postwar.

In addition to postwar technological improvements from military developments directly affecting aircraft and engines, research now in progress in aviation medicine will contribute materially to man's comfort, health and well being.

This is the opinion of Lt. Col. William Randolph Lovelace, II, pioneer researcher in the effects of high altitude flying on air crews, and chief of the Aero-Medical Laboratory, Materiel Command, Wright Field. He believes that new-type oxygen masks developed for high altitude flights by the Army Air Forces pilots, for example, may well supplant the cumbersome oxygen tents now used to administer oxygen to hospital patients, with economy in oxygen as well as more comfort to the patient.

► **Formerly at Mayo**—The former Mayo Clinic scientist, who in civilian life was one of the three men responsible for the development of the first successful aviation oxygen mask, the B-L-B type, shared in the 1939 Collier Trophy award as a result of his earlier research.

Col. Lovelace is perhaps best known for his record parachute jump, his first, from an altitude of more than 40,000 feet, a few months ago at Seattle, from a *Flying Fortress*, to test by his own experience the reactions of an airman, equipped with oxygen, in a stratosphere bailout.

► **Homes May Benefit**—Electrical and gasoline heating systems developed for planes may have other applications for homes and offices, postwar, he believes. Sportsmen and explorers requiring specialized clothing for extreme cold or tropic heat will benefit from research on clothing now worn by airmen.

CIO Urges Big Lightplane Program

Asks mass production of million aircraft to sell for less than \$1,000.

A seven-point program designed for full employment and production in the aircraft industry after the war, including development of a light, low-cost, pleasure airplane to sell under \$1,000, has been recommended by Richard T. Frankenstein, director of the CIO United Automobile Workers aviation department and vice-president of the union.

Frankenstein proposes: (1) Development of mass production for 1,000,000 or more light passenger planes to be sold at less than \$1,000; (2) Management, labor and government cooperation toward solution of technical and production problems of putting the aircraft industry into postwar mass marketing; (3) Government responsibility for assurances of operation of all government-owned aircraft plants; (4) Participation of labor in all aspects of postwar planning; (5) International cooperation in development of

large-scale transport of freight and passengers; (6) Reduction in price of air transportation to make it available for workers and the average American; (7) Establishment of a 30-hour week throughout the postwar aircraft industry.

Army Tests Bomber Surrendered by Nazi

Wright Field engineers examine Ju-88 landed intact by German pilot.

Mechanics and research engineers at Wright Field are swarming over one of the best war prizes to fall into American hands—a new German Ju-88 bomber, which a Nazi pilot surrendered intact.

In a guarded hangar of one of the AAF experimental stations at Wright Field, Air Forces men are learning Nazi secrets from the German warplane. The AAF has reassembled many a damaged enemy aircraft, but this is believed to be their first complete German bomber.

TWA to Lend Aides To TACA Companies

Company discloses plans in request for CAB approval of Jack Frye as Inter-American director.

A closer relationship between Transcontinental and Western Air and Inter-American Airways, holding company in six Latin American airlines formerly completely owned by Lowell Yerex, is foreseen in an application for Civil Aeronautics Board approval of Jack Frye as president and director of TWA and as a director of Inter-American.

It is expected that, if and when this interlocking relationship is approved by CAB, Frye will be elected a director and member of the executive committee of Inter-American and will represent TWA interests on the Board. Frye estimates that these duties will not consume more than 5 percent of his time.

► **May Lend Personnel**—The application further revealed that TWA has under consideration the possibility of lending experienced personnel to Inter-American and its operating subsidiaries and affiliates to provide for the establishment of American procedures and standards in these companies. Although no definite arrangement has yet been made, one individual already has

been lent by TWA, with Inter-American responsible for the payment of his salary.

Inter-American, which is not an operating company, owns all outstanding stock of Compania Nacional Taca de Nicaragua, of Transportes Aereos Centro-Americanos, and of Compania de Transportes Aereos Centro-Americanos de Costa Rica. It also holds 196 out of a total of 200 shares of TACA (El Salvador); 5,990 out of 10,000 shares of Empresa de Transportes Aerovias Brasil; 2,000 out of a total of 5,000 shares of British West Indian Airways; and all outstanding stock of Inter-American Agency.

► **Stock Holdings**—Although Frye personally owns no stock in Inter-American Airways, TWA holds 225,000 shares of common and 45,000 shares of preferred stock, which constitutes approximately 33 percent of the outstanding shares of each class. This amount is somewhat smaller than the stock interest of Lowell Yerex, TACA president. The interest of TWA may be reduced to a minimum of 22½ percent, if further sales of stock contemplated by Inter-American are effected. Under an agreement last October, when TWA bought an interest in the company, it also agreed to purchase from Inter-American 900 shares out of a total of 10,000 outstanding of the stock of Empresa de Transportes Aerovias Brasil.

► **Option**—A separate agreement between TWA and Yerex provides that TWA shall have an option exercisable not later than May 10, 1944, to purchase from Yerex the number, if any, of shares of Inter-American stock necessary to bring the total par value of the shares held by TWA up to an amount equal to 80 percent of the par value of the shares held by Yerex.

The agreement further provides that so long as TWA owns at least 15 percent of the voting stock of Inter-American, Yerex shall be required to offer TWA any shares he may want to sell. TWA, on the other hand, shall have no other option to buy Yerex' shares if he voluntarily retires before he is 58, or if he dies.

TWA also has options to buy any shares of Inter-American offered to Yerex that he doesn't want to purchase, provided that TWA's overall shares equal 28 percent or more of the outstanding stock of Inter-American and if, at that time, the number of voting shares held by Yerex are less than 80 percent of the total owned by TWA, in which case the options mentioned above shall become inoperative.

Six Directives Issued On Plane Materials

The Operating Committee on Aircraft Materials Conservation of the AAF, Navy's Bureau of Aeronautics, and Aircraft Resources Control Office has issued six directives:

► Due to lack of anti-friction bearings, it has ordered use of plain and sleeve type bearings or commercial type ground or unground anti-friction bearings in all authorized applications. Alternate bearings can be used in gliders, training planes, utility planes and in various locations in combat craft. However, precision anti-friction bearings conforming to Army-Navy Aeronautical Specification AN-B-4 shall be used in the surface control systems of all combat airplanes and large transport planes as well as in other applications where control forces, accuracy requirements or necessity for minimum friction indicate their use.

► Conservation Directive No. 11, requiring contractor conservation reports, is suspended and subject reports are no longer required.

► Phenolic resins for use in aircraft and aircraft components are less critical since the last conservation order, and are now available in most types for aircraft usage, based on sound engineering in which phenolic materials possess an advantage over other materials for the application.

► Effective immediately, all aircraft contractors shall make every practical effort to use blended reclaimed zinc primer obtained from spray booth sludge. Specifications are outlined in Conservation Directive No. 13A.

► Columbium-bearing corrosion-resisting steel is considered essential for certain vital aircraft applications and has been restricted to applications in aircraft construction where experience has indicated its use essential. Committee has directed that the steel be used in all parts of the exhaust system coming into contact with exhaust gases, supercharger systems, vital engine or engine accessory parts exposed to temperatures in excess of 800 degrees, and welding rod and electrodes used in welding.

► WPB is now investigating the corrosion-resisting steel situation with a view to removing the current restrictions on use in aircraft firewalls. Until investigation is completed, producers may appeal to WPB, where use of corrosion-resisting steel for firewalls would expedite production or improve service performance.

THE AIR WAR

Services' Proving Grounds Test New Warplanes in Mock Battles

Eglin Field and Patuxent, Maryland, bases are important centers for newest Army and Navy fighting craft.

One reason why current models of Army and Navy fighters and bombers are outclassing those of the enemy, type for type and ship for ship, is that their combat-worthiness has been proved by exhaustive tests under conditions as nearly as possible those of combat. For the Army Air Forces this is carried out at the Proving Ground, Eglin Field, Florida, and the Navy conducts similar tests at its extensive new set-up at Patuxent, Maryland.

► **First Tests at Wright Field**—The flight testing of a new fighter, for example, the theoretical XP-99, follows this general pattern. When the first airplane has been completed, company test pilots put it through its paces, as far removed from U.S. Route 30 or 40 as possible, as people in cars will look up when they see an airplane flying around. Army Air Force pilots are in at this stage, carefully watching all developments. When the company is satisfied, the new fighter is turned over for preliminary Army tests at the field. During these stages constant minor improvements may be effected. Then it goes to Wright Field, where the Flight Section really gives it the works. Armed with the latest types of testing and recording instruments and gadgets, experts measure the performance and determine the capabilities of the new fighter. Top speed, ceiling, critical altitude, rate of climb and other performance characteristics are carefully measured and recorded. Then follows the accelerated service test during which the new ship is subjected to some 150 hours of flying to try to develop maintenance weaknesses and determine whether or not it will stand up to the gruelling conditions of front-line air warfare. All this can be summed up in the phrase "Technical Testing."

► **Combat Testing at Eglin**—So far so good. But what the commander of the 99th Fighter Group wants to know is this: Does this new fighter

meet real combat conditions with maximum effectiveness? He doesn't care if an expert Wright Field test pilot can squeeze 410 miles per hour out of it at 24,000 feet. What will it do with full military load, under combat conditions, in the hands of a run-of-the-mill fighter pilot fresh from operational training?

How does the ship fit into the latest tactics which have been found most effective against the ME-109 G or the improved Jap fighters, Oscar or Tony? This is where the Proving Ground at Eglin Field comes into the picture, or at least this is one of the many activities carried on at this important center, which is located in an area including the entire Choctawatchee National Forest

of 600 square miles, with 10 separate flying fields and 67 distinct land and water firing ranges. (Testing of guns, cannon, power-turrets, parachute bombs, etc., is an important part of the activity at Eglin). All this can be classed as Tactical Testing, and its effectiveness has been vastly increased by the use of many of our ablest air officers brought back from the combat theaters, both Army and Navy.

► **Comparative Tests**—With this set-up it has become possible to run comparative tests on brand new models, as well as improved versions of existing aircraft, for both the AAF and Navy. For example, the Allison-powered *Mustang* P-51A is tested in all-around performance and at all altitudes against the *Aircobra*, *Warhawk* and *Merlin*-powered *Mustang* (P-51B). The latter in turn may be tested against the improved *Lightning*, the *Thunderbolt*, and the Navy fighters, *Corsair* and *Hellcat*, with results both interesting and illuminating. A similar testing ground in England has already proved of the highest value in the air war to date, various versions of the *Spitfire*, *Hurricane*, *Typhoon*, etc., being tested against each other, against American equipment and also against such captured enemy aircraft as may have been restored to flyable condition. A beginning on that has been made in this country



U. S. WAR MISSION VISITS MACARTHUR:

Gen. Douglas MacArthur is shown (left) in this Signal Corps photo with members of a U. S. war mission which recently visited the Southwest Pacific area, including New Guinea. Next to the general is Judge Robert P. Patterson, Under-Secretary of War, who led the group, and others are Lieut. Gen. William S. Knudsen, Director of War Production; Julius Amberg, Patterson adviser; Maj. Gen. Leroy Lutes, Col. C. D. Silverthorne, Brig. Gen. B. C. Wright, Maj. Andrew Goodwin, and Col. Stanley Grogan of the Bureau of Public Relations in Washington.

As potent a force in peace as it is in war.....

The speed and efficiency of military air transport to all points on the globe is an established fact. And it has set the pattern of post-war travel.

The aircraft in service on these runs, the pilots and ground crews who are doing this pioneering deserve credit for the successful functioning of today's world-wide air transportation. But there's one other item of equipment that has contributed tremendously to these successes... *the electron vacuum tube*.

Electronic vacuum tubes are the very heart of radio beacons, communications, instrument landing and other now secret aeronautical electronic devices. These are the things which have made air travel safe and efficient... helped man conquer the air.

In this field Eimac tubes are the leaders. Their prac-

tically unanimous acceptance and continued use by the major airlines throughout the world is proof of this fact. Years of practical experience in the field, years of successful performance in aviation have made Eimac tubes first choice of the leading engineers throughout the world.

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in the case of the Navy tests of the restored *Zero* fighter, Mitsubishi type -00 (Zeke).

► **Other Testing and Research Centers**—Certain other projects are developed and tested at the Army Air base at Muroc Dry Lake, California. A special proving ground (Clinton County Air Base) for gliders and related equipment is at Wilmington, Ohio. High powered engines for both Army and Navy planes are developed and tested at the NACA Engine Laboratory near Cleveland, and much research for both services is going forward at the NACA centers at Langley Field, Virginia, and Moffett Field, California.

► **Navy Air Installations**—Navy's "Wright Field" is located on the Patuxent River, Maryland, and a far-reaching program has been under development there since its establishment about a year ago. A much older institution is the Naval Aircraft Factory, Philadelphia. Much engine testing for the Navy is carried on here, and the NAF has a place in the enlarged procurement program of the Bureau of Aeronautics. Lighter-than-air development and research continues at Goodyear, Lakehurst, N. J., and at other places. To round out the picture, mention should also be made of the extensive research and development activities at most of the large airframe, engine, propeller and instrument companies. The total results of all this

effort may be read in the headlines almost any day.

GM's 1,000th TBM Turned Over to Navy

First "Avenger" produced at Trenton plant Nov. 11, 1942, under contract.

The 1,000th *Avenger* torpedo bomber (TBM) produced by Eastern Aircraft division of General Motors in its converted automotive plant at Trenton, N. J., has been turned over to Rear Admiral Frank D. Wagner, assistant to the deputy chief of naval operations, air, at brief ceremonies attended by nearly 10,000 workers.

General Motors flew its first *Avenger* from Trenton on Nov. 11, 1942, not quite eight months after the then newly formed Eastern Aircraft division had signed a Navy contract for the production of these powerful Grumman carrier-based airplanes, which were used for the first time in combat during the Battle of Midway.

► **Plant Converted**—The plant was converted from the manufacture of automotive hardware and, since the original plane rolled out, more than 1,000 of these torpedo bombers have been produced despite design

changes and increased production schedules which have added 130 percent to original contracts.

Eastern Aircraft division also has produced well over 1,000 Grumman *Wildcat* fighter planes at its Linden, N. J., plant which was converted from automobile assembly. There are other division plants at Tarrytown, Baltimore, and Bloomfield, N. J., which fabricate parts.

Directing the operation is L. C. Goad, vice-president of General Motors and general manager of the Eastern Aircraft division, with headquarters at Linden.

Asia Air Units Merge

U. S. and British forces consolidated in southwest area under Sir Richard Peirse.

A single Allied Air Force, under the command of Air Chief Marshal Sir Richard Peirse, has been formed in the Southwest Asia theater as the result of a merger of American and British forces in that area.

► **Stratemeyer Gets Post**—A directive, issued by Admiral Lord Louis Mountbatten, named Marshal Peirse as Air Commander in Chief for the Southeast Asia Command and Maj. Gen. George E. Stratemeyer as second in command to Marshal Peirse and as commander of the newly created Eastern Air Command, which incorporates all combat units of the United States Tenth Air Force and the RAF Bengal Command.

Eastern Air Command will be composed of a tactical air force under operational control of Air Marshal Sir John Baldwin, and a strategical air force under operational control of Brig. Gen. Howard C. Davidson, who has been commander of the Tenth Air Force.

Fairchild Output Up

Shipments of Fairchild Aviation Corp. for 1943 should be approximately two and one-half times the previous year's volume, according to James S. Ogsbury, president, who told stockholders that shipments for the first nine months of this year were almost double those for 1942.

He said that, barring unforeseen circumstances, plants should operate at capacity for the greater part of 1944, since the backlog of orders remains high. Ogsbury said Fairchild Aviation should be among the last to feel the full effects of any large change in the military program.



10,000 BT-13's PRODUCED:

The second Convair (Vultee) basic trainer off the assembly line and oldest BT-13 still in service, is serviced before returning to the Vultee Field factory to take part in a ceremony commemorating completion of its 10,000th descendant. Top rank Army and Navy officers were on hand as were Consolidated Vultee officials, including Tom M. Girdler, chairman of the board, and Harry Woodhead, Convair president.

A NEW DEVELOPMENT IN LOW PRESSURE SWITCHES . . . PERSONS HI-CAPACITY AIR RAM (AIR SPEED) SWITCH

WITH A 25 AMP. 24 VOLT D.C. CAPACITY THIS NEW PERSONS DEVELOPMENT ELIMINATES THE USE OF RELAYS IN YOUR CIRCUIT. THE HIGH ADJUSTABLE RANGE (2" TO 15" H₂O) AND THE LOW OPERATING DIFFERENTIAL (1/2" TO 2 1/2" H₂O) MAKE THIS ANOTHER PERSONS "UNIVERSAL" SWITCH. LIGHT WEIGHT ONLY 15 OZS - FOR LOW TEMPERATURE OPERATION (-65° TO 175° F.)

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AIRCRAFT PRODUCTION

South America's First Engine Plant to Open Early in 1944

Brazil's National Motor Factory to go into production on Wright Whirlwinds at factory near Rio de Janeiro.

First plant in Latin America to build airplane engines from start to finish will get into production, probably early in 1944, on 450-hp Wright Whirlwinds.

This plant, the National Motor Factory (Fabrica Nacional de Motores) is near Rio de Janeiro, Brazil, on a site which in the summer of 1942 was a boggy swamp.

► **Blacked Out**—Fully air-conditioned, fluorescent-lighted, windowless and blacked out for security reasons, the \$9,000,000 factory has 80 percent of its equipment American-made.

Driving power behind the National Motor Factory is 43-year-old Air Brigadier Antonio Guedes Muniz, of the Brazilian Air Force. One of Brazil's leading airmen, he designed and built his country's first plane in 1935—the Muniz M-7 biplane, which is still in aero club use today.

► **New Techniques**—General Muniz

foresees vast technological changes for Brazil arising from the operation of the plant and says that "this factory will show Brazilians new techniques in making mechanical parts and in erecting factories of American—not European—design."

"For the first time we will be using the finest American precision tools on a large scale," he says. "Heretofore, Brazilian manufacturers have been inclined to buy British and German machine tools, since they were slightly cheaper than the American. This war, however, is showing each day that American tools not only have unsurpassed quantity output, but also unmatched quality. Once Brazilians see for themselves how these instruments work, they will be content with no other."

► **Nationalized Transportation**—There long has been talk in Brazil of a national aircraft industry for both planes and engines, since Bra-

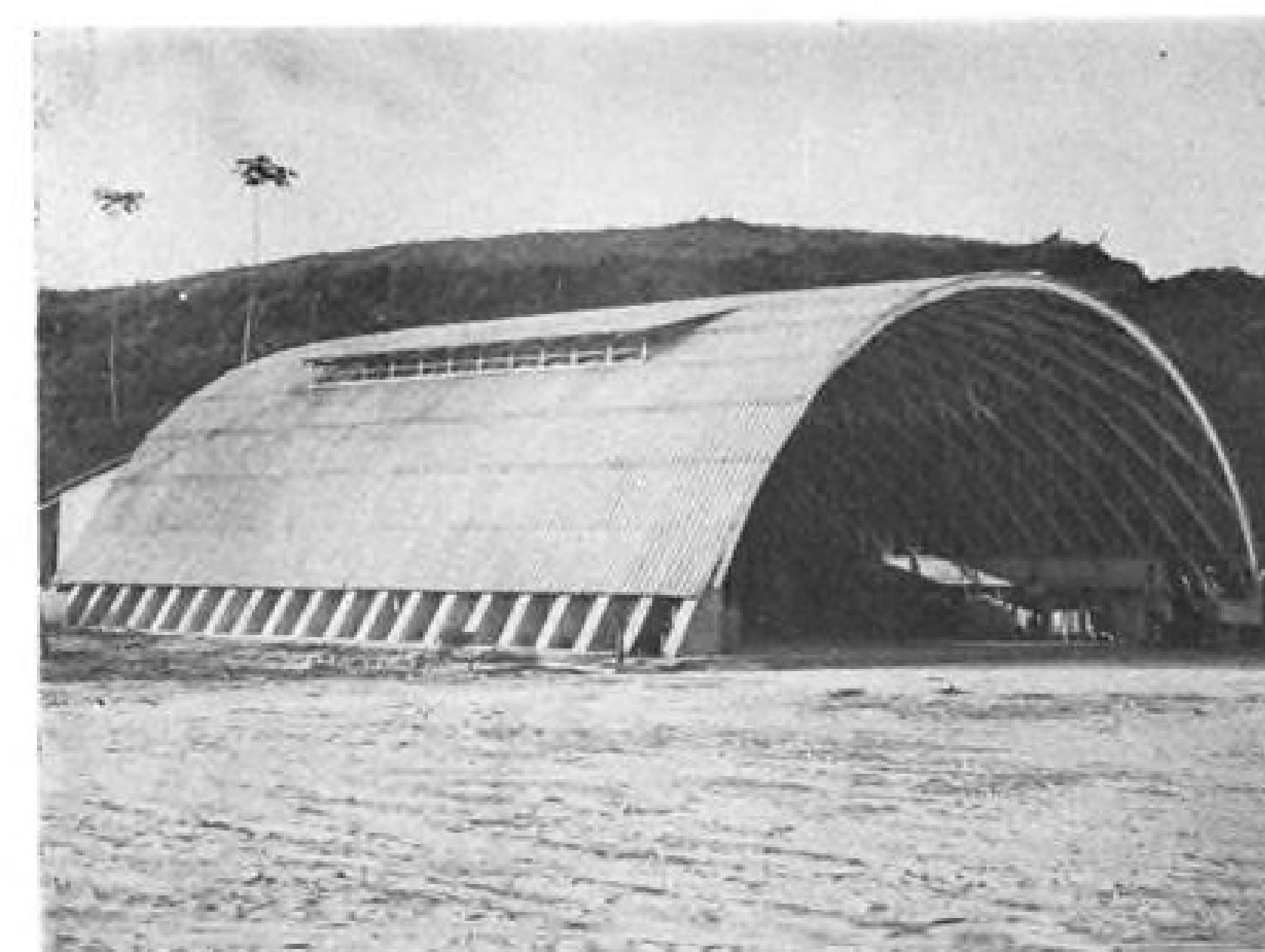
zil's transportation future, owing to the country's vastness and its varied terrain, seems bound more to airplanes than to railroads.

Small factories for production of light aircraft have been built, but talk of an engine plant did not crystallize until 1940, when General Muniz was sent out on a two-months' survey trip to pick the suitable factory site.

► **Got U. S. Credits in 1941**—Gen. Muniz came to the United States in January, 1941, to consult with officials of the American government and Wright Aeronautical Corp. The project was approved, the Export-Import Bank made available certain credits, and priorities on machinery were granted. The priorities did not hold up in face of the increasingly critical world situation and this was particularly true after Pearl Harbor.

When war came to the Americas, the military importance of the factory project increased, since engines were needed for Brazilian patrol planes and for Brazilian training ships. In February, 1942, General Muniz returned to Washington for further discussions. It finally was agreed that the National Motor Factory would be included in lend-lease assistance to Brazil. After American experts changed the plant design somewhat, a contract was signed with Wright Aeronautical Corp., authorizing manufacture in Brazil of Wright Whirlwind 450-hp. airplane engines.

► **Engine Production**—Gen. Muniz says the plant will have a top production of more than 500 Wright



Brazilian Aviation Development: Two scenes at the National Motor Factory (Fabrica Nacional de Motores) just outside Rio de Janeiro, which will be the first plant in Latin America to build complete aircraft engines. Interior view of the unfinished machine shops



reveals modern construction and fluorescent lighting, a feature throughout the plant which, when completed, will cost \$9,000,000. Exterior shows construction of the hangar at the plant airport. The runway will be two miles long.

Whirlwinds a year on one eight-hour shift, more than 1,000 on two shifts. Later, he plans to build engines up to 1,200 hp.

► **Postwar Plans**—Brazil is looking to the postwar world, too, and as

recently reported in AVIATION NEWS, the Rio government signed a contract with the Fairchild Engine and Airplane Corp. to build the six-cylinder Ranger in-line air-cooled engine at National Motor Factory.

Aircraft Plants Now Adequate For U. S. War Needs, Nelson Says

WPB chief reports 1943 construction of plane factories is 35 percent under last year.

With few exceptions, the United States now has the capital equipment needed for completion of the war production program. WPB Chairman Donald M. Nelson says that maximum effort today must be directed to full utilization of existing capacity.

War Production Board reports aviation plant construction was 35 percent less in 1943 than in 1942, and other military construction was down 27 percent. Military construction as a whole (troop housing, airfields, bases, storage facilities, war highways and flight strips, etc.) in 1943 amounted to \$2,948,000,000, or 45 percent less than 1942.

► **Expansion Tapers Off**—Expansion of government-financed industrial facilities (construction volume and machinery and equipment deliveries combined) totals \$4,800,000,000 in 1943, or 26 percent under 1942. Of this total, \$2,700,000,000 was for

machinery and equipment, the bulk of which was delivered to plants built by the Defense Plant Corp.

Expansion activity at aircraft plants in 1943 is 13 percent less than in 1942. New aircraft facilities approved in October totaled \$35,758,000, against \$26,440,000 for the comparable period in September.

► **Machinery and Equipment**—Analysis of the preliminary distribution of costs of new government-financed aircraft expansions during the past several months shows the major portion—86 percent—of the proposed new expenditures in this group are for machinery and equipment items.

Nelson's statement that the effort is directed to full utilization of existing capacity was made in connection with the signing of an executive order by President Roosevelt, transferring the certifying authority for tax amortization privileges from

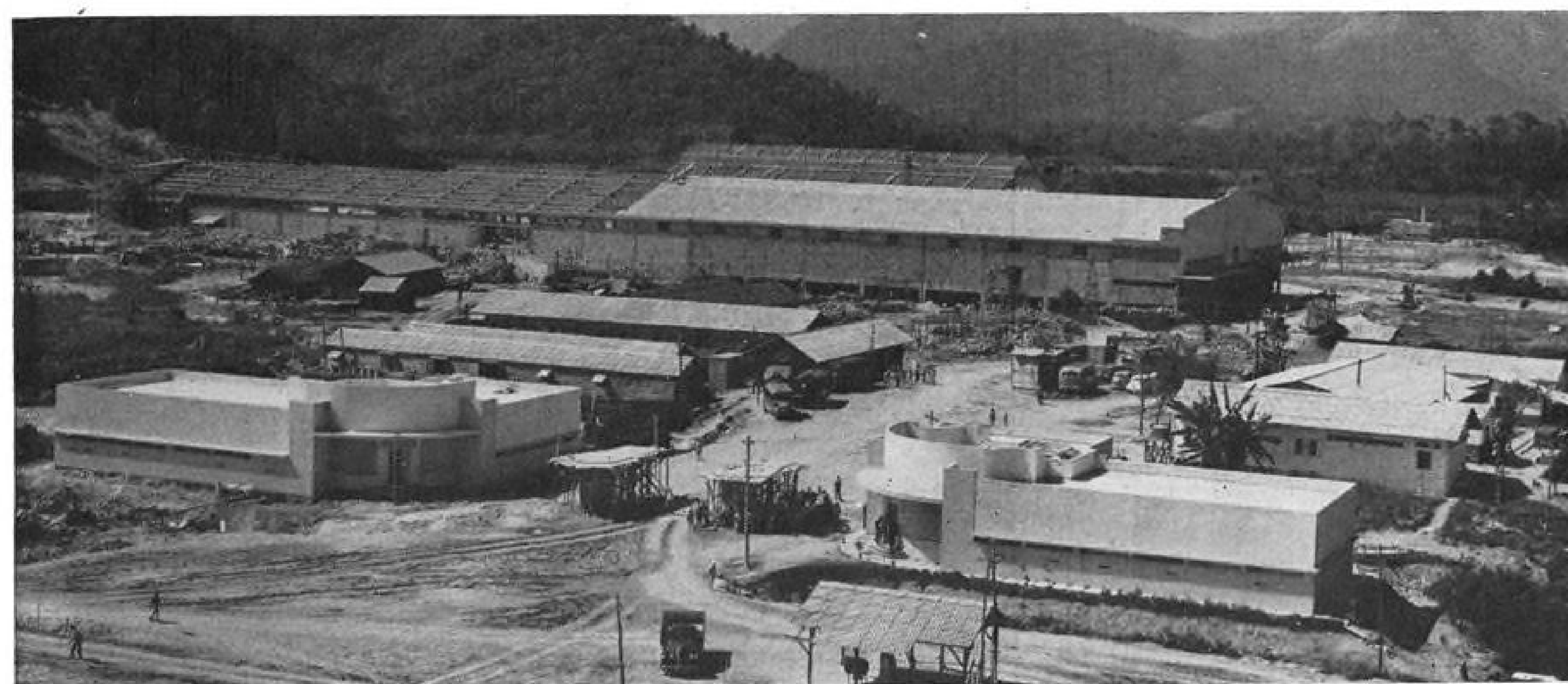
the Secretaries of War and Navy to the chairman of the WPB.

► **Tax Amortization**—Facilities Bureau of WPB, under supervision of Vice-Chairman Donald D. Davis, will handle the analysis of applications for tax amortization privileges. Roy W. Johnson, director of the Facilities Bureau, has appointed Carmen G. Blough as deputy director of the Facilities Bureau for Tax Amortization, with authority to approve necessary certificates for WPB.

The announcement that Davis has been given charge of all WPB field operations, in addition to his other duties, was made at the same time that Charles E. Wilson, WPB executive vice-chairman, announced appointment of Lemuel R. Boulware as operations vice-chairman.

► **WPB Shuffle**—Boulware succeeds Hiland B. Batcheller, who resigned Nov. 25. At that time, Wilson took over Batcheller's duties and it was indicated no successor would be named for Batcheller. Boulware assumes direction of all industry operations and divisions except the steel, copper, aluminum and magnesium divisions and the minerals bureau. These metals and minerals groups will subsequently be organized under a separate vice-chairman.

When Wilson took over Batcheller's duties several weeks ago, some observers saw in the action a move to give him more control and closer contact with industry operations, with a view toward the reconversion program, which at the moment seems to be moving more and more toward WPB and its industry committees.



New Brazilian Aircraft Engine Plant: General view of National Motor Factory (Fabrica Nacional de Motores) in the foothills of the Serra do Mar mountains near Rio de Janeiro, which will go into production of

Wright Whirlwind 450-hp. aircraft engines in 1944, first plant in Latin America to build airplane engines from start to finish. Eighty percent of the equipment, all latest American type, is now in place.

Army Simplifies Form On Contractors' Bids

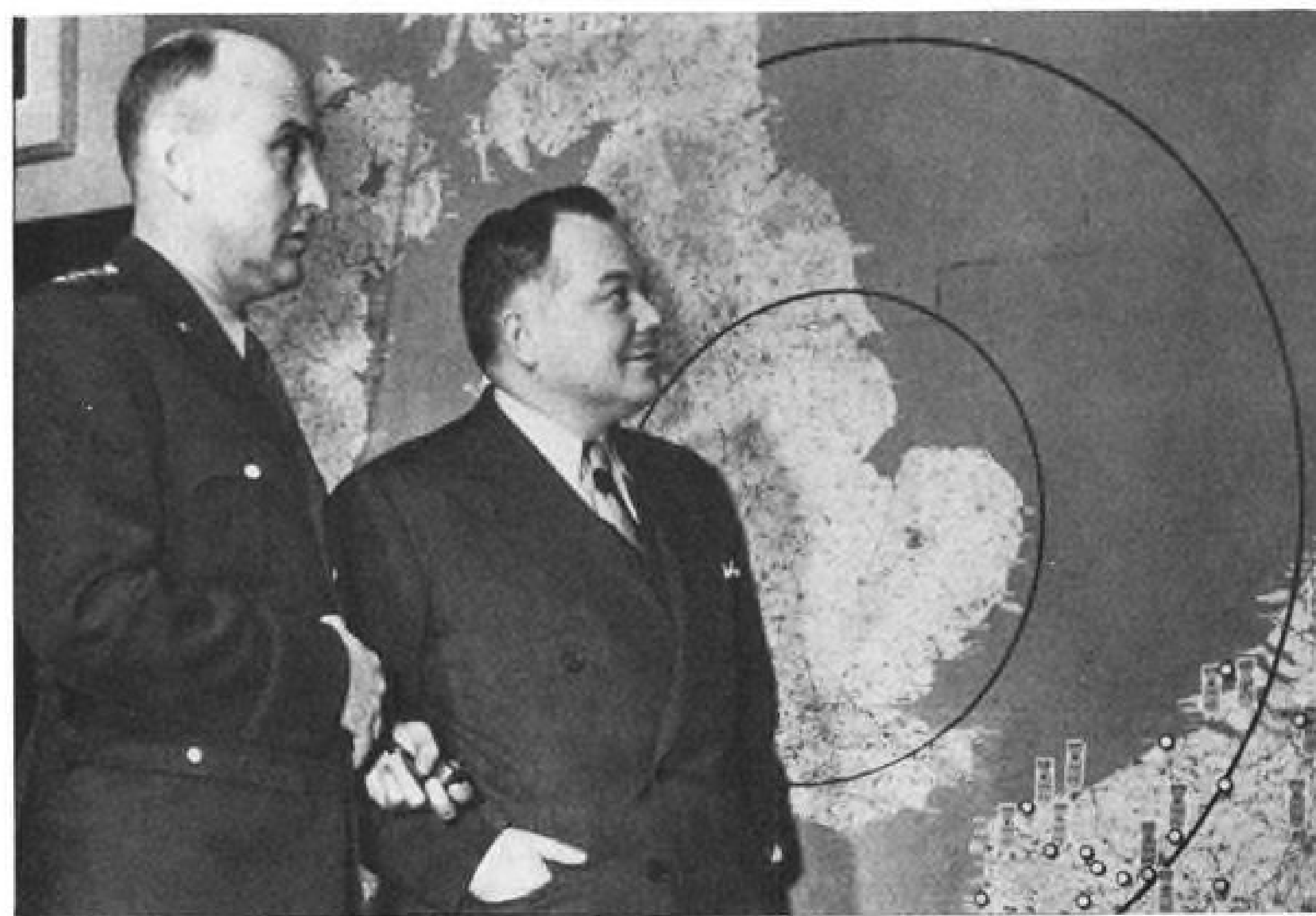
Revised model expected to speed settlement in case of termination of aircraft contracts.

War Department has developed and placed in use a simplified contractor's bid form to be used in purchase of goods and services under fixed price supply contracts which they believe will, in the event of termination, provide the necessary facts on which to form a prompt settlement by the government.

Object of the new form is to provide uniformity for manufacturers doing business with various branches of the Army Service Forces, and to assemble all pertinent facts to be considered both by contractors and by contracting officers in arriving at fair prices.

► **Form No. 1**—The new document, designated officially as Standard Procurement Form No. 1, is in three parts. The first, a form letter requesting potential contractors to bid; second, a form on which contractors offer to produce goods or provide services, and third, a list of instructions for completing the second form, which calls for data on a contractor's financial status and for additional information on costs and prices.

The new form, significantly, was prepared with the cooperation and approval of the Bureau of the Budget, which has not been too friendly to organizations set up by the services for dealing with contract termination or renegotiation. The ques-



Gen. Eaker and Boeing Designer: Lt. Gen. Ira C. Eaker, commanding general of the Eighth Air Force, and Wellwood E. Beall, vice-president in charge of engineering, Boeing Aircraft, look over a "strike" map at the Eighth's headquarters. Beall, recently returned from a first-hand inspection of Flying Fortress operations abroad, is among those responsible for the design of Boeing's Sea Ranger, and for the B-17 and B-29.

tionnaire section is elaborate enough to provide all information needed under varying circumstances.

► **Paper Work Cut**—The War Dept. emphasizes, however, that in each instance, contracting officers will request only such data as are needed, so that manufacturers' paper work will be held to a minimum.

It is expected that in few, if any, cases, will the entire questionnaire need to be answered. By providing for all contingencies on a single form, as the War Department believes they have in this case, uniformity of information will be achieved.

British Plane Plants Will Make Houses

Plan mass production of 4,000,000 prefabricated homes after war.

A unique approach in aiding aircraft manufacturers in their conversion to peacetime production is now being worked out in Britain by 120 large firms, representing five major British industries—aircraft, plywood, steel-tubing, light alloys, and iron and steel.

Program calls for postwar mass production of prefabricated houses, which will provide 4,000,000 homes in Britain. The plan will draw heavily on war-learned lessons in con-

struction and design of postwar aircraft.

Boeing "Sea Ranger" Program Studied

Production of twin-engine flying boat by Martin is considered.

Navy is considering production of the Boeing Sea Ranger XPBB-1, a long-range twin-engine patrol bomber first flown July 5, 1942, tested by the Navy at Sands Point, Jan. 12, 1943, and later accepted.

The XPBB-1 was scheduled for production in the Boeing plant at Renton, but urgent need for heavy Army bombers resulted in the Renton plant being turned over to the B-29 program. Because only one XPBB-1 was built, it was nicknamed the *Lone Ranger*.

► **Martin Considered**—The Navy is now trying to determine which factory facilities shall be turned over to PBB production and is said to be meeting some resistance on the part of airplane manufacturers who naturally would rather make their own designs. Since Glenn L. Martin is one of the foremost exponents of flying boats, it followed that his company received prime consideration.

Whether Martin will eventually build this flying boat is still under consideration and Navy and Martin officials are reluctant to discuss the

point. There were strong indications, however, that Admiral John S. McCain, chief of the Bureau of Aeronautics, was going to be firm on the point when a decision finally is made.

► **Fuel Tanks in Wings**—The *Ranger* is a big ship, in the four-engine class, but powered with two of the big, new Wright 3350s, rated at 2200 hp., but capable of considerably more output.

The wings are not conventional spar and truss work, but are formed of channeled and angled sheet metal. Cavities in this sheet metal work form the 6 fuel tanks. This arrangement is one of the main reasons for the ship's extremely long range. The *Ranger's* load capacity is far beyond the usual figure for a plane of its size.

► **Pacific Operations**—Although the submarine menace has been put under control in both oceans, operations in the Pacific will require long-range patrol and attack equipment until the Japs are liquidated.

Of course the Boeing Co. itself would like to build the *Ranger*, if it is to be built, because it may turn out to be the basis of an economical postwar transport. But the urgent need for B-17s and B-29s takes priority.

► **Designers**—The men chiefly responsible for the *Ranger* design are Wellwood E. Beall, Ed Wells, George Schairer and Don Euler. They arranged for the flight crew to operate together on the upper deck. They provided a new type of beaching gear which fastens to the hull like a key in a keyhole.

These fixtures do double duty, holding also the wing-supported platforms for engine service.

New Plastic Process Used by Fairchild

Fairchild Engine and Airplane Corp.'s program for developing processes to permit utilization of a wider range of materials in aircraft design has been aided by Duralum's engineers in application of electronics to improve quality and speed production of plastic-bonded molded-wood airplanes.

These engineers report this application of a new science to a well-known material, called electronic processing, provides a satisfactory answer to a hitherto unsolved problem—that of getting a uniform heat to all glue lines in a thick laminated section.

► **Variety of Products**—Fairchild, unlike some companies, designs and works in a wide variety of materials—steel tube, sheet aluminum alloy, wood, and plastic laminates. It has pioneered in using many new processes and materials.

In general, its policy has been to work in, and attempt to improve, the techniques for efficiently using all materials, from those of highest density, like steel, through aluminum to those of a lower density, like wood, and even to synthetic cellular materials one-tenth the density of wood.

► **Wood Techniques**—Acknowledging the fact that wood, as an aircraft material, recently has been subjected to criticism, Fairchild engineers contend that an examination of the facts on which most of this criticism is based shows that it is not the wood which is in effect being criticized, but the materials and meth-

ods of fastening or bonding the pieces of wood together, and the finishes for protecting the wood.

These engineers point out that this is the same general sort of criticism directed at aluminum alloys before modern techniques of using heat-treated rivets was developed as an efficient fastening means, and before Alclad anodizing was developed as a protective coating.

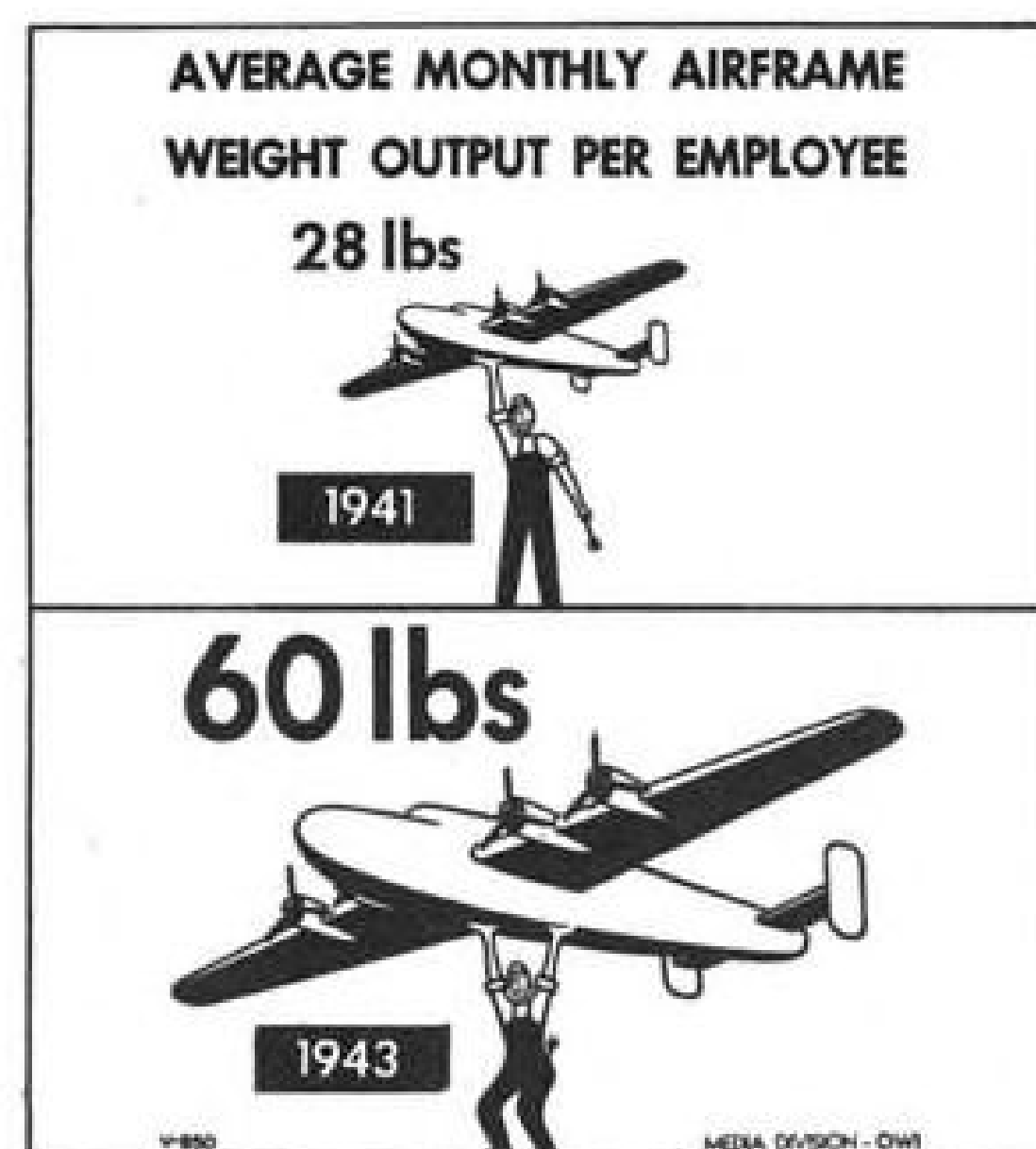
► **Electronic Process**—It is a simple but sometimes overlooked fact that no material is more durable in an assembled structure than the joint which fastens the pieces together.

There are two methods of applying heat to a glue line. The first is to apply a heated platen to the surface of the wood, depending upon conduction to bring heat to the innermost glue line. The second, the electronic process, is to cause a current to flow through the wood and by electrical agitation cause the wood to heat uniformly throughout.

CAA Wins Award

Civil Aeronautics Administration, for its Civilian Pilot Training Service and the later War Training Service, won the first award of the newly established Frank G. Brewer Trophy for outstanding contribution to the air education of youth.

The award was founded and endowed by Frank G. Brewer, Birmingham, Ala., businessman, in honor of his two sons, both serving overseas. It is administered by National Aeronautic Association. Vice-President Wallace presented it to William A. M. Burden, special aviation assistant to the Secretary of Commerce.



LABOR UTILIZATION:

Despite manpower and other difficulties, the aircraft industry has marked a steadily rising production curve. Chart shows the poundage production two years ago and 1943.

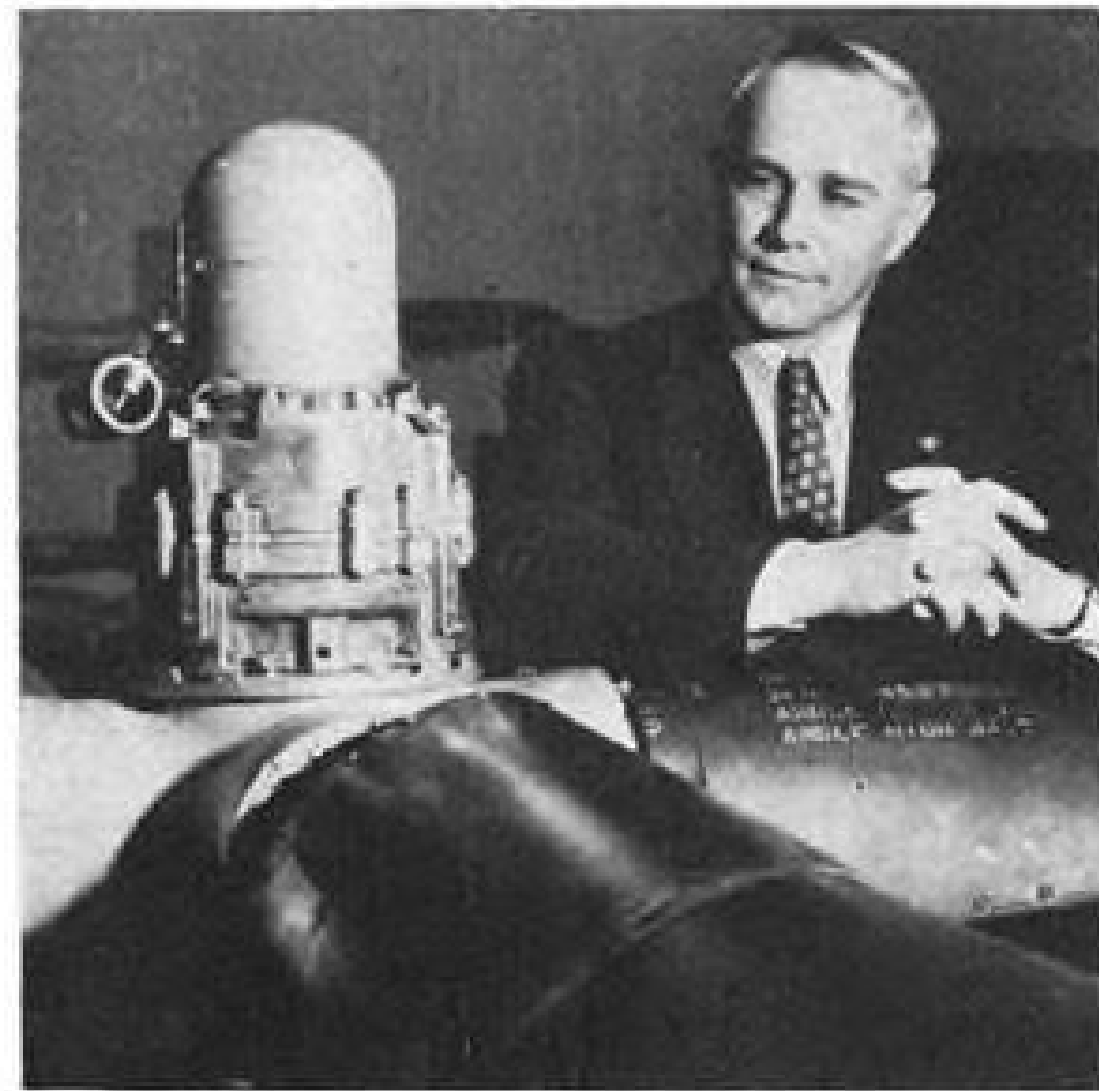


Boeing's "Ranger" Production Forecast: This is Boeing's now almost legendary *Lone Ranger*, the XPBB-1 Sea Ranger, the only one ever built, construction on which was halted in favor of big bombers. The Navy is

now seriously considering production of this big, long-range, twin-engine patrol bomber. It was first flown July 5, 1942, tested in January, 1943, and later accepted.

PERSONNEL

D. Adam Dickey, civilian chief and technical adviser of the AAF Materiel Command's Propeller Laboratory at Wright Field, has been awarded the Emblem for Exceptional Civilian Service. Dickey has been employee of



D. Adam Dickey

Wright and McCook Fields for 24 years. After his graduation from Ohio State University in 1916 with a B.S. degree in electrical engineering, Dickey went to work for Westinghouse in the high tension laboratory at Pittsburgh. He was assigned by the Army in 1917 to develop a special type propeller, and later, as a result of the development of the Liberty engine, he designed the first whirl rig on which propellers could be tested up to high horsepowers. When Dickey went to McCook Field, in 1919, he built new whirl rigs for more powerful propellers, and supervised the design and installation of control equipment at the wind tunnel at Wright Field. With the advent of World War II, Dickey was selected to plan a new propeller laboratory building at Wright Field and to design an acoustically treated chamber.

E. H. Pickering, formerly a special consultant on air cargo for the Army Air Forces, will conduct a newly accredited course in Air Transportation which will be introduced in the spring term at Dallas College of Southern Methodist University. Pickering has been connected with



aviation since 1930, being a former vice-president of Texas Air Freights, Inc., and formerly with American Airlines, Pennsylvania-Central Airlines, North American Aviation, and Southern Aircraft Corp.

Henry B. Moore, principal industrial economist of the Price Analysis division of the Bureau of Labor Statistics, has joined Braniff Airways as director of research. Besides work in the government, Moore was once an instructor in commercial engineering at Carnegie Institute of Technology, and a professor of economics in the College of Commerce at the University of Kentucky.

Philip G. Johnson, president of Boeing Aircraft Co., was selected by the Seattle Real Estate Board as "Seattle's First Citizen for 1943". A bronze plaque will be presented to him on Jan. 13.

Former vice-chairman of the Civil Aeronautics Board, Lt. Col. George R. Baker, has received a temporary promotion to full colonel, the War Dept. announced.

The first of an entire crew of contract air carriers to receive Air Medal awards are five American Airlines ATC airmen, for their participation in a flight from Presque Isle, Maine, to Newfoundland and thence to North Africa on an initial survey mission. "Despite untried navigational facilities and lack of flying aids, the route was flown nonstop in 11 hours," the citation states. Medals were awarded to M. G. Beard, flight engineer; John F. Davidson, Captain (in capacity of pilot); J. E. Brown, navigator and second officer; James B. Hay, first officer and co-pilot; and G. W. Smith, radio officer. Only three other civilians have received Air Medals.

W. A. Maharry (right), with the Columbus, O., warplane plant of Curtiss-Wright Corp. for the past eight months, has been named public and internal relations manager of that plant. He was formerly executive secretary of the Zanesville Chamber of Commerce for seven years. He succeeds R. W. Darrow (left), who has served in this capacity for the past two years, and who is transferred to the Buffalo plant as assistant director



of public and internal relations for Curtiss-Wright's entire airplane division.

Palmer Nicholls has been elected vice-president and appointed general manager of the newly created Pacific division of Bendix Aviation Corp. The Pacific division succeeds the company's wholly owned subsidiary, Bendix Aviation, Ltd., at North Hollywood, of which Nicholls has been



president and general manager. Nicholls received his pilot's license in 1919. In 1928, he organized the Pacific Airmotive Co. for the sale and service of aircraft parts, and remained as general manager when he sold the business to Bendix a few years later.

Edward L. Troutman, assistant manager of the cargo division of American Export Airlines, has been granted a leave of absence to join the Merchant Marine. Arthur Cofod will act as assistant manager in his absence. Cofod has been division cargo manager and was formerly with the freight brokerage business.

Carl W. Elkins, formerly general sales manager of Taylorcraft Aviation Corp., has been appointed assistant to the president. He has been with Eastern Air Lines as a pilot for the past year. In his new post, Elkins will be concerned with government contracts, sales and service, and will be a member of the company's postwar planning committee.



Frederic G. Weyburne (photo), with Bendix since 1926, has been named general manager of the Marshall-Eclipse division of Bendix Aviation Corp. A veteran of 17 years in the fields of brake and brake lining manufacture, sales and service, Weyburne has been sales manager of this division since its existence. He succeeds Furber Marshall, who resigned to become president of the Pharis Tire & Rubber Co.



Fletcher D. Dodge, personnel relations manager of Republic Aviation Corp., has been named assistant director of the industrial relations department. He is succeeded by L. C. Prudden, personnel relations supervisor of the victory shift. New inspection superintendent of the experimental, utility, assembly plant and pre-flight departments is Arthur Thornberry.

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Tel-air

Means

FINE AIRCRAFT PARTS

made to YOUR order

....PARTS manufactured exactly to your specifications, and delivered promptly

Long manufacturers of complete products for the automotive industry, our Tel-air Division entered the war program as a complete, co-ordinated manufacturing unit of skilled tool designers, experienced tool and die makers and machine operators equipped with modern precision machine tools, and trained in working with the toughest steels and alloys.

As both prime and sub-contractors, manufacturing precision aircraft parts, Tel-air quickly established its ability to understand requirements, quote intelligently and produce in quantity promptly, and within closely held tolerances aircraft parts which are now nationally known as Tel-air Parts. Tel-Air's record on the most rigid inspections is—99-95/100% acceptance.

We cannot reveal the uses of the component parts illustrated—only a few of the many we are producing constantly for our Army and Navy of the Air. All require the closest tolerances, concentricity and super accurate drilling and finishing. All tooling and die making is done in our Tel-air plant.

Your own blueprints and specifications will have our immediate attention. Special designs and quotations on request.

In the Air it's

The TELEOPTIC Company

Racine Wisconsin

On the Highway it's

Seleoptic



John S. Garraway, for the past three years with Adel Precision Products Corp., Burbank Cal., has been appointed sales manager of Adel's hydraulics division. The announcement was made by Ray Ellinwood, Adel president, at the opening of a quarterly meeting of the firm's sales and service engineers. Garraway previously was a topographic and aerial photography engineer for the U. S. Department of Agriculture.



D. A. Rasmussen has been promoted from chief of materials to executive assistant in charge of scheduling of the Kentucky division of Consolidated Vultee Aircraft Corp., Louisville. He is succeeded by H. B. Smith, assistant chief of materials.

New division engineer at Consolidated Vultee's Kentucky division is J. O. Walker, with the San Diego division for four and a half years. He was in engineering and factory supervision and handled special projects on B-24's. On a special assignment in Tucson before a modification center had been established, he helped modify a number of Liberators. The success of this work is said to have had much



KNUDSEN SEES C-46s:

Lt. Gen. William S. Knudsen, director of production for the War Dept., is shown with G. J. Brandewiede, general manager of Curtiss-Wright's Louisville plant, where the general spoke to employees building the Commando troop transports.

to do with the Army's decision to establish modification centers in this country.

Zeno Wall has assumed his duties as plant safety engineer for Fairchild Engine & Airplane Corp. He was in the same capacity for radio station WWNC at Asheville, N. C., and the

Asheville Citizen-Times. He has also held safety posts with textile mills.

On Dec. 31, W. Wallace Kellett, chairman of Republic Aviation Corp., will resign to devote his full time to the affairs of Kellett Aircraft Corp., of which he is president. Kellett will continue as a director of Republic, with which he has been associated since 1938. He joined the company as executive vice-president, was elected president in June, 1939, and chairman about two years later. He has headed Kellett Aircraft since he founded the company in 1928.

Frank G. Sorensen, president of United Aircraft Products, Inc., has been elected to the Board of Directors of Pittsburgh Metallurgical Corp., second largest producer of ferro-silicon and high carbon ferro-chrome alloys in the country. Sorensen has been president of United Aircraft since 1941. He also is president of American Precision Products, Inc., and was for many years an executive of the Cincinnati Gear Co.



J. E. Duffield, Jr., has been appointed advertising manager handling public relations for Republic Aviation Corp. He will continue also as supervisor of motion picture development. Before joining Republic in an executive capacity in August, 1942, Duffield was with Servel, Inc., in an advertising and sales promotion capacity.



F. Young has been appointed acting superintendent of maintenance of the western division of Canadian Pacific Air Lines, with headquarters at Edmonton. He was previously assistant manager of the CPA aircraft repair plant at Moose Jaw.

John Farley has been appointed general manager of the Link-Belt Ltd., with headquarters at Toronto. For the past 18 years he has been head of the company's Montreal office.

Walter W. Fowler has been appointed assistant operations manager of Trans-Canada Air Lines at Winnipeg, coming to this post from that of operations superintendent at Moncton. He is succeeded at Moncton by Frank I. Young, till now chief pilot at Toronto.

G. A. C. Bear has been appointed production manager of DeHavilland Aircraft of Canada, Ltd., Toronto, succeeding H. Povey, who has been ap-

pointed to the new post of chief production engineer. Povey came to Canada from the parent company to take charge of Mosquito production.

Malcolm K. Hardgrove, who joined Transcontinental & Western Air last



March, has been named an assistant to the eastern regional traffic manager, Lee Swigart. Before joining TWA, Hardgrove had been associated with the loan division of Irving Trust Co. for ten years. His headquarters will be in the Airlines Terminal Building, New York.

James Sinnigen, assistant to the production manager of Fairchild aircraft division, has been appointed assistant to the divisional manager of Republic Aviation Corp. He has been assigned the task of correlating the duties of the day and victory shifts and also has charge of procedures and the office service departments. Concurrently, Charles S. Wilson has been named acting patent attorney, as Robert C. Rasche, company patent attorney, is available only on a part-time basis because of illness.

Paul W. Pate has joined Delta Air Lines as traffic analyst. For the past 20 months in the army, Pate formerly had eight years' experience in the motor transportation field. He will work under Delta's director of planning and research, E. Marion Johnson.

Morale Aid

Navy is starting a new employee morale program at Goodyear Aircraft Corp., which may become a pattern for other aircraft companies to aid in boosting production.

A "quota ship" campaign was launched recently when 13 officers of the Manufacturers Division of the Bureau of Aeronautics moved into Goodyear's assembly plants for a one-day series of 37 meetings with the object of putting Corsair fighter plane production workers racing against time to get a particular plane, and all others ahead of it on the assembly line, delivered to the Navy by the end of the month.

Headed by Comdr. L. K. Marshall, the officers spoke at twelve stations in the plant on all three shifts, telling of the accomplishments of the Corsair in the Pacific war theater and lauding Goodyear production.

FINANCIAL

Rail Unions May Influence Trends in Air Transportation

Stand taken by railroad brotherhoods against their employers' participation in aviation is seen as more than a question of new members.

By ROGER WILCO

Considerable speculation surrounds the whys and wherefores of two powerful railroad brotherhoods in recently sounding off on a national postwar aviation policy. As previously reported (AVIATION NEWS, Dec. 13), the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Engineers advocated a policy prohibiting surface transport carriers from entering the air field. Further, a "single strong American flag line" in international services was favored. Other recommendations were also advanced but have previously been published and need not be detailed here.

The stand taken by these two potent unions drew an indifferent response from *Railway Age*, which generally reflects rail management opinion. The best the journal could suggest was that the brotherhoods saw little hope of adding to their membership rosters by drawing upon airline personnel.

► **Significance Studied**—The true significance, however, probably is of far greater import than the question of acquiring new members. For a proper perspective, it may be fruitful to explore the position of railroad labor among the steam carriers and in the nation's economy as a whole.

Railroad labor is strongly organized among various craft lines. The two most powerful brotherhoods are those already indicated and which account for a membership of about 250,000. To these two must be added the 19 separate union groups which find a common spokesman in the Railway Labor Executives Association. In this category are many unions which have but a partial interest in railroad labor. For example, the International Association of Machinists and the Sheet Metal Workers Association, International, while having many railroad members, have their dominant interest along

a diversified industrial front. This merely serves to illustrate the strong interlocking labor ties peculiar to these rail unions.

► **Big Payroll**—All told, about 1,400,000 persons are currently employed by the railroads, and account for an annual payroll now running in excess of \$3,000,000,000. This may be compared with airline personnel of about 75,000; the payroll volume in dollars is unknown, but is certainly dwarfed by the railroad figures.

These comparative totals clearly show just where political pressure may be expected to have its strongest support. Furthermore, the railroad brotherhoods have given ample demonstration of their ability to accomplish results when so inclined. There is the famous example when the Baltimore & Ohio Railroad would have gone into receivership unless a special capital modification plan was effected. This could be accomplished only by an Act of Congress. The railroad industry with financial and management support failed to make any progress in this direction. And then the Brotherhoods, moved by a desire to help "Uncle Dan" Willard, late president of the B & O, who was well liked by rail labor, got behind the measure and it became law and saved the railroad from bankruptcy.

► **Other Examples**—A few more instances are closer at hand. Against the urgent pleas of the Administration, the Senate has already passed a resolution calling for an eight cents an hour pay increase for the non-operating railroad employees. This move shows a pressure group in operation. Now comes a strike call for Dec. 30 by the five railroad operating brotherhoods in demanding higher wages for their contingent. This is a perennial act by the brotherhoods when seeking higher pay. These strikes have never materialized in recent times but are



UNITED VETERAN HONORED:

First 25-year pin ever awarded by United Aircraft Corp., went to George Franko (left), chief inspector at Chance Vought Aircraft, Stratford, Conn. Here Franko receives the pin from United's president, H. Mansfield Horner.

► **Closely-Knit**—It can be seen that the rail unions are sufficiently well-organized for their self-interest. It is a safe surmise that anything that may seriously threaten the survival of the railroads and their ability to provide jobs will be forced to contend with the power of the railroad brotherhoods. This is a powerful force to be reckoned with when the legislative history of air transportation is finally written.

► **Air Unions**—As a matter of incidental intelligence, the air carriers have a number of labor unions of their own. Best known is the Airline Pilots Association, International, representing the pilots. Also, factors in the industry are: The Air Line Dispatchers Association, The Airmen's Association of America, Flight Radio Officers Association, Air Line Communication Employees Association and Air Line Mechanics Association, International.

Financial Reports

Republic Retires 50,000 Preferred

Directors of Republic Aviation Corp. have voted to retire the remaining 50,000 shares of second preferred stock, all held by Paul Moore, director, as of Dec. 22, at \$10 a share. Moore took the entire issue of 200,000 preferred in exchange for notes payable, which he held. The stock was redeemable at \$15 a share at any time, in whole or in part, on

Alfred Marchev, Republic's president, said the \$10 price was reached by agreement. The first 50,000 shares were called July 1, and 100,000 shares on Oct. 30. Moore reported on Dec. 3 that he also held 171,257 shares of the company's common stock.

Thompson Products Sees Parts Future

A letter to stockholders of Thompson Products, Inc., accompanying dividend checks says replacement parts sales for 1943 will be the highest in the company's history and that the company expects to continue a large airplane replacement parts business after the war, forecasting that by 1950 there will be over 250,000 privately-owned airplanes in the United States.

Company's postwar planning program in the service division, which handles the replacement business, is looking toward addition of new lines of large volume parts and accessories as well as improved parts in present lines.

United Reports Officials' Income

Not included is \$51,420 for legal services paid to Mayer, Meyer, Austrian & Platt, of which firm Paul M. Godehn, United director, is a partner, and \$26,000 for services in investigating possible acquisitions by the corporation of operating airlines or their securities, paid to Harri-man, Ripley & Co., Inc.

Patterson was paid \$36,811, including \$1,811 in payments made for insurance and retirement plans. J. A. Herlihy, vice-president in charge of operations, was paid \$20,829, including \$829 payments for insurance and retirement plans. Harold Cray, vice-president in charge of traffic, received \$26,368, including \$11,076 credited for a retirement annuity based on 11 years credited service prior to Jan. 1, 1941, and \$1,291 representing other payments.

R. E. Pfennig, vice-president in charge of eastern operations, was paid \$22,456.24, including \$10,663.01 in payment for a retirement annuity based on 14 years credited service prior to Jan. 1, 1941.

BRIEFING

► Boeing Aircraft of Canada has started retooling at its No. 2 plant at Vancouver, to start work on production of the Anson V twin-engine bomber-trainer. The company also announces that it has subcontracted with firms in Canada and the United States on work for the production of *Catalina* flying boats. Some 300 subcontracts have been placed thus far.

► The largest elementary flying training school under the British commonwealth air training plan is now in operation at Abbotsford, near Vancouver, and is to be opened officially at an early date by Canadian Air Minister C. G. Power. There are now 154 schools in operation under the plan, twice the number originally projected shortly after the war started.

▶ A wad of chewing gum, a strip of adhesive tape, and a gauze bandage helped bring a Martin B-26 *Marauder* home for a safe landing at its North African base. The plane received a damaging flak hit over Italy. Hydraulic fluid was leaking from a partially severed line in the radio compartment. Two staff sergeants opened a first aid kit, chewed a couple of sticks of gum, plugged the flak-hole, applied the adhesive tape and then wrapped the "injury" with gauze bandage. The operation was successful.

▶ The number of civilian employees in the Army Air Forces Service Command, one of the largest employees of civilians, will have been reduced in total number from 13,000 to 15,000 by the first of the year. War Department said it was in accord with their manpower board policy and that no wholesale layoffs have been necessary to make the adjustment.

► N. F. Clayborne, president of Clayborne Manufacturing Co. (formerly Motor Rebuilding Specialties), has announced a new portable engine stand for assembly and overhaul of the new Wright Cyclone engine for which a complete new stand had to be designed.

TRANSPORT

Airline Review for 1943 Indicates Commercial Gross of 120 Million

Air Transport Association says revenue passenger miles this year are up 10 percent, express ton miles 34 percent, and mail ton miles 78 percent.

By MERLIN MICKEL

Latest figures from the Air Transport Association estimate that total gross income of the domestic airlines will exceed \$120,000,000 in 1943, not including their military contract operations.

This total, nearly all of it operating revenue, compares with \$108,000,000 in 1942, \$97,000,000 in 1941, \$75,800,000 in 1940, and \$55,500,000 in 1939.

► **Little Known Facts**—The estimate on 1943 income became available after the Association compiled its fifth edition of "Little Known Facts" about the air transport industry. A statement by Col. Edgar S. Gorrell, ATA president, announced that the booklet is available.

Increases in efficiency will enable the lines to close 1943 with gains of 10 percent in revenue passenger-miles, 34 percent in express ton-miles and 78 percent in mail ton-miles, despite the fact they still are operating with only about half their pre-war equipment.

"Estimates indicate," Gorrell's statement said, "that revenue passenger-miles flown by the domestic airlines during 1943 will exceed 1,540,000,000, as compared with 1,398,042,146 in 1942, and 1,369,584,231 in 1941." In 1940, the figure was 1,041,173,558, and in 1939, 677,672,995.

Figures on Express and Mail:

	Express Ton-Miles	Mail Ton-Miles
1943	*15,774,000	*37,639,000
1942	11,717,605	21,066,627
1941	5,242,529	12,900,405
1940	3,469,485	10,035,638
1939	2,705,614	8,584,891

* Preliminary estimates, expected to be exceeded.

"The 5,782 passengers carried by the domestic airlines in 1926," Gorrrell points out, "reached a peak in 1941 of 4,060,545 passengers. The number dropped to 3,551,833 in 1942 because the airlines turned over more than half their equipment for strictly military duties and in con-

sequence the necessity of eliminating certain routes and stops after consideration and recommendation by the Civil Aeronautics Board reduced the number of short-haul passengers and occasioned an increase in the average length of haul. This year the number of passengers will exceed 3,105,000. The average passenger trip jumped from 224 miles in 1930 to 417 miles in 1942 and 485 miles in 1943, while the average passenger fare per mile dropped from 12 cents in 1926 to 5.3 in 1942."

► **Safety Records**—He stressed safety

records as "greater than at any time in the history of commercial aviation," and cited plane miles per fatal accident, this year expected to exceed 46,500,000, compared with 22,020,572 in 1942, 33,255,670 in 1941, 36,266,812 in 1940, and 41,285,762 in 1939.

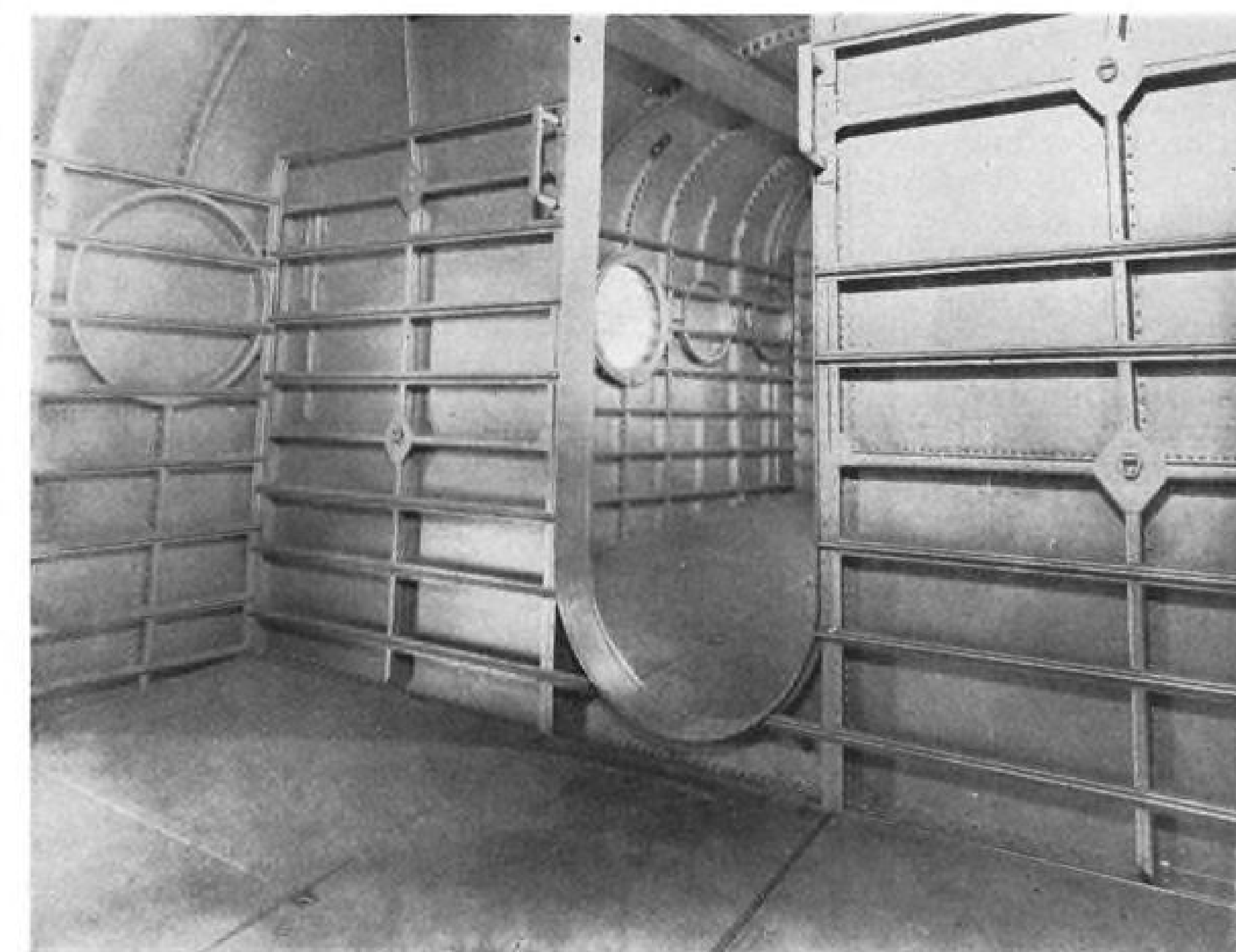
The report said the airplane is averaging better than 1,800 miles daily, compared with 1,100 before the war. Revenue passenger load factor for 1943 will be about 91.40, against 72.15 in 1942, 59.13 in 1941, 57.93 in 1940, and 56.10 in 1939.

In a comparison of sources of revenue, "Little Known Facts" shows that, whereas in 1931 82.5 percent was from mail, 17.2 from passengers and 0.3 from express, by 1942, passengers accounted for 72 percent, mail for 21.8 percent, and express for 6.2 percent.

American Export Line Asks Bermuda Route

Other companies seek permits for air service in Florida, New England and Michigan.

Applications for air transportation in Florida, in New England, in Michigan and from New York to



SIKORSKY CARIBBEAN CARGO CARRIER:

The interior of the S-42, four-engined Clipper Pan American is using as an all-cargo plane in the Caribbean, looks like this before it is loaded. Some 2,500 pounds of passenger furnishings and sound-proofing equipment were removed to make way for express loads of 8,800 pounds. The plane is operating without fixed schedule between Miami and San Juan and Miami and Barranquilla.

Bermuda were filed with Civil Aeronautics Board last week.

American Export Airlines asked for a permanent certificate authorizing scheduled transportation of persons, property and mail between New York and Hamilton, Bermuda.

► **Florida**—From Florida came an application from Beach Motor Transit Co., which runs a bus service to various beaches from Jacksonville. Company seeks to provide air service to these points and to airports adjacent to Jacksonville. It proposes to use helicopters to transport persons, mail, baggage and light express over eight routes from Jacksonville, the longest of which is 26.2 miles.

Trailways of New England, which operates a bus service over approximately 5,500 miles daily in New England and New York, applied to carry persons, mail, newspapers and express, over three routes via various intermediate points. Coordinated with their bus service, they propose to use "suitable aircraft, including helicopters." The routes applied for are from Haverhill, Mass., to New York; from Boston to Hartford, Conn., and from Concord, N. H., to Fitchburg, Mass. They asked also to run a charter air service over irregular routes from within 25 miles of any points named in their application and any place in the United States and Canada.

► **Michigan**—Two circular routes, stemming out of Traverse City, Mich., were requested by Northern Michigan Airlines, located in that city. Using six-passenger twin-engine aircraft, the routes would cover 330 and 185 miles, respectively, to points all in the state of Michigan.



CANADIAN CAR & FOUNDRY'S 1000th:

This Anson Mark V, twin-engine bomber is the 1,000th airplane, built, assembled or overhauled within 1,000 days at the Amherst plant of Canadian Car & Foundry Co. Ltd. The plane is largely wooden-built of plywood construction.

Amendments to applications previously filed were requested by Pan American Airways, United Fruit Co., and Checker Taxi Co. Pan American amended its application to provide service between San Juan and New York with Baltimore as co-terminal, requesting that a terminal point at Charleston, S. C., with an intermediate stop at Nassau, Bahama Islands, also be granted. The amendment specified that certain schedules on these routes would continue or connect with through schedules between continental U. S. and Rio de Janeiro and Buenos Aires.

► **Honduras**—United Fruit Co. amended its application to include Tegucigalpa as an intermediate point on two routes previously applied for. Checker Taxi Co., which had requested non-scheduled taxi or

charter service of persons from Boston to any points in the country, amended its application to include property as well.

An application for an amendment, alteration or modification of its present certificate of convenience and necessity for Route 15, so as to remove the restriction governing service to Colorado cities, was filed by Braniff Airways. The present restriction allows Braniff to serve Denver, Colorado Springs and Pueblo only on flights originating or terminating at Fort Worth-Dallas, or points south thereof.

► **Competition**—Intended primarily to prevent competitive local flights between Colorado cities which might injure Continental, Braniff states that it has no desire to compete with Continental. The application says, however, that these cities are now denied through air service on flights originating at Oklahoma City, although they are all on the same route.

Braniff called attention to its application on file for a route between Oklahoma City and Atlanta via Shawnee, Tulsa, Muskogee, Fort Smith, Little Rock and Memphis, which will be heard early in February.

The line announced that it intends to operate through flights from Denver to Atlanta, via Oklahoma City, if this application is granted.

However, under the terms of the present restriction, this would not be possible. Consequently, it requests that the restriction either be removed or modified to provide that flights serving Colorado cities originate or terminate at Amarillo or points beyond.

PCA Opens 2d NATS Transitional School

The second transitional school for Naval Air Transport pilots operated by a commercial airline was started by Pennsylvania-Central Airlines at Roanoke, Va., last week.

The transitional school, similar to that operated at Fort Worth, Tex., by American Airlines since a year ago last March, opened for naval officers, some of whom have been primary instructors, and will graduate a class at 30-day intervals.

► **Personnel**—Staffed by PCA pilots and instructor personnel, it succeeds that operated by PCA for the army before the Air Transport Command took over the airlines training program formerly operated under the Airlines War Training Institute.

Eight DC-3's, some of them converted from passenger service and others original cargo planes, will be used. PCA says size of the classes is a military secret.



PCA Training Navy Pilots: Present at the signing of the contract under which Pennsylvania-Central is training pilots at Roanoke, Va., were (seated) J. H. Carmichael, PCA vice-president, and Capt. F. T. Ward, director of the Aviation Training Division of the Chief of Naval Operations. Standing are Capt. James T. Rinker, director of training for PCA, C. Bedell Monro, PCA, president, and Lt. Preston R. Rucker, who will have charge of training for the Navy.

UAL Chief Sees Spurt In Postwar Traffic

Patterson predicts 500 percent gain in first five years of peace.

Limiting his predictions to the five years following the end of the war, as the longest period in which an accurate forecast may be made, W. A. Patterson, United Air Lines president, is confident that in that time domestic air transportation will grow to five times its best prewar year of 1941.

He expects that United, which in its peak year had 4,300 employees, will have 18,000 to 20,000 by the end of that five-year period, and may be using 67 planes of 50 passengers each, compared with the 57 21-passenger planes it operated in 1941. Although he feels that a one-year forecast fails to reflect over-all trends, and 20-year predictions savor of "crystal gazing," Patterson does venture one prophesy in the latter time range.

► **Statistics**—He observes that statistical trends, presumably calculated by United's extensive research department, indicate that within 20 years the domestic airlines may be carrying 80 percent of all passengers now traveling by first-class Pullman facilities, 40 percent of the express now moving by rail, a third of railway coach and inter-city bus travel, 80 percent of parcel post, and 20 percent of rail less-than-carload

freight. He qualifies this by explaining that certain tangibles and intangibles are not taken into consideration in these estimates, for example, surface transportation gains in speed, comfort, and operating efficiency and economies.

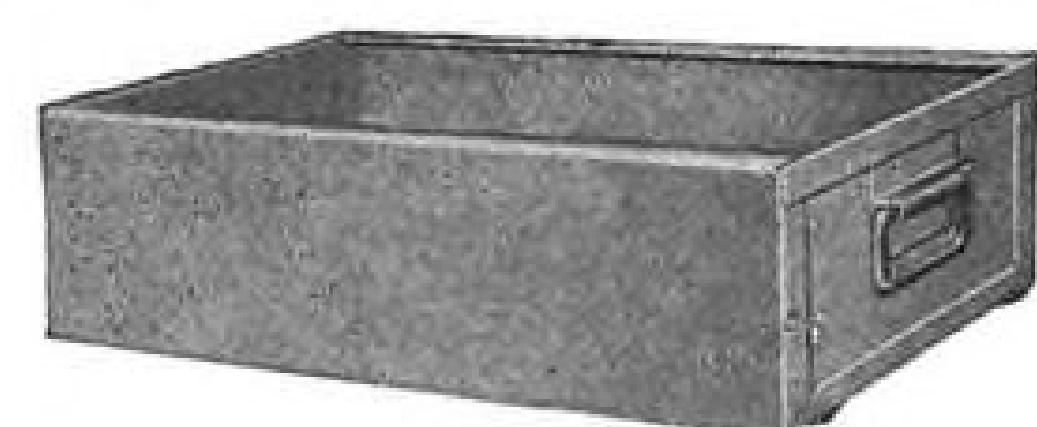
National production and national income, he emphasizes, are factors in the future growth of air transportation. Public acceptance of air transportation, he says, has increased 30 times because of the war, but there still is a difference between public acceptance and public ability to make peacetime use of air transportation. Passenger rates average 5.1 cents a mile, and hopes are they will come down to 4 cents a mile, "but even 4 cents does not reach the mass market."

► **Private Planes**—As he told a postwar planning press conference in Chicago recently, Patterson looks for a heavy volume of private planes after the war—part of it the result of an "emotional surge"—but he also sees a number of repossession. Feeling that communities should not go the limit on huge airport

projects, United's president says runways of about 6,500 feet should suffice for a long time, and suggests that municipalities planning for airports keep in touch with the Civil Aeronautics Administration, which keeps informed on the need. A lot of airports for short distance hops may not be warranted, he believes, since the automobile may be counted on to provide competition for the plane for distances up to 60 miles.

Aircraft plants built and owned by the government since the war began, Patterson thinks, will turn in many instances to products other than airplanes after the war. Some manufacturers he knows of already are turning their thoughts to prefabricated houses and complete kitchen units as likely postwar alternatives.

Canadian Car and Foundry Co. is erecting a new hangar near its Fort William, Ont., plant to serve the factory where currently Curtiss Helldivers are under production and where Hurricanes and Grumman Fighters had been made previously.



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Rickenbacker Opposes Favoring Small Lines

EAL head testifies at hearing on route applications.

By BARBARA FREDERICK

Selfish ambitions of airlines should have no part in development of the over-all air transportation picture, according to Eddie Rickenbacker, president of Eastern Air Lines, Inc.

In testimony at a hearing on applications of several airlines for routes between St. Louis and Detroit, held in Washington before Civil Aeronautics Board Examiners Thomas L. Wrenn and Barron Fredericks, Rickenbacker strongly opposed the theory that smaller carriers should be given preferential treatment when they have applied for air service in the same territory as larger carriers. "If the Board should adopt such a policy its usefulness as a regulatory body for this industry would be ended," Rickenbacker asserted.

► **Wants Disparity Reduced**—Carleton Putnam, president of Chicago and Southern, made a strong plea that "disparity in size between the Big Four and the twelve other domestic carriers be reduced." He said his line was dependent on an extension of route mileage to operate economically. J. W. Miller, president and general manager of Mid-Continent, took the same tack as far as his company was concerned, asserting that it needed both more mileage and a more productive territory.

There was no question but what the airlines considered applications in this proceeding highly competitive. Charles A. Rheinstrom, vice-president of American Airlines, contended that the route proposed by his company from St. Louis to Detroit and Cleveland would improve service on other routes in its system now operating at a competitive disadvantage with other carriers. He cautioned the CAB that granting this route to other carriers would mean competition on American's Detroit-New York, Detroit-Chicago and Memphis-New York non-stop service.

► **Sleepers**—Mid-Continent's President Miller had testified previously that there were some "sleepers" in the applications, as far as competition went, that were not immediately apparent, if isolated from other applications and routes in operation.

Pennsylvania-Central, as an intervener in the case, also testified as to competition that would be engendered by granting of certain applications.

TWA and United, both parties to the proceedings, sought to prove that they were best able to give service to this area.

► **Detroit Represented**—The city of Detroit, represented by Allen Dean, transportation manager of the Chamber of Commerce, took an active part in the hearings. Citing the fact that his city had been a stub-line railroad town, he said it does not intend to be left out in the cold on "first-rate airline service."

At the close of the hearing, Examiner Wrenn set Feb. 1 as the date for filing briefs.

SHORTLINES

► American Airlines reports 36,291,458 revenue passenger miles for November, with a load factor of 88.4 percent, compared with 76.3 percent in the same month last year. The mileage was 19.3 percent higher than November a year ago. Last month saw the carriage of 1,865,245 pounds of express, which was 2.3 percent over October and 45.5 percent over November, 1942. Express pound miles were 36 percent higher than in November, last year. Mail poundage was 59.6 percent higher and the pound-mile increase was 61.6 percent.



NEW RUNWAY LIGHT:

New airport runway marker light, which will withstand loads of 150,000 to 200,000 pounds, has been announced by Westinghouse engineers as answer to the problem of withstanding pressure of landing gear of larger and larger planes. New marker will replace year-old marker light designed for 100,000-pound load, which in turn obsoleted previous markers designed for 16,000-pound load.

► Consolidation of individual companies in Alaska to cover 63 cities in the territory as Alaska Airlines has been announced by R. W. Marshall of New York City, director. W. N. Cuddy, president of the Alaska Star Airlines and The First National Bank at Anchorage, heads the new airline, with headquarters at Anchorage.

► On the basis of testimony before the Finance Committee of New York's City Council, it appears that the cost of the 3,276-acre Idlewild Airport may run well over \$100,000,000. Estimate on overall cost in the city budget stands at \$65,228,000. The budget for 1944 would allocate \$13,954,000 to Idlewild. Commissioner John McKenzie of the department of marine and aviation told the committee that the \$65,000,000 estimate would provide for runways, lighting, one hangar, two administration buildings and other facilities. He estimated, however, that 40 hangars might be needed, and said if they were, the final cost would be closer to \$165,000,000.

► Questionnaires are in airline operators' hands on what they will desire in two postwar types of planes. These are the third and fourth in a series being studied by the Aircraft Requirements Committee of Air Transport Association, and Air Cargo, Inc. Details have been worked out on the first two and submitted to manufacturers for their consideration. These have been termed the A-1 and B-1, the first a general utility ship for short haul, the second a 50-60 passenger plane for hauls of about 300 miles on high density traffic routes. C-1 and D-1, for ranges of 500-1000 miles and 1000-2000 miles respectively, are the ones on which the current questionnaires are based. Previous stories appeared in AVIATION NEWS.

► Headquarters for the Airlines Clearing House, Inc., non-profit organization formed by airlines in the United States and Canada to simplify passenger revenue accounting on interline operations, will be in Chicago. When the plan was originally announced in AVIATION NEWS last August, a New York headquarters was contemplated. Lowell N. Harter, formerly with International Business Machines, will be general manager of the organization. He had been serving at Wright Field on leave from IBM.

► United Air Lines reports 1,125,753 mail ton-miles in November, an 8 percent increase over October's 1,040,310, and 55 percent ahead of November 1942. Express ton-miles were 7 percent above October and 8 percent ahead of November a year ago.

► Northwest Airlines Express carried in the first eleven months of the year totaled 1,391,668 pounds, 335,237 more than the same period in 1942. Express pound miles were 904,736,663, as



UAL VETERAN:

United Air Lines' Capt. E. Hamilton Lee, who has flown three and one-half million miles, celebrates his twenty-fifth anniversary as an air-mail pilot this week. "Ham" Lee was one of the original pilots on the Washington (D. C.)-New York run. Stewardess Betty Campbell is lighting his cigar.

against 785,088,374 in the first 11 months of 1942. The November figure was 125,264 pounds, compared with 101,709 in that month last year.

► Communications officials for American Airlines report it has been granted permission to fly at night in Mexico after installing what is described as the first modern directional range airway in a Latin-American country.

► Trans-Canada Air Lines carried 116,696 passengers, 3,021,771 pounds of mail and 656,877 of express in the first 10 months of this year. These figures exceeded by 30,841 the passengers, 1,293,380 mail poundage and 378,913 the express poundage for the 1942 period. TCA planes carry more than 500,000 air mail letters a day. Recently one of the Lancasters it operates for the Dominion Government made a special stop at Iceland on its way back from Great Britain to pick up 730 pounds of United States "V" and air mail destined for an airport near Montreal.

► Pan American has started one-day round trip flights between Miami and San Juan, with the aid of new night flying facilities. The schedule calls for departure from San Juan at 2:30 p.m. and arrival in San Juan at 2 p.m., departure from Miami at 5:30 a.m. and arrival in Miami at 10:25 p.m. The round trip is 2,300 miles. The new lighting is between Camaguay, Cuba, and Miami. On the same day the night schedule was started, PAA began its first all-cargo service in the Caribbean area. One of its Clippers took off from Miami with 8,800 pounds of express for Puerto Rico. The return trip from San Juan was to be made two days later. The plane will not operate on fixed schedules, but

will serve Barranquilla, Colombia, as well as Puerto Rico.

► Pan American-Grace announces that its planes flew 1,161,047 miles in the third quarter of 1943. Passenger miles were 15,081,504. Both were increases over the preceding quarter and the same period a year ago.

► Royal Canadian Air Force has formed a new transport command to handle trans-Atlantic flights carrying

CAB ACTION

► Jan. 19 has been set as the hearing date on Continental Air Lines mail rate case, following prehearing conference. Continental has been receiving 48½ cents per airplane mile for transportation of mail, and will answer a show cause order from CAB as to why this rate should not be cut to 26.58 cents per airplane mile. At the conference before Examiner Ross I. Newman, it was agreed that evidence on the newly granted El Paso-San Antonio route, the Denver-Kansas City route, as well as the routes now operated by Continental, would be received.

► A pre-hearing conference on the acquisition of Cordova Air Service by Alaska Star Airlines will be held before Examiner Lawrence J. Kesters on Dec. 29, in Washington. Hearing probably will be on Jan. 20. Alaska Star Airlines has changed its corporate name to Alaska Airlines by a formal notice filed in the territory and shortly will notify the CAB of this name change.

► Brief has been filed by Western Air Lines on its proposed acquisition of Inland Air Lines. Western asks for a speedy disposition of this matter, citing that delays will "result in nervousness and dissatisfaction among employees of the seller because of uncertainties." Western reiterated the point it emphasized in conference that Inland's system can be correlated into Western's more effectively than it could be with any other carrier. Western further asserted that, even if there was some question on this point, which it denies, the matter would not be a subject which the CAB has the power to consider. It called to the Board's attention that "approval must be granted, if acquisition by Western will be consistent with the public interest."

► Public Counsel V. Rock Grundman filed his brief in the matter of applications to serve Salina, Hutchinson and Topeka, Kan., by TWA, Braniff and Continental, on which hearings recently were held. Public Counsel recommended that Examiner Lawrence J. Kesters find that Continental's certificate for Route 60 be amended to authorize Hutchinson as an intermediate point between Denver and Salina, thereby serving as a link between Continental's Routes 43 and 60. Counsel further recommended that Braniff be allowed Topeka as an intermediate point between Kansas City and Wichita on Route 9. In suggesting that TWA be denied its application, Public Counsel said, "TWA is one of the big four among U. S. air carriers and, with the other three, controls the major portion of the route mileage and passenger traffic in the United States. In Public Counsel's view, such a lack of balance is unhealthy, unsound and not in accordance with the policy laid down by Congress." In further support of recommendations, Public Counsel said "the diversion from Continental caused by Braniff's service to Topeka would be minor in comparison with the loss Continental would suffer if TWA were to serve Topeka."

► E. W. Wiggins Airways filed another petition asking CAB to reconsider its order denying Wiggins the right to intervene in Northeast's acquisition of Mayflower.

► In the matter of Pan American Airways' acquisition of Aeronaves de Mexico, following hearings some months ago on the jurisdictional question of whether the acquisition by Pan American of a 40 percent stock interest in Aeronaves was subject to CAB approval, the Board found that Pan American has acquired control of Aeronaves. To determine the merits of the application for

mail to all Canadian servicemen in Britain and probably to the Mediterranean area as well. Announcement was made by Maj. C. G. Power, Canada's Air Minister, at Ottawa. Crews have been receiving special training for the transoceanic flights. The service will be in addition to the existing trans-Atlantic service operated twice weekly by TCA with modified Lancasters.

acquisition, a further hearing will be called after the first of the year.

► The petition of American Newspaper Publishers Assn. to intervene in the Chicago and Southern mail rate case was dismissed by CAB order. This petition had been made on the basis of a misunderstanding on the part of ANPA of what they supposed was a limitation set by CAB on the amount Chicago & Southern might spend for advertising and publicity. A statutory hearing on the Chicago and Southern case was held last week, but, as the airline previously had withdrawn objections to the show cause order setting 0.3 mill per pound mile as the mail compensation, the hearing served merely to comply with CAB regulations and affirm this rate for Chicago and Southern.

► Further hearing on New York-Boston case, set for Jan. 5 before Examiner Thomas L. Wrenn, will receive testimony on the disposal of Northeast Airlines stock by the Boston & Maine and Maine Central Railroads.

► Northeast's acquisition of Mayflower will be heard on Jan. 6. Frank A. Law, Jr., is the examiner.

► CAB denied the petition of W. R. Grace & Co. requesting the deferment until final argument upon the merits of oral argument on the jurisdictional question raised by Pan American Airways in the matter of Panagra's request for a U. S. terminal. Counsel for Eastern Air Lines asked the Board to hear argument on the jurisdictional question at the earliest possible date. There was some indication that it might be heard the latter part of this month.

► Contracts between Braniff and Chicago and Southern to permit the former to furnish certain air conditioning services to the latter's planes at Houston, and between Braniff and Pan American Airways whereby the latter will service Braniff's planes at Brownsville, Tex., were approved by CAB.

► Hearings on the Denver-Los Angeles applications will start Jan. 10 in Washington before Trial Examiner Albert F. Beitel. Airlines involved are Western, United, TWA, and Continental.

► Justice Department was granted leave to intervene in the Caribbean, Mexican, South and Central American proceedings before the Board.

► A second pre-hearing conference on the so-called Great Lakes-Florida applications will be held in Washington before Examiner Ross I. Newman on Jan. 6. Airlines involved in this proceeding are Eastern, Delta, National, Pennsylvania-Central and State Airlines.



The OWI Report

THE OWI'S REPORT on the airlines at war is the first official summary on the subject to be issued to the nation. It is a good report. Those in aviation will find little new in it. The public will find much it did not know. The generous space devoted to the report by the newspapers last week, including two stories in the same issue of the *New York Times*, is adequate proof of that.

It is regrettable, however, that some of OWI's material, which it gathered independently from the airlines, the Air Transport Association, and government agencies, was not left in the final version. OWI's writers are experienced in detecting material violating military security and nothing of a secret nature was incorporated in the first drafts. The only other explanation is that the material deleted violated ATC policy. Some of the material originally removed by ATC was reinserted by OWI, however.

Nevertheless, the net result is still good. The very fact that the report was in production served to loosen the restrictions on release of ATC activities by the airlines. In the past month or two summaries of activities by individual lines have been approved for publication. TWA, PCA, American and Pan American all have been allowed to issue stories. TWA and Pan American were permitted to run full page newspaper advertisements on their trans-oceanic accomplishments. In the same period Consolidated Vultee Aircraft Corp. finally was able to clear an outline of the operations of its trans-Pacific service flown by Consairway.

There has been a smattering of criticism of the OWI custom of preparing factual reports on subjects of public interest. A few columnists have felt that the newspapers or wire associations themselves should prepare such stories. The OWI report on the airlines, however, is a striking example of OWI's ability to tell a story which no newspaper or newspaperman has been able to pry loose since we entered the war.

Our War Training

THE TREMENDOUS ACHIEVEMENT of the Allies in aviation training was pointed up by the head of the RAF delegation in the United States the other day.

Despite the phenomenal growth in output of aircraft plants in Britain, Canada, and the United States, Air Marshall Sir William Welsh made it clear that schooling is more than keeping pace with production. He said:

"I often hear it asked when I visit your enormous construction plants and see the mass of aircraft be-

ing produced whether we shall ever be able to man them or whether we shall need them. The answer is categorically yes. We have never had enough aircraft and never will until the end of the war. The more aircraft we have the more crews we can train, and I can say that training is now being held up through insufficient aircraft. Squadrons are still waiting to be re-equipped with more modern aircraft that are in production. The answer to casualties is to replace them at once—more aircraft, more men. We have the means of doing it and it breaks the enemy's heart . . .”

All of which is a tribute to both military and civilian personnel in our aviation schools. But one point frequently omitted in discussions of the millions being trained for aviation is that much of this wartime schooling is specialized. Under war pressure, courses are "streamlined" to enable a soldier to do only one phase of a job well, or else diluted to cope with many jobs reasonably well. How many aviation technicians will be able, even if they desired, and even if the demand developed, to make their livings after the war as technicians without long refresher courses or much more instruction? This question should be asked when we hear talk of millions of men who will return from the fronts equipped to enter commercial aviation. It also poses another planning problem for those who will still be operating aviation schools after the war.

The Community Airport

VERY FEW AIRPORTS in this country were in the black financially when we entered the war. The new, model Washington National Airport was one of those few. Opened in June, 1941, utilizing the best designs and equipment that engineers could devise, it was inadequate in most respects when the first plane landed on it, yet it has remained financially self-supporting until this year when war restrictions on both air and auto travel are resulting in decreased revenues.

Yet, the significant fact is that despite these war difficulties Washington Airport might have shown a profit this year if its terminal had had more restaurant facilities, office space, maintenance facilities, storage areas, and concessions. The Airport's manager, Hervey Law, is convinced these demands will not only remain after the war but increase substantially.

For municipalities awake to the future, the case of Washington Airport should be a powerful argument for planning a vital facility which will not only spur trade in the area but furnish an opportunity to increase the City's income. The Airport's potential value in public service and recreation has been little appreciated.

ROBERT H. WOOD

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