

Aviation News

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New Helicopter Flies: Although more than 20 helicopter projects are under way, the P-V Engineering Forum was the second in recent months to make a public flight test. Above is a single passenger, 1,000-lb. model hovering over an Army jeep before military officials at Washington National Airport last week.

Plane Output on Upward Trend

New production spurt forecast after disappointing September figures; Army, Navy press for adoption of incentive plans.

Feeder System Equipment Needs Revealed

Proponents testify before CAB that manufacturers could meet requirements but express doubt projects would be self-supporting.

Luftwaffe's New Strength Comes from Russia

Nazi air force transfers planes but is getting no stronger, military commentator says; Axis uses tactics that led to Africa rout.

U. S. Chamber's Route Policy Challenged

Pan American asks reconsideration, says stand is in fundamental conflict with views of air transport industry.

U. S. Policy on Contract Termination Near

Expected to develop at hearings just opened before subcommittee of Senate Military Affairs Committee.

OWI Report Reviews Warplane Progress

Finds performance of U. S. aircraft in combat vindicates American design. Box score shows U. S. plane superiority.

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THE AVIATION NEWS

Washington Observer

CONTRACT TERMINATION—Seriousness of this problem continues to grow and some high officials here have said terminations in increasing numbers will be inescapable and it will not always be possible to replace terminated contracts with new ones. Industry leaders are emphatic in their belief that every aircraft company should go into the situation thoroughly, assigning officials to this job entirely, if necessary, and particularly to start educating both labor and communities in which aircraft plants are located as to the seriousness of the situation.

★

COUNCIL NAMES CHAMBER—Members of the National Aircraft War Production Council, all of whom are also members of the Aeronautical Chamber of Commerce, have designated the chamber as their agent and spokesman in matters concerned with termination and renegotiation on an industry-wide basis. These are questions which do not properly come within the province of the council—formed to produce more airplanes faster. In taking this action, the industry shows further evidence of teamwork and common action for the common good.

★ ★ ★

BOMBING OF GERMANY—Effective as bombings have been, the industrial strength of Germany is said by War Department officials still to be high. German designers have lost none of their ingenuity and are constantly at work on new weapons as recent developments have shown. Under-Secretary of War Patterson claims reports indicate the spirit of German troops is high. He added significantly that we can be sure the blows struck in 1944 will determine the outcome, although nobody can predict the end. Germany's plane losses, however, have exceeded production. Until midsummer, the Germans were said to be building up a surplus of from 200 to 400 planes a month.

★

ROCKET GUNS—There are some indications that the Nazis' airplane rocket guns appeared too late to save the German air force from our mounting superiority. On the basis of official claims, the Germans lost at least 500 fighters in an eight-day Allied offensive. It must not be overlooked, however, that our losses have been heavy in bombers, each carrying a ten-man crew, and that these losses do not include the dead and wounded in planes which return to British bases.

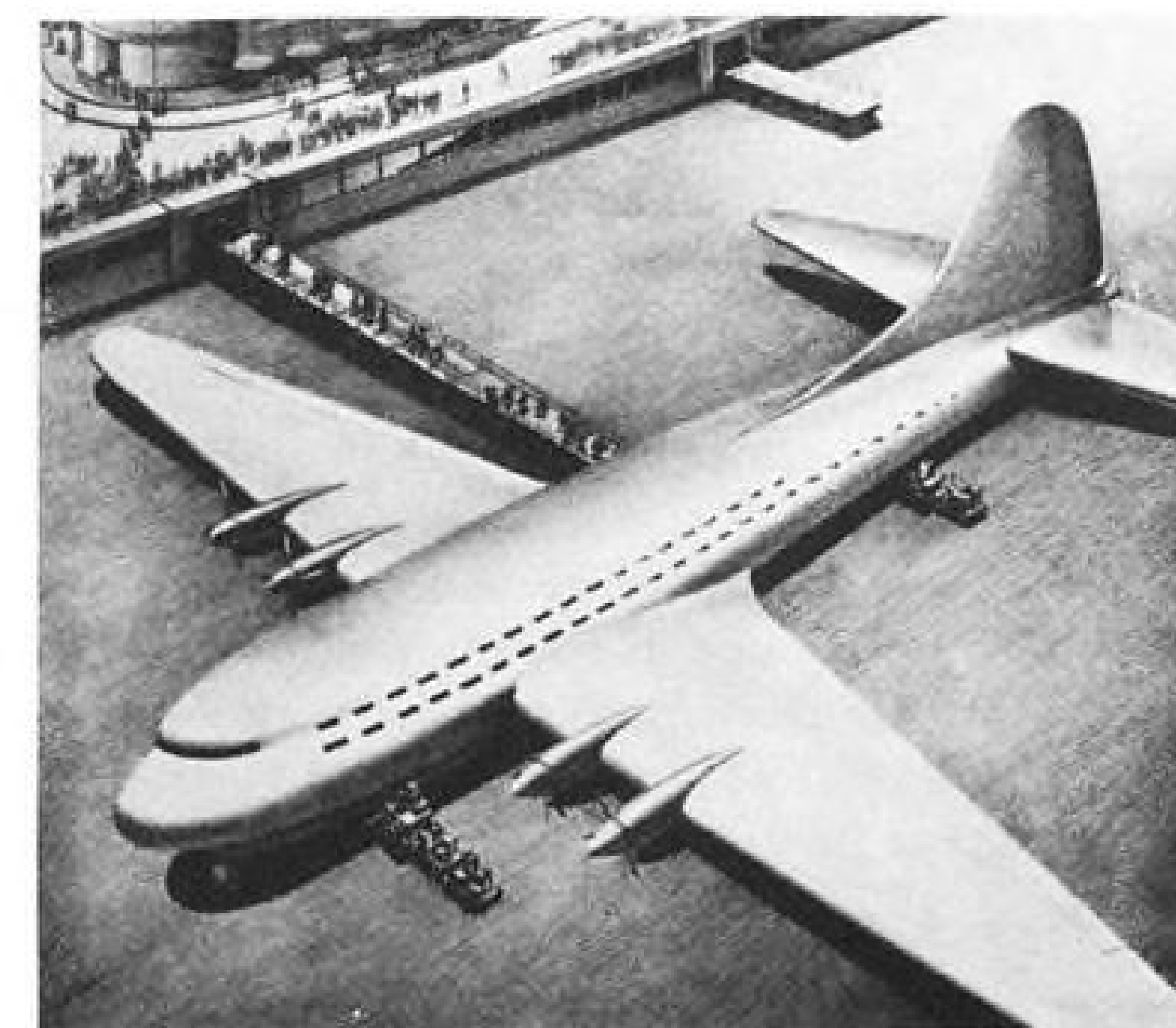
★ ★ ★

DC-3 FLOATS—There have been some reports that the amphibian floats on the DC-3's

are not working as well as had been hoped, and there appears little likelihood of going into mass production of amphibian DC-3's in the near future. There is only one now, the prototype. The floats were designed in an attempt to make them airfoils to add to the lift of the plane, since they were too big, but it appears that the lift supplied was not enough to make an appreciable difference in the extra amount of drag.

★ ★ ★

LITTLE RESPONSE—CAB officials are a little unhappy over the industry's failure to respond to requests for comment on proposed regulation changes. Latest example was Section 24, on certification of aircraft and engine mechanics, which CAA wants to modernize. Six hundred copies of the suggested amendment went out and 18 comments came back. Most of these said, sure, something should be done about the situation, but this probably is not the solution; in fact, we don't know just what should be done about it. So the new regulation is being re-circularized. Things like this are said to happen on a good many of the proposed changes.



UAL's "New Airliner of Tomorrow"

AIR MAIL DELAY—There are indications that foreign traders are becoming increasingly annoyed over delays in air mail delivery from Brazil which they say is resulting from the triple censorship of American, Brazilian and British. Such correspondence, which ordinarily would be delivered in three days, is said by some traders to have been so delayed by censorship that six weeks and more is sometimes required for delivery.

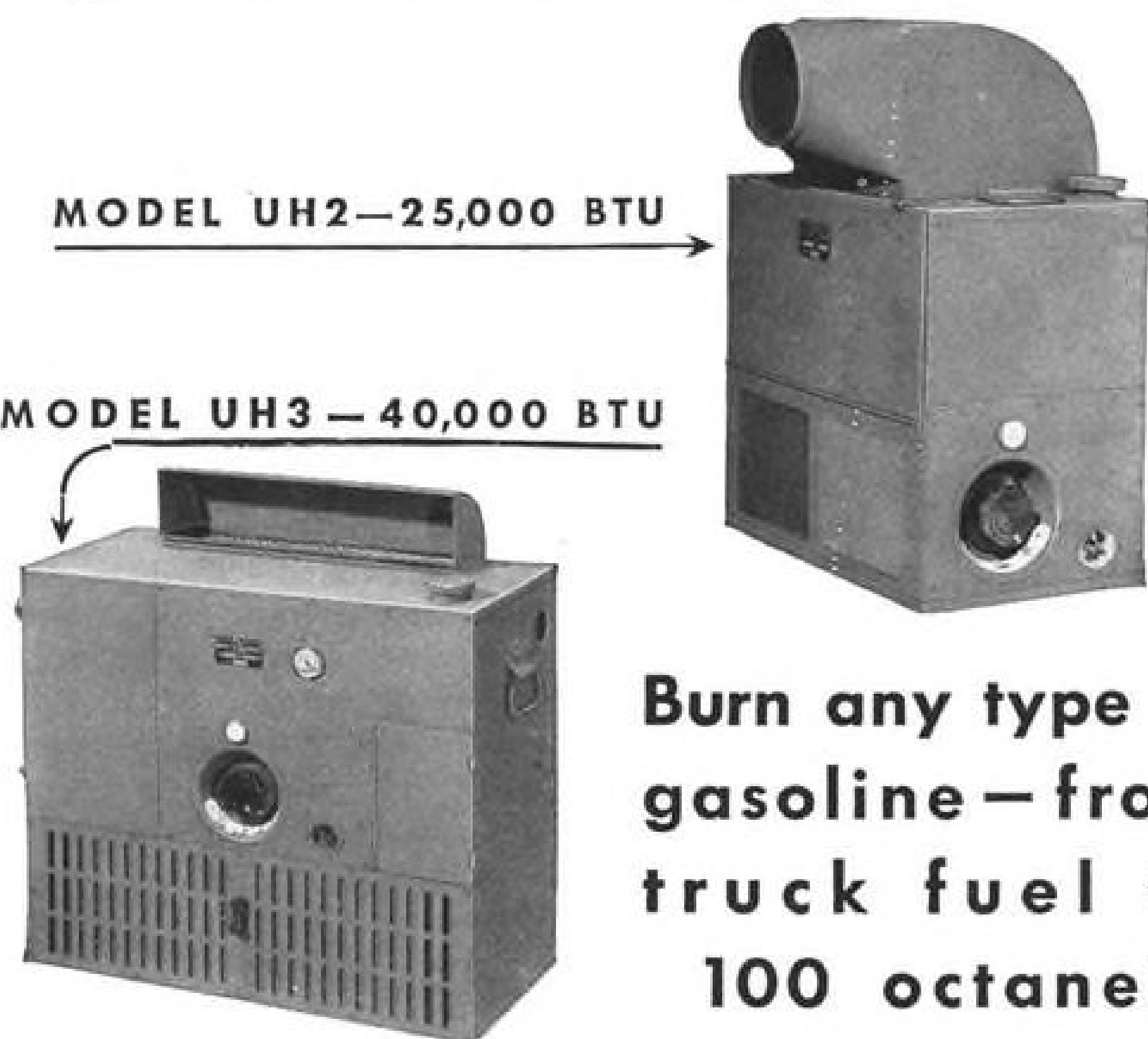


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AVIATION NEWS

October 18, 1943

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FEEDER LINE PLANES—There have been many drawings and dreams of airplanes of the future, some highly practical, some highly fantastic, but there is hardly a company that doesn't have the model or models they really expect to build, tucked carefully away in the safe. For example, Douglas officials in Washington for the feeder-line hearings had some definite ideas and plans on airplanes for feeder-line and local service. These plans were not introduced at the public hearings, but were shown privately to some CAB officials.

HELP FOR THE INDUSTRY?—Cutbacks in tank production and some other war materials far below plans drawn shortly before and immediately after Pearl Harbor, may free valuable facilities, materials and labor for other jobs, in which case aircraft, among other industries, might be materially aided.

CONTRACT TERMINATION—Under-Secretary of the Navy Forrestal has written a letter to Senator Murray, Chairman of the Senate Subcommittee on contract termination, in which Forrestal said he could not agree with the opinion expressed by some officials that solution of the war contract termination problem can be deferred. He said that in his opinion solution of that problem is a present need. He mentioned that contract terminations in increasing numbers will be inescapable and it will not always be possible to replace terminated contracts with new ones.

NAVY CARRIERS—By the end of this year we will have more than 14 first-line aircraft carriers, double the number we had on the date of Pearl Harbor. In disclosing this, the Navy spokesman added "and you can guess where most of them will be working." He wasn't counting numerous smaller auxiliary and escort carriers.

AAF CONSTRUCTION—Airbases, tactical air fields, schools, and depots numbering more than 1,500 have been constructed, with a value of more than \$2,500,000,000. This compares with the emergency construction, real estate acquisition, and maintenance program of the Army of the United States, which now represents an outlay of approximately \$11,000,000,000.

SHORT HOPS—The market for short-distance travel is the one that should receive study and attention in the opinion of CAA Administrator Charles Stanton. He believes there is no alternative to the development of that market as a means of expanding air transport. Possi-

Washington Observer

bilities in the long or even in the intermediate distance market, he says, simply do not add up to those in the short-distance market.

TOMORROW'S AIR TRAFFIC—It appears quite probable, according to William A. M. Burden, Special Aviation assistant to the Secretary of Commerce, that within the next decade air travel in the United States will equal approximately 70 percent of present-day Pullman rail travel, which means the transportation of approximately 20,000,000 passengers a year, or about five times the 1941 number.

TOMORROW'S AIRPLANES—Any estimate of the number of airplanes likely to be in operation after the war can be little more than an informed guess because of the intangibles and uncertainties surrounding the development of private flying. However, the CAA has made a rough prognostication that 500,000 aircraft of all categories may be in service by 1950.

ANOTHER HEADACHE—The aircraft industry has plenty of worries and one which is causing some headaches now is this: With the emphasis on more and more airplanes, some aircraft executives picture a situation in which other war contractors will gradually cut back on some items and either go partly into peacetime production or be ready to go the day the war is over, whereas the aircraft companies will be on war contracts, building warplanes right up to the final gun. If that situation comes to pass, it is obvious that aircraft manufacturers will be in a disadvantageous position.

AWPC AND THE PRESS—Speaking of the Washington press, newsmen in the capital were pleased to have an opportunity to discuss aircraft production problems and aircraft performance directly with top aircraft company executives during the recent meetings of the National Aircraft War Production Council. The company presidents made themselves available to the press throughout the two-day meetings with a resultant better understanding on both sides.

OLD LINE INDUSTRY—A production man who keeps track of such things got out his pencil and after a few minutes figuring came up with the estimate that the old-line aircraft industry is producing about 75 percent of the dollar volume output of all airplanes now being produced. A pretty good record for an industry that was in swaddling clothes a few years ago.



The Eastern Air Lines KELLETT which flew mail for a full year from the roof of the Philadelphia Post Office. One of many Kellett "firsts" in its years of pioneering the manufacture of rotary wing aircraft.

THE PIONEER LOOKS TO TOMORROW

TODAY in cooperation with the U.S.A.A.F. Kellett is speeding the engineering development and production of autogiros and helicopters for military needs. We cannot give details now. Five Kellett plants are also applying their aeronautical ingenuity to the production of important parts for some of America's most famous fighters and bombers — Thunderbolts, Liberators, Warhawks and Marauders . . . while an expanding corps of forward-looking engineers continues Kellett's rotary wing developments for the future.

TOMORROW we look forward to opportunities for Kelletts to cut time and costs in patrolling electric power lines, oil pipe lines, in transporting mail and passengers, dusting crops—and in a wide variety of services for industry, commerce, forestry and agriculture. Kellett's years of experience and accomplishments continue to attract pioneering minds, men who, with us, see vast opportunities for rotary wing progress in the post-war era. Kellett Aircraft Corporation, Upper Darby (Philadelphia), Pennsylvania.

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A Kellett accompanied Admiral Byrd on his voyage to the South Pole.



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New Spurt in Plane Output Looms After September Production Lag

Disappointing unit total last month traced mainly to design changes; Army and Navy press for widespread adoption of incentive plans in effort to meet increased needs.

By SCOTT HERSHEY

October aircraft production is reported on the uptrend after last month's disappointing figure and production men are cautiously hopeful of boosting the total to close to 8,000 units.

Even though September unit production was virtually the same as in August—7598 as against 7612—weight of aircraft produced was up about 3 percent and with the emphasis on heavier models, October weight production was expected to show a considerable gain.

► **Weight vs. Units**—Many factors and imponderables are involved, however, and any increases now are bound to be gradual. While production men would prefer using weight as the basis for production totals, unit figures have been so widely used that units probably will continue as the measuring stick.

Failure of September production to show a gain over August was due to a falling off in two or three companies and not a production lag in the industry generally. Reports from those plants, whose production was off in September due to design changes, production changeovers and other inevitable difficulties in warplane output, indicate these problems have been generally overcome and that production will more nearly approach normal this month.

► **Manpower**—Industry continued to struggle with manpower problems, particularly on the West Coast, where the new manpower program is beginning to get into operation. West Coast aircraft men said it was still too early to get a complete picture of the results of the new set-up and that, meanwhile, they, like the rest of the industry, were continuing their programs of labor utilization to boost production.

In the constant search for methods to increase the output of warplanes which will never be high enough to satisfy the demands of the armed services—or the industry, either, for that matter—the industry generally is giving close study to various incentive pay plans.

► **Pressure**—There is pressure from the armed services and from the War Production Board for the installation of incentive systems and general agreement that production could be increased if equitable programs were worked out.

To what extent they will be successful in finding such programs is a matter of conjecture, in view of labor's opposition to such plans. It should be noted, however, that the CIO United Automobile Workers, dominant CIO union in the aircraft

industry, did have a minority report on the question which indicates some sentiment for incentive programs.

► **Objections**—It is difficult to determine at this stage whether pressure for incentive programs from the armed services and WPB will make itself felt on down the line to organized labor. With the Army and Navy calling for warplanes in ever-increasing numbers and with operations expanding in almost all war theaters, objections may have to be set aside in favor of all-important production.

Aircraft manufacturers indicate the absolute necessity for increased production, as impressed on industry executives at recent conferences in Washington, is beginning to be felt all down the production line.

AAF Puts 100 Planes On New Feeder Service

Norseman transports delivered to 11 control depots of ASC.

Distribution of 100 Noorduy Norseman transports to the 11 control depots of the U. S. Army Air Forces Air Service Command has been completed for establishment of a feeder service from small sub-depots, not now adequately served by commercial airlines or Air Transport Command, it was announced by ASC headquarters, Patterson Field, Fairfield, Ohio.

► **Schedules**—Maj. Gen. Walter H. Frank, ASC commander, said a study had been started on the possibility of reallocating some existing main-line routes of the Domestic Transport division, ATC, in view of the new feeder service. Schedules will be based on estimated cargo volume and on recommendations from the field detachments of the 39th Air Freight Wing, ASC ground handling organization.

The high-winged single-engine Canadian-built Norseman was selected as the most suitable available plane for the small shipments and short-hauls involved. The plane has set up a record for ruggedness and dependability as a transport in Northern Canada.

Martin Mars Tested

The Martin Mars, world's largest flying boat, will join the Naval Air Transport Service for operation as an overseas cargo carrier after completion of final tests and verification by the Navy Trial Board of the Mars' performance record.

Recent completion by the Mars of a difficult endurance flight of 32 hr. and 17 min. announced by the Navy indicated that production orders for the huge flying boat probably will follow formal acceptance after final tests are made. The Mars traveled in excess of 4,500 mi. during the endurance test and landed with sufficient gas in her tanks for several hours more flying. The distance traveled was equal to a trip from Baltimore to Berlin.

New Helicopter Put Through Paces In Washington Demonstration

Single-seater, 1,000-lb. model revealed as third of type in air out of over 26 projects under way. Built by P-V Engineering Forum.

By BLAINE STUBBLEFIELD

A single-seater, 1000-lb. helicopter, designed and built by the P-V Engineering Forum, was flown before the press and other observers at Washington National Airport last week.

At least 26 helicopter projects are under way, but the P-V is revealed to be the third one in the air. The other two are Sikorsky's VS-300 and the Platt LePage. The latter is reported out of commission at this time, due to an accident.

► **Sponsored by PCA**—The P-V has been flown since early last spring. It is painted in the standard colors of Pennsylvania Central Airlines, which is sponsoring the development to an undetermined extent.

Frank N. Piasecki, president of the P-V firm, who has only 30 hr. total flying time, including 14 in fixed wing planes, has done all the test flying, including the public demonstration. Elliot Deland, chief engineer, discussed technical features.

► **Mechanism Simplified**—The PV-2, this being the second version, has a three-bladed rotor with a diameter of 25 ft. Its lift and control principles are conventional, but com-

pany says mechanics are simplified.

"Total pitch" of the blades—that is, the constant pitch at which they make the complete revolution—is controlled by a ratchet lever at the pilot's left. Throttle movement is contiguous with the movement of this lever, or independent, at the pilot's option.

► **Controls**—"Cyclic" pitch is controlled by a universal lever suspended from the canopy. This lever moves cams which increase and decrease pitch during certain segments of the revolution, giving thrust and travel forward, backward or to the left or right, whichever way the lever is moved. Incidentally, forward thrust can be used for taxiing on the ground. This model is equipped with conventional wheels and shock absorbers.

Rudder action is provided by a torque propeller, 5 ft. in diameter and shaft-driven, on the tail, blades of which are pitched either way from feather position by movement of the foot rudder bar.

► **Engine**—The engine is a Franklin, 4-cylinder, 180 deg. opposed flat type, air-cooled, 90 hp. It is mounted with its crankshaft verti-

cal, just behind the pilot. To stand the engine on end, the engineer had to provide a special oil scavenge pump at the bottom. Franklin and Lycoming are said to be designing vertical engines especially for helicopters, to simplify the reduction gear problem.

In the PV-2, a universal joint in the drive shaft between the gear takeoff and the rotor hub, takes up the movement of the engine in its rubber mounting. A centrifugal cooling blower is mounted around the clutch assembly. Engineers said they believe it consumes about 5 percent of the power. They saw no prospect of dispensing with blower cooling, since the helicopter consumes full power for considerable periods while standing still.

► **Cruises at 65 mph**—This machine has a cruising speed of about 65 mph and a top speed of 90 to 100 mph, both of which the engineers expect to increase.

The company has another model on blueprint, with a payload of more than one ton (eight to ten passengers with baggage) and a range of 400 mi., ready for production at any time. Engineers believe this design has possibilities for military rescue work, liaison and other purposes. They have in mind, also, a two-place model which would require a small addition of area to the rotor disc, and possibly some more power.

► **Rotor Blades**—The PV-2 rotor blades have a chord of 9½ in. and an area of about 8 sq. ft. each, which puts their loading at about 150 lb. to the square foot. This extremely high loading, compared with that of fixed wing planes, is made possible by the high speed of the blade, which is about 350 mph at a point near the tip. RPM of the rotor is 270. Spars are 1⅛-in. steel tubing with a slight taper.

New Research Group

Aviation Research Associates has been organized in New York to serve as a clearing house of aviation information and literature, and to provide counsel in all phases of aviation publication, advertising research and marketing.

Norman V. Carlisle, editor, author and authority on education and radio is executive editor and manager. Directors of the group are Casey Jones, Lt. Col. George Vaughn, research engineer; Richard Whatham, expert on training and meteorology; Lee Warrender, manufacturing and maintenance engineer; Rex Cleveland, industrial advertising manager

and aviation editorial writer of the *New York Times*; and Leslie Neville, editor of *Aviation*.

OWI Report Reviews Warplane Progress

Finds combat performance vindicates American aircraft design.

The vast air force which the United States has built up is analyzed in a new Office of War Information report, which describes it as "powerful, balanced, adapted to the variety of strategic and tactical tasks imposed upon it."

Sharp criticism of some types which marked an earlier OWI report a year ago is missing in the new one and it is significant that there was little battle experience to draw upon at that time as compared with now.

► **Box Score**—The report lists an extensive box-score of action in all theaters and concludes that "in spite of past mistakes made in our aircraft production, the evidence is conclusive that American planes today are superior to enemy planes in battle."

Box scores do not, of course, tell the full story. A plane which destroys a strategic bridge, or a group of tanks, or a ship or an enemy industrial plant, adds testimony to the excellence of our aircraft performance which no box score can include.

The report says the famous P-40 "has reached the limit of its development possibilities, and after this year it will be produced only for operational training and replacement."

► **Martin Marauder**—In regard to the Martin B-26 *Marauder*, the report says that "despite its high speed, good load capacity, and excellent combat performance in several thea-



CONVAIR'S EXTREMES:

Gamut of warplanes from the four-engine Liberator to the L-5 Flying Jeep is turned out by Aviation Corp.'s nationwide aircraft company, Consolidated Vultee Aircraft Corp. The contrast of the smallest and largest products are shown here in this new photo.

ters, notably New Guinea, the Mediterranean and Europe, the production of this plane is being tapered off for strategic reasons."

Republic's P-47 *Thunderbolt* was said in the report to be "generally considered the world's best single-engine fighter for high-altitude operations."

► **New Airacobra**—New planes on the way which were mentioned included a new model of Bell's P-39 *Airacobra*, with a low drag wing and a two-stage Allison supercharged engine; a new North American P-51 *Mustang*, highly supercharged, Packard-built, Rolls-Royce Merlin engine; the latest model of the Lockheed P-38 *Lightning* which has been given greatly increased horsepower in its Allison engine, improved pilot's vision, and improved inter-cooling for better high-altitude performance.

New models of the North American B-25 *Mitchell* have heavier armament and increased speed and range.

► **Four-Engine Bomber**—The report mentions new four-engine bomber already in production and scheduled for combat by the spring of 1944 and says it will eventually replace the Boeing B-17 *Flying Fortress*, at least for long-range work.

Policy on Contract Termination Looms

Expected to develop at hearings opened by Senate subcommittee.

Formation of a national policy on contract termination was expected to develop from hearings opened by the subcommittee on contract termination of the Senate Military Affairs Committee.

It is generally conceded that handling of contract termination legislation by Congress will have an important effect on war production and certainly will go a long way to-

ward determining how our productive economy, particularly in the aircraft industry, will emerge from the war.

► **Murray Asks Policy**—Senator James E. Murray (D-Mont.) Chairman of the subcommittee called for the active assistance on industry, labor, and the executive departments of the government in helping to formulate a definite national policy—an action urged by aircraft industry leaders in recent meetings in Washington and Colorado Springs.

Senator Murray explained that the major aims of his subcommittee were to obtain:

- 1—Speedy final settlement of terminated war contracts.
- 2—Quick temporary financing for manufacturers who need cash in advance of final settlement.
- 3—Uniformity of policy and procedure among the various government agencies.
- 4—Statutory guarantees that the rights of smaller manufacturers will be protected.

► **Closed Session**—The subcommittee met in closed session, preceding the public hearings, with representatives of the War Production Board, War and Navy Departments, Maritime Commission, Treasury Procurement, Smaller War Plants Corporation and the Departments of Justice, Labor and Commerce.

Testimony from individual business men was scheduled for the early sessions, with public testimony from Government agencies later.

► **Settlement**—The War Department has proposed new legislation which would fix the authority for settling cancelled war contracts in the procurement agencies and provide for advance and part payments and continue the current system of guaranteed loans. At the same time, issue was taken with the views of the Comptroller General that final settlement of terminated contracts should be handled by the general accounting office.



NORTH AMERICAN'S "MUSTANG" CORRAL:

P-51 Mustang fighter planes going through a breaking in period before being taken into the air. This process takes place on the flight ramp at the Dallas division of North American Aviation, Inc., where workmen are shown putting the finishing touches on the fighters. Powered by Rolls-Royce Merlin engines, these ships are rolling off the assembly lines at both the Texas and California divisions of American Aviation.

Box Score

OWI reports that from Dec. 7, 1941, to Sept. 1, 1943, American Army combat planes flew 223,758 sorties in which they dropped 105,649 tons of bombs. On these missions, our Army planes destroyed 7,312 enemy planes, probably destroyed 2,196 others and damaged 2,535 more. Their own loss was 1,867 planes.

For the six months ended Sept. 1, 1943, our planes destroyed 5,389 enemy planes, probably destroyed 1,502 others and damaged 1,860 more against a loss of 1,239 planes.

New Plane Compass Developed by Bendix

Secret Gyro Flux Gate is product of seven years' development.

A new type of compass which is guiding United Nations flyers unerringly to bombing objectives and home again has been developed by Eclipse-Pioneer Division of Bendix Aviation Corp.

W. A. Reichel, director of engineering for the division at Philadelphia, said the compass—the Gyro Flux Gate—"is as great an advance over the conventional magnetic compass as that compass was over the lodestone." He explained that it uses the earth's magnetic field to develop minute electrical impulses which, when amplified, turn the compass indicator.

► **Unaffected by Bombload**—"Because it is possible to locate the transmitter of this new compass at a distance from the indicating dial," Reichel said, "it is possible to find a position for it where it will not be affected by the bombload, armor plate or other metal parts that impair the accuracy of the standard compass."

"Additional indicators are linked to the compass through the medium

of the Pioneer 'magnesyn' system. This system makes possible remote readings of indications and measurements received from a remote source or master."

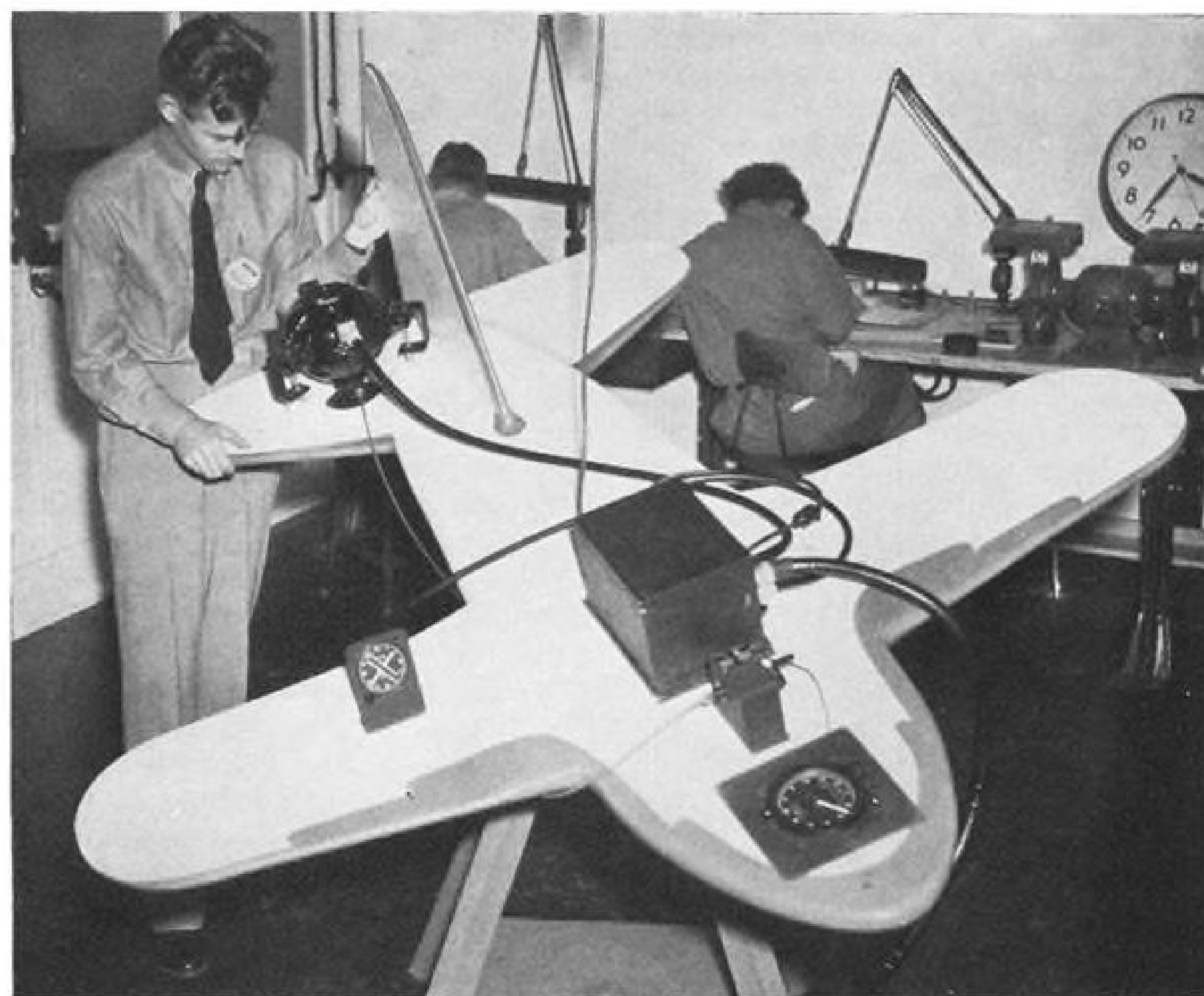
► **Seven Years' Study**—The compass is the result of seven years' development by Bendix engineers and its existence, a strict secret for some time, was revealed to newsmen at Philadelphia after it was known that one or more of them have fallen into Axis hands.

Bendix officials said there was no possibility the enemy could catch up with us on it "because it will be impossible for them to duplicate the performance, much less put it into volume production."

► **Advantage**—An advantage of the new compass, it was pointed out, is that no "correction card," necessary with magnetic types, is needed because it gives fully corrected readings at all times. The possibility of the navigator making an error in the heat of battle is thus eliminated.

Evans Replaces Landis

Brig. Gen. Frederick W. Evans replaces Col. Reed G. Landis as commander of First Troop Carrier Command of AAF. Col. Landis' new assignment has not been announced.



Gyro Flux Gate Compass: Lt. T. A. Johnston, Livingston, Ala., demonstrates the operation of the new Bendix-developed model—said to be the second new compass to be perfected in 4,500 years—at the Philadelphia division of Bendix Aviation Corp., where it is in production for the Army and Navy. Compass transmitter is shown at upper left, on the tail of the plane, the amplifier at the center of the "fuselage." The master indicator is on the plane's nose and a secondary indicator on the wing at the left.

Continental Files For Route Extension

Seeks to operate two from Tulsa and one from Kansas City.

Continental Air Lines has filed application with the CAB for extension and consolidation of two present routes from its Memphis Terminal. It desires to operate two routes from Tulsa, Okla., and one route from Kansas City, thus joining present routes from Denver to these points.

Two other carriers filed for extended and new routes. Northwest Airlines wants to go into Rockford, Ill., Beloit, Wis., Dubuque, Iowa, and Lacrosse, Wis., as intermediate points on Route 3. Delta Air Corp. applied for extension of Route 24 from the intermediate point of Shreveport, La., to Kansas City, via Texarkana and Fort Smith, Ark., Muskogee and Tulsa, Okla., and Joplin, Mo.

► **Local Service**—Five applications were filed for local service. Otto Aviation Corp., Newark, N. J., asked to operate five routes in New Jersey radiating from Newark to various towns and resorts such as Cape May, Lake Hopatcong, Atlantic City, Asbury Park. The company would transport persons, property and mail using twin-engine, six-eight passenger planes, some equipped with floats, called "state-liners."

Southair, Inc., Memphis, Tenn., operators of three primary training schools as civilian contractors at Pine Bluff and West Helena, Ark., and Clarksdale, Miss., and of two army pre-flight schools in Desoto County, Miss., and Akron, Ohio, filed application for 17 routes through 13 central states in an area extending roughly from New Orleans on the South, to Texarkana on the West, Flint, Mich., on the North and Charleston, S. C., on the Eastern boundary.

► **Helicopters Planned**—Twelve scheduled routes to meet trunk airlines at Spokane and Seattle, Wash., and Portland, Ore., were asked by Pacific Northwest Airways of Portland. Intending to use helicopters, the applicant would run a virtual taxi feeder to the Trunk Lines, and operate within a 500-mi. radius of Portland and Seattle.

White Circle Line, Inc., Thompsonville, Conn., applied for scheduled service from Northampton, Mass., to Windsor Locks, Conn., and from Westfield to Palmer, Mass., via intermediate points, and for non-scheduled as well as charter service out of Springfield.

Spadework for Victory

Behind today's spectacular military success is a story of vision and daring that goes back to 1941 . . . to the first high-silica bauxite dug from Arkansas mines for Reynolds plants. For that shovelful of bright earth foretold a great new source of aluminum for America . . . a domestic source, immune to the threat of U-boats, unrestricted in quantity, demanding only the right kind of plant facilities to supply the largest and strongest air fleets ever dreamed of.

Reynolds built that kind of plant. Completed in the world-record time of five months and twenty-nine days, it is still the only plant in the country where bauxite comes in at one end and aluminum sheet rolls out the other. What is more, that plant was deliberately planned to process bauxite from good old American soil. This, long before Pearl Harbor . . . may aptly be called "Spadework for Victory."

But Reynolds does not rest upon past laurels. Reynolds takes the lead in prefabricating airplane parts at the aluminum source. Reynolds metallurgists look ahead for new aluminum alloys that will give even greater striking power to Allied airmadas. And Reynolds original skill, as the world's largest roller of aluminum foil, promises still further triumphs in the light-metal age of tomorrow.

The march is on . . . toward *Leadership in Aluminum.*

Actual color photograph of domestic bauxite ore from Reynolds' own mines.

REYNOLDS ALUMINUM

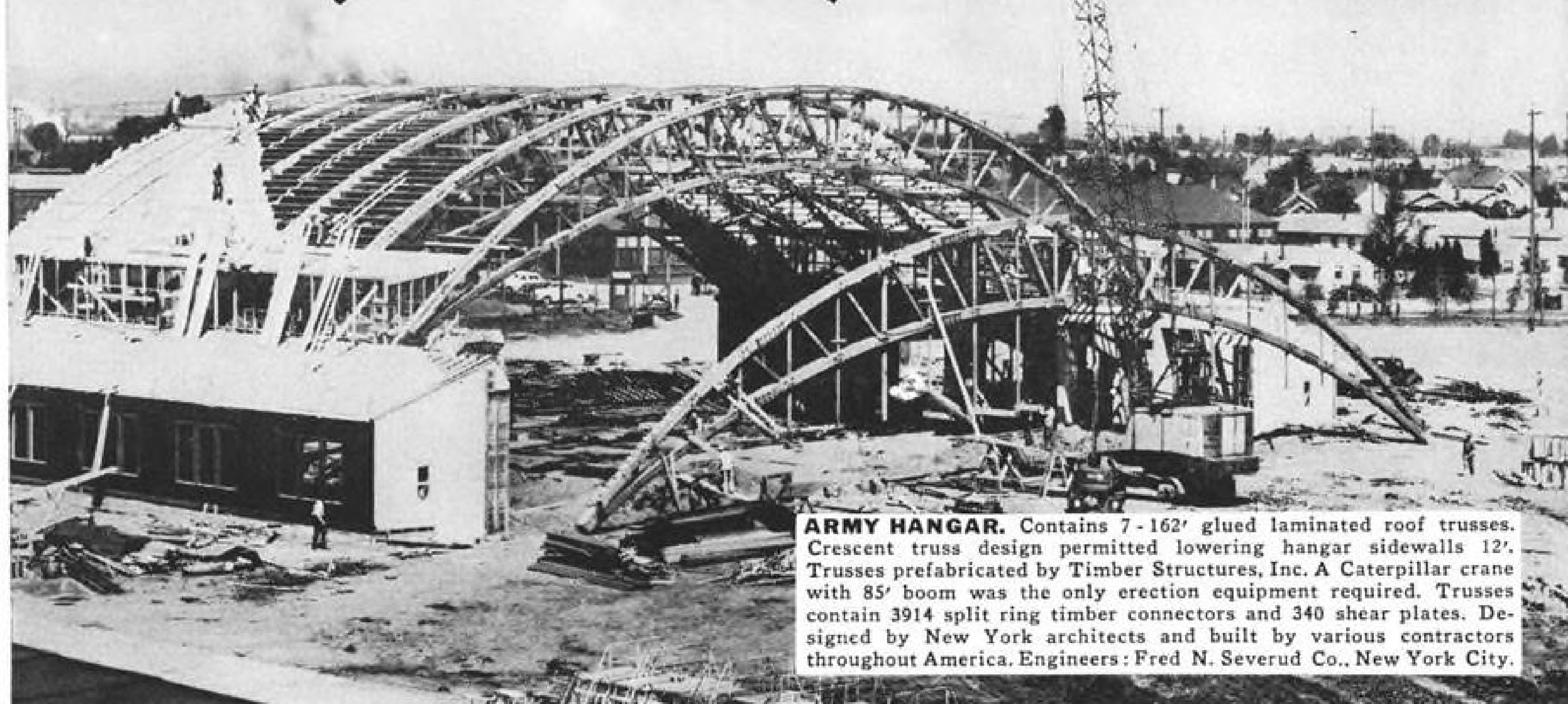
OUT OF THE GROUND INTO THE SKY

REYNOLDS METAL

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Engineering in Wood



ARMY HANGAR. Contains 7-162' glued laminated roof trusses. Crescent truss design permitted lowering hangar sidewalls 12'. Trusses prefabricated by Timber Structures, Inc. A Caterpillar crane with 85' boom was the only erection equipment required. Trusses contain 3914 split ring timber connectors and 340 shear plates. Designed by New York architects and built by various contractors throughout America. Engineers: Fred N. Severud Co., New York City.

Timber Structures Inc. Builds for Today's "Musts"...Plans for Tomorrow's "Certainties"

Today's *musts* in timber construction for aviation industry include blimp and airplane hangars, manufacturing plants, aviation housing of all kinds.

To this entire field Timber Structures, Inc. has helped bring *Engineering in Wood*, just as it did before Pearl Harbor, just as it will do again for the postwar building certainties of aviation.

Engineering in Wood is many things. Research, design, engineering, prefabrication, transportation,



MUNICIPAL HANGAR. Timber Structures, Inc. supplied 5-80' trusses for this 80'x80' hangar. Architect: Victor E. Siebert. Contractor: O. D. Keen.

erection. All are part of Timber Structures service to plant management, engineers, contractors and architects. All are responsible for

the construction speed, economy, strength and permanence of roof trusses and other timber structures and items supplied by this organization.

For today's *musts* and tomorrow's *certainties*, we are prepared to serve you in timber and other structural materials. Write or wire for any specific data on work under consideration. For informative literature on jobs Timber Structures, Inc. has done, is doing, mail the coupon.

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NWLB Orders Bell to Set Pay Scale In Line With Curtiss-Wright Plant

Acts to stabilize rates in airframe industry and establish uniform job classification schedules; agency news summarized.

In a move to stabilize rates for the airframe industry and to bring job classification schedules and wage rates more in line with the board's order of July 17 to Curtiss-Wright Corp.'s Buffalo plant, the National War Labor Board ordered the Bell Aircraft plants in Buffalo and Niagara Falls to establish a starting rate of 65 cents an hour, and to install a wage structure containing ten labor grades, with a minimum of 80 cents and a maximum of 85 cents an hour for the lowest skilled grade and a minimum of \$1.40 and a maximum of \$1.60 an hour for the highest skilled.

► **NWLB announced** that these rates applied to the airframe industry only and were not to be taken as going rates for any other industry in the area. The board also ordered payment by Bell of \$2.50 a week for each week worked between Jan. 1 of this year and the date of the order (Oct. 5) to each employee involved in the dispute. A "week worked" was defined as three or more days of work performed by the individual in any schedule week.

The new wage schedule, subject to the approval of the director of Economic Stabilization, will bring an average increase of five cents an hour to employees.

► **Department of Labor**, revealing that 2,267,000 persons were disabled while at work in 1942, pointed out that there had been an increase in injury rates over 1941 in shipbuilding and aircraft plants, whereas some specialized ordnance industries reduced their rates sharply. Frequency rates of industrial injury in aircraft increased in 1942 to 11.4, against a frequency rate of 10.4 the previous year; aircraft parts increased from a frequency rate of 2 in 1941 to 9.5 in 1942.

National Labor Relations Board directed that elections be held at the following aircraft or accessory plants: first, Douglas Aircraft, Oklahoma City; building maintenance electricians will vote on representation by International Brotherhood of Electrical Workers-AFL, within 30 days of Sept. 21; second, Curtiss-Wright Corp., airplane division, Louisville, Ky., production planning and tool designing departments will

vote on representation by the International Assn. of Machinists, within 30 days of Sept. 23; concurrently NLRB dismissed petition filed by this union for investigation and certification of representatives of the template department employees; third, St. Louis Aircraft Corp., division of St. Louis Car Co.; production and maintenance employees will vote for International Assn. of Machinists, United Steelworkers of America or for neither, within 30 days of Sept. 24.

► **NLRB Certified IAM** at Solar Aircraft Co., Des Moines, for production and maintenance employees; and United Aircraft Welders of America was certified for welding department employees.

► **War Department** announced approval of application for employment of aliens had been speeded up so that it can be given within 48 hr. There is no restriction generally against employment of aliens, regardless of whether they are from Allied, neutral or enemy nations, except on aeronautical contracts, or secret, confidential and restricted contracts, for which it is required that the employer first secure consent of the Secretary of War and the Secretary of the Navy.

► **Defense Plant Corp.** increased its contracts with Ford Motor Co. and

Lockheed Aircraft Corp. With the former, for additional plant facilities for aircraft parts in Michigan, DPC increased its contract approximately \$1,330,000, raising the company total to \$7,100,000. An increase of about \$5,000,000 went to Lockheed for additional facilities in California, bringing total overall commitment to about \$6,000,000.

► **Decentralization**—In line with its current policy of decentralization, the Operations Council of WPB announced that thousands of application forms formerly routed to Washington will now be processed in the field. In addition, Vice-Chairman H. G. Batcheller revealed that CMP paper work would be substantially reduced. Field offices will have increased functions in processing PD-1A applications, industrial projects under \$10,000, emergency assistance applications (PD-333), and appeals under WPB orders.

NACA Makes Request For \$8,804,200

Additional construction and equipment to cost \$8,804,200 for the National Advisory Committee for Aeronautics at Langley Field, Va., laboratory has been requested of Congress by the President in a supplemental estimate of additional funds required.

Other funds asked for NACA include: \$2,557,400 for salaries and other expenses; \$2,249,100 for the Ames Aeronautical Laboratory, Moffett Field, Calif.; and \$3,936,000 for the Aircraft Engine Research Lab., Cleveland, Ohio.

Wright "Considering" Return of 1st Plane

Orville Wright is considering the proposal to return the original *Kitty Hawk* plane from England to the U.S. after the war, he told the Dayton correspondent of AVIATION NEWS.

He will take no action until after the war because of the hazard involved in an ocean crossing. The statement disposes of reports that the plane might be brought back in time for observance of the 40th anniversary of the *Kitty Hawk* flight on Dec. 17. It was also his first public indication that he may eventually return the plane to America.

Mr. Wright's comments came after press reports of an interview

with the director of the museum in London which received the plane in 1923. The official said the plane belonged to Wright and could be returned any time the inventor wished.

The loan was made after a controversy between Mr. Wright and the Smithsonian Institution over proper credit to the plane and that of the Langley aerodrome, which was said by Smithsonian officials to have been the first plane "capable of flight."

Dr. V. G. Abbott, Smithsonian secretary, about a year ago in a public statement said the Wright plane would be given "the highest place of honor, which is its due."

New Grumman Wage Plan Studied For Key to Manpower Problem

Aircraft industry watches test of incentive pay program approved by War Labor Board.

The aircraft industry will have an opportunity to observe the workings of a plant-wide type of incentive pay system at Grumman Aircraft, whose plan has been approved by the War Labor Board as an experiment.

Dr. George W. Taylor, vice-chairman of the board, said the plant-wide plan looks like a natural in these times but cautioned that "it has great dangers." He pointed out that changes in design and production methods could upset any incentive plan, causing difficulties which might interfere with production.

► **Labor's Stand Minimized**—C. J. Shipley, labor member representing the CIO, said labor members went along with the Grumman plan because no union had representation at the plant. Labor generally has opposed plant-wide plans.

Incentive payment plans were discussed at a recent meeting in Washington of the National Aircraft War Production Council, of which Grumman is not a member. Council members agreed that the complexities of producing airplanes of constantly changing design made it difficult to arrive at standards applicable throughout the industry and left the question for company decision.

► **Employees Share Gains**—Under the Grumman plan, which is an adoption of the Beech Efficiency Incentive plan now operating successfully at Beech Aircraft, workers will receive a 1 percent wage increase for each 2 percent increase in production with all employees sharing in the increase. An output of .48 lb. of airframe weight per man-hour actually worked is the base for calculating increased production.

Dr. Taylor warned that adoption of incentive payment plans was not a panacea for production-increase, but said there were prospects of a 10 to 15 percent increase in over-all production at the Grumman plant, where production already is good.

► **Grumman Plan Modified**—In the Grumman case, the board approved the company's output incentive plan but with these modifications.

► "1. The standard (production efficiency) used as the base for computing production increases warranting incentive payments shall be .48 lb. of airframe per man-hour actually worked.

► "2. Incentive payment rate shall remain constant, irrespective of increase in output.

► "3. Incentive payments shall be applied to hours paid rather than to normal work hours in the incentive period as provided in the initial application of the company.

► "4. An increase of five cents an hour shall be added to the base pay of each employee entitled to participate in the incentive plan in order to compensate for discontinuance of the production quota bonus system now in effect.

► "5. The incentive plan and the five cents an hour increase shall be made effective as of Sept. 1, 1943."

Grumman was directed to report to the board, quarterly, on operation of the incentive plan, changes which may occur in production and any other developments which may affect the suitability of the standard proposed in the present plan. The production base is subject to modification by the NWLB in case of any significant change in the operation method.

The board said it would consider only plans approved by management and labor and would not order an incentive wage program in a dispute case. In addition, the board said incentive plans must conform to the WLB stabilization policy and contain no hidden increase in basic wages.

► **Contract Increase**—An increase in contract amounting to about \$320,000 with Defense Plant Corp., was granted to Rohr Aircraft Corp., Chula Vista, Cal., for additional facilities at a California plant, raising the total contract to approximately \$3,240,000. Title remains with DPC.

New Devices Give U.S. Planes Best Armament

Machine guns, cannon, power turrets, fire control devices described by AAF Materiel Command.

Engineers in the Armament Laboratory, of the AAF Materiel Command, report new developments in aircraft armament, for both defensive and offensive use, being applied to our fighting planes, are making them the most formidable aircraft in the skies today.

Specific new advancements include:

► 1. Development and improvement of the high cyclic rate small caliber machine guns, the most important of which is the .50 caliber gun and aircraft cannon.

► 2. New electric and hydraulically controlled fire control systems, remotely controlled and locally operated multiple machine gun turrets; fire controlling devices such as the so-called computing sights now re-

sponsible for so many enemy airplane casualties.

► 3. Practical application of new and unerring bomb sights and allied equipment.

► 4. The 20-mm, 37-mm and larger caliber aircraft cannon.

► 5. Bomb racks, shackles, releases mechanisms, etc.

One armament expert said the 65-lb. .50-caliber gun "is beyond question the finest arm of its kind in the world. It fires 850 shots a minute." Relatively small, it fits easily into present-day aircraft. The projectile, leaving the muzzle at a speed of over 3,000 ft. a second, penetrates all parts of an airplane, including the engine.

Developments of remotely controlled turrets, the experts said, "have progressed to the point where some turrets and their control mechanism equal those in a large modern battleship in efficiency operation."

► **Power-Driven Turrets**—Contrary to general belief that the British were the first to adopt turrets on bombers, technicians at Wright Field point out that original plans for our large planes called for installation of power-driven turrets and that now there are airplanes in combat equipped with multiple gun turrets that protect every inch of the plane from attack.

Bill Seeks To Admit WASPS to AAF

Costello asks women who pass tests be given same status as men

A bill to provide for acceptance of women pilots in the Army Air Forces has been introduced by Rep. John M. Costello (D-Calif.). The bill would give the Women's Airforce Service pilots standing in the Army as regular AAF pilots.

Some 336 WASPS have completed training and about 500 are constantly in training at the Sweetwater, Tex., base. At present from 80 to 100 a month are being graduated after completing the identical training given men pilots with the exception of combat courses. WASP candidates are required to have 35 hr. in the air before Army training.

► **Number Left to Army**—Recruitment for the program has ceased, however. Costello's bill leaves the number and qualifications to the discretion of the AAF's commanding general. It has been announced that experiments are being made to use the women pilots further. The age limit has been lowered from 21 years to 18 years, and six months.

Working for DEAR LIFE



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Rrrr-up . . . up . . . up . . .
Minute after minute . . . hour
after hour . . . day after day
. . . this staccato machine-
chatter goes on, down the long
lines of intense operators in the
Switlik parachute factories.
* * * Sewing for dear life, in-
deed, that the precious lives of
those few, to whom so many owe
so much, shall have that vital
protection against the hazards of
combat flying. * * * Thru the
genius of Switlik engineers,
Switlik methods of production
have been developed that are
daily establishing records in
making more chutes and faster
deliveries for protecting those
lives which are speeding up our
march to Victory.*



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a paratrooper back of the Axis!

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THE AIR WAR

★★

COMMENTARY

Rise in Nazi Air Strength in West Due to Removal from Russian Front

Luftwaffe not getting stronger, despite reports of increased power; Germans follow strategy that led to defeat in Africa.

What is the lowdown on the Luftwaffe—is it getting stronger?

In the overall picture, the answer to this vital question is No. Certainly on the Russian front the Luftwaffe has been seriously weakened. It is more than doubtful if it will ever regain air superiority over the up and coming Red Air Force, strongly augmented in fighters and light bombers by high priority American production.

The two Luftflotten (Air Fleets 1 and 4) on the long eastern front have been broken up, and each Army has been allotted a number of fighter and bomber units for local co-operational service only. (The early campaigns in North Africa demonstrated once and for all that this is *not* the way to use air power, and the Nazis know it, but there is nothing they can do about it.) By this reorganization, however, seasoned pilots, staff officers and additional fighter planes have become available for new defense units in western Germany.

► **Heavy Toll Taken**—Also in the Mediterranean the savage punishment meted out to the Luftwaffe by General Spaatz, whose heavy bomber strength has recently been increased by *Liberator* units from the Eighth Air Force in England and the Ninth Air Force in the Middle East, has resulted in a heavy toll of Nazi planes, both in the air and on the ground.

Thus, only in the west has there been an increase of Nazi air strength. By drawing from other fronts, the defense has become more formidable. Desperate methods are being used to stave off the huge night attacks of RAF's Bomber Command, such as brilliant, slow-falling flares, more intense anti-aircraft barrage, electronic aircraft detection devices, and the use of improved twin-engine night fighter versions of the Ju-88 (very fast), Dornier 217 and Me-210.

► **Resistance**—Similarly the hard-hitting daylight missions of the Eighth Air Force are being met by savage resistance on the part of pilots in new heavily armed versions of the single-engine day fighters, and by the most devastating flak which can be imagined.

The fighters carry 37-mm and 40-mm cannon, and include the Me-410, an improved 210 reported as equipped with two Daimler-Benz 603 engines of 1,500-hp in place of the 1,300-hp 601's.

Air bombing, highly explosive rocket shells and intensely burning incendiaries are among the new devices employed to choke off these big daylight missions whose increasingly deep penetrations into industrial Germany are hitting where it hurts. In some ways it is the Battle of Britain in reverse.

► **Whirlwind Finish**—Many air leaders regard this as the beginning of

the whirlwind finish, the final showdown in the skies that has to come before an invasion is feasible. It may take a considerable period to work its way out, but experts agree that from the time General Eaker's *Fortresses* and *Thunderbolts* began knocking out the Luftwaffe's day fighters to the tune of several hundred a month and demonstrated that they could get through to the most heavily defended targets without prohibitive losses, the trend was definitely set.

In the meantime, however, over the western front the Luftwaffe in some ways does appear stronger than last spring, but this does not mean the Allies have lost control of the air, as has been recently reported by some observers. First line operational planes total around 6,000 as against 5,000 then, with a grand total of some 15,000 aircraft. Monthly production six months ago was estimated at about 1,500 planes of all types; now it is reported by reliable sources as over 2,000 a month.

► **Swing to Fighters**—The swing to defensive fighters has been very sharp, single-engine day fighter production being almost double that of late winter and twin-engine night fighters up at least 50 percent. Some important fighter plane factories have been heavily damaged, including Regensburg and two attacks on Wiener Neustadt, two main sources of Me-109's. This may show up in current production estimates not in as yet, as these two factories sup-



8TH GENERATION "FORTRESS":

Displaying a new "chin turret," the new Boeing B-17 Flying Fortress is shown on the line before being painted in war colors. The new powered turret, armed by two .50-calibre machine guns, is operated by remote control from the bombardier's place in the nose.

plied 400 of these fighters per month.

Focke-Wulf 190 factories are more scattered, turning out smaller quantities per unit, but some have been severely damaged also, notably Kassel and Oschersleben.

► **Bomber Output Off**—As fighter production goes up, bomber production goes down. The Luftwaffe has lost its offensive punch. For morale purposes an occasional raid on England has to be carried out, such as the one against London on the night of Oct. 7. It is doubtful if bomber production is more than 20 percent of the current total, with say 20 percent more for transports and trainers, leaving 60 percent for day and night fighters. This high percentage for fighters is still rising and that for bombers decreasing.

There is evidence that fighters are sent straight into combat, and not into a reserve pool as in the good old days, but there is no reason to discount the possibility of a substantial bomber reserve which the Luftwaffe may be holding back against an invasion attempt, or for other purposes.

► **Boat Protection**—A recent use for long range fighters involves a further strain on Nazi air strength. They are being employed on the all-important submarine warfare, which is still Germany's main hope of prolonging the war into a stalemate, plus the hope of making our bomber attacks so costly they will be given up or reduced. Despite added de-



BRITISH GLIDER GIANT IN TOW:

This new photo, released by British Information services, shows Britain's 25-man Horsa glider in tow. Note double tow rope at nose. Technical experts say gliders in their present state of production development will not be commercially feasible after the war. Cleaner aerodynamic design, however, is forecast in the post-war era.

fensive power on the U-boats themselves, the Allied anti-submarine campaign by air has been so successful that during the summer some 50 percent of the subs which were sunk were destroyed by air power, including six out of seven during one period in the Bay of Biscay. Ju-88's have been forced into the picture to give long range fighter protection to the packs of U-boats as they approach and leave the French ports. (The 4-engine Focke-Wulf 200K Kuriers are all right for patrol, but too vulnerable for this other job).

According to British authorities, the RAF Coastal Command has

countered this by sending fast, long range Mosquito fighters to tangle with the Ju-88's, while their big Wellingtons and Halifaxes, Liberators and Catalinas keep after the submarines. The Nazis have been forced to another unwelcome decision to match this new threat. Taking some of their precious FW-190's, desperately needed to help stem the increasingly heavy American daylight attacks on key industrial targets, they have fitted them with long-range fuel tanks and sent them out to tackle the Mosquitos! Sounds like the house that Jack built. Liberators out after subs, Ju-88's out after Liberators, Mosquitos out after Ju-88's, K and Focke-Wulf 180's out after Mosquitos. And so it goes. In one way or another, and to some extent in all ways at once, the air front is advancing.

WAVES Check Planes

900 working on fighters, bombers and patrol planes for Navy.

More than 900 WAVE aviation machinists' mates are on duty in the country, tuning up the motors on fighters, checking the fuel system on bombers and the big patrol planes, or overhauling training planes, according to a Navy announcement.

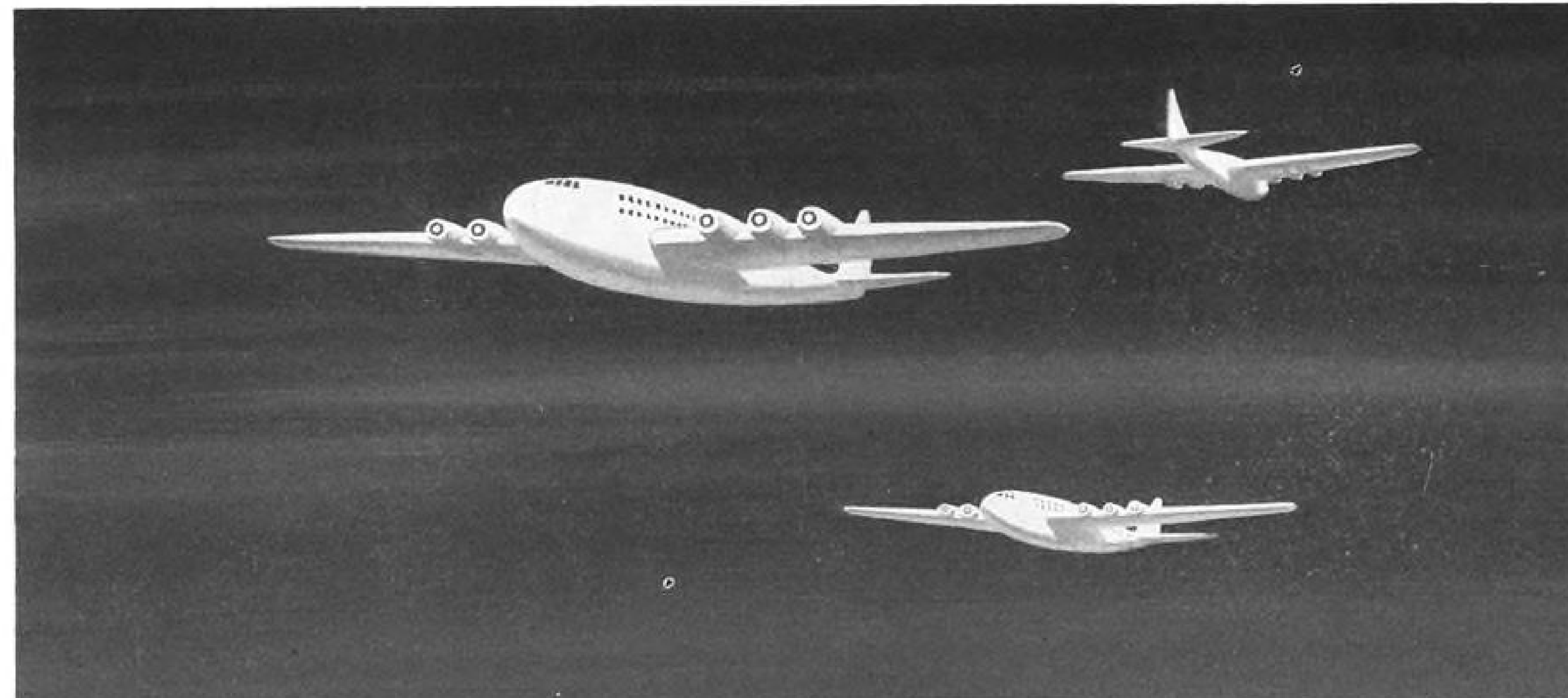
Included in this group are about 90 aviation metalsmiths doing high caliber instrument repair work.

► **Four Plane Captains**—At the Jacksonville, Fla., Naval Air Station four women have the job of plane captain, which entails their preparing the plane for flight, filling out the yellow preflight sheet kept daily, and warming up the ship. When the flyer returns, the captain again checks the ship and secures it for the night.

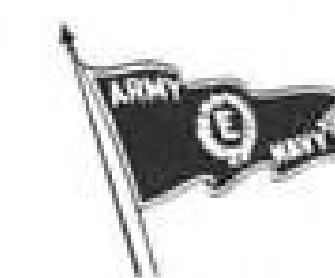


LAST MINUTE INSPECTION BEFORE RAID:

This striking British official photo, just released, shows RAF mechanics testing motors of a Stirling bomber just before departure on a mass bombing raid. The test is carried out by the British in this way, while the engine is turning over. The strange gyration effect of the propellers was obtained by using a slow shutter speed on the camera.



Crossroads of the world



When Lieut. Commander Richard E. Byrd made his memorable round-trip flight with Pilot Floyd Bennett from Spitsbergen to the North Pole in 1926, his trimotored Fokker plane carried a short-wave transmitter designed by Ralph M. Heintz, co-founder of Heintz and Kaufman, Ltd.

Two years later Sir George Hubert Wilkins flew a similar transmitter over the Pole while determining the feasibility of establishing weather stations in the Far North, and while proving the efficiency of planes at polar latitudes. Taking off from Pt. Barrow, Sir Hubert crossed the top of the world in a successful 2100-mile flight to Dead Man's Island.

The forecasts of these scientific pioneers are becoming a reality as Great Circle routes to distant countries lead our bombers and transports over Arctic regions. Today an air-minded generation

speaks of the North Pole as "the crossroads of the world."

The polar flights of Byrd and Wilkins are part of the heritage of Heintz and Kaufman, Ltd., and are reflected in the many types of Gammatron tubes our engineers have designed especially for aviation transmitters.

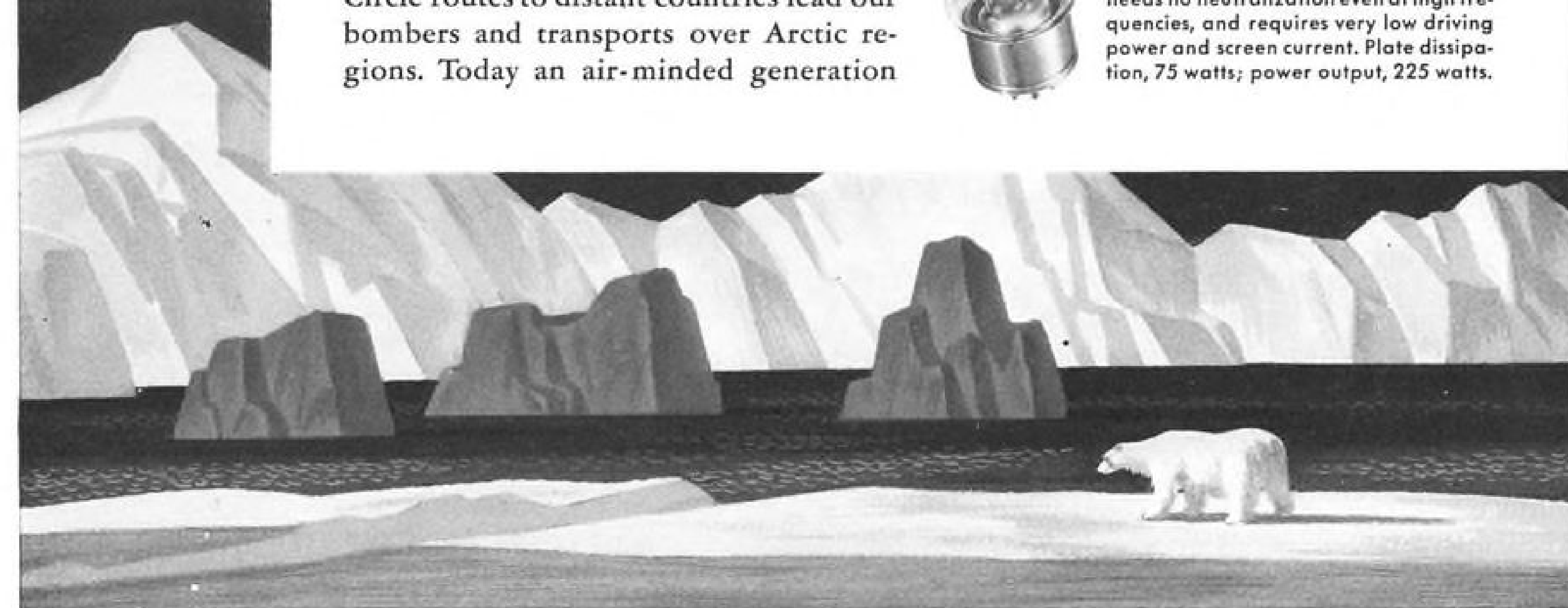
In the Heintz and Kaufman plant and in our laboratories, Gammatrons are being ceaselessly perfected to safeguard planes and their crews as they soar over the top of the world.

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HK-257—Highly popular Gammatron beam pentode of advanced design, made with tantalum elements. It has high voltage and power capabilities, needs no neutralization even at high frequencies, and requires very low driving power and screen current. Plate dissipation, 75 watts; power output, 225 watts.



AIRCRAFT PRODUCTION

Plant Without War Orders Profits By Research on Post War Models

California Aero Glider Co. develops variety of ground trainers designed to meet private and commercial demand at war's end.

By SCHOLER BANGS

Small aircraft factories unable to obtain sizable war contracts may find in the example of a West Coast "little business" the key to post-war survival.

California Aero Glider Co., Los Angeles, stakes its claim to a future on a principle.

Organized in May, 1942, to capture an Army contract for training gliders, Aero Glider brought together as president and vice-president two Los Angeles business men, A. V. Marchetti and Roy J. Parody; and as chief engineer Volmer Jensen, successful western sailplane designer.

► **Two Models Ready**—Two prototype models, J-10 and J-11, two-place high-performance designs, were in the air and ready for production by September, when the Army grew cool toward new orders for such trainers.

In Washington last November, Parody and Jensen learned from the late Maj. Lewin Barringer, chief of the AAF glider unit, that they could not be assured of a contract. But Barringer asked them, "Could you build some sort of a pre-flight trainer?"

► **Built in Two Weeks**—In two weeks, at Los Angeles, C.A.G. de-

signed and built as the J-12 a sensitive-control non-flying trainer with a wing movement made possible by free balance on its landing gear assembly. J-12 was to be towed—behind Army jeeps, the company hoped.

Maj. Barringer's death in January left the company again in possession of a project with no sponsor.

From its "idea" stockshelf, the company immediately blueprinted the J-12 design, the preparation of a construction and flight manual, and the sale of blueprints and manuals to public school systems in 20 aviation-minded states throughout the nation.

► **Future Business**—C.A.G. then turned its attention toward replenishing its depleted "future business" stockshelf. Engineering of a 30-place military glider, J-13, was begun. A two-place utility glider, J-14, designed for slow landing speed and student safety, was flown and shelved as a post-war project. Likewise a single-place convertible primary or secondary glider, J-15.

By installing a 7 hp engine and small propeller in the nose of a streamlined J-12 last May, the company's advanced pre-flight trainer, J-16, was evolved. Its controls sen-

sitive at 5 mph, it attains a top speed of 40 mph, and has won an Army experimental order for five units.

► **Studied By Allies**—Currently, the J-16 is being considered for adoption by two other allied nations.

Pending reaction to its J-16, C.A.G. launched a unique classroom trainer for public school use, the J-17. Powered by a 1/3-hp electric motor and propeller, it rotates and balances on a pivot with an accurate simulation of flight control. Tests have shown that youths of early high school age can master the trainer with little difficulty.

During a second financial breathing spell developing through production of the J-16 and J-17, the company will complete engineering of a post-war feeder route cargo plane expected to carry a three-ton load under the power of two buried-in-wing 300-hp engines.

► **Motorized Sailplane**—Also due to go on the "future" shelf is a motorized sportsman's sailplane that will take off, with an 8- to 18-hp engine mounted above the wing, as an airplane. When the pilot reaches



Classroom Trainer: Volmer Jensen, chief engineer of California Aero Glider Co., explains operation of company's classroom trainer. Not shown are the trainer's instrument-flight hood and earphone remote instruction equipment.



California Aero Glider Co.'s Trainers: This small, progressive company designed these two pre-flight trainers, which prevented bankruptcy. On left is an auto-towed trainer designed and built in two weeks. Roy J.



Parody, vice-president, is in cockpit. On right is a motorized advanced pre-flight trainer which aroused the Army's interest and won an experimental contract. Controls are sensitive at 5 mph. Top speed is 40 mph.

BRIEFING

► Navy's new torpedo plane, the *Sea Wolf*, is a product of the engineering staff which developed the Navy's *Corsair* at Chance Vought Aircraft Division of United Aircraft. The prototype was built as the XTBU-1 at Chance Vought. It will be manufactured in quantity by Consolidated Vultee at Allentown.

► The invasion of Italy "would have been easier with more planes—it could not have been done with less," Gen. H. H. Arnold said in Seattle. He said that one day last week there were 1,600 planes flying from the U.S. to overseas points, but that greater replacements are necessary.

► U.S. 8th air force has increased 450 percent since May 1 and has four times as many heavy bombers as last spring, six times as many fighters, four times the medium bombers, and more expansion is underway.

► Continental Aviation & Engineering Corp. will build the Rolls-Royce liquid-cooled aircraft engine at its new upstate Michigan plant, manufacture of the Pratt & Whitney being transferred to Continental's plant at Garland, Tex. The Rolls has previously been built in the U.S. by Packard exclusively.

► Aircraft industry will be among the first five in America after the war, says A. W. Zelomek of International Statistical Bureau, Inc., although it did not rank among the first 40 until war's start. Problems of the industry, when the war ends, are so apparent there is tendency to be blinded to great, more distant possibilities, he said.

► Henry J. Kaiser becomes president and assumes active management of Brewster Aeronautical Corp. Frederick Riebel, Jr., resigns as president and director, accepting Navy assignment. As previously disclosed by AVIATION NEWS, the Navy took over company control just prior to Kaiser's election as president.

► Several small fleets of bombers which had returned from war zones and were touring the nation with their crews as morale builders, were ordered to cancel their schedules recently, on AAF order, and other planned excursions were not begun.

► National Aircraft Standards Committee will convene at Lexington Hotel, New York City, Nov. 8-12, with principal members of Army-Navy Aeronautical Board, ARCO, and other engineering societies at work on the national standards program. Members of NASC are representatives of 31 airframe prime contractors.



AMERICAN INGENUITY IN THE PACIFIC:

Officers and officials returning from the war zones are praising the American mechanics' ingenuity in cannibalizing, overhauling and repairing war-planes under primitive conditions. This new Marine Corps photo shows a hoist made from native trees to enable technicians to line up the sights on this F4U Corsair "somewhere in the Pacific."

his soaring objective the engine will be stopped and the entire engine and propeller mounting will be cranked down into a fuselage well. A hand-operated starter allows resumption of motorized flight at will.

Truman Group Probes North American Plant

Wallgren lauds firm's contribution to war effort but admits charges of inefficiency in Dallas unit.

A subcommittee of the Truman investigating committee will conduct an inquiry into charges of in-

efficiency at North American Aviation plant at Dallas.

► **Firm's Products Praised**—Senator Mon C. Wallgren, of Washington, chairman of the subcommittee, emphasized the investigation has nothing to do with the quality of North American products and he lauded the company's contribution to the war effort.

At the same time, he said complaints concerning the plant's operation had been received by the Truman Committee and that others had been referred to the committee from other sources.

Subcontracting Helps British Spread Plants

19 firms with 45 production units in 1938 now manage 328 factories.

Wide dispersal of British aircraft factories, as protection against dislocation that enemy bombs might cause on a key plant, is emphasized by the fact that 19 aircraft firms which managed 45 production units in 1938, were managing 328 units in 1943.

One large group, which contributed 85 units to the total, also controlled 265 smaller units. Stores and administrative design and development departments are similarly dispersed.

► **Subcontracting**—Some 42 percent of aircraft construction and assembly work in Britain is subcontracted. For a time, the firms relied almost

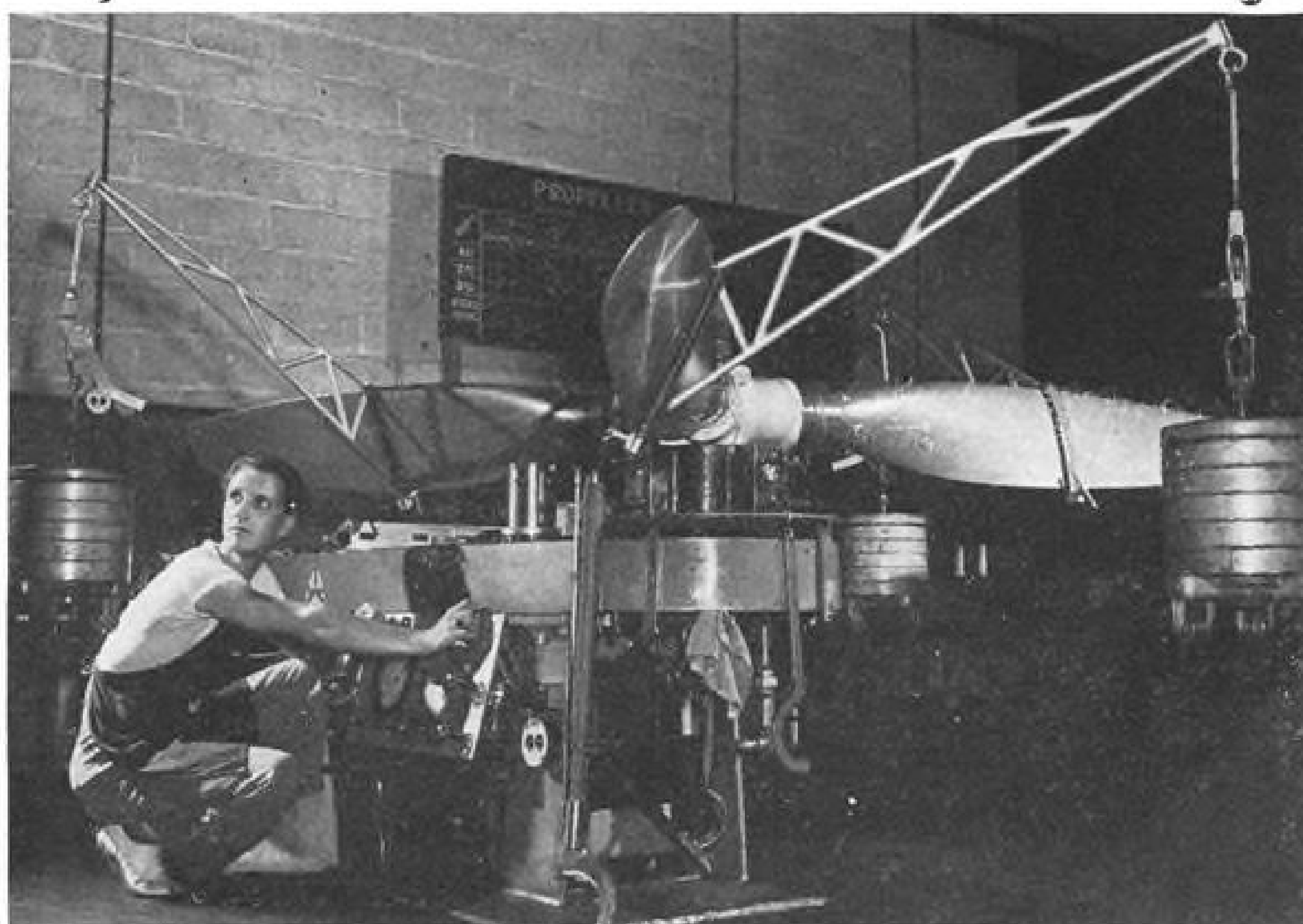
(Turn to page 22)

Howard Pledges Jobs

"When the war is over, come back and pick up your button; the latch string is always out for you." So Howard Aircraft Corp. tells employees who leave their jobs to go to war.

The employees association of the company has erected a simulated door and latch string near the entrance of the main factory and formal dedication services were held last week.

When an employee enters the service, he hangs his button on the door, and departs with the assurance that he can return when the war is over.



275-LB. TEST EACH BLADE:

Testing hydraulic pressure of the pitch-changing mechanism on three-bladed propeller at the plant of Aeroproducts Division of General Motors Corp., near Dayton. A workman is shown putting the prop through a complete pitch change with each thin blade carrying a load of 275-lb.

(Continued from page 21)
entirely on their own resources for finding capacity, but this work is now handled by the Ministry of Aircraft Production through its regional offices.

Relative positions of Britain and Germany, however, have now changed and the tenth report of the Select Committee on National Expenditures says "the time has now come to consider the concentration of (aircraft production) capacity in fewer units."

► **Expansion Limit Near**—The report also points out that, since the limits

of expansion of the labor force are approaching, increases in output must be sought mainly through greater all-around efficiency in which there is a parallel with aircraft production in the United States.

The main aircraft industry in Britain, as distinct from ancillaries, consists of a number of firms differing widely in character, organization and experience. The task of welding this heterogeneous collection of units into a single, efficient industry has been generally solved by making professional firms into parents, so to speak, responsible for

design and development and by grouping non-professional firms around them as offspring units. The British have found it necessary to take control of some of the less efficient firms, or to strengthen the management from the outside. Other cases have been dealt with simply by appointment of a production efficiency board.

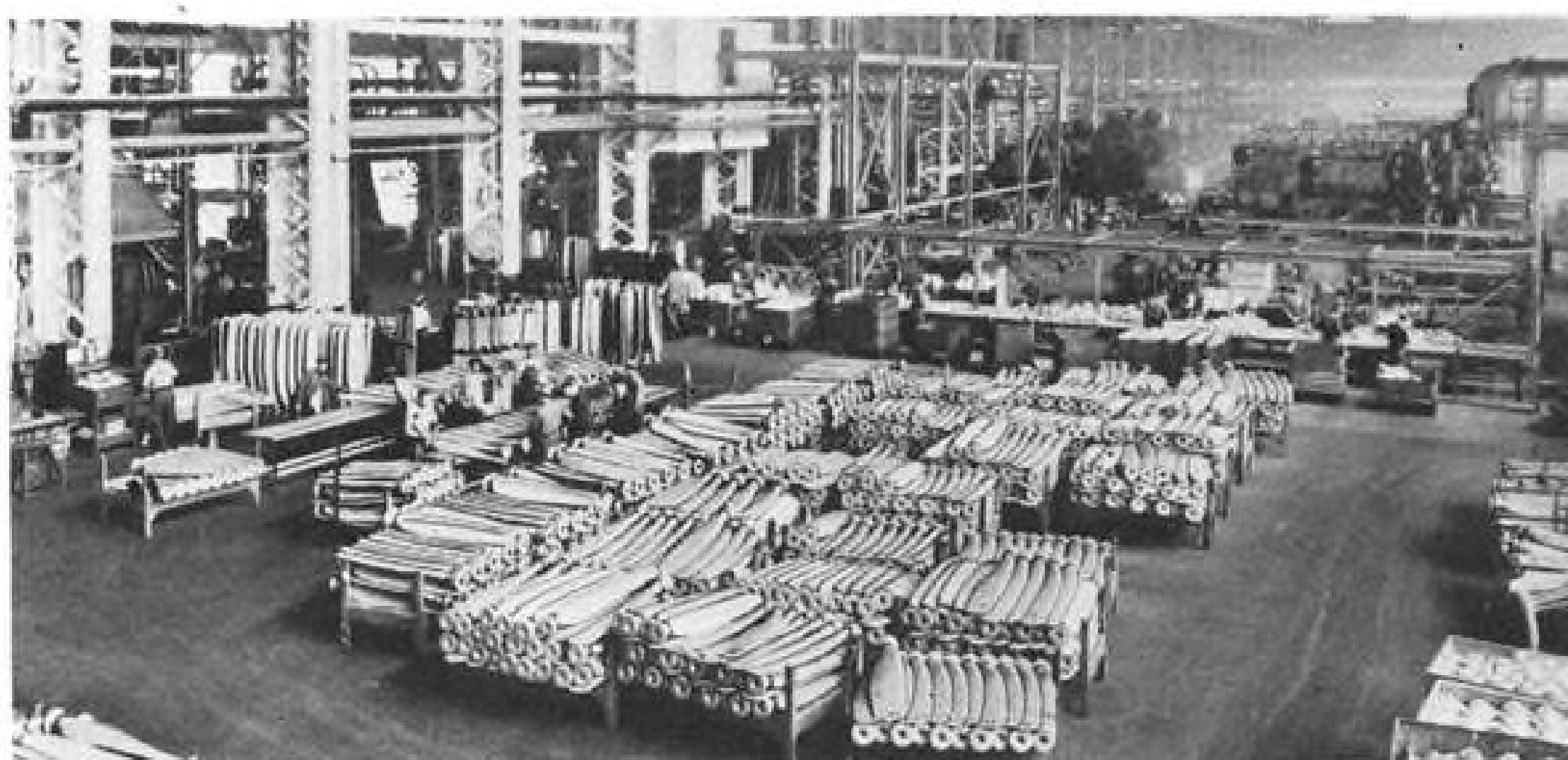
Aircraft Unions Balk At Incentive Payments

Industry-wide program believed doomed to failure as result of CIO-AFL opposition.

Any plans for the introduction of incentive payment programs in the aircraft industry generally seem to be pretty well doomed as the result of the expressed attitude of the CIO and AFL.

Charles E. Wilson, WPB executive vice-chariman, has long advocated incentive wage plans for the aircraft industry as a means of increasing production, but he has been able to make little if any headway, with both labor and management showing little interest.

► **Further Study**—Members of the National Aircraft War Production Council discussed the matter at their recent Washington meeting and asked the council staff to give the question further study. The matter of adoption of such plans was left to the individual companies, and recent statements by labor leaders indicate that any extension of incentive payment programs will come, if at all, in a few plants which do not employ organized labor.



CHEVROLET PLANT TURNS OUT PROPELLERS:

First picture released of one of the four great aluminum forge plants in General Motors' Chevrolet system, plants whose combined output of aluminum aircraft forgings is attaining record proportions. Propeller blades are forged in this converted automobile plant from aluminum bar stock on giant forging hammers.

More Gliders

Construction of thousands more 15-piece Waco gliders will continue through 1943 and well into 1944, with at least ten prime contractors participating in the continuation of the program. The new program already totals more than \$60,000,000.

Although several new type gliders are in various stages of design and test, it will be the Waco CG-4A which will launch this country's airborne armies over future invasion areas, Washington officials say.

Ford Motor Co.'s Iron Mountain, Mich., glider plant probably will remain the country's largest manufacturer.

Beechcrafts at work



In the three specialized types of Beechcrafts shown in formation below, a large proportion of Air Forces bomber crews gain the skills that serve them so well in their flights over Axis targets. ★ Pilots learn the technique of handling heavy, fast, multi-engine bombers in the plywood AT-10 Beechcraft transitional trainer (leading formation). ★ Navigators master their complex art in the all-metal AT-7 (Navy SNB-2) Beechcraft navigation trainer (second in formation). ★ Bombardiers learn to make the most of those crucial split seconds over the target in the all-metal AT-11 (Navy SNB-1) Beechcraft bombing trainer (third in formation) which is also adaptable for instruction in flexible aerial gunnery. ★ Like the commercial Beechcrafts which were prototypes of the AT-7 and AT-11, these trainers combine near-tactical high cruising speeds with exceptionally low landing speeds, easy maneuverability, and great sturdiness. ★ Like the men they help to instruct, these Beechcrafts work hard and efficiently at their vital tasks with the world's finest Air Services.



Beech Aircraft



CORPORATION
BEEHCRAFTS ARE DOING THEIR PART WICHITA, KANSAS, U. S. A.

While an incentive pay system devised by Grumman was approved by the War Labor Board, it should be noted that labor representatives on the board did not oppose the proposition because there is no union representation at Grumman. They did not waive their opposition to incentive programs in general. The board, in approving the Grumman plan, emphasized that the action was not to be taken as precedent and that they would not approve any such plan which was not submitted to them jointly by management and labor.

► **Opposed by UAW**—Wilson has been advocating a plan calling for payment on a plant-wide basis with a percentage increase in pay for certain percentage increases in production.

► **CIO Emphatic**—The CIO United Automobile Workers took an emphatic stand against incentive wages at their recent Buffalo convention and this is the dominant CIO union in the aircraft industry. William Green, AFL president also indicated the opposition of his group in a recent editorial in the official AFL magazine.

NATA Discusses Parts and Supplies

Contracts also to be topic at annual convention in St. Louis Dec. 2-4.

Board members and other officials of the National Aviation Training Association held meetings Oct. 11 and 12 in Washington to establish policy on acquisition of parts and

supplies and on future contracts which will be the main topics of the annual convention of NATA planned for Dec. 2-4 in St. Louis. The meetings were closed and little is known of the discussions pending the convention.

Plans were made to ask Assistant Secretary of Commerce for Air, W. A. M. Burden, and a representative of the light plane manufacturers to speak to the group at the convention.

► **CAA-WTS Participation**—At the board meeting, plans for participation of CAA-WTS in the program were discussed.

Members of the board present, all flight school operators, were: Leslie H. Bowman of Fort Worth, president of the board and Navy school operator; William A. Ong of Kansas City, Mo., operator of three mid-west schools and chairman of the board; Col. Roscoe Turner, Indianapolis school operator; W. M. Post, Jr., of Allentown, Pa.; Herman Poulin of Yakima, Wash.; and John H. Wilson of Lockport, Ill., executive director.

NATA officials in Washington for the meetings include: C. R. Mooney of Parks Air College, East St. Louis, chairman of the legislative group; Gwin Hicks of Coeur d'Alene, Idaho, president of the seventh region; Stanley J. Frame, Chattanooga, Tenn., president of the second region; and E. W. Wiggins, Providence, R. I., member of the executive committee.

Fairchild Wins Award

Fairchild Aircraft Division, Hagerstown, Md., has received a star

award, signifying renewal of the Army-Navy "E" Production Award for an additional six months and at the same time the Treasury Department's Minute Man Award and the privilege of flying the minute man flags, showing more than 90 percent of the employees participating in the regular War Bond payroll deduction plan.

Grace's EAL Holdings

Testimony that W. R. Grace & Co. has become a large stockholder in Eastern Air Lines was given recently at a Civil Aeronautics Board hearing in New York on the question of a United States terminal for Panagra.

The statement that Grace, already half-owner of Panagra, is Eastern's second or third largest stockholder was made by Adolph Garni, Grace Co. vice-president, on cross examination by counsel for Pan American Airways, who owns the other half of Panagra.



HOLLOW STEEL PROPS:

First pictures of American Propeller Corp. blades, formed from seamless steel tubing, being installed on a Martin Marauder B-26 medium bomber. These propellers also have been manufactured for use on Bell P-39 Airacobra and Republic P-47 Thunderbolt fighters. American Propeller developed the process of forming "props" from seamless tubing in order to reduce the amount of welding required, which in these blades is only at the tip and for a short distance along the trailing edge where the stresses are low.



THEY DEBATE HYDRAULIC VS. ELECTRIC CONTROLS:

These delegates to the recent SAE meeting in Los Angeles participated in a forum on the merits and disadvantages of aircraft controls, hydraulics and electrical. Left to right are: Col. G. C. Crom, of Wright Field; Gunnar Edenquist, forum chairman, vice-president of Kinner Motors; Walter C. Trautman, chief engineer of Bendix Aviation, Ltd.; R. E. Middleton, chief engineer of Aircraft Accessories Corp.; Ralph L. Ellinger, chief engineer of TWA; and Dr. A. L. Klein, associate professor of airplane design, California Institute of Technology, and consulting engineer of Douglas Aircraft.

Tel-air



example

This wrench required accurate machining to aircraft specifications.

a tel-air part because

tolerance required was close; finish had to be smooth. Prompt delivery was essential, and contract was completed ahead of schedule.

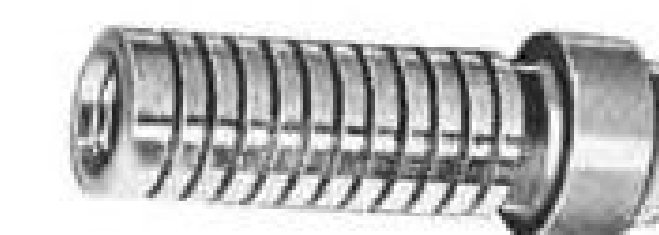


example

With thread diameters in excess of 2" and a No. 3 fit required, this aircraft overhaul tool was machined from a tough steel forging.

a tel-air part because

finish had to be such that there was no chance of marring the part to which it was attached. Delivery was urgent and made promptly. Tolerances were close.



example

This piston, although not an aircraft part, had to be made as accurately as many used in aircraft.

a tel-air part because

it had to have a very smooth finish, close tolerance with no taper; a rush job, delivered on time.

You can receive the benefits of Tel-Air workmanship by having Tel-Air do your work. Send your blueprints today.

the teleoptic company

racine, wisconsin

manufacturers for 25 years

PERSONNEL

Gilbert H. Scribner, Chicago businessman, has been elected to the board of directors of TWA, following the company's decision to increase its panel of directors from ten to eleven. Mr. Scribner is a trustee of Mutual Life Insurance Co. of New York and of Northwestern University; director of American Furniture Mart Building Corp., National Boulevard Bank of Chicago, and of Abercrombie & Fitch of New York. He is a director of American Red Cross, Chicago chapter, and is on the Chicago executive committee.

"Instructor of Stewardesses" is the new title of Helen Throne, stewardess with United Air Lines since 1939, flying the Chicago - New York route. She will have full charge of training future stewardesses for the airlines in their three-week course preparatory to flight duty.



Trans-Canada Airlines announces appointment of J. H. Tudhope as executive assistant. Tudhope has been associated for more than 20 yrs. with civil aviation development in Canada and is a former member of the RCAF.

E. B. Anderson is now divisional manager, manufacturing division of Airplane Manufacturing and Supply Corp., North Hollywood, Calif., according to a recent announcement by the company which operates a plant in Glendale, Calif., for airplane parts and supplies and Pacific Automotive in Burbank and Oakland.



Major R. L. Kline, USMC, head of the Flight Training Section, DCNO (Air), was recently promoted to lieutenant colonel. Promotions from lieutenant commander to commander in the office of the Deputy Chief of Naval Operations (Air) were recently made to Robert J. C. Maulsby, Richard O. Greene, Jack W. Thornburg and DeWitt W. Shumway.

In the office of the Chief of Bureau of Aeronautics Michael G. O'Connor, Sheldon W. Brown, James W. Thomas and Paul J. Burr were promoted from lieutenant commander to commander.

R. S. Maurer has been named assistant to H. R. Bolander, Jr., general counsel of Chicago and Southern Air Lines. He has served two years as general counsel of CAB's Certificate Unit.

Lorenzo L. Snow has been made manager of the airport division of United Aircraft Corp., succeeding Bernard L. Whelan, new general manager of Sikorsky Aircraft. Since 1938, Snow has been Washington representative of Pratt & Whitney aircraft division of United Aircraft.

Before that, he was an installation engineer with Pratt & Whitney and previously had operated an airport in California. He is a veteran pilot, receiving his first flight instruction from Arch Hoxie in 1911, and served as an engineering flying officer in the World War, and later in various posts in this country and at Luke Field, Pearl Harbor. He resigned as a captain in 1926 to enter the aircraft business.

John J. Buckley has been appointed production manager of Hub Industries, Inc., Long Island City, producing hydraulic equipment for aircraft. Buckley has been on the staff of Anderson Nichols Associates, consulting engineers at Curtiss-Wright's Columbus, Ohio, plant.

Pennsylvania - Central Airlines changes: Robert M. Baughman, district traffic manager in Grand Rapids, Mich., has been transferred to Chicago. James E. Rehkopf, district traffic manager in Baltimore, is now in Washington as assistant district traffic manager.

John Van Loon, traffic representative in Detroit, has gone to Grand Rapids to succeed Baughman. Frank Murray, recently supervisor of the Chicago Airlines Ticket Office, has been made reservations manager of the new Chicago ticket office.



Rehkopf Murray Baughman



Coyle Harrigan McGrath

Shifting of experienced personnel has been announced by TWA. William F. McGrath, New York Eastern region traffic manager, has been promoted to system traffic superintendent with headquarters in Kansas City.

Walter W. Coyle, formerly district traffic manager at Philadelphia, has been given the managership of the new Midwest region in Kansas City. L. E. Swigart has been advanced from district traffic manager at New York to Eastern region manager. J. E. Hawthorne, district traffic manager at Los Angeles, is assistant Eastern region traffic manager at Pittsburgh, Pa. Ralph L. Butcher, formerly manager of aviation accounts at Los Angeles, is district manager in that city. A. D. Williams, traffic representative in New York, takes over Swigart's post as district traffic manager. F. G. Reiter, Philadelphia traffic manager, is now district manager. J. D. Harrigan, traffic training supervisor in Kansas City, is assistant Central region manager. C. E. McCollum, Chicago, is manager of the Central region. John W. Bailey, district traffic manager at Chicago, and Howard Goodrich, Jr., district traffic manager at Indianapolis, are now in supervisory positions on the training staff in Kansas City. John Martin, traffic representative in New York, is now district manager in Chicago. J. D. Dyer, traffic representative at Indianapolis is now district traffic manager.

Other advancements include: L. E. Hesselgesser from chief traffic dispatcher at Kansas City to reservations supervisor; and R. D. Jones from chief traffic dispatcher at New York to chief traffic dispatcher in Kansas City.

Bernard L. Whelan has been elected general manager of Sikorsky Aircraft division of United Aircraft Corp., to succeed J. Reed Miller, resigned. Whelan has been with United Aircraft for 15 yrs., starting as a test pilot, he later became general manager of United Airport division.



Philip C. Garratt, formerly managing director of the de Havilland Aircraft of Canada Ltd., has been made a director of the English parent company.

J. Harold Foster is now mechanical and production superintendent for the military modification project operated at St. Paul airport; R. E. Remund has been named assistant superintendent in charge of production; H. R. Hougland becomes assistant superintendent in charge of administration; and W. W. Corder has been named assistant superintendent in charge of production planning.

Ernest C. Miehle is Washington supervisor of airmail, air express and freight for American Airlines, Inc., it has been announced. Previously Miehle represented American in Los Angeles as air mail and air express representative. He has been with the firm for five years.



United Air Lines has appointed T. C. Dougan as assistant general purchasing agent at Chicago general headquarters. He succeeds James Aldrich, now on leave of absence as an ensign in the Navy. Dougan has been with United for ten years.

Robert McReynolds, test pilot for the Grumman Aircraft Engineering Corp., was killed Oct. 6 in a crack-up of the new Navy Hellcat fighter plane. He had been with Grumman for several years and was considered by the company as one of the best test pilots in the country.

Jack Meek has been appointed press representative, Western Lines, Canadian Pacific Air Lines. His headquarters will be Edmonton. Meek was financial editor of *The Vancouver Sun* before joining CPA.

John Winchell, liaison representative with the North Atlantic Wing of the ATC, has been named chief dispatcher of Transcontinental & Western Air's Intercontinental division. He was formerly district traffic manager for TWA in Albuquerque, and with the company in various capacities in Los Angeles, Kansas City and Columbus, Ohio. He will continue as liaison representative while taking on his new responsibilities.

Arthur J. Dickinson, formerly group engineer in charge of hydraulics design and installation on the *Mars* for Glenn L. Martin Co., has been appointed hydraulics design supervisor of Simmonds Aerocessories, Incorporated.



James P. Stuart, reservations supervisor for TWA in Kansas City, has been promoted to district traffic manager at Phoenix.



Stuart

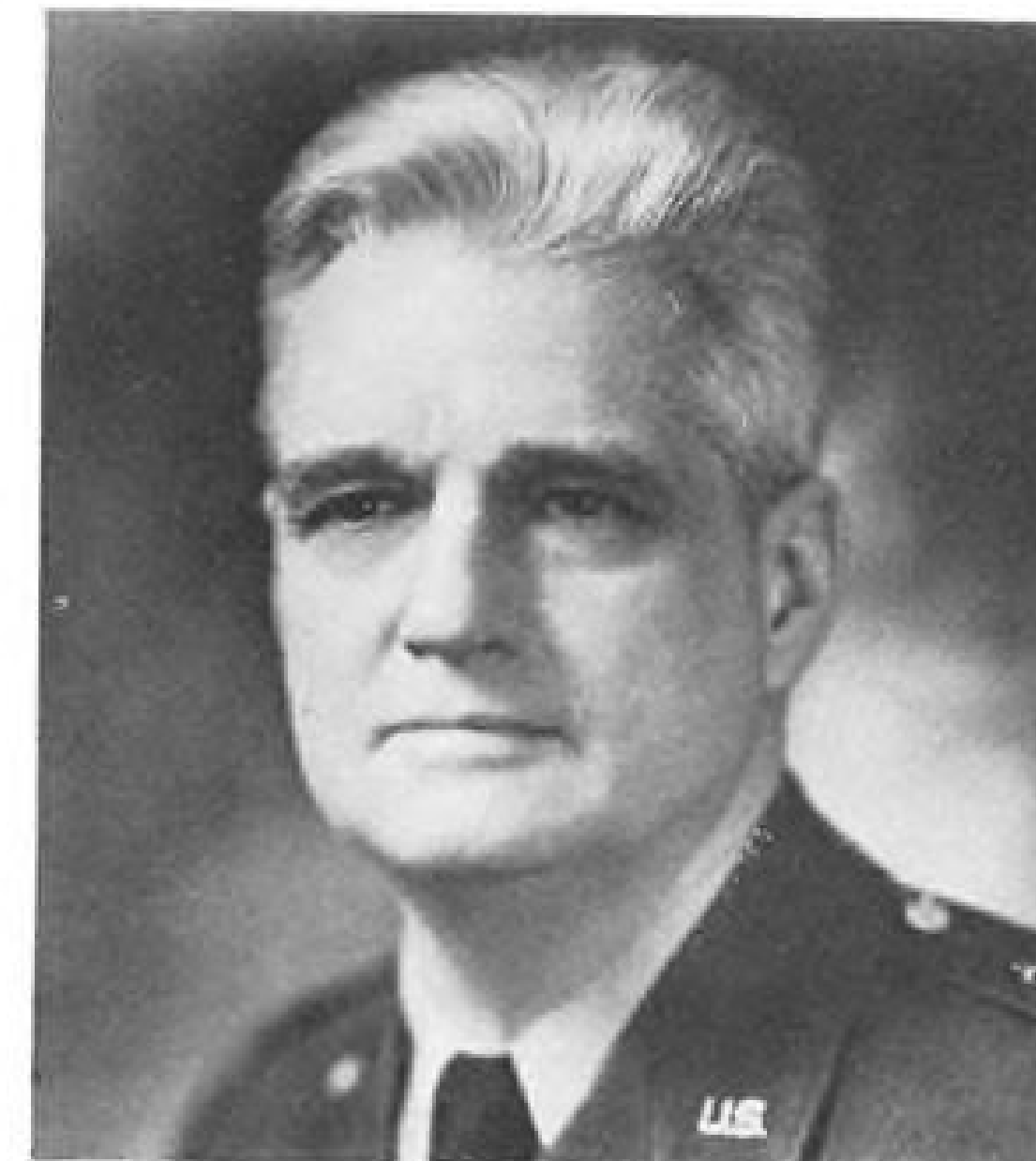
Clifford H. Collins has been appointed assistant chief engineer of Kinner Motors, Inc. For the past year he has been project engineer in charge of design and development of Kinner's flat engine.

Louis S. Allen, with Pan American for the past ten years, has joined American Airlines as special representative of the foreign department. He was previously with Columbia Steamship Lines.



Allen

William A. Schulz has been appointed to the Chicago Sales Division of the Aero Equipment Corporation, Bryan, Ohio, under supervision of E. J. Somerville, division manager according to an announcement by R. W. Morrison, manager of the Industrial Tool Division.



JOINS AVIATION CORP.:

Maj. Gen. Walter R. Weaver, recently commanding general of the AAF Technical Training Command, who has become associated in a consultative capacity with Aviation Corp. After a distinguished career of over 40 yrs., Gen. Weaver is being retired from the service. During the World War, Gen. Weaver was assigned to the air branch of the Army as commandant of flying cadets at Wright Field, later commanding the field. Just after Pearl Harbor, Gen. Weaver became acting chief of the air corps, remaining in that capacity until the creation of the AAF.

LIGHT FROM FLOORS makes your lighting system more efficient



Human eyes are industry's finest and best tools. But they are useless without light. And the amount and quality of light depend not only upon the light source but also upon reflection and diffusion.

Light-colored walls and ceilings long have been used to reflect and diffuse light. Today, light-colored floors also are being used to salvage waste light.

These new light-reflecting floors are built of concrete. They are made with Atlas White portland cement instead of gray portland cement or other darker materials. Hence they reflect more light—salvage waste light. This improvement in illumination—

- reduces eyestrain, headaches, and absenteeism;
- decreases accidents, errors and spoilage;
- increases quality and quantity of production.

Maintenance of white-cement floors is simple—frequent sweeping, occasional damp mopping, periodic scrubbing.

Send for new book, "Light From Floors." Write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

AN-F-16

ATLAS WHITE CEMENT

For Light-Reflecting Floors

Pan American Asks U.S. Chamber To Reconsider Foreign Route Policy

Declares Resolution on International Air transport policy in "fundamental conflict" with views of industry.

Pan American Airways, dissenting with a resolution on international air transport policy for the future by a United States Chamber of Commerce committee and its board of directors, has termed the resolution "in fundamental conflict" with the views of the air transport industry and asked its reconsideration.

A letter to Eric Johnston, president of the Chamber, from John C. Cooper, vice-president of Pan American, complained that the air transport section of the report by the Chamber's International Transport Committee, which also dealt with merchant marine future pol-

icy, "recommends in substance new legislation which would permit surface carriers to control competitive airlines, as well as a new government policy in effect providing for 'freedom of innocent passage.'"

► **Cites ATA Stand**—Cooper pointed out that the full membership of the Air Transport Association is opposed to any change in legislation to permit surface carriers to acquire control of competitive air carriers. He shares this view, he said, and therefore could not subscribe to the committee's report. Cooper said the Aviation subcommittee was formed without W. A. Patterson, president of United Air Lines, Ralph S. Da-

mon, vice-president and general manager of American Airlines, or himself, although these three were on the full committee. Instead, airline members on the subcommittee were John E. Slater, executive vice-president of American Export Airlines, and S. J. Solomon, president of Northeast Airlines, whom Cooper described as "officers of the only two American-flag airlines found by the Civil Aeronautics Board to be controlled by surface carriers."

► **Footnote**—A footnote to the report said that in the committee, Solomon and Damon dissented from the surface participation recommendation "if it involves changes in the existing law." The committee was "nearly unanimous that there should be no general prohibition of such participation" (of steamship companies in air transport in conjunction with their services). "We understand clearly the basis of the contrary idea but do not consider it valid. . . . The decision should be made on the facts in each case."

Cooper declared that "90 percent of the American-flag international air transport industry is opposed to 'freedom of the air' or any similar policy under which the United States would relinquish sovereign control of its air space. Important domestic interests in the air transport industry also share this view."

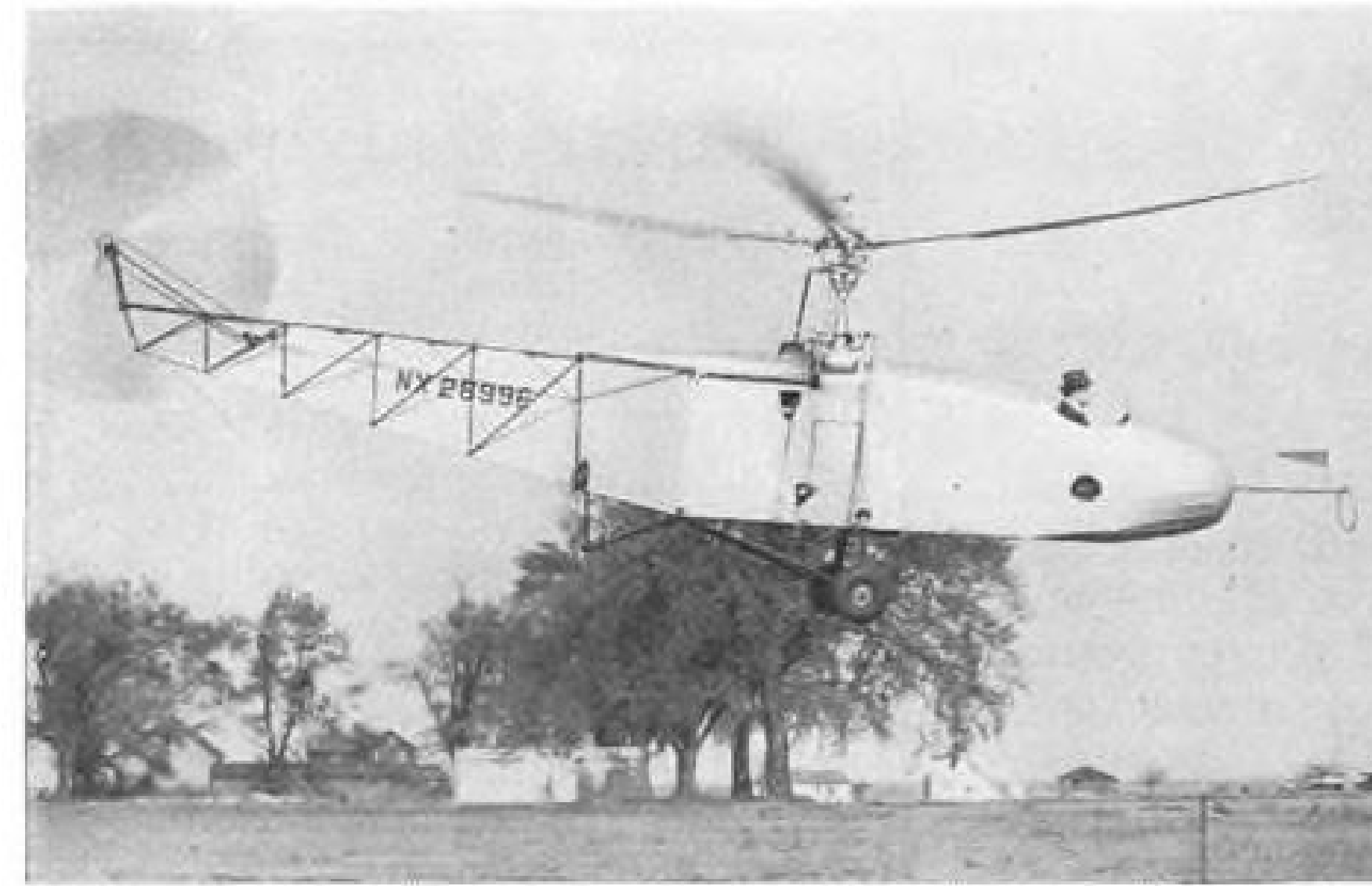
► **Regulated Competition**—The committee's explanation of its previously published resolution said need was evident for "prompt determination" of international air transport policies. Advocates of monopoly for operation of all such services, it was said, have advanced the argument that chaos and disadvantage to Americans in competition with foreign air lines would result from diversity of ownership.

"We believe that to be an incorrect view," the committee stated. "The choice is not between monopoly and chaos. We believe a much wiser choice . . . is a system of regulated competition."

Airport of Future Described by Burden

Commerce Dept. aide urges separate fields for different type planes.

Separate airports to accommodate different types of planes are seen by William A. M. Burden as the logical accompaniment to the increase in air traffic, diversification of aircraft types and performance, and the growing amount of instrument flying by scheduled carriers.



EVOLUTION IN 'COPTERS:

Refinements in construction are shown in these photos of the pioneering Sikorsky VS-300 (left) described by United Aircraft Corp. as the country's first successful helicopter, and the first production model of the series



which was delivered recently to Wright Field. The old ship, which first flew Sept. 14, 1939, retired for permanent display at the Edison Institute Museum at Dearborn, Mich., alongside other famous "firsts."

Burden, who is special aviation assistant to the Secretary of Commerce, offered his ideas on specialized airports at a recent Johns Hopkins Urban Planning Conference at Baltimore, where he spoke on air traffic and airports in relation to urban planning.

► **Railroad Example**—Just as railroad freight yards are apart from passenger stations, so cargo planes may land some day at airports accessible to industrial areas, and passenger planes nearer business and residential districts, he said. Plane and truck loading platforms and railroad sidings for efficient handling of air freight would characterize the cargo airport.

He doubted, he added, that "commodity separation" would come soon after the end of the war, despite the anticipated rapid development in air cargo operations, "except in our great metropolitan areas." But he suggested that communities bear such a possibility in mind and reserve alternate airport sites until determination of future air traffic.

► **Specialization**—Three types of future airports may be expected, he said, through specialization. One would be airline airports for scheduled operations, including air terminals as they are now known, commuter airports and cargo airports. Second, miscellaneous service ports for sales, charter service, maintenance and overhaul, flight testing, manufacturing and flight training. Third in community importance, though of more concern to individuals, would be civilian flying facilities.

Airline airports, he predicted, will be of varying sorts, depending on

individual communities, to serve transoceanic or transcontinental traffic, intermediate operation as on present domestic routes, and local service. He suggested that terminals for transoceanic and transcontinental and some intermediate services be on outlying sites, linked to the community by express highways and perhaps helicopter shuttle service eventually. At cities which are junction points of heavy air routes, alternate terminals should be planned to reduce peak traffic at the main port and speed bad weather landings.

► **Local Airports**—Local and feeder line airports, he said, will lie as close to the community's center as possible, if such traffic is to develop. Miscellaneous service airports should be in interstices of airline routes to avoid interference with traffic converging on airline airports, and private flying fields should be distributed through metropolitan

areas so that they will be within 15 to 30 min. of as much of the residential district as possible.

► **Most Ports Too Small**—In stressing the importance of site selection for these airports, he declared that ten of the country's largest cities—New York, Chicago, Philadelphia, Detroit, Los Angeles, Cleveland, Baltimore, St. Louis, Boston, Pittsburgh and Washington, in their population rank—"have been burdened with commercial airports too restricted in size or in too densely populated areas for adequate air transport operation and expansion." Cleveland is the exception, he said, with its 1,080-acre municipal airport in open country twelve miles from town, and yet there, lack of a connecting express highway has been an inconvenience.

Growth of aviation, Burden declared, provides "great opportunities" for improved development of urban areas. Airport patterns must be determined, and then adhered to as closely as trends in aviation, economics and topography permit.

Transport Record Set

Trans-Canada Air Lines recently established a new Montreal to Britain record of 11 hr. and 56 min. in a large transport plane. TCA said this was 30 min. less than the previous record set on the first flight of the new service on July 22. In addition to passengers, the plane carried 4,700 lb. of mail.

The service is designed to serve members of the forces, government officials and technicians engaged in the war production.



William A. M. Burden



TRANS-CANADA "RUBBERIZES" PROPS:

This girl in Trans-Canada Air Lines' overhaul hangar is applying a rubber coating to a propeller to combat icing conditions. TCA is believed to be the only airline using this system, the result of experiments by the National Research Council of Canada. Company officials say the rubber is an efficient vehicle for conveying alcohol the length of the propeller from the hub. The rubber is glued to the prop, the alcohol works its way into grooves in the rubber near the hub and then spreads to the tip, preventing ice from forming there. Glycerine, formerly used, clogged engine feedlines, as a small amount was carried into the engine.

Proponents of Feeder Systems Testify on Equipment Needs

Declare Manufacturers could meet requirements but express doubt that all projects will be self-supporting.

Problem under study by Civil Aeronautics Board at its investigation of local, feeder and pickup services simmered down last week to a question of what sort of service should be established and who should operate it.

► **Wheel and Spoke Plan**—Some airlines, for instance, have suggested the areas could best be served by a "wheel and spoke" arrangement, with lines radiating from a central point to an outer circumferential route. As the investigation progressed, however, the probable patterns appeared to be routes spreading from a central terminal and point-to-point operation between two terminals, with intermediate stops.

Receiving considerable board attention behind the scenes was the economic question. Members were said to share the belief that from technical and engineering standpoints, manufacturers could produce the equipment necessary to short-haul operation, but whether the projects could be expected to be reasonably self-supporting was another matter.

► **Traffic Surveys**—Some of the wit-

nesses endeavored to resolve this issue on the basis of traffic surveys, operational costs and passenger and cargo potentials, but others were content to assume that establishment of local service would increase traffic to a point where it would be self-sustaining or nearly so.

Spokesman for one of the manufacturers was Dr. W. Bailey Oswald, chief of aerodynamics at Douglas Aircraft. Douglas officials also had a confidential meeting later with the board at which details on price, performance and costs were given.

► **Main Points**—Oswald's main point was that planes should be designed to hold operating costs to a minimum. The manufacturer can control some of these, he said, through simplification and new designs, but others are amenable only to factors in the hands of operators or the CAB—such as length of landing field, overhead, pay load, scheduled flight speed, and refueling time.

He discussed three basic airplane types for feeder line operation—a single-engine six-passenger plane, and two-engine twelve- and twenty-four-passenger planes.

► **Cost Analysis**—Carl Wootten of

Route Ballyhoo

Civil Aeronautics Board has let the airlines know that its decisions on new route applications will not be swayed by any "local enthusiasm" or influence stimulated by applicants.

Not only will the board ignore such generated support, but expenses incurred by carriers in this connection will not be justified as proper charges for rate-making purposes.

Warning that the air carriers' financial statements will be watched closely so that this type of expenses may be rejected when rates are set up was issued by the CAB after receipt of complaints that some carriers are employing or rewarding "individuals of supposed influence" to increase interest in proposed new service.

Beech Aircraft Corp., gave the board details of a study and cost analysis on the model 18 Beechcraft.

He gave performance data on short hops and frequent stops, small airport operation, single engine operation, and flight factors and their bearing on operating costs.

Wallace F. Ardussi, research and engineering director for Foote Bros. Gear and Machine Corp., Chicago, described the Aero Hydro Pickup mechanism, designed to pick up loaded gliders by tug-ship in flight, though thus far the mechanism has been tested only on the ground. The device has been designed to pick up gliders of a maximum weight of 18,000 lb., he said, but will also handle smaller loads. Flight tests are contemplated.

► **Beard Presents Survey**—A comprehensive survey was presented earlier by Charles E. Beard, vice-president of Braniff Airways, who pointed out that the time has come to extend air transportation benefits to small communities and rural areas that do not have them, to provide direct connection with their trade centers, on an economical basis that will not duplicate or compete with existing air services.

He described a "trade area" airline service to give transportation between a major trade center and each community in its trade area. In operation of such airline systems, he did not favor independent ownership, but proposed partial ownership by a trunkline carrier.

► **Keynote**—The board's examiners also heard testimony by new applicants for local service, feeder and

pickup routes. Of these James G. Ray, vice-president of Southwest Airways Co. of Beverly Hills, Calif., keyed the case for the prospective operator. Ray told the board it should permit new operators to start the local services, a field which should be kept separate from trunk-line operations by presently certificated carriers. Ray's company operates pilot schools and flies for the Army.

William A. Ong, of Ong Aircraft, Kansas City; Oliver L. Parks, Parks Air College, East St. Louis; Joseph Garside, of E. W. Wiggins Co.—all now operating pilot training schools—stressed the possibilities these places, with landing fields and trained pilots, have for operating local routes. Garside presented a cost study of feeder lines to operate in New England.

CAA Starts Mid-flight Reports on Weather

A new Flight Advisory Service, to extend to all pilots on the Federal airways the benefits of mid-flight weather reports, is being started by the CAA.

CAA's 23 control centers, using airway communications stations as connecting links, will provide the service. Presently it is available on a limited basis. Plans are to expand it as quickly as training and equipment allow.

► **Available to Carriers**—Air carriers have been given this service through their own flight dispatchers, but other pilots have had to make flight plans on the basis of advance weather data.

CAA believes the new service will be of immeasurable help as a safety factor, particularly in view of the increase in instrument flying and long, nonstop flights.

C. & S. Registers Stock

Chicago and Southern has registered 107,989 shares of common stock, no par value, with the Securities and Exchange Commission. Proceeds from its sale will be used to add to facilities and equipment, reduce loans and provide additional working capital.

Sixty thousand shares evidenced by voting trust certificates will be offered public investors at a proposed maximum of \$16 a share, or an aggregate of \$960,000. The remaining 47,989 shares were registered at \$8 a share, pursuant to options, an aggregate of \$388,912.

AVIATION NEWS • October 18, 1943

SHORTLINES

► Several lines are looking forward to a pre-hearing conference Oct. 26 before the CAB at which Western Air Lines' application to fly from Los Angeles to Denver via Las Vegas and Grand Junction is up for discussion. United has an old application in for the same route. The Denver and Rio Grande Western Railroad has proposed helicopter service over this route, among others, and TWA has applied for Denver as an additional intermediate point on an alternate route between Kansas City and Los Angeles. All have been notified and are expected to be represented at the conference, from which some sort of consolidation of applications for hearing probably will result.

► Continental Air Lines reports that its performance record for its system in six states was 97 percent in September, 6 percent higher than in August. September passenger revenues were 44 percent over the 1942 month and 5 percent over August. Number of revenue passengers showed no change from August, but was 32 percent higher than September, 1942.

► Pan American points out that since a *Dixie Clipper* flew the first commercial trans-atlantic air express from the United States to Europe two years ago this fall, more than 4,300,000 lb. of express have made the trip. Eight million miles of trans-atlantic flying has been done in about 1,550 crossings since Pan American began scheduled commercial air service over this route in May, 1939, carrying 50,000 passengers and 2,600,000 pounds of international mail.

► United Air Lines, for a 60-day period ending early this month, reported 99.7 percent completion of all mileage scheduled, including both transcontinental and Pacific Coast operations.

► Pennsylvania-Central is opposing American's application to stop at Akron on Route 22, which PCA serves on its Route 14, "because it is apprehensive of the effect on its revenues of continued additions of competitive service at various points along its routes." The quotation is from a report by CAB Examiner Ross I. Newmann on a pre-hearing conference on American's application.

► Delta Air Lines announces opening of service Oct. 15 from Fort Worth to New Orleans on Route 24. The new service parallels existing 24 to Shreveport, then cuts southeast to New Orleans. Stops were to be made at Alexandria and Baton Rouge, but are being delayed because airports there are not ready, CAB sources say.

► United and TWA were scheduled to start all-cargo flights last week, contingent on Army approval. The

former was scheduled over United's Route 1 from New York to San Francisco, thus becoming the second transcontinental flight of this nature. American also flies all-cargo across the country. TWA was to extend one of its present passenger trips on Route 2 westward from Kansas City to Los Angeles. Both all-cargoes were set for one round-trip daily.

► CAB has given Transcontinental & Western Air permission to make Columbia, Mo., an intermediate stop between St. Louis and Kansas City on Route 2. As usual in such cases, service will not begin until the board finds it can no longer be delayed in the interests of national defense.

► All American Aviation announces the election of Mrs. Allaire C. du Pont, Wilmington, Del., widow of Richard C. du Pont, as a director. Du Pont who founded the company, was killed in a glider accident Sept 11 at March Field, Calif. He had not been with the company since April, when he resigned as president to become special assistant to the commanding general of the AAF in charge of the glider program.

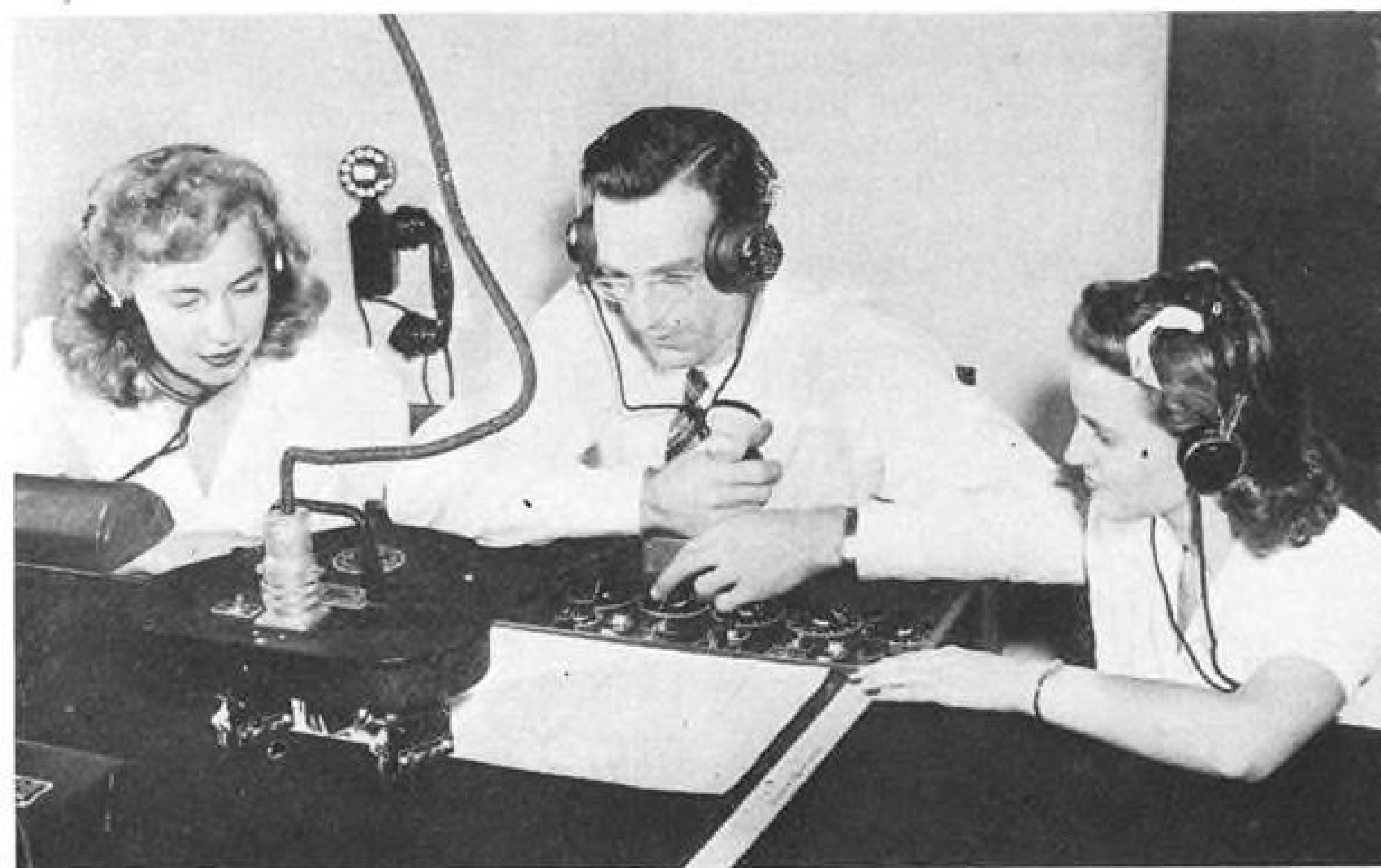
► Pan American has disclosed that it is using C-54 *Skymasters*, under authority of the ATC. Six PAA engineers have been studying the planes at the Douglas Santa Monica plant.

► United has received CAB permission to suspend service temporarily to and from Grand Island, Neb., until further order of the board. Service was suspended in June, last year, because of the inadequacy of the airport there. Since then the airport has been improved, but it is being used by Army Air Forces, and United would have to construct special facilities.

► Trans-Canada announces appointment of J. H. Tudhope as executive assistant. Tudhope, who retired from the RCAF in 1938 with the rank of squadron-leader, has been president and manager of the Canadian Aviation Insurance Group for the past two years. He will have headquarters at Montreal, but his duties will keep him moving throughout the line's territory.

► Trans-Canada recently graduated 50 new employees in the largest class from its personnel training schools, 38 of them women. The group included seventeen radio operators, six reservation agents, nine teletype operators, twelve passenger agents, and six traffic and counter clerks.

► TCA's forthcoming initial flight from San Jose, Costa Rica, to Miami will service first flight covers for aerophilatelists, according to announcement by Inter-American Airways Agency, Inc., New York. The service has been authorized by the CAB.



PCA INSTRUCTS WOMEN AS LINK OPERATORS:

Pennsylvania-Central Airlines is training young women as operators of Link trainers at its headquarters in Washington, before sending them to its school operated for the Air Transport Command at Woodrum Field, near Norfolk. Robert Sadler, director of training, is shown with Jane Folkes and Shirley Neal.

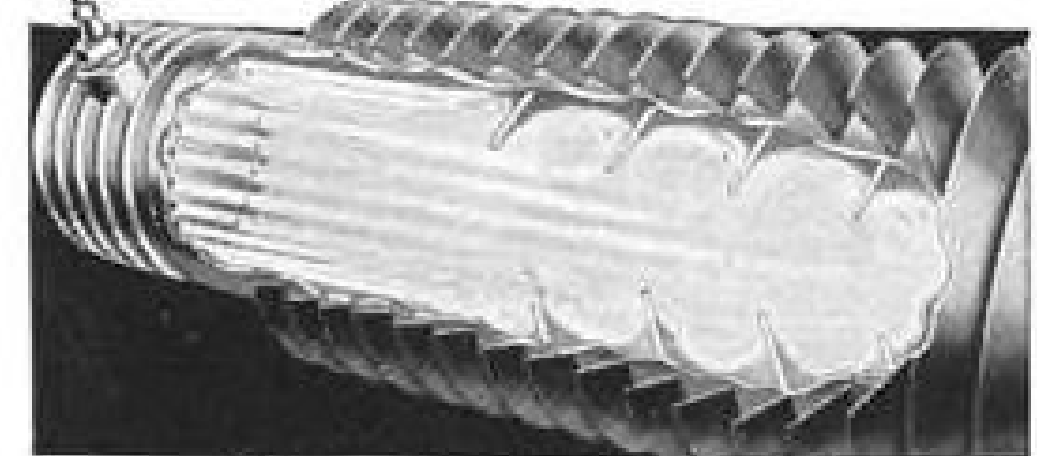
SIMPLICITY OF HUNTER HEATERS BROADENS USES

Engineers Aid Application of Universal Gasoline Burner to Armed Forces and Other Essential Services

FEATURES "SEALED-IN-STEEL" FLAME

CLEVELAND, OHIO—Growing demands for simple and efficient heating for mobile service units, portable housing elements and other special problems has resulted in the setting up of a special division of Hunter and Company of this city. The sub-division will work with designers, builders, purchasers or users of special equipment for the armed forces or for essential civilian services.

Success in the varied uses to which Hunter Heaters already have been applied resulted in this broadening of interest. This has been largely due to the extreme simplicity of the Hunter "Sealed-in-Steel" burner, the fact that it will "give out heat in a big way" from any type of gasoline, from truck fuel to 100 octane.



Flame Completely Sealed

The basic unit is a completely enclosed steel tubular burner, with highly effective areas of heat radiating fins. Atomizing, ignition and combustion take place within the welded steel chamber, the only opening being an exhaust, which can be piped to an outside vent. Hunter units for both heating and ventilation include small, powerful blowers, built into the compact heater casings. Heaters designed for operation from either battery or 110 volt current.

It would be impossible to list all of the uses to which the existing models can be put. Engineers with the armed forces and with companies building equipment are calling every day for applications hitherto undreamed of.

The basic principle is similar to the combustion of an automobile engine—just as simple, safe and sure. Models are made in 25-pound packages putting out 10,000 B.t.u. per hour or in larger models giving any amount of heat required. On heating problems in between or outside of the standard models, Hunter engineers stand ready to work with your engineers in fitting specific needs.

Requests for product information bulletin "HA-2" or for engineering data should be addressed to . . .

Hunter and Company, 1540 East 17th Street, Cleveland, Ohio.

(Advertisement)

"Area Airlines" Urged For New Operators

James G. Ray tells CAB existing lines should stay in own field.

By BARBARA FREDERICK

The airlines have passed their opportunity to get into the local-feeder-pickup field and new operators should be permitted to develop "area airlines," James G. Ray, vice-president of Southwest Airways Co., of Beverly Hills, Calif., told the Civil Aeronautics Board last week. He said existing carriers should devote their attention to their own route problems, domestically and internationally. Nor should surface carriers be permitted to enter the local air service field, lest their allegiance be divided between ground and air operations.

► **Seeks 8,749 Miles of Routes**—Ray spent a day on the stand. Representing a company which has applied for 8,749 mi. of local routes to serve 616 cities in eight southern and western states, he has a background with all American Aviation—on whose pickup experience he drew frequently in his testimony—and with autogiro manufacturers. The company conducts four pilot training schools in Phoenix, Ariz., and operates for the Army what Ray described as two "true feeder routes," in the Los Angeles area.

In arguing for local service by new individual companies, rather than the present airlines or surface carriers, Ray pointed out that such service would require a separate set-up for operations, maintenance, dispatching, equipment and probably a separate set of books, if it were undertaken by trunkline operators.

► **Application Opposed**—When Southwest first applied for routes, he said western carriers tried to show that public convenience and necessity did not call for such service, but that if the board found it was warranted, they wanted to run the lines themselves. He stated that a similar situation had arisen in Pittsburgh in connection with All-American's application.

Potentials of the proposed type of service are hard to determine, he told the CAB, but he predicted that most travel of the short-haul nature would be from "satellite" fields to major trading centers. In any event, there can be no area airline operation until 1945, in Ray's opinion.

► **Area Airlines**—In describing "area airlines," he said they would be designed to offer local service with-

in a given area, as opposed to trans-continental and regional operations by the major airlines. He estimated that there are about 40 trading areas in which they would be justified, and said half of those were large enough to sustain local service from the outset.

Community isolation should share importance with population as a factor in establishment of area routes, the witness asserted. He explained that a small town not served by other carriers might readily produce more air mail on a local route than a larger city visited by railroads, bus lines, and air trunk lines. Towns 15 mi. apart, he suggested, could be served by the pickup system, while the feasible distance was 55 mi. when landings must be made. However, tests of pickup service have shown that it can be adapted to passenger use.

► **Eight Planes Needed**—Average trading area service, as depicted by Southwest's spokesman, probably would consist of seven routes total-



GIRLS SPEED MILITARY:

Western Air Lines has hired counselors who are arranging and expediting military air travel to help servicemen—and women—get where they want to go in a hurry. Here Christy Stewart of Los Angeles greets Lt. Lee Morse, WAC public relations officer, for whom Miss Stewart arranged a detailed itinerary on a recruiting tour.

ing about 270 mi. Eight planes would be required for twelve round trips a day, or 12 planes for 24, with two in reserve in each instance. Average daily mileage per plane would be 660 on the twelve-trip basis, and daily flight hours would average four hours and a quarter, stopping at midnight and resuming early the next morning.

As the logical type of plane for this operation, he suggested a ten-passenger, twin-engine ship with a cargo capacity of 800 to 1,000 lb. On a twelve-round trip basis, cost of operation would run about 47c. a mi., he estimated, but at 24 would drop to 34.8c. The planes probably would cost around \$33,000 each. An exception to the twin-engine requirement, he said, might be planes designed to carry mail and express only.

► **Lost Time at Airports**—One major problem, if such a line is to be fast and frequent, is that of eliminating lost time at airports. In this connection, he proposed airports with a single runway, at least 2,000 feet long, while a better length would be 4,000 feet, with a center terminal. The single-runway type of construction, he said, will permit landings close to town.

Air Giants 6 Years Off, Says Monro

PCA head sees no quick post-war adoption of colossal craft.

The immediate post-war period will not bring to international operation the big planes that many persons are predicting, C. Bedell Monro, president of Pennsylvania-Central Airlines, believes.

Instead, the four types of planes available for commercial use now are the ones that will be in use for from four to six years after the war, he told the Cleveland Chamber of Commerce.

► **Realistic Thinking**—Calling for more realistic thinking and less false prophecy, Monro declared the DC-3, the C-46, the DC-4 and the Lockheed Constellation, which with 82,000 lb. gross load is the largest of the four, are the "planes of the immediate tomorrow."

Pointing out that international flight operations in wartime were not a criterion for peaceful operation, since payload cost ratios are not the determining operating factor, the PCA executive declared that the knowledge of aircraft limitations was probably the war's most valuable lesson to aviation.



ALASKA STAR RECEIVES LODESTAR:

Lockheed Aircraft delivered this wartime Lodestar Lockheed transport to Alaska Star Airlines recently, the first commercial Lockheed which has gone to a US flag line in months. Special approval was obtained from government agencies.

► **Seadromes**—Monro put in a good word for seadromes—PCA has applied for a seadrome route—contrasting direct service possibilities of the four planes with their utility if the floating landing places are available.

Over the great circle route of 3,460 mi., he said, the DC-3, the Commando (C-46) and the DC-4 under peacetime factors, could carry neither passengers nor cargo, while the Constellation could carry five or six passengers and a 330-lb. payload. Over the 3,708-mile seadrome route, Monro added, the DC-3 could take 10 passengers and 575 lb. of cargo, the Commando 35 passengers and a ton of cargo, and the DC-4 42 passengers and 6,450 lb. of cargo. The Constellation by this method could fly 55 passengers and five tons of cargo, he estimated.

► **Costs**—Costs of a recently predicted plane to fly from New York to London in 10 hours with 153 passengers, Monro said, would be close to 70c. per ton mile, as against a maximum passenger revenue with full plane of 30c. per ton mile.

Larger airports will be needed, Monro told the chamber, for increased traffic. Admitting it was difficult to predict air transport services accurately, he said a conservative view would indicate a three-fold expansion of present services by the end of the first post-war period.

Pickup Line Elects

All American reports gains at annual stockholders' and directors' meeting.

President H. R. Bazley of All American Aviation reported to stockholders at the annual meeting that "important changes" occurred

in that line's financial condition between July 1 and Sept. 30.

► **Assets Rise**—Assets Aug. 31, he said, were more than twice liabilities. They amounted to \$1,129,000 and \$506,800, respectively. He predicted that a "satisfactory" profit level for the first quarter of the current fiscal year, which more than covered annual dividend requirements on recently issued convertible preferred stock, would be maintained throughout the year. The prediction was based, he said, on a current \$3,000,000 backlog of business.

Stockholders approved sale of company stock at a preferred rate to all employees with the company a year or more Oct. 15, 1943.

► **Du Pont Widow Elected**—Directors elected at the meeting were Bazley, Charles F. Benzel, W. Sam Carpenter III, Frank M. Donohue, Charles W. Wendt and Mrs. Allaire C. du Pont, widow of Richard C. du Pont, of Wilmington, and Arthur P. Davis, George S. Leisure and Grover Loening of New York.

SAE Maps Cargo Plane Study at Chicago

Design, operations, short haul to be discussed at Nov. 8-9 meeting.

A comprehensive study of air cargo problems, present and post-war, will be undertaken at a two-day meeting of the Society of Automotive Engineers at the Knickerbocker Hotel, Chicago, Nov. 8-9. Cargo plane design, operations, short hauls, coordination of air and surface cargo movements, packaging, tying and handling will be discussed.

Carlos Wood, Douglas Aircraft and E. C. Wells, Boeing Aircraft,

will discuss design problems at the opening-day morning session. J. H. Frederick, professor of transportation, University of Texas; W. L. Brintnell, of Aircraft Repair Ltd., Canada, and J. G. Borger, Pan American Airways, will be afternoon and evening speakers.

► **Tuesday speakers** will include H. W. Anderson, Whiting Corp., J. H. Casey, United Parcel Co., and J. H. Macleod, Hinde & Dauch Paper Co. A dinner meeting, with Casey Jones as toastmaster, and with the speaker unannounced completes the session.

Originally planned as a Chicago section SAE meeting, the session has taken on national importance because of interest in its subject. Chairmen of the various sessions include Edward Warner, Jack Herlihey, Melvin Miller, and Russell Forbes.

Plane Radio Depot

Army aircraft radio equipment will be housed in a huge new \$3,000,000 signal corps depot now being constructed at Dayton, Ohio. On a 114-acre tract, formerly the old Johnson flying field, four reinforced concrete barrel-type warehouses, 900 ft. long and 180 ft. wide, and an administration building are being erected. Col. W. J. Daw, signal depot commanding officer, said the depot would remain as a permanent installation after the war.

Air Planning Parley

A National Aviation Planning Conference, called by the National Aeronautic Assn., will be held in Oklahoma City Nov. 11-13. Establishment of over-all plans and policies by controlling agencies and participating interests is the aim of the conference, which will be attended by heads of manufacturing, operating and servicing organizations of the industry as well as national, state and municipal officers carrying responsibilities in this connection.

Transport Meeting Set

Government and civilian authorities will meet in Washington Oct. 26 to discuss present and future air transport problems, under auspices of the Institute of the Aeronautical Sciences.

Speakers at the meeting will include Col. H. R. Harris, John C. Leslie, William Littlewood, Robert Buck, Grover Loening and C. Be-dell Monro.

FINANCIAL

Danger to Aircraft Earnings Exists But Fallacy Seen in Harvard Study

Reduction of incomes by contract renegotiation could be largely effected through strict application of Excess Profits Tax rather than tie up Army experts with endless bookkeeping chores.

By ROGER WILCO

If it isn't renegotiation, taxes will take their toll of aircraft earnings.

In recent hearings before the House Ways and Means Committee, the aircraft industry said renegotiation processes were draining its working capital and were harmful in other ways to its financial condition. In support of this view, a study prepared by the Harvard Business School was presented. This survey showed the average aircraft manufacturing company in 1942 had its earnings reduced to \$7.2 million from \$11.1 million through renegotiation of contracts. This study covered eleven major aircraft producers accounting for 75 percent of the industry and showed the average airplane maker refunded \$16.6 million to the government last year. The effect of this renegotiation was to cut working capital 24 percent below what it otherwise would have been.

► **Fallacy**—Now there is no question that the reduction in working capital is detrimental to the best interests of the aircraft industry—but there is a fundamental fallacy to the approach used by the Harvard Business School study.

As a practical matter, of every dollar renegotiated for the aircraft industry, only about 20 to 30 c. on the average comes from earnings, with the rest from taxes. In other words, were earnings not reduced by renegotiation, a substantial portion would have in any event been recaptured by excess profits taxes.

► **Example**—An example is provided by Boeing's 1942 report. This company completed its renegotiation of contracts and is faced with no further adjustments in this respect for 1942. A total of about \$34,300,000 was refunded on 1942 business, but Boeing's President Johnson observed that "if the refunds were not made, approximately 80 percent (of the re-

fund) would have been returned to the government through taxes."

Like conditions pertain, in varying degree, with every aircraft company making refunds through the renegotiation law. This suggests that rather than attack the renegotiation process as the chief target, the aircraft industry might seek a frontal approach and give prime consideration to the effects of the tax laws on earnings.

► **Savings Illusory**—In fact, it has long been suggested, in many quarters, that it would be much simpler and far less expensive to industry if war profits were recaptured directly through the tax route rather than in a roundabout fashion by renegotiation. All assertions made by government agencies that the Treasury has "saved" billions through renegotiation is an illusion. A substantial percentage of these alleged "savings" would in any event have been siphoned off through taxes. More importantly, there would be less confusion, no need of the huge waste in manpower caused by government "renegotiators" constantly poring over books, and industry would not be subjected to repeated recapture attempts on the same contracts. The direct tax approach would center control and regulation of earnings in one government agency—the Treasury, and would untangle officers of the Army and Navy and representatives of other departments and keep them out of the hair of harassed industry.

\$1 Beech Dividend

Walter H. Beech, president and chairman of Beech Aircraft Corp., in announcing a \$1 dividend on the company's common stock payable Oct. 28, noted that in the past fiscal year the company had met all its

production schedules, despite the fact that output was more than twice the 1942 volume.

Orders were sufficient, he said, to keep the company operating at capacity for more than a year ahead. All Beechcraft trainers are twin-engine planes and the company has produced not only all-metal aircraft, but also hundreds of stressed skin plywood trainers in addition to medium and light twin-engined transports.

NAC Nets \$493,523

Nine months' income includes \$416,996 profit from sale of securities.

National Aviation Corp. reported net income for nine months ended Sept. 30, was \$493,523, including \$416,996 net profit on sale of securities and after expenses and federal income tax. In the 1942 period, net was \$48,693 after \$38,526 loss on sale of securities.

► **Assets Worth \$17 a Share**—The corporation reported indicated net asset value as of Sept. 30 was \$17.00 a share and that securities with a readily ascertainable market price were included at market value, other securities valued at cost and the report subject to audit. June 30, 1943, net asset value was \$18.01 a share, while on Sept. 30, 1942, the value was \$14.20.

TWA Buys Interest In TACA Lines

Lowell Yerex Continues as Chief Executive of Company; British West Indian Airways and Brazilian Companies Affected.

Transcontinental and Western Air and other United States investors have acquired a substantial interest in TACA, Central American Airlines, through a stock purchase that has added \$2,200,000 to TACA's treasury.

WANTED

AERONAUTICAL ENGINEERS

Several highly qualified men required for aerodynamics, stress analysis and design. Key positions open.

HELICOPTER DEVELOPMENT

Duration and post war long range program. Reply must include a brief summary of technical training and experience and a statement of availability under the WMCES.

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Peak B-17 Output

Production of Boeing B-17 Flying Fortresses will continue at the maximum rate, coming as near as possible to the progressively rising quotas assigned, in addition to the B-29S, which are now coming off the lines in satisfactory numbers. The B-17s will stay in plants now thus occupied and the B-29s will occupy other and new facilities, details of which cannot be disclosed. Magnitude of the B-29 program led some persons to the erroneous conclusion that the B-17 program must of necessity be tapered off. Functions of the B-17 are indispensable in the air war and will remain so for many months to come.

Jack Frye, president of TWA, and Lowell Yerex, who continues as TACA's president and general manager, disclosed in Washington that the transaction had been effected after about 30 days of quiet negotiation, and gave some of the details.

TWA's interest in the deal amounted to approximately \$1,300,000, with the other \$900,000 divided about equally among the Adams Express Company, investment trust; Time, Inc.; air investors, in an Aviation Investment Trust, and Stewart McDonald, all of New York. McDonald is chairman of the Board of Inter-American Airways, S. A., Parent Company, which now becomes TACA Airways, S. A.

The parent Company owns 100 percent of TACA Transportes Aereos Centro Americanos, all of TACA Airways Agency, Inc. (formerly Inter-American Airways Agency, Inc. with offices in New York and Miami.) 50.9 percent of Aerovias Bra-

sil, S. A., and 40 percent of the British West Indian Airways.

Frye said TWA also has acquired a 9 percent direct interest in Aerovias Brazil, involving a stock purchase "somewhat under \$100,000" in a separate negotiation. The remainder of the stock of Aerovias Brasil—40.1 percent—is owned by Brazilian nationals, Yerex said.


All the \$2,200,000 involved in the other transaction goes into the TACA treasury, since Yerex retains his full interest in the company. TACA has an authorized capitalization of \$5,000,000, although stock for the full amount never has been issued. Plans are being made for a public offering in the near future which will put more stock in United States hands, Frye and Yerex said. Purpose of the new financing was not disclosed, although it was said more details on the program may be forthcoming.

UAL Converts DC-3s Into "Cargoliners"

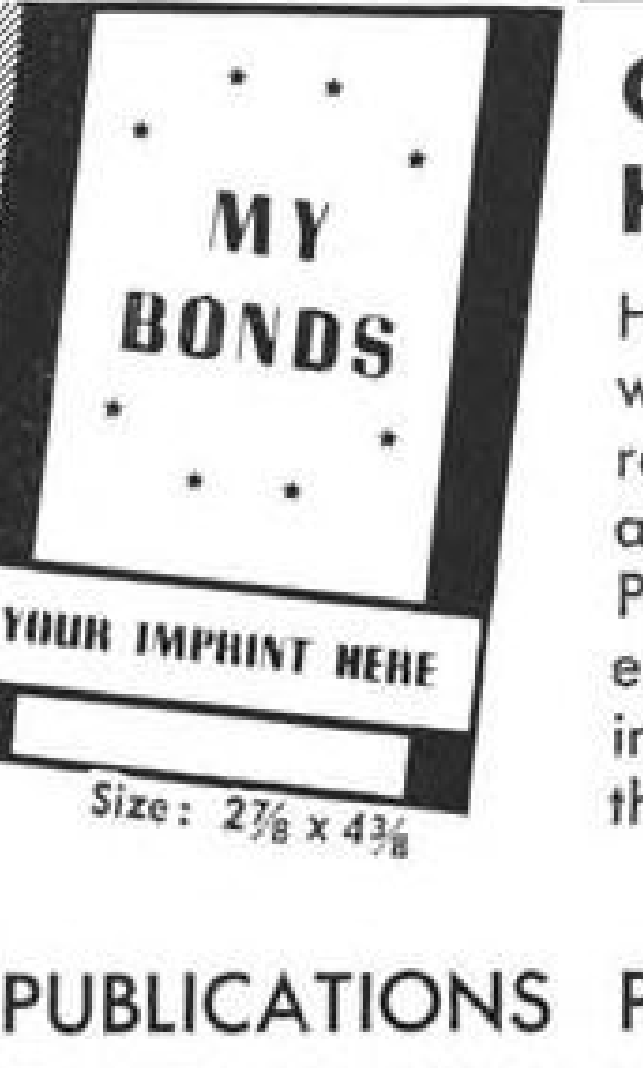
United is starting its new transcontinental cargo operations with "Cargoliners," DC-3s stripped of passenger furnishings and equipped with re-inforced floors, plywood siding, steel screened windows and cargo bins.

C. P. Graddick, director of the Line's Air Cargo Department, points out the contrast with regular airliners used in cargo service with passenger seats. He says the planes will carry about three tons of cargo compared with an average of 1,400 lb. on United's combination passenger-cargo mainliners.

► **Douglasses Used**—Planes being used on the service are Douglasses recently turned back by the Air Transport Command. United received three, American and TWA one each.



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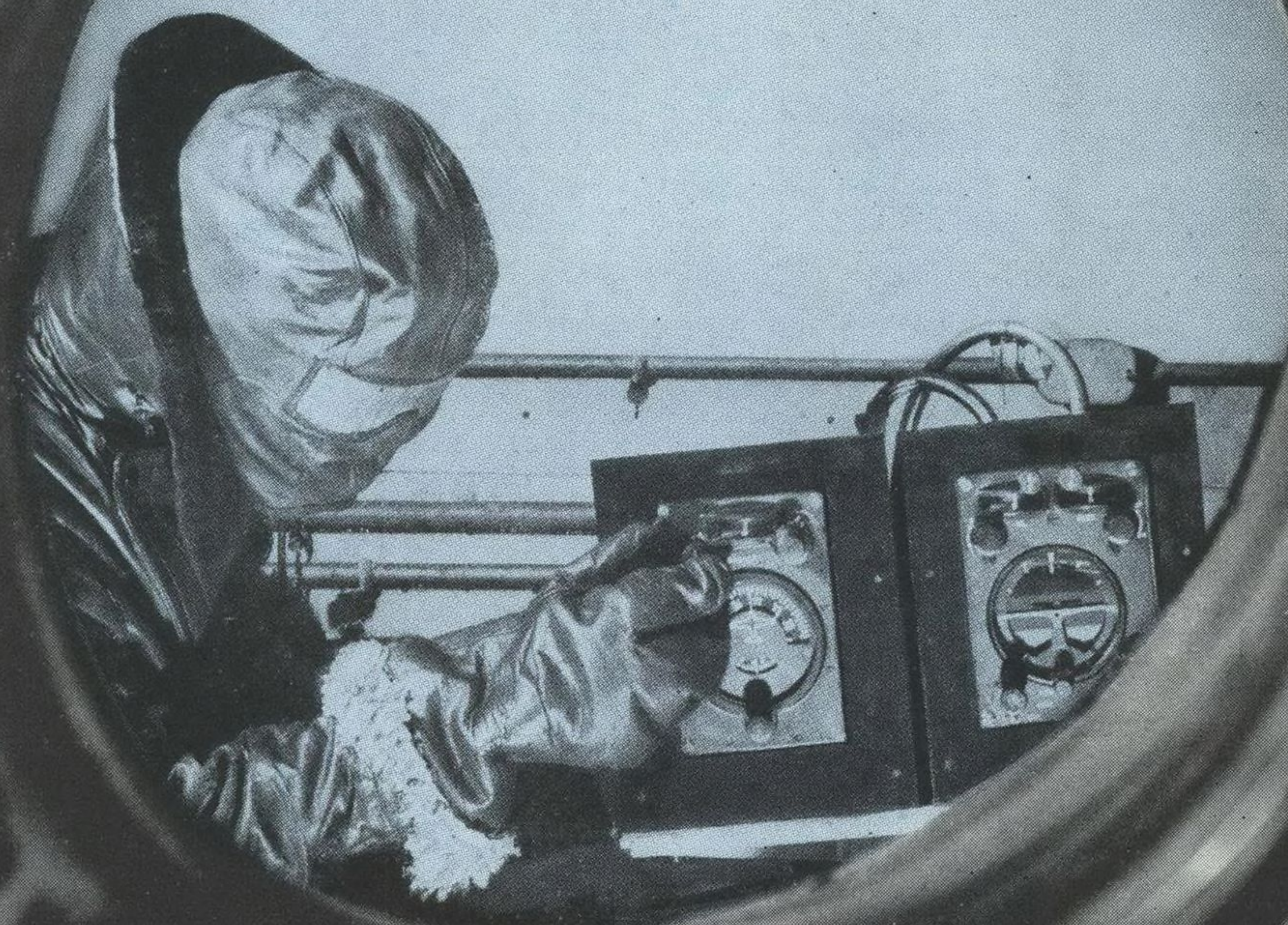
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