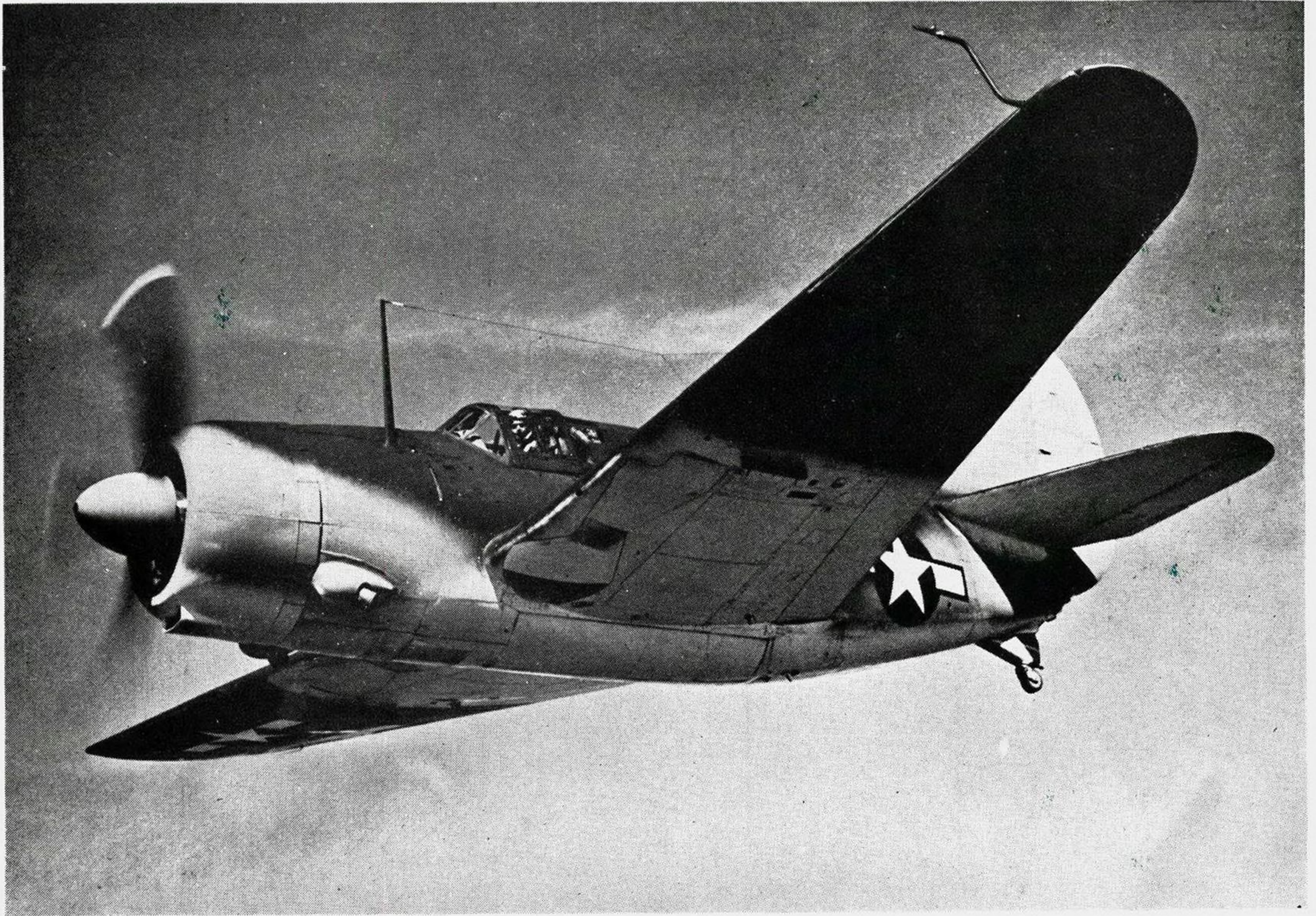


Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

JANUARY 3, 1944



Helldiver in Action: In releasing first photographs of its latest warcraft, Navy discloses that Curtiss-Wright's new dive-bomber, which wreaked havoc on the enemy in its initial combat test in the Pacific, packs one big bomb or two smaller ones, completely housed in a bomb bay, instead of being carried externally. The result is better lines, improved speed, and greater striking power.

Peace to Find Rails in Strong Position

Roads unlikely to be operating air services in post-war period but may reduce rates, and improve servicesPage 24

Pay Revisions Expected in Coast Plants

NWLB orders comprehensive study of schedules in six factories in Southern California area.....Page 17

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Metal Surplus Presents Problem for Bunker

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Dodge division engine factory at Chicago described by company as largest war plant in United States.....Page 21

Michigan Board Maps Laws on Air Control

Action by state aeronautical group interpreted as move by bureau to regulate intra-state aviationPage 29



on missions of *Mercy*

Speeding to the front lines of battle—picking up the seriously wounded—winging them back to sheltered base hospitals for immediate medical care—that is the vital assignment of this ambulance plane, Howard-built for the United States Navy and appropriately named the Howard Nightingale. ★ All of Howard's vastly expanded facilities and energies now are assigned to wartime production. Ambulance planes (GH-2) and advanced trainer planes (NH-1) for the United States Navy. Primary trainer planes (PT-23) for the United States Army. With the advent of peace, these same facilities and energies will go into immediate action, in the service of commercial and industrial America.

Howard **AIRCRAFT CORPORATION**
CHICAGO AND ST. CHARLES • ILLINOIS

THE AVIATION NEWS

Washington Observer

TO HELL WITH HISTORY: WHAT'S THE PROBLEM?—In that classic remark is an index to Air Chief Marshal Sir Arthur Tedder, named as deputy to General Eisenhower, supreme commander of the European invasion forces. His appointment is recognition of the importance of an air leader in the planning and execution of this greatest of military operations. Lieut. Gen. Carl Spaatz, who will command the entire American strategic bombing force operating against the Nazis, will get full play for his talents and, with Spaatz supplementing the team of Eisenhower and Tedder, it is clear that a great share of the grand assault has been assigned to the Allied air forces and that coordination of land and air troops is to be more tightly knit than ever.

★

AIRMAN'S AIRMAN—Tedder is an airman's airman and orthodoxy and tradition in the military sense have no place in his make-up. In that he has a working partner in Spaatz, whose personal aviation history is known to all American aviation enthusiasts. These men helped run the Nazis out of Africa. Spaatz, it is understood, will direct all operations against Nazi industry and transport by American bombardment planes from any place in Europe and Africa except Russia. It appears that the air strength of the invasion forces is in good hands.

★ ★ ★

BACKFLIP—Some observers and commentators who suddenly discovered air power about two years ago and went overboard are now saying that the foot soldier and the battleship hold the key to victory. No sound airman will depreciate one iota the immortal achievements of either of these arms. At the same time, it is difficult to see how anyone can depreciate the deeds of the AAF and naval aviation. The chief of Army Ordnance has said that Allied bombings of German industrial centers have affected not only the quantity but the quality of Nazi weapons and there is little doubt that dividends from Allied air power are beginning to pile up in decreased production and weakened German morale on the European front, and in Jap aerial attacks which lack their former punch in the Pacific. The results outweigh the losses. There is glory enough for all and this is no time to minimize the importance of any member of the armed forces team.

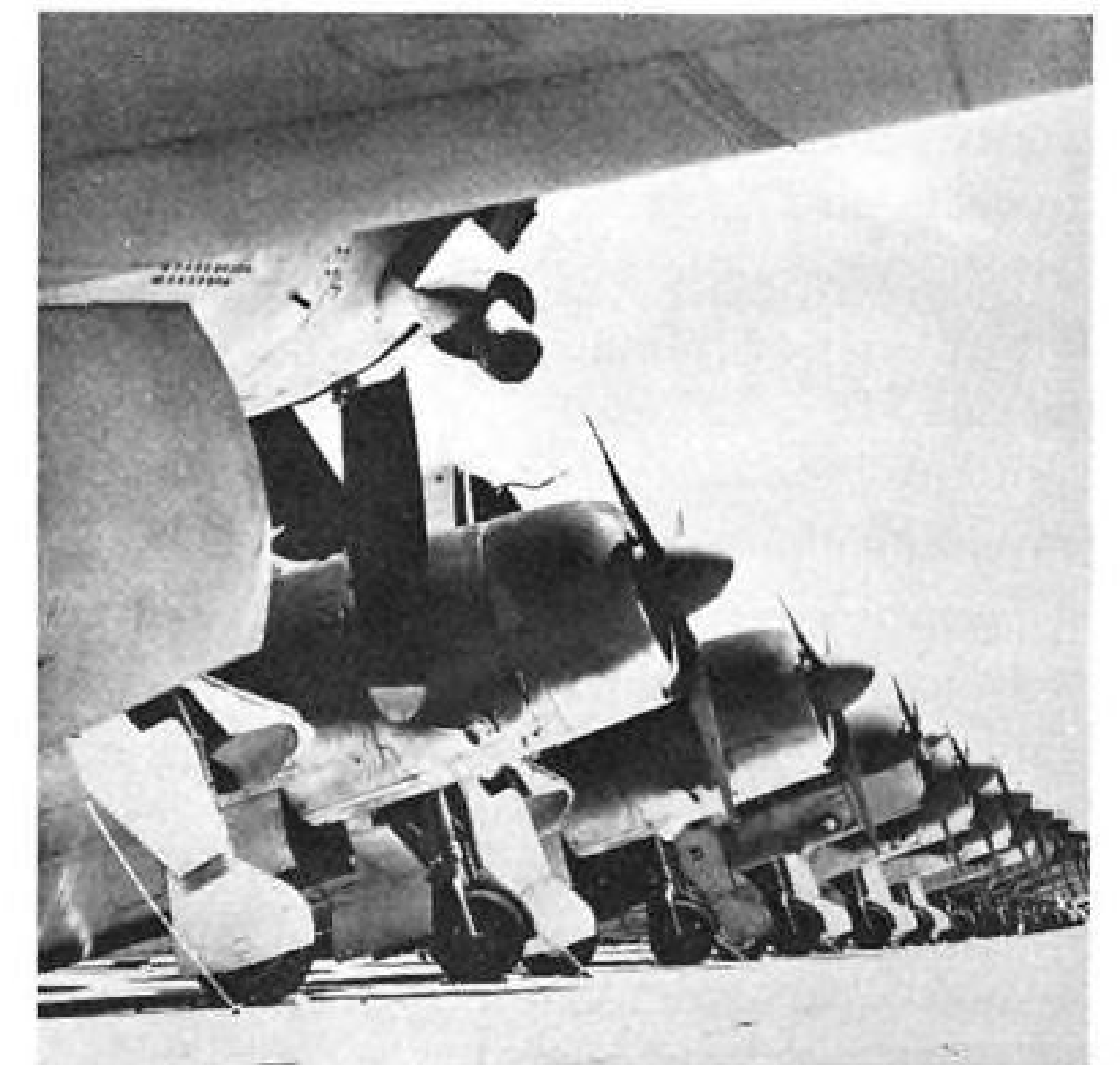
★ ★ ★

THE HELLDIVER'S NAME—Credit for the name Helldiver, the Navy's new devastating dive bomber, is given by its builder, Curtiss-

Wright, to Charles Hathorn, now patent engineer for the company's Buffalo plant, who had been project engineer on the Curtiss XF8C-2. When the search for a name began, Hathorn recalled that the Dabchick, a small bird, was also known in some parts of the country as the Helldiver. Research disclosed that the Dabchick, or Helldiver, was noted for its quickness in diving. Hence—*Helldiver*.

★

A PLANE BY ANY OTHER NAME . . . ETC.—In the copy of AVIATION NEWS' story on the Helldiver, reviewed by the Navy, the blue-penciling of one word was noted. This was pretty mystifying since the word had been fairly widely publicized. The line in the story in question said an Army modification of the "Helldiver," "known as the A-25 Shrike" is being produced at the Curtiss-Wright St. Louis plant. The word Shrike was stricken. The fact is mentioned here because the Curtiss Fly Leaf magazine, which has been out for some time, devoted its center-



page spread to the A-25, with a heading in large red letters "Curtiss Shrike." The Curtiss house organ goes on to explain that it is called the Shrike after a bird of that name which swoops down on its game with a smooth, gliding sweep and takes it by surprise. "Illustrated here," says the story, "is the migrant or loggerhead Shrike, also called the Butcher Bird."

★

BLAYLOCK AND THE HELLDIVER—Whatever the name applied to this fine airplane, the principal name which should be mentioned in



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January 3, 1944

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

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

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connection with it is that of Raymond C. Blaylock. He designed it. His years of concentrated interest in and development of naval dive bombers make him one of the world's foremost authorities on the design and performance of that type of airplane. His engineering history has been one of unbroken continuity on the development of dive bombers. It dates back to the first of the Helldiver series—the Curtiss F8C which was the first Navy plane built specifically for dive bombing and carrier service. Blaylock, who never rests on his laurels, is entitled to stop work long enough to take a bow.

NATIONAL SERVICE ACT AGAIN—Talk of a national service act, loud for a time, which then died to a whisper as the manpower situation eased, due to operation of the West Coast plan and better labor utilization, is beginning to be heard again. With invasion talk in the air, with repeated warnings from government leaders of high casualties to come and with a report that the United States will provide 73 per cent of the invasion forces, labor draft proponents are again pushing such legislation.

TIME IS IMMINENT—Members of the Senate Military Affairs committee have conducted a confidential study of home-front manpower in relation to a stepped-up war tempo and as a result, Senator Austin, of Vermont, committee member, says Congress soon will be confronted with the necessity of enacting a national labor draft law and added that "the time for a National Service Act is imminent." Details of the report, of course, were not made public, but several committee members indicated the results pointed toward legislation as necessary to meet the situation. More will be heard about this when Congress meets next week.

JOHNSTON'S POST WAR STUDY—One of the more promising of the numerous studies of post war aviation is that being written by S. Paul Johnston, now Washington representative for Curtiss-Wright Corp., and formerly editor of Aviation and coordinator of research for NACA. Although he probably will deflate some of the more grandiose concepts of the air future, his book will deal constructively with operational, technical and production problems, including disposition and use of surplus war equipment.

CARRIERS MULTIPLY—Secretary Knox has disclosed that the Navy now has six times as many aircraft carriers, including escort types in commission, as there were when the Japanese attacked Pearl Harbor, and that the carrier's

Washington Observer

offensive sting has been greatly increased by the Corsair and Hellcat fighters, the most powerful carrier-based fighting planes in the world. Twice as many pilots were trained by the Navy this year as last and the total number of Navy pilots now is five times the total of two years ago. Two and a half times as many Navy planes were built during the second year of war as in 1942.

RETURN OF THE KITTY HAWK—Orville Wright will not return the original Kitty Hawk plane from England to the United States until after the war. He has not yet made up his mind whether to place it in the Smithsonian Institution at Washington or elsewhere. Many public officials and others in North Carolina would like to have it installed at Kill Devil Hill, but other tourist meccas will remind Mr. Wright that the scene of his first flight is a long way off the beaten tourist path. Records at the Kill Devil monument to Wilbur and Orville Wright show that relatively few visitors ever get there.

REMEMBER THE AIRACUDA?—There are still airmen in the Army who think that Bell's Airacuda was the most promising fighter plane tested by the Air Corps and that history will pronounce its rejection a mistake. In fact, it was not rejected, the Army simply decided to concentrate on the Airacobra instead and the most recent Soviet Information Bulletin indicates the Russians are glad of it. The Airacuda was a two-engine pusher all around attack plane and the Air Corps put 13 of them through full tactical maneuvers and tests, before the war, and pronounced them excellent. They carried two 37 mm cannon, a battery of 50 calibers, all unobstructed by propellers and had long range. The interesting factor is that no two of them were alike; changes were made as each came down the line. They were powered with the earliest Allison engines, which also were changed as the series came along. Whoever was right, it's good hangar-flying material.

BACKFIRE—An editorial appearing in WPB's Labor-Management News, entitled "Please Mr. Ford and Mr. Sloan," said 4,000 war plants have established labor management committees but that "unfortunately neither Ford nor General Motors has seen fit so far to give more than superficial attention to the plan." GM and Ford were quick to reply, GM's Alfred P. Sloan, Jr., saying that General Motors stands on its war production record. Ford was critical of the whole labor-management committee program and characterized it as an effort to push labor farther into the management of industry. No further word at this time from the director of the program.

**"THIS YEAR, LET'S PAY THE BONUS
IN WAR BONDS**



... and drive even harder on the pay-roll savings plan!"

Make War Bonds the Christmas Order of the Day. Urge your workers to make their personal Christmas gifts in the form of War Bonds—and practice what you preach! Make this a 100% War Bond Christmas—to insure future Yuletides of peace and prosperity.

Make up your own posters to spread the "War Bonds for Christmas" story across your plant. Tell the story again and again on bulletin boards, in your plant magazine, and on pay envelope stuffers.

But don't forget your basic, all-important Pay-Roll Savings Plan. How's it going, these days? Perhaps it needs a bit of stoking-up right this very minute, to hold its full head of steam against the competitive demands of the holiday season.

Well, you're the man to stoke it! You can't expect it to keep running indefinitely on last summer's enthusiasm. See to it that your participation percentages, and your deduction percentages, *both* end up the year at new levels.

Every month, now your Pay-Roll Savings ought to run well ahead of the preceding month. *For so many families that formerly depended on the earnings of a single worker, now enjoy the combined earnings of several.* Such family incomes are doubled, trebled, even multiplied many times.

Now's the time to turn as much as possible of these increased earnings into War Bonds—War Bonds for Christmas . . . and War Bonds the whole year 'round!

GIVE THE PRESENT WITH A FUTURE—WAR BONDS!

This space contributed to Victory by **AVIATION NEWS**

This advertisement prepared under the auspices of the United States Treasury Department and the War Advertising Council

Navy Releases Data on "Helldiver" As it Meets Enemy in Pacific

Streamlined Curtiss-Wright dive-bomber carries bomb load internally; speed, braking devices listed among improvements.

By ALEXANDER MCSURELY

A fat-bellied new Navy dive-bomber, whose agility and maneuverability belie its shape, has taken its place alongside its carrier-based teammates, the *Corsair* and *Hellcat* fighters, and the *Avenger* torpedo-bomber, to complete what is believed to be the hardest-hitting, fastest-traveling Navy aerial offensive yet developed.

Announcement that the Curtiss *Helldiver* SB2C dive-bomber has gone into action in the Pacific is welcomed by Navy airmen, since it gives the fleet carriers a full complement of planes incorporating post-Pearl Harbor improvements, with the advantages of higher speeds and longer ranges gained from higher horsepower.

► **Demonstration** — Newsmen inspected the *Helldiver* recently at its home plant, the Curtiss-Wright factory at Columbus, and watched test pilots put three of the big dive-bombers through a demonstration

of formation flying, including short-length takeoffs, and landings, in affirmation of the statement of Capt. J. W. C. Brand, plant naval aircraft inspector, that the *Helldiver* could take off and land from any carrier, even the baby carriers, used against submarines.

Cleaner aerodynamically than earlier dive-bombers, the *Helldiver* packs its one big bomb or two smaller ones, completely housed in a bomb bay instead of carrying the deadly missile externally, as did most earlier dive-bombers. The result is a much better streamlining of the plane, improved speed, and the ability to keep up with its swift escorts.

► **Braking Control**—Split flaps provide braking control in power dives, while wing tip slats mechanically operated in connection with the landing gear, provide improved lateral control at low speeds, as the plane comes in for a carrier landing.



"Helldiver" Designer: Raymond C. Blaylock, project Engineer of the Curtiss *Helldiver* and Chief Engineer of the Curtiss-Wright plant at Columbus, has been identified closely with *Helldiver* dive-bombers, starting with the first F8C-4 production *Helldiver* and the first Navy plane built specifically for dive-bombing operations.

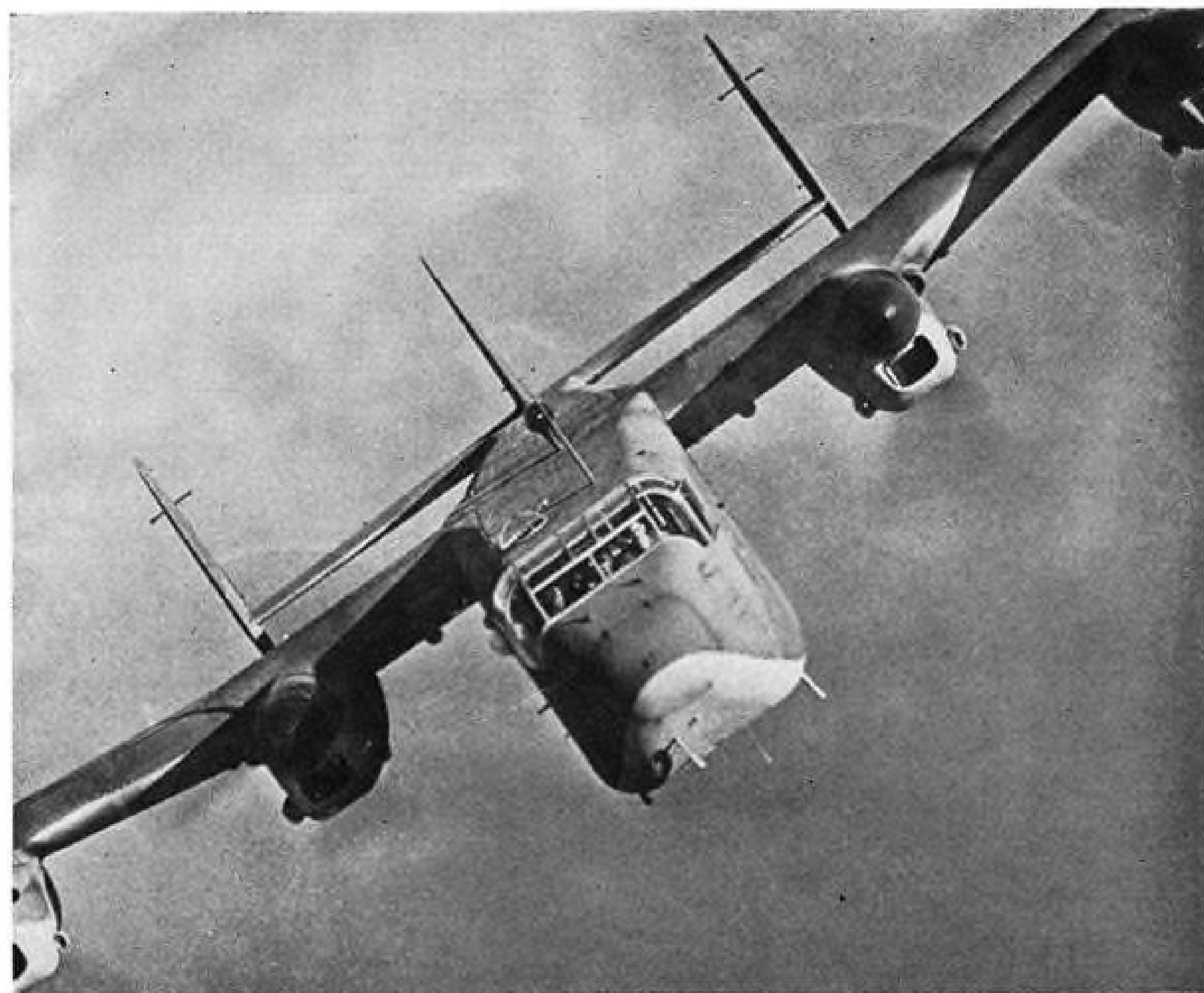
A folding turtle-back, behind the radioman-gunner's seat, collapses to afford him improved visibility and to operate his guns over a greater field of fire.

Since first contract award, May 15, 1939, for a single experimental plane, many changes have been added, including armor-plate for pilot and radioman-gunner, self-sealing fuel tanks, protected fuel and oil lines. The first experimental plane was flown in November, 1940, but the following year, it was lost when it crashed in a terminal velocity dive, from which Test Pilot Barton (Red) Hulse managed to escape by the parachute route. But tests were far enough along, and work had already started on production in the new Columbus plant, and the first production *Helldiver* came off the line in June, 1942.

► **Design Changes**—From July, 1942, until November, 1942, no fewer than 889 major changes were made, which resulted in many thousands



"Helldivers" in Action: Curtiss-Wright *Helldiver*, which has met its first combat test in the Pacific. It completes the team composed of *Hellcat*, *Corsair* and *Avenger* torpedo bomber.



BRITAIN'S NEW PLANE:

Unusual view of the Avro York, a transport version of the Lancaster bomber. It is a high wing, four-engine monoplane with a wing span of 102 feet and an overall length of 78 feet. Four Rolls Royce Merlin liquid cooled engines power the plane.

of minor changes. As a result of these alterations, many of them recommended as results of combat operational experience, the utility of the *Helldiver* has been extended far beyond the original plans of the plane's designers.

While approximately 70 percent of the *Helldivers* are being produced at the big Columbus plant, which was dedicated in December, 1941, just three days before Pearl Harbor, approximately 20 percent are being produced under license by the Canadian Car & Foundry Co., Ltd., of Canada, and approximately 10 percent by a second Canadian firm, Fairchild of Canada, Ltd. Meanwhile, an Army modification of the *Helldiver*, known as the A-25, is being produced at the Curtiss-Wright St. Louis plant.

► **Designer**—Credit for the *Helldiver*'s design goes largely to Raymond C. Blaylock, now chief engineer of the Columbus plant, who was assigned as project engineer on the plane at its inception, and who has followed it through to its present combat debut. Blaylock, however, reports that approximately 300 engineers actually worked on the project over a two-year period, since the Columbus plant was opened.

The chief engineer, an engineering graduate from the University of

Scored at Rabaul

Bulk of extensive damage done to enemy shipping at Rabaul, last Nov. 11, it can now be disclosed, was at the hands of the Navy's new dive bomber, the Curtiss *Helldiver*.

The *Helldiver* squadron, from one carrier, was commanded by Lt. Comdr. James E. Vose, Jr., U.S.N. and it sank a light cruiser and a destroyer, probably sank a heavy cruiser, heavily damaged another light cruiser and probably damaged a second destroyer.

As the *Helldivers* retired from the scene, they were attacked by enemy fighters, but made good their withdrawal without loss. Two of the planes later were lost near their carrier, due to exhaustion of fuel, but personnel was saved.

The official report describing the *Helldiver*'s first combat action said: "The plane lived up to our expectations during combat." Rear Admiral DeWitt Clinton Ramsey, chief of the Bureau of Aeronautics, commented: "The plane has demonstrated that it packs a terrific wallop for the Japs."

Michigan, has been with Curtiss-Wright since 1929, and designed a number of the earlier Curtiss dive-bombers, including the SBC series still in service in Navy training stations, and used by the British under the name of *Cleveland*. Blaylock spent many hours observing planes he had designed, under actual operational use on carriers, and, as a pilot himself, understands the flyers' viewpoints on plane design as well as the engineering theory.

Renegotiation of '42 Contracts Near End

War Dept. expects to complete job on 17,800 orders by Feb. 1.

The War Department will have completed renegotiation of substantially all 1942 war contracts subject to renegotiation by the end of January, Under-Secretary of War Patterson discloses. As of Dec. 11, there had been 17,800 contracts assigned to the War Department for renegotiation.

As of the same date, the War Department had completed renegotiation with 14,350 contractors, representing more than 80 percent of its cases, and had started renegotiation in nearly all remaining cases. Renegotiation agreements have been concluded with practically all the largest war contractors and, it is estimated, cover about 90 percent of the dollar volume of 1942 war contracts subject to renegotiation. Clearances, requiring no refund of excess profits or price adjustments, have been granted in around 60 percent of the completed cases.

► **Work Progressing**—Patterson said that, while renegotiation was slow in getting under way because of the necessity for assembling competent personnel and for formulating policies, principles and procedure, the work in recent months has been progressing at a satisfactory rate.

"In the case of most companies making adjustments as the result of renegotiation," Patterson said, "excessive profits realized or likely to be realized developed because neither the contractor nor the contracting officer was able to estimate accurately in advance the cost of new products as well as of standard products required in unprecedented volume.

► **Contingencies**—"Even now," he added, "after two years of war, many contractors feel that it is necessary in making new contracts to provide for contingencies which often will not occur, such as wage

increases and work stoppages.

"Furthermore, the departmental contracting officers dealing only with the prime contractors usually have no control over prices charged by subcontractors. With respect to

standard commercial articles, contractors are in many cases insistent on maintaining their normal, peacetime prices, which often results in the realization of excessive profits or greatly expanded volume."

FEDERAL DIGEST

Increasing Surplus of War Metals Presents Problem for A. H. Bunker

New WPB vice chairman to assume direction of principal metal and mineral bureaus; summary of activities in U. S. agencies.

New and important problems arising from the growing surplus in many metals beyond direct and indirect military needs will confront Arthur H. Bunker, new vice chairman for Metals and Minerals of the War Production Board. Creation of this position by WPB Chairman Donald M. Nelson completes the reorganization of the former Office of Operations vice chairman.

Bunker will assume the direction of the Steel, Copper, Aluminum and Magnesium Bureaus, the Minerals Bureau, and the Minerals Resources Coordinating Division and its related committees. He has been director of the Aluminum and Magnesium Division of WPB. Before becoming associated with war production, he was executive vice-president of Lehman Corp.

► **Priorities Regulation No. 13**, which has been revised, does not affect aircraft inventory transfers or special sales in the petroleum industry, WPB announced. This regulation, governing special sales of idle and excess materials, was revised in order that all regulations issued prior to Dec. 22 shall have no effect on redistribution of such materials. Outside the exceptions stated above, there is no need to refer to any order or regulation other than Priorities Regulation No. 13, to find the rules governing a special sale of idle or excess materials. Aircraft inventory transfers are controlled by Directive No. 16 and special sales in the petroleum industry by Order P-98-c.

► **Aeroquip Corp.**, which manufactures self-sealing couplings, hose lines and fittings for aircraft engines at a plant in Jackson, Mich., has executed a contract with Defense Plant Corp. amounting to \$100,000. This will provide equipment and machinery. Aeroquip Corp. will operate these facilities, title remaining with DPC.

► **OPA** announces that premium

ceiling prices for aircraft-grade hemlock logs are being discontinued. The present balanced supply position of aircraft lumber, OPA says, no longer requires the selection and segregation of these logs, which have been strictly allocated by WPB. It is expected that requirements for aircraft lumber can now be met by Sitka spruce and Noble fir, which removes the necessity for premium prices on hemlock logs for aircraft.

► **Aviation Gas Plants**—Within the last three months, 11 more 100-octane aviation gasoline plants have been completed, according to the Petroleum Administration for War. These plants are already in production, PAW announced, and bring the

total of completed major 100-octane projects to 34. It is expected that 38 additional plants, now building, will be completed the early part of this year.

► **NLRB Election**—National Labor Relations Board ordered that an election be held within 30 days of Dec. 16, so that sheet metal maintenance workers in Dept. 706 of Douglas Aircraft's plant in Oklahoma City may vote for or against representation by Sheet Metal Workers International Assn.-AFL.

► **Machine Tool Shipments** in November totaled \$71,543,000, a decline of about 8½ percent from the October total of \$78,312,000, according to the WPB Tools Division.

► **War Manpower Commission** announced that regardless of any priorities set up in local employment stabilization plans, all honorably discharged members of the armed forces—both men and women—will be helped to find jobs to their liking.

► **Children's Bureau**—A list of jobs considered too hazardous for 16- and 17-year-old workers has been sent to aircraft plants by the Children's Bureau, U. S. Dept. of Labor. Aircraft plants in general were congratulated by Katherine F. Lenroot, chief of the Bureau, for their leadership in seeking safe employment for these 'teen-agers, and also in working out part-time work and school programs.

The Bureau's recommendations



REVEALS AIR EXPRESS RECORDS:

Transportation of 28,000,000 pounds of air express by the nation's airlines during the first eight months of 1943 was reported by George Licktiege (right), air division manager for Railway Express Agency in eleven western states, at an air traffic conference for Western Air Lines executives in Los Angeles. Total air express volume for 1942, he said, was 22,000,000 pounds. Licktiege said the nation's air carriers received a return of \$7,-260,000 from a gross revenue of \$9,600,000 created by air express shipments in 1942. With him is Ray Grant, Western's air cargo manager.

ORDERS... without interference!

Orders coming through! Clearly. Distinctly. Thanks to the magic of modern aircraft radio reception, the vital lines of communication are maintained without interference... maintained between flight commander, plane crews, and ground bases.

- How has the chief source of such interference—high tension currents in ignition systems—been eliminated? The answer is simple. *By shielding the ignition cables with TITEFLEX RADIO SHIELDED IGNITION HARNESSES.*

- The Titeflex ignition harness has proved the efficiency and dependability of Titeflex metal tubing by actual performance. Today

it is standard equipment on the majority of Uncle Sam's war birds.

- But, Titeflex will not be content with this leadership. Our research staff is constantly working to improve Titeflex products. Titeflex will be ready to meet the demand for flexible tubing of even wider application in the post-war planes of tomorrow. You are invited to consult our engineering staff on any problems you may now have or anticipate in post-war planning.

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were prepared at the request of an airplane manufacturer and were worked out with a technical advisory committee composed of representatives from aircraft manufacturers and the unions. Entitled "Advisory Standards of the Aircraft Industry," the brochure is obtainable from the Children's Bureau in Washington.

► **Manpower**—An untapped pool of 31,000,000 part-time workers is available to alleviate manpower shortages, according to War Manpower Commissioner Paul V. McNutt. Three groups making up this potential total are: 1) 8,000,000 students over 14 years of age, many of whom are able to carry a part-time job in addition to their school work; 2) More than 5,000,000 non-working women between the ages of 20 and 55 years, who are without children; 3) Almost 18,000,000 workers in trade, service and government, some of whom are able to work a few additional hours a day on a second job.



AMERICAN AIRLINES' SURVEY CREW HONORED:

An American Airlines crew, which took part in an initial survey flight from Newfoundland to North Africa, has received the Air Medal in what American says is the first instance of the honor going to the entire crew of a contract carrier. Left to right are Maj. Gen. H. L. George, commanding general of the Air Transport Command, who made the presentation; John F. Davidson, crew captain and pilot; M. G. Beard, flight engineer; G. W. Smith, radio officer, and J. E. Brown, navigator and second officer. James B. Hay, fifth member of the crew, was on duty in South America when the medals were presented.

Philadelphia Airport Shut as War Measure

CAB issues order suspending service by five airlines.

By BARBARA FREDERICK

The City of Philadelphia, third largest in the country, has found itself suddenly cut off from transportation by air. An order issued by the Civil Aeronautics Board authorized the temporary suspension of service to that city by American Airlines, Eastern Air Lines, Transcontinental & Western Air, United Air Lines and All American Aviation.

Puzzled and enraged citizens of Philadelphia protested and asked why. Unfortunately, military secrecy would not permit the disclosure of the reason for suspension of service, other than to indicate that it was for reasons of safety.

► **No Protest By Airlines**—Civil Aeronautics Administration authorities were prompt to point out that this "safety" factor had nothing to do with the \$12,000,000 Municipal Airport, itself.

Contrary to reports in some Philadelphia newspapers, the airlines themselves did not protest the suspension order. They had, in fact, notified the Board two days earlier of their intention to discontinue service at Philadelphia on this date.

► **New Field Prepared**—Resumption of commercial air service to the city could not be foreseen earlier than from four to six months hence, the

estimated time necessary to complete the Northeast Philadelphia Airport at Torresdale, now under construction. The field is said to have been leveled off and three runways partly constructed.

It is expected that American and Eastern will use Baltimore as an alternative, that TWA will use Reading, and United, Allentown. Limousine service between these towns and downtown Philadelphia probably will be supplied.

► **Camden Airport Out**—Camden Airport, which has been suggested by some as a possible substitute, was

cited as unsafe for commercial operations some time ago by the CAB, although the Navy is using it as a Primary Training Base. NATS planes that have been using the Philadelphia airport plan to use the one at Willow Grove, Pa. ATC has not yet announced its plans.

Prior to suspension of service, 32 flights daily were scheduled at the Municipal Airport, serving about 100 passengers a day, about half of whom were priority passengers. According to Howard M. Shafer, airport manager, a skeleton staff will be maintained at the airport.



TCA HOLDS ANNUAL TRAFFIC CONFERENCE:

District and city traffic managers of Trans-Canada Air Lines met in Winnipeg for their annual traffic conference. The group included (front row, left to right), S. L. Blowes, Windsor; J. T. Moore, Calgary; W. R. Campbell, Ottawa; R. E. Deyman, Toronto; W. J. Dalby, Winnipeg; W. G. Courtney, Toronto; Miss E. H. Coxon and Miss I. R. Ledingham, Winnipeg; G. R. Wilson, Montreal; (back row, left to right), D. S. McLeod, Edmonton; J. J. Robinson, Vancouver, B. C.; Bruce Hay, Winnipeg; V. H. Fulcher, Winnipeg; S. S. Sime, Halifax, N. S.; H. Harling, Winnipeg; and Harper McNeill, New York.

NAM Urges Equal Access to All In Use of International Bases

Post-war program on foreign trade outlined by manufacturers group in 95-page report on domestic, foreign issues.

National Association of Manufacturers has joined the ranks of advocates of equal access by all nations to airports used in international traffic. The Association's stand was outlined in a 95-page report on domestic and international aviation issues.

Drafted by a post-war committee and approved by the Association's board, the document favored "competition in post-war air transport, under proper safety and traffic regulations, and certificates of public necessity and convenience."

► **Equal Treatment**—The report stressed that equal access to airports in international traffic and equal treatment for shipping in international commerce were important factors in post-war policy, if discrimination against American interests in foreign trade is to be prevented and economic rivalries are to be kept from developing the seeds of another world war.

Both subjects, the Association suggested, are suitable for postwar cooperation through international bodies. Such organizations as the International Labor Office and International Red Cross, the report said, involve no surrender of national sovereignty because they are based on voluntary agreements from which withdrawal may be made. The report said all nations should be allowed to join in deliberations on international air and sea shipping, with nonparticipating nations barred from the rights of the participants.

► **Post-war Agreement**—As an insurance of the "freedom of the air" principle, the NAM suggested that any system of progressive cancellation of lend-lease balances due this country be conditioned on recognition of this tenet. Emphasis was made that the "freedom of the air" principle, however, would not affect a nation's right to limit domestic transportation to planes and ships of its own nationality.

In line with its traditional views, the Association favored competition in post-war air transport in preference to a single American air line in the international field. Subsidies in international transport or export trade were opposed, unless necessary to national defense.

Lea Bill

Latest date on which proponents of the Lea Bill (HR 3420) to revise the Civil Aeronautics Act expect it to reach a vote in the House of Representatives is sometime between Jan. 15 and Feb. 1.

Representative Lea is reported to have urged that the House Rules Committee, in which the bill rested when Congress adjourned over the holidays, bring it to the floor by the earlier date.

WTS Chief to Speak

R. McLean Stewart, executive director of training for the War Training Service, will address the annual meeting of the Association of American Colleges in Cincinnati, which will be held Jan. 12-14. He will discuss aviation training in colleges and universities.

Wilson Sees Greater War Effort Ahead

A warning against any undue optimism over an early opening up of general civilian production has been made by Charles E. Wilson, WPB executive vice-chairman, who said a bigger job lies ahead for the War Production Board in 1944 "than even the miracle which was accomplished in 1943."

Wilson agreed with the forecast of General Eisenhower that the war with Germany would end in 1944, but emphasized that neither the War Production Board nor military leaders could safely count on a quick collapse of Germany.

► **New Phase**—He added that just as the war is entering a new phase, so is the work of WPB, and stressed that, while there would be numerous cutbacks this year, in the overall picture, for every line of production that eases up, another will expand.

"There is no alternative," Wilson said. "We simply must meet the demands of the military—and they'll be much bigger than those

of 1943, just as the offensives of the United Nations will be bigger. . . ."

► **Perspective**—He outlined the perspective of the War Production Board like this: 1. Direct war needs—shooting stuff—comes first; 2. Next most important is to provide for bed-rock civilian needs to maintain health, sanitation and transportation, enabling war workers to do their work at a peak of efficiency; 3. WPB will strive to produce as many more needed civilian items as can be made without interfering with war production.

Canada Route Filings Unfrozen

In a memorandum to all air carriers, issued last week, the Civil Aeronautics Board unfroze certain applications for air service between the U. S. and Canada. It has decided to proceed with applications immediately of American, Colonial, Pennsylvania-Central and United.

Following a prehearing conference on Colonial Airlines' application for a route from New York City to Massena, N. Y., at which public counsel and counsel for other airlines claimed that the proposed service was, in effect Canadian-U. S. service, as Colonial also has an application on file for service between Massena and Ottawa, an opinion from the board was asked.

► **Hearings Restored**—After a suspension of hearing on all applications shortly after Pearl Harbor, the CAB has been gradually restoring certain ones to the calendar. Largest step in this direction was the release last September of applications for the Caribbean, Central and South America and Mexican area, on which a prehearing conference was held in Washington over a month ago.

C. & S. Mail Rate Set

For the first time in its history, Civil Aeronautics Board has made final a "show cause" order without going through the further detail of writing an opinion on a case.

Mail compensation rate for Chicago and Southern Airlines was set by the Board at 0.3 mill per pound mile on an airport-to-airport basis. The show cause order, issued last February, when most of the other air carriers received similar orders, was at first opposed by Chicago and Southern, and went through the usual procedures.

► **Objections Withdrawn**—Recently,

the airline withdrew its objections to the mail rate reduction, and as the petition of the American Newspaper Publishers Association to intervene because of a misconception of a CAB statement about advertising also was withdrawn, there were no further objections pending in the case. To expedite matters, the CAB made the show cause order final.

By this order, Chicago and Southern's mail pay is reduced by approximately \$370,000.

U. S. Air Imports

Air imports into the United States during 1943—"a very vital and important part of our requirements"—amounted to nearly six percent of the value of imported ship cargoes, according to Donald M. Nelson, War Production Board chairman.

The air movement was about 41 million pounds with a value of \$116,209,000, or 5.83 percent of the total value of ocean cargo. Value of the average air-shipped unit was \$2.85 a pound, or 81 times the 3½ cents per pound for ship cargo. The total air shipments imported were .072 percent of the 25,150,000 long-ton volume carried by water.

► **Valuation**—Nelson said "it might be said that during 1943 a unit of air cargo was 1,381 times smaller, 81 times as valuable, about 20 times as safe and moved more than six times as fast as cargo on ocean vessels."

He pointed out that for each long ton carried to the United States by sea, 1.67 pounds moved by air, a figure higher than estimates early in the year that air cargo would compare with ship cargo pound for ton.

Paper Work Eased For Private Flyers

Pilots flying outside vital defense areas have been relieved of irksome paper work, the Civil Aeronautics Administration reports, as the result of Civil Aeronautics Board enactment of regulation amendments proposed by the CAA and approved by military officials.

No longer need the pilot on such a flight file information on the proposed flight and obtain clearance for it. The CAA says recording by airport authorities of takeoffs and landings will be considered sufficient protection. All aircraft owners and pilots already have been investigated and certificated for loyalty by the CAA.

Laister-Kauffmann And Bowlus Merge

Aircraft Firm acquires sailplane company through exchange of stock.

Laister-Kauffmann Aircraft Corp., St. Louis, and Bowlus Sailplanes, Inc., Los Angeles, have merged with an exchange of stock by which Laister-Kauffmann acquires ownership of jigs and dies of Bowlus one-, two-, eight- and 15-place gliders.

The Bowlus company has not been in production for several months. It was organized in 1939 to take over the glider business of Hawley Bowlus. Bowlus, who withdrew from the company more than a year ago, now is chief engineer of General Airborne Transport Corp.

► **Notables on Board**—The directorate of Bowlus Sailplanes is a blue-book of the West Coast aircraft industry. On the board are Donald W. Douglas, Reuben Fleet, Carl Squier, Tom Wolfe, Dwight Whiting, and Col. Edward S. Evans. Stockholders include John K. Northrop, president of Northrop Aircraft Corp., Robert Gross, president of TWA and Ronald Burla, North American Aviation.

Laister-Kauffmann Corp.'s major current project is a thirty-place cargo glider. The company also is said to have taken over the completion in St. Louis of Waco CG-4A Gliders nearly completed in Los Angeles when the government canceled Timm Aircraft Corp.'s glider building contract.

Plane Engine Design Topic for SAE Meet

Design details of wartime and post-war aircraft engines will feature the discussions at the 1944 war engineering-annual meeting of the Society of Automotive Engineers in Detroit, Jan. 10 to 14.

John A. C. Warner, SAE general

Sailplane Record

Soaring Society of America announces certification of a new American altitude record for sailplanes, set last July by Shelley Charles, Eastern Air Lines pilot. The record of 19,434 feet above point of release bettered by 2,000 feet the previous record held by Robert Stanley, Bell Aircraft Corp. pilot.

manager, said the SAE aircraft and aircraft-engine activities would sponsor seven of the program's 22 technical sessions on engineering phases of war production and use of aircraft, with previews of problems developing in the field of post-war civilian flying.

► **Program**—Aircraft engine sessions are scheduled to consider synthetic rubber applications, fastening methods, porting, cylinder design, power-plant testing and cooling. Subjects to come before the aircraft sessions include bomber design details, production design changes, trans-oceanic air cargo developments, mechanical characteristics of aircraft steels, and all-weather operations.

Joint sessions will be held on structural flight research and experimental flight testing. A special session will be devoted to post-war civilian flying and to privately owned planes.

Maj. Gen. G. M. Barnes, Army Ordnance Dept., will speak at the SAE war engineering dinner on Jan. 12. Other speakers will include SAE president-elect W. S. James, of Studebaker Corp., and SAE retiring president Mac Short, of Vega Aircraft, now a part of Lockheed. Past president A. T. Colwell, of Thompson products, will be toastmaster.

NRLB Denies Raise To Brewster Workers

Plant guards awarded weekly bonus of 10 percent.

National War Labor Board has denied a joint request by Brewster Aeronautical Corp. and United Automobile Workers, CIO, for a general wage increase of two cents an hour for employees at the company's Long Island City, N. Y., plant.

The company and union based their request for the increase for production workers on an allegation of a hardship worked as a result of Executive Order 9240 which forbids payment of time and a half or double time for Saturday or Sunday work unless such work is on the sixth or seventh day of continuous work week and also limits the number of holidays for which premium can be granted to six.

In denying the request for the two cents increase, the WLB, with labor members dissenting, reaffirmed a decision handed down last August. The Board approved a weekly bonus of 10 percent to the plant guards to compensate them for earnings lost as a result of the operation of Executive Order 9240 on overtime.

THE AIR WAR

COMMENTARY

Appointments in India-Burma Area Follow Precedent in Mediterranean

Additional units, such as Aviation Engineers and Photo Reconnaissance, expected to come into picture as operations are stepped up.

A few days ago, Admiral the Lord Louis Mountbatten, exponent of "combined operations," advanced his preparations another notch by merging units of the RAF in India and the U. S. Army Tenth Air Force into a unified air force.

The newly created Eastern Air Command is headed by Air Chief Marshal Sir Richard Peirse, one of the RAF's leading exponents of strategic bombardment. During 1941, Sir Richard was chief of Bomber Command in England and during the first quarter of 1942 was transferred to India when the Nipponese juggernaut was rapidly overrunning Malaya and Burma, and the threat to India appeared very real.

► **Air Objectives in India**—Another air officer who is an enthusiast for the strategic possibilities of the long-range bomber, Maj. Gen. Lewis H. Brereton, reached New Delhi at about the same time, with the same immediate and long-term objectives. The immediate objective—the air defense of India, necessitating a sudden shift from the perennially threatened northwest India with its oft-invaded Khyber Pass, to the northeastern section, with its almost complete absence of airfields. The long-term objective—to transform India into a huge, powerful base for concentrated air bombardment of Japanese industries through forward bases in China.

The immediate threat was removed by Japan's swing to the South Pacific in an attempt to cut off Australia as the On-to-Tokyo springboard. Nearly two years later the increased strength of the RAF and the long-term objective, with India and the U. S. Tenth and Fourteenth Air Forces, looms on the horizon.

► **American Units**—Deputy Commander of the EAC is Maj. Gen. George E. Stratemeyer, who was

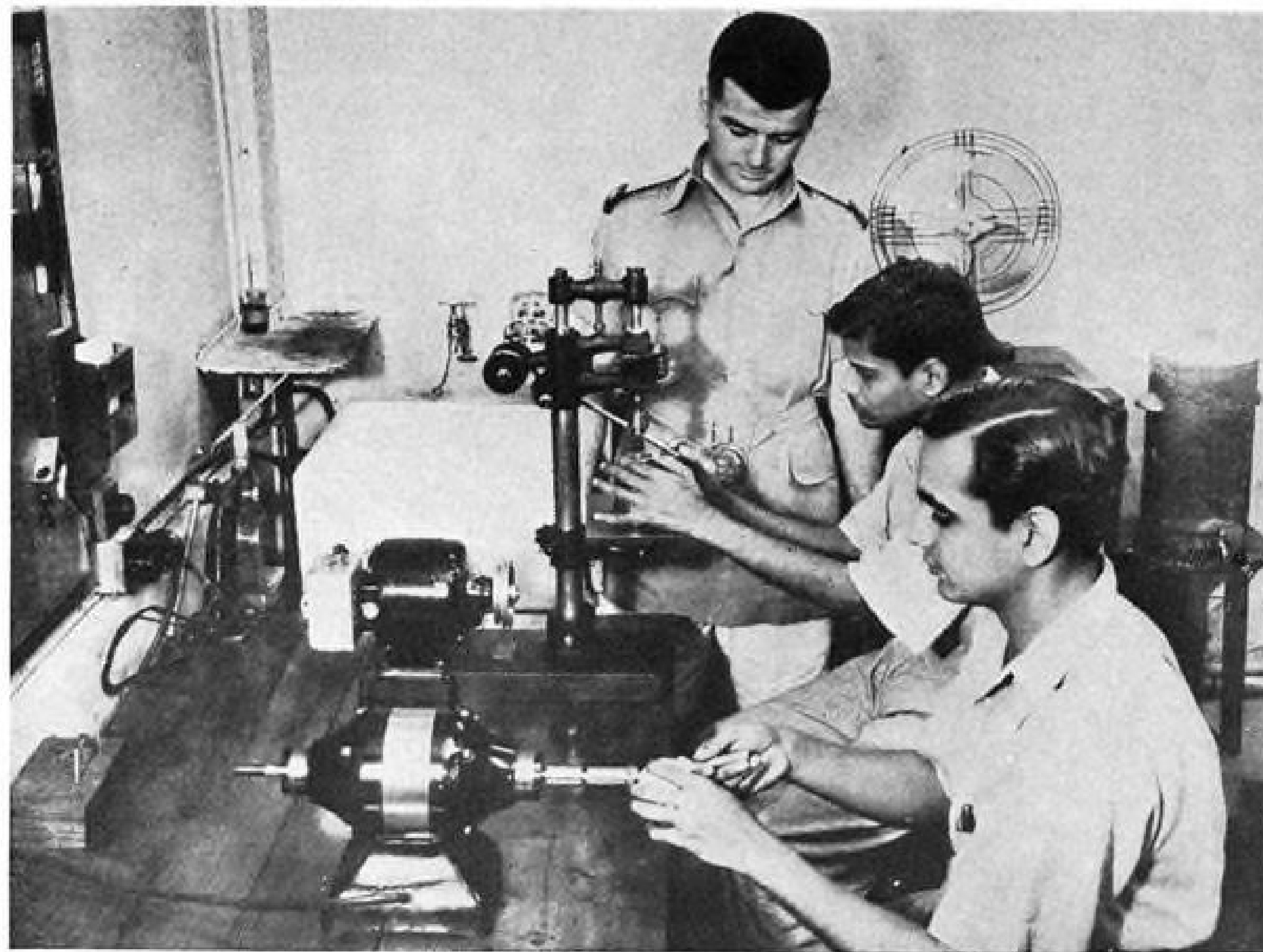
chief of Training and Operations (A-3) at the time of Pearl Harbor, and later Chief of the Air Staff until his transfer to India after the Quebec Conference.

Following the highly successful air organization developed last spring in the Northwest African Air Forces, the main striking air forces were the Strategic and Tactical. The Tenth Air Force, under Brig. Gen. Howard C. Davidson, who was commander of the Fourteenth Pursuit Wing, Wheeler Field, T.H., in 1941-42, becomes the Strategic Air Force in the new Eastern Air Command, for long-range pounding of enemy installations, ports and communica-

tions. Equipment includes *Liberators* and *Mitchells*, *Wellingtons* and *Halifaxes*, and their fighter escort, with occasional use of fighter-bombers.

► **Tactical Air Force**—Air Marshal Sir John Baldwin, who has been leader of the RAF Bengal Command, will head the Tactical Air Force, for close cooperation with ground forces in the coming Burma campaign. These appointments closely follow the Mediterranean set-up, as will be seen from the following comparison: Air Marshal Baldwin corresponds to Air Marshal Coningham of the Tactical Air Force of the NAAF; Gen. Davidson to Gen. Doolittle of the Strategic Air Force; Gen. Stratemeyer to Gen. Spaatz, overall air deputy; and Air Chief Marshal Peirse to Air Chief Marshal Tedder, air commander under Gen. Eisenhower, who as commander-in-chief of the theater as a whole may be compared with Admiral Mountbatten. Here, if anywhere, is a pattern for victory.

► **Other Units**—For complete air operations, certain highly essential non-combat outfits were organized in the North African campaign. These included the Aviation Engineers to keep airfields one jump ahead of the Tactical Air Force; Photo Reconnaissance unit to supply up-to-the-minute air intelligence as to enemy positions, bombing objectives and results; Air Service unit



SPERRY IN INDIA:

Paul Cullen, standing, Sperry Gyroscope Co. service engineer, set up a shop in Bangalore, India, to overhaul flight instruments on Allied planes in that war theater. Cullen reported his Indian technicians were capable and eager to learn the highly technical job of plane instrument repair.



Attack on Ploesti

August 2nd, 1943. In the early dawn of that day, 177 *Liberators* took off from a newly-won airfield in North Africa. Target: the oil refineries of Ploesti, Rumania. Distance: round trip, 2000 miles. Ploesti was pouring into Germany fuel for its war machine. To knock it out would cut a vital artery of the enemy.

Knocked out it was! Even though our bombers had to fight their way over hundreds of miles of enemy territory. Even though they had to go through murderous ground fire—coming in as low as 100 feet to make sure of each target assigned. Meticulous preparation, distance flown, defenses penetrated, results

achieved, marked the attack on Ploesti as one of the epic flights of the war.

Skill in flying by instruments is a vital part of the training which makes such perilous flying missions successful. All our pilots receive instruction in the Link Trainer, which is used to teach not only instrument flying, but also navigation and bombing. This training adds weight to the air offensive, conserves lives and planes.

Aviation looks to Link for creative engineering, for high standards of manufacture. Look for the name LINK on precision products after the war is won. LINK AVIATION DEVICES, INC., Binghamton, N. Y. —Link Trainers, Aviation Sextants, Collimators and other products contributing to the safety of flight.





CAP REUNION:

Col. Earle L. Johnson (center), National Commander of the Civil Air Patrol, and John Dammeyer (left), and Capt. Bob Anderson, intelligence officer at the Michigan Coastal Patrol base, have a reunion in Detroit. Dammeyer and Anderson are both members of the Duck Club, both having made forced landings in the sea while flying coastal patrol.

to keep 'em flying; and Troop Carrier unit to get 'em there first with the most. As air operations are stepped up in the India-Burma area these additional units may be expected to come into the picture.

According to the original dispatches from New Delhi, such non-combat organizations as the India-China Wing of the Air Transport Command and units of the Air Service Command were not included in the initial set-up of the Eastern Air Command.

—NAVIGATOR

Allies Reassign Top Air Commanders

Tedder, Spaatz, Doolittle, and Eaker given new duties for coming invasion.

Military appointments on the air war fronts last week were headlined by that of Air Marshal Sir Arthur Tedder, who will keep General Dwight Eisenhower's air team together with command of all Allied air powers operating from Britain.

Lieut. Gen. Carl Spaatz was charged with all USAAF strategic bombing of the Continent. Gen. James H. Doolittle, bomber of Japan and head of strategic air forces in the Mediterranean, was moved to command of USAAF operating from Britain, taking charge of the cross-channel air attack.

► **Eaker Gets Mediterranean Post**—Lieut. Gen. Ira C. Eaker, commander of the USA Eighth Air Force, which perfected the daylight precision bombing which laid in ruins many military and productive works in Europe, became commander of all Allied air forces in the Mediterranean.

Commenting on the transfer of General Eaker to the south, some Army spokesman said unofficially that they believed the mainspring of strategic bombing would be in Italy and Mediterranean coast points

Aid to Russia

United States lend-lease shipments of airplanes to Soviet Russia totaled nearly 7,000 up to Oct. 31, 1943, according to a report by Leo T. Crowley, Foreign Economic Administrator. This is more than has been sent under lend-lease to any other area.

Crowley said the stepped-up flow of aid is indicated by the fact that the first ten months of 1943 shipments were 63 percent higher than in the entire year 1942.

Total lend-lease shipments to Russia through the end of October amounted to \$3,550,443,000, of which \$1,991,102,000 were military items, \$964,786,000 industrial materials and \$594,555,000 foodstuffs and agricultural products.

to be captured, because of the milder weather, and because of shorter range to areas still unhit in Germany and Nazi-occupied regions in the east.

► **Twining Commands 15th**—Maj. Gen. Nathan Twining, Commander of Allied Air Forces in the Solomons and of the 13th USA Air Force, South Pacific, all under General MacArthur, moves to command of the newly-organized 15th USA Air Force in the Mediterranean. He reports to General Eaker.

Lieut. Gen. Jacob L. Devers, Commander of all American Army Forces in the European theater, headquarters in England, now heads all U. S. Army Forces in the Mediterranean. He reports to Gen. Sir H. M. Wilson, new Allied Commander in that theater, Gen. Eaker reports to Devers.

At midweek, the successor to command of the 13th USA Air Force in the South Pacific had not been named.

Cessna Converting To Parts Output

Company's 1943 financial statement tells of changes in production and profit of \$2,208,414.

Dwane L. Wallace, president of Cessna Aircraft Co., has disclosed that his company is converting its production facilities to manufacture of component parts for tactical bombers.

This action is particularly significant in view of Wallace's explanation that the need for twin engine training planes which Cessna has been making as well as the need for utility cargo planes is declining and that production of this type of aircraft will be completed in the near future. He said the new work would utilize fully the production facilities of his plants.

► **Financial Report**—Wallace's statement was made in connection with Cessna's financial report for the fiscal year ended Sept. 30, last, which showed a net profit of \$2,208,414 after charges, federal taxes and a reserve of \$831,568 for reconversion. The net profit is subject to renegotiation.

It is equal to \$6.31 a share on 35,000 shares of capital stock and compares with a net profit of \$738,202 or \$2.11 a share in the preceding year which was after reserve of \$1,254,463 for policy adjustments and conversion and a \$4,800,000 for a refund on U. S. government contracts.

AIRCRAFT PRODUCTION

Revision of Wage Rate Schedules Expected in 6 Coast Plane Plants

NWLB orders comprehensive study of work and job evaluations in factories in southern California area.

The complex Southern California aircraft wage problem is undergoing a thorough examination with indications that there will be a revision of wage rate schedules in six companies in that area.

The National War Labor Board has instructed its West Coast Aircraft committee to undertake an over-all study, including necessary hearings and examinations of work in progress, of job valuations and job descriptions of the Southern California Aircraft Industry plan.

► **Wage-Labor Group**—The SCAI, set up specifically to handle wage and labor matters, includes the major companies who are also members of the Aircraft War Production Council. However, the Council organization prohibits any such activity, it being set up simply to make more airplanes quicker—a concentration on war production, excluding other matters, even though of mutual interest.

The War Labor Board has voted to appoint a tripartite panel to hold hearings in Los Angeles shortly, to hear evidence presented by the United Automobile, Aircraft and Agricultural Implement Workers of America, CIO, the International Association of Machinists, AFL, and the National Union, United Aircraft Welders of America, Independent, on their requests for revision of wage rate schedules.

► **Panel to Report**—The panel also will hear the reply to the unions' petition from Consolidated Vultee, Douglas, Lockheed, North American, Northrop and Ryan.

The panel will report to the National Board on the relation of the claims in the petitions to the wage stabilization program and to the stabilization of the general level of wages for the Southern California aircraft industry as directed last March 30. The general wage freeze of that time has been a constant subject of discussion in the industry, and labor circles have indicated from time to time that revisions upward have been considered.

► **Boeing Situation Eased**—A revision upward, approved for Boeing some weeks ago, has been of undoubted aid in easing Boeing's manpower situation and the situation at Boeing has been closely watched by the industry.

Complicating the Southern California problem is the fact that many of the plants have midwestern operations and that it is necessary from time to time to transfer personnel. This involves a different wage structure and any decision made in Southern California is bound to have repercussions not only at midwest plants but at Boeing, which also operates a midwest plant.

► **Petition**—A joint petition was filed with the War Labor Board on Oct. 9, 1943, by the International Association of Machinists, the UAW-CIO and the United Aircraft Welders asking the Board to amend its direc-

tive of March 3, in the West Coast airframe company cases by requiring an over-all study and revision of the SCAI job evaluation plan and an immediate upward revision of the rates assigned to particular labor grades.

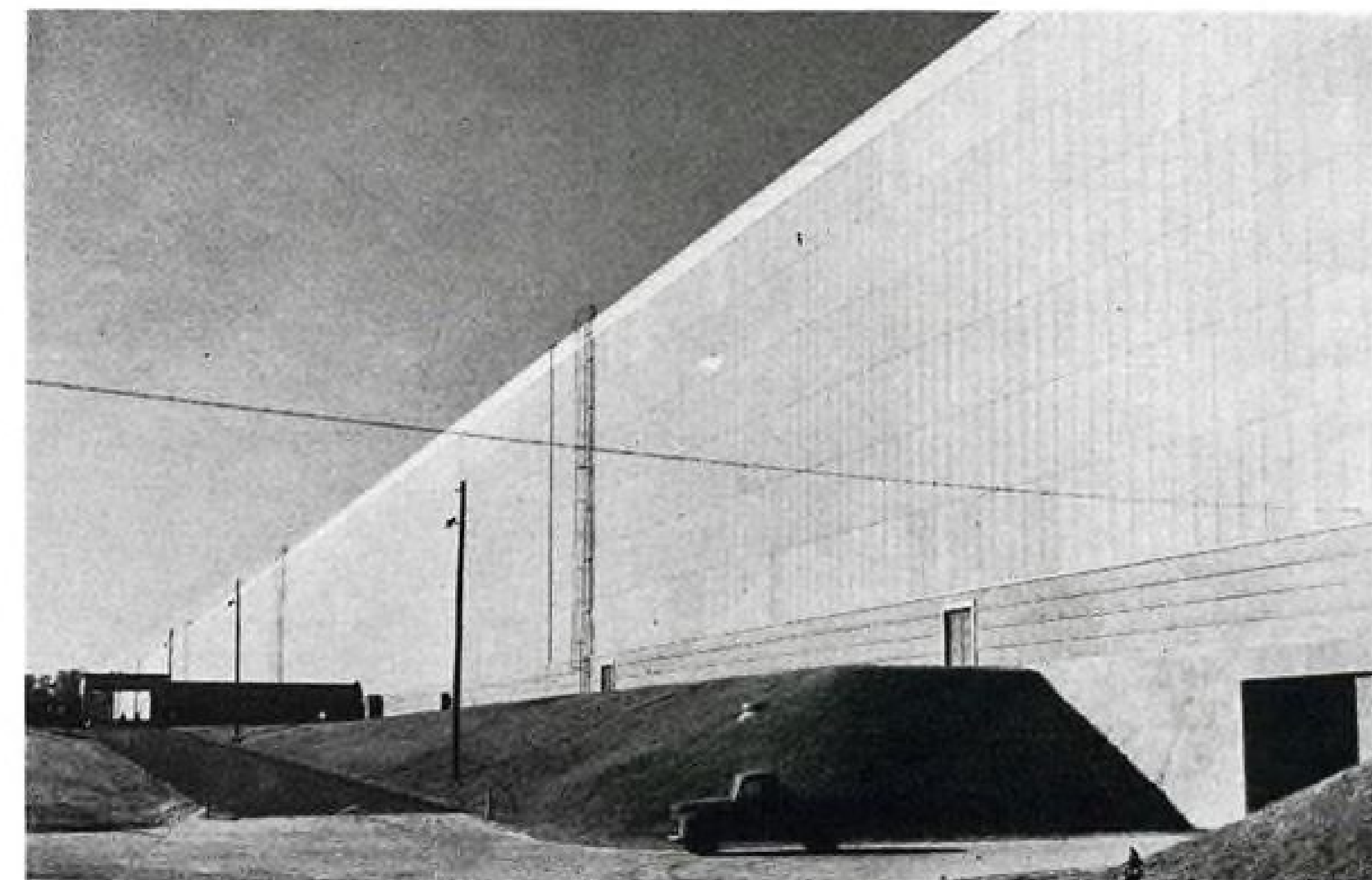
On Dec. 11, after the Machinists petitioned for a strike vote, the UAW and the United Aircraft Welders filed a supplemental petition with the War Labor Board announcing their withdrawal from the Oct. 9 joint petition and reaffirming their no-strike pledge.

► **Adjustments**—Proposed wage adjustments constitute a claim for a general increase in wage schedules which now accompany the SCAI job classification. The petitions seek a minimum hiring-in rate of 80 cents an hour, eliminating the present 60 to 75 cents. Upward revisions are sought in other classifications.

Manpower Problems Analyzed by AWPC

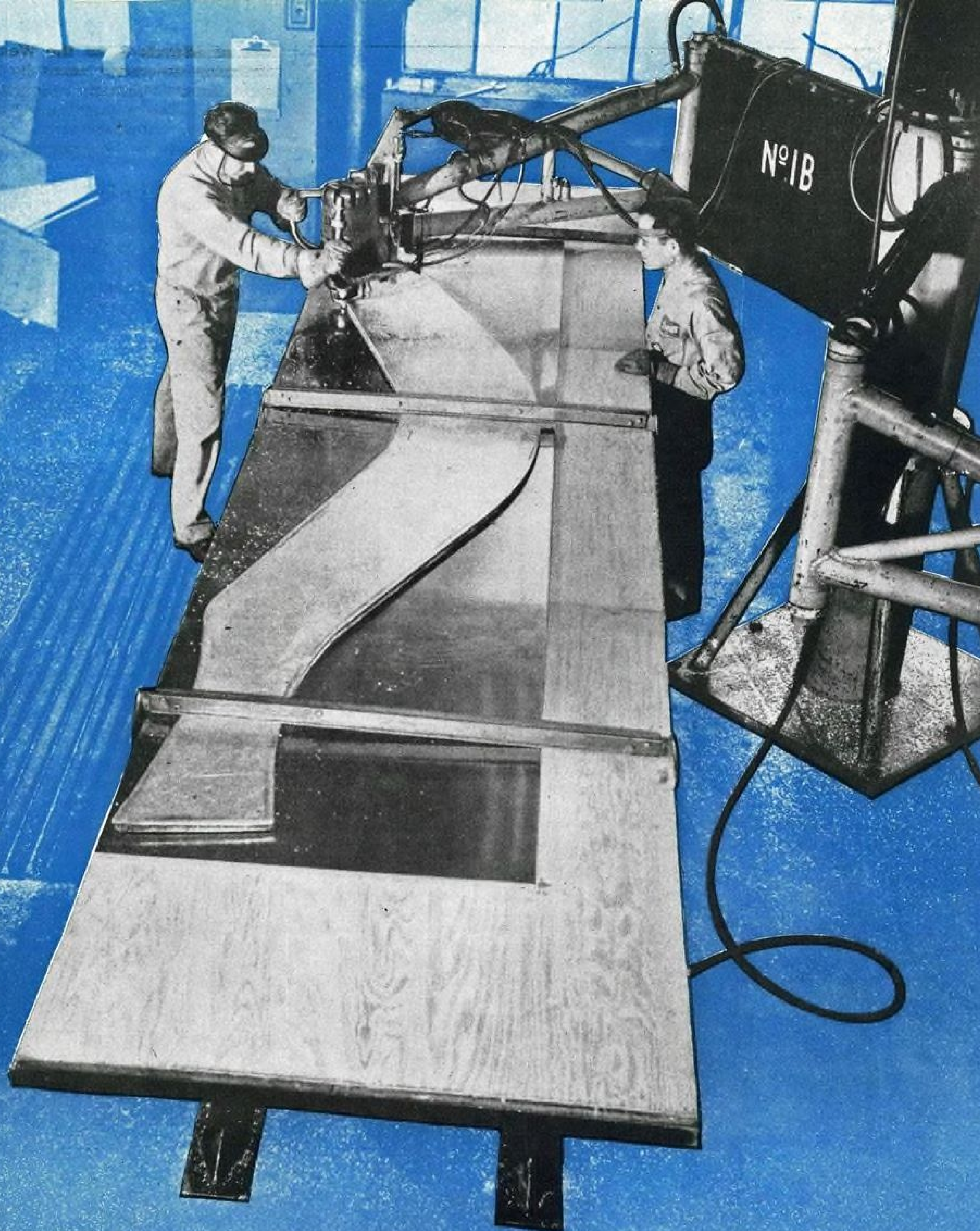
Over 45 percent of men and 39 percent of women leave jobs without working a year, reports show.

Labor turnover, which is still plaguing aircraft production, is pointed up by reports of the Aircraft War Production Council which show that of all the workers who quit their jobs in one month on the



SUPER BOMBER PLANT:

First photograph of the Bell Aircraft bomber plant near Marietta, Ga., which has been cleared for national magazines. The truck in the foreground is emerging from a basement entrance. All manufacturing activities are confined to the ground floor and the two mezzanine sections. Basement contains cafeterias, locker rooms, offices, tool cribs and rooms for temperature control and air compressing machines.



SO YOU CAN SAVE MANPOWER
REYNOLDS OFFERS A COMPLETE SERVICE ON
**FABRICATED
PLANE PARTS . . .**

BIGGEST WORRY of war manufacturers today is the problem of getting enough good help. In the airplane industry this situation is particularly acute. It would be worse, except for the fact that Reynolds is saving thousands of man-hours of airplane labor by supplying completely finished parts to *every* leading manufacturer of fighting planes.

Simple and obvious as this service seems today, it has been available for only three years. Reynolds pioneered it . . . built the organization needed to deliver it . . . was the *first* aluminum manufacturer to supply finished plane parts from aluminum sheet.

Every production man knows that the savings are substantial. Besides conserving scarce manpower and valuable floor space at the airplane plant, the Reynolds plan does away with needless handling and cross-shipping of scrap, averaging 30% of every sheet. And this scrap gets back into useful aluminum in three days instead of three months!

The Reynolds organization, now operating 40 plants in 14 states, has been built by this kind of progressive, co-operative thinking and planning. Reynolds men are constantly searching for new ways to make aluminum better, and make it easier and cheaper to use. If you have a problem of *any kind* in working with aluminum, you will find Reynolds has the resources, equipment, and engineering skill to help you solve it in the most practical way. Reynolds Metals Company, Louisville, Ky.



ALUMINUM SHEET of every type is available now at Reynolds, ready for quick fabrication into finished plane parts of any size and type. Save your own manpower and floor space for the final vital job of quick assembly.

REYNOLDS

THE GREAT NEW SOURCE OF

ALUMINUM

INGOT • SHEET • EXTRUSIONS • WIRE • ROD • BAR • FORGINGS • TUBING • FOIL • POWDER

West Coast, 3.95 percent of the women and 3.68 percent of the men work 15 days or less.

In addition, 6.19 percent of the women and 6.86 percent of the men turned in their badges without working 30 days. At the end of three months, 4.99 percent of the women and 5.45 percent of the men had left their jobs. Other indexes show 45.51 percent of the women and 39.49 percent of the men left their jobs without working a full year.

► **Summary**—After one year at the above rates, approximately 85 percent of the total number hired for that year went away from production lines, and surveys indicate that they did not go to other aircraft plants in any appreciable numbers.

Of all the new hires, the Council reported, less than 6 percent ever had previous airplane building experience, proving pretty conclusively that the workers just don't shift from one aircraft plant to another and back again.

► **Lose 17,000 a Month**—Council companies on the Pacific Coast still are losing about 17,000 workers a month through turnover. In addition to loss of man-hours and money spent on training and hiring this many workers, the council points out that the workers not only take out the talent and skill they can put into building airplanes, but they also take with them the time and energy and effort of large numbers of trained men and women who

~~must remain in a classroom constantly teaching new people how to do jobs that have to be filled time and again.~~

Convair 1943 Output Over 126,000,000 lbs.

Nearly 2½ times 1942 production, Chairman Tom Girdler reports.

Consolidated Vultee Aircraft Corp. produced well over 126 million pounds of airplanes in 1943, Tom M. Girdler, chairman, has reported, nearly two and one half times the 1942 output of 53 million pounds of airplanes.

Girdler, in a summary in the current issue of *Plane Talk*, company magazine, points out that the number of planes the company is building cannot be disclosed, but that the comparison of the weight of production is significant of the tremendous increase made during the last year.

► **Employee Output Spurts**—"In our San Diego plant, in the first month of the war, the average employee produced 24 pounds of airplane," Girdler said. "By October of 1943, he was producing 155 pounds per month. His efficiency had been multiplied over six times."

Girdler said that, compared with national averages for heavy bomber output, production figures for

Consolidated Vultee were even more striking. He cited the practice of the War Production Board which compiles comparisons for all aircraft plants in terms of pounds of planes produced per man per day.

► **National Average**—It reported a national daily average of 4.8 pounds of planes per man, for the three months ending October, in all plants producing heavy bombers. The figure for Consolidated Vultee's San Diego plant, Girdler said, was almost twice as high, since the WPB report put it at 8.3 pounds.

"The result is that man-hours needed at San Diego to produce *Liberators* have decreased constantly," Girdler said. "We are now producing 14 *Liberators* for the same direct labor that built only one three years ago."

► **Pre-Pearl Harbor Figures**—Girdler pointed out that some people still have an idea that America's aircraft industry was a backward institution up until the time of Pearl Harbor.

"Nothing could be farther from the truth," Girdler said and cited the fact that Consolidated already had in production two planes which were to prove among the mainstays of the air forces.

Girdler said more than 100,000 men and women are now working in the 13 divisions of Consolidated Vultee.

Plant in Production On Huge Army Glider

Northwestern Aeronautical Corp. output expected to reach peak in 1944.

Northwestern Aeronautical Corp., which recently tested the largest Waco glider ever built for the Army Air Forces, now has this craft in full production at its Twin Cities plant, and John Parker, president, said output would reach peak in 1944.

The new craft, described as a tactical transport, is an elaboration of the basic plans in the construction of the troop transport glider successfully used in the Mediterranean theater.

► **Long-Range Operations**—As a result of the experience acquired through war operations, the glider production program for the future calls for aircraft designed and built for long-range operations rather than for those abandoned after one flight. In line with this program, the new gliders are equipped with a landing wheel assembly as well as skids.

Originally, the smaller-type glid-

ers were equipped with wheels which were dropped off after the takeoff, and landings were made in a small space by using skids. The wheels, however, provide protection for the craft and keep it in condition for further use.

Gabriel Co. Buys Int'l Metal Hose

Gabriel Co., Cleveland, manufacturers of shock absorbers and hydraulic equipment, has purchased all machinery, equipment, inventory, patents and good will of International Metal Hose Co., manufacturer of flexible metal tubings and gas-line hose couplings.

William H. Miller will continue as general manager of the hose company, John H. Briggs, president of Gabriel, announced. New executive vice-president of Gabriel is L. W. Klein, vice-president and sales manager for many years.

War Dept. Names 2 To Adjustment Board

Two new appointments to the War Dept. Price Adjustment Board are Lt. Col. Gladding B. Coit and Lt. Col. William C. Harrington. Col. Coit is chief of the renegotiation branch, renegotiation division, Army Service Forces, as well as assistant to the chairman of the board. He is a former vice-president of the Commercial Investment Trust of New York.

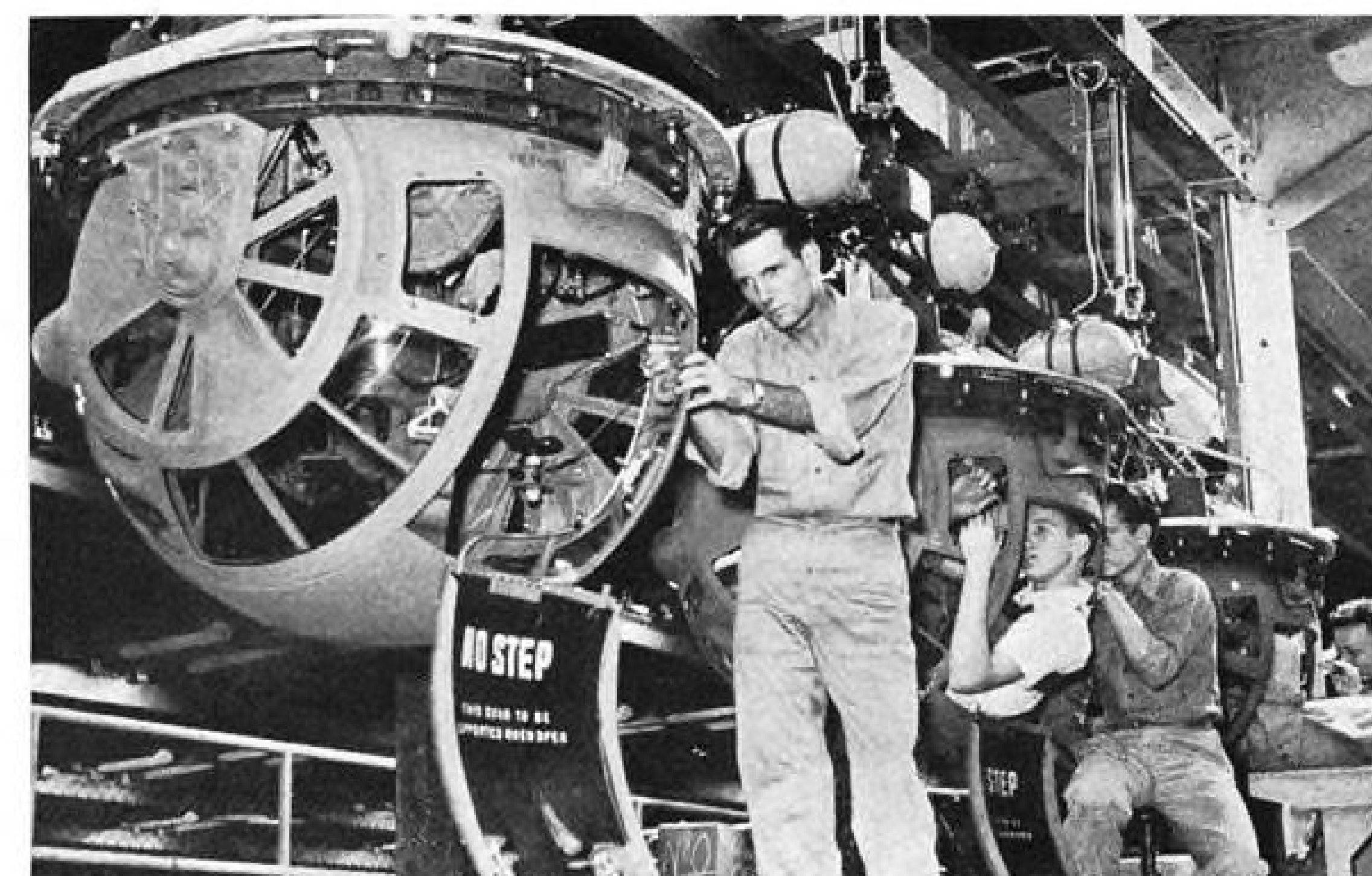
► **Insurance**—Col. Harrington, who in civilian life is part owner of Spratlin, Harrington & Thomas, a general insurance and mortgage banking firm of Atlanta, Ga., is field operations chief of the renegotiation division.

Other members of the War Dept. Price Adjustment Board are Joseph M. Dodge of Detroit, chairman; Maurice Hirsch of Houston, vice-chairman; and Carman G. Blough of Chicago, who represents the War Production Board.

Boeing 1943 Record Above Expectations

December best month in firm's history, Johnson reports.

Quantity production beyond the greatest hopes of two years ago was achieved by Boeing Aircraft Co. in 1943 in the output of *Flying Fort-*



LIBERATOR BALL TURRETS:

Here's a line of turrets which will find their way into the bellies of Consolidated's *Liberator* bombers. These workers are readying them for installation and boresighting of the .50 caliber machine guns.

resses, P. G. Johnson, Boeing president, reports in a review of the year. Johnson lists as highlights:

► 1. December production was the highest in the firm's history for a single month, or 92 percent higher than output in January, 1943, and ten times the production during the month preceding Pearl Harbor.

► 2. *Flying Fortresses* are being built today in approximately one-third the man hours required at the war's outbreak and in only 10 percent of the man hours required to build the first bomber of the firm's initial production contract in prewar days.

► 3. Notwithstanding a 27 percent increase in labor rates since Pearl Harbor and the incorporation of numerous "war necessity changes," *Fortresses* are being delivered to the government today for approximately one-half of the contract price at that time.

► 4. Boeing early this year voluntarily advised the government that on one contract, the established contract price would be reduced by \$120,000,000.

Johnson said the Army's schedule called for delivery of more *Fortresses* each month over the preceding month and added that for a full year, with no increase in manpower, Boeing had met each month's schedule by constantly introducing new production methods and increasing plant efficiency.

► **Manpower Problem**—From May to September, during the height of the manpower problem, Johnson said it was possible only to maintain the production level and that it could

not be increased further without additional manpower.

The situation eased in September, when Boeing's wage rate was revised upward and additional manpower was also obtained through the opening of Boeing branch plants. With the added manpower these developments brought, and through labor utilization plans, the output was accelerated during the last three months of the year until the Army's schedule was overtaken.

► **More Workers Needed**—Johnson noted that, while employment conditions have improved, they have not changed sufficiently to insure meeting the Army's increased demands in 1944 and that workers are needed by Boeing to meet normal replacements in the Seattle plants and to provide for requirements at Renton.

The Renton requirements, he pointed out, will be especially pressing, because full quantity production will be reached there this year on the Boeing B-29 bomber.

Huge Chrysler Plant Ready for Production

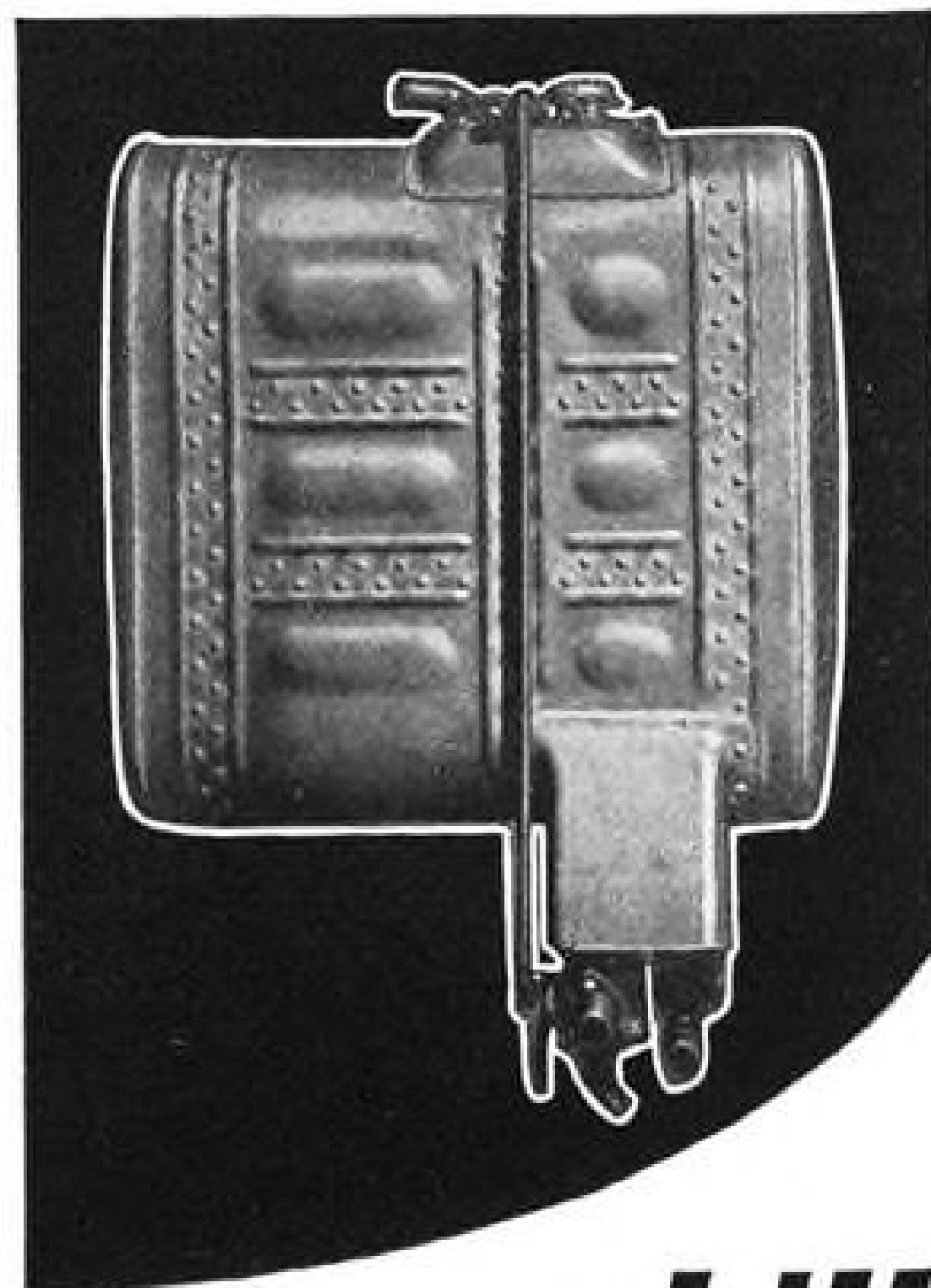
Army has permitted disclosure that the new Chicago aircraft engine plant of the Dodge Division of Chrysler Corp., the nation's biggest war plant, is now ready for full-scale production. It has nineteen buildings.

► **Bigger Than Willow Run**—The giant plant dwarfs other aircraft



GOODYEAR DEVELOPS ICE-GRIP TIRE:

Clem J. Burkley, Tire Design Research Department of Goodyear Tire and Rubber Co., has been awarded the Citation of Individual Production Merit by the WPB for development of an ice-grip tire for military planes engaged in arctic operations. The tires have small springs embedded in them in such a fashion as to cause the points of metal to protrude slightly, slowly wearing down as the tread wears.



skill counts

Much of the work at Mercury is the making of assemblies on which others have failed . . . because Mercury's 24 years of aircraft manufacture has developed the technical skill which can come only from long experience.

speed, too

Speed in tooling, in manufacture and in maintaining stiff delivery schedules is not just a matter of machines and man-hours. Here too, skill counts . . . efficient methods, effective supervision and precision production which meets every requirement, come only from skill based on experience.

aluminum fuel and oil tanks • ailerons, fins, rudders and similar surfaces • aircraft parts and accessories.

AT *The Cradle of Aviation*



facilities as evidenced by the fact that Willow Run could be set down in the main building with enough room left to lay out 20 baseball diamonds. The main building, the machinery-assembly unit, covers 82 acres and has 3,900,000 square feet of floor space.

The plant has not been idle, awaiting completion, for machine shops have been turning out parts for Wright's 2,200 hp. engine for some time.

► **Employs 25,000**—Even the energy of airplane engines on testing blocks does not go to waste. The propeller shafts are connected to generators that will produce current capable of operating half the plant, according to engineering officials. It employs more than 25,000 persons on full-scale production.

Auto Plants Make 41% Plane Materials

Output rises from pre-Pearl Harbor rate of 400 million to 4.3 billion annually.

Production of aircraft material accounts for 41 percent of total war output of the automotive industry.

In the two years since Pearl Harbor, the Automotive Council for War Production reports, the industry's output of bombers and fighters has constantly increased and, measured in dollar volume, rose from \$400,000,000 pre-Pearl Harbor annual production rate to \$4,300,000,000, in December, 1943.



BOMBSIGHTS PHOTOGRAPHED:

Few pictures of bombsights have been cleared for publication. This photo indicates how mass production technique has been introduced into manufacture of these precision instruments by AC Spark Plug division of General Motors. This is a section of one of the assembly lines.

On the date of our entrance into the war, military vehicles were 52 percent of the automotive industry's output of war supplies. The figure has nearly tripled, yet such vehicles now constitute only 27 percent of the stream of war weapons. In the same two-year period, aircraft production has risen in the automotive industry from 23 percent of factory output to 41 percent.

Gear Shavers Speed Wright Motor Output

Save 40,000 man-hours per year, Studebaker parts plant manager reports.

A saving of 40,000 man-hours a year in the production of Wright Cyclone engines for *Flying Fortresses* has been announced by Studebaker Corp. from an application of shaving machines to a 15-tooth pinion gear which is carried in sets of 20 on each engine.

George W. Bunner, general manager of the Studebaker aircraft engine parts plant, said a single worker on gear shavers can produce as many units as five on grinders, until now the conventional machine for shaping finished aircraft engine gear teeth.

► **Reduces Errors**—Scrap has been all but eliminated, he said, by the fact that in-built precision of the shavers reduces the possibility of human grinding errors. Bunner rated the machine saving as equally significant to production as fewer

man hours. Four pinion gear shavers have replaced 23 generator-type grinders.

"As the war-converted automobile industry has learned," Bunner explained, "gear grinding machines have represented an equipment bottleneck. With our pinion gears, further, we found it necessary to reform the grinding wheel after every piece. This obviously added to production delays and costs.

► **Saving on Tools**—"The high speed steel cutting tool used in the shaving machines is good for 5,000 pieces. Each tool will take four regrinds. A run of 25,000 pieces is thus possible before replacement of the tool."

Because of metal distortion and varied design, Bunner does not foresee an immediate spread of shaving to all aircraft engine gears, at least not to the extent that the practice is followed in automobile engines. He added, however, that experiments are continuing.

Breech Sees 1944 As Big Air Year

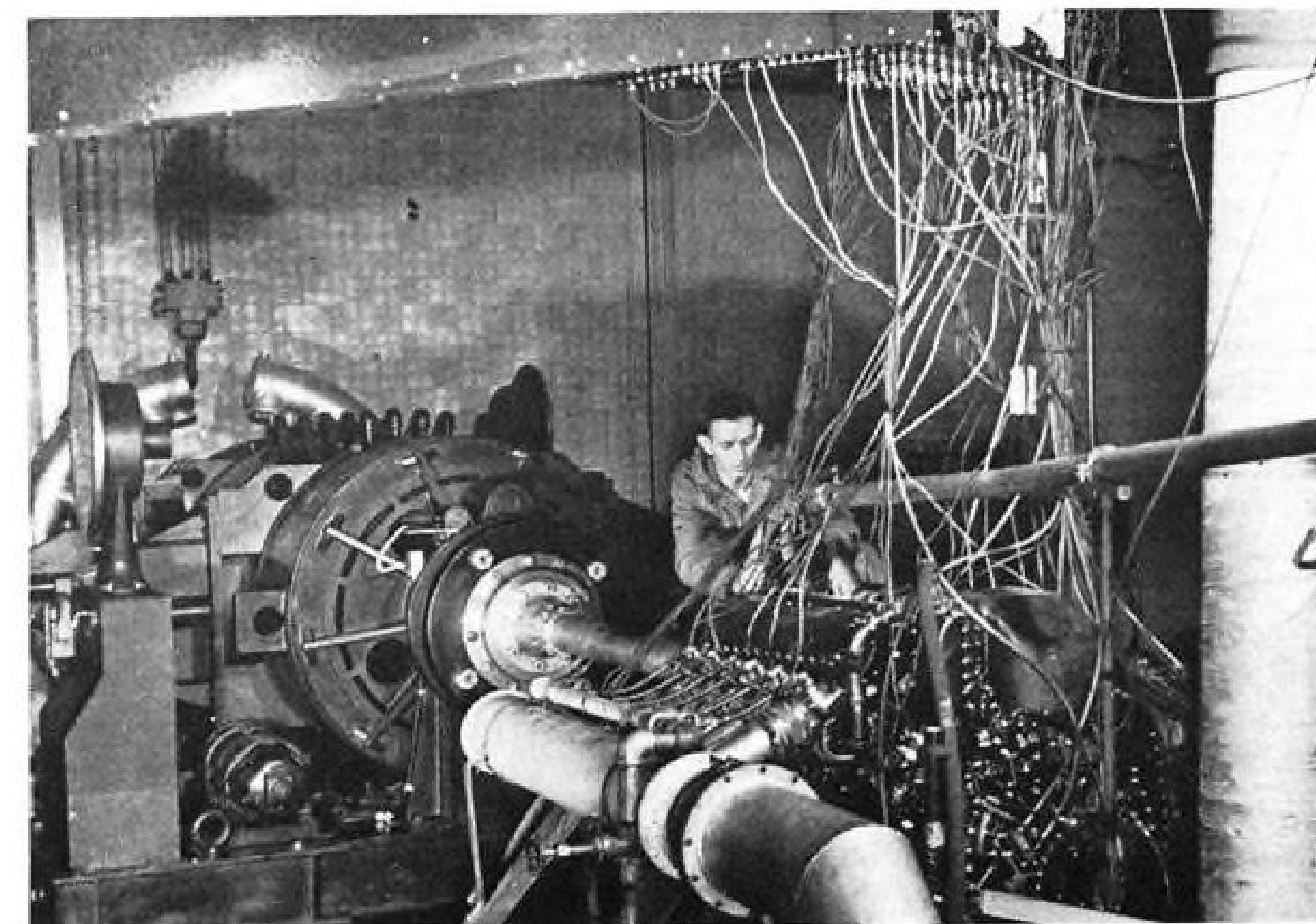
Bendix president cites war role and conversion program; lists gains in 1943.

Ernest R. Breech, president of Bendix Aviation Corp., sees the American aviation industry playing a feature role in the two big dramas of 1944—first, the war itself with bigger, better and more efficient planes rolling out of aircraft plants, and second, conversion from all-out war production, in which he does not believe the aviation industry will be an active participant.

While Breech believes that no aircraft plants will figure in actual conversion developments this year, he does feel that this industry, No. 1 in the country in terms of dollar volume and manpower employed, will be in the foreground of all thinking and policy-making covering renegotiation and termination of war contracts, disposal of inventories of raw materials, allocation of materials for civilian manufacturing and similar problems of vital concern to re-establishment of a healthy post-war economy in this country.

► **Production Gains**—Breech puts the 1943 production of American industry at \$15,000,000,000 worth of planes, representing a 140 per cent increase in tonnage over 1942 and believes this pace will be continued in 1944.

"What such a giant industry does



IN-LINE ENGINE TESTER:

It takes Wright Field's power plant laboratory workers three days to install a big in-line engine on a dynamometer testing stand. In center is shaft leading from engine to dynamometer, with the maze of pressure and temperature lines overhead at right. Each line gauges oil pressure, crankcase pressure, supercharger, temperatures of cylinders, head, base, and oil fuel.

in wartime and what happens to it when peace returns is of tremendous significance to millions of Americans," Breech said in a year-end review. "When peak production is attained, approximately 1,700,000 workers will be employed by the aircraft industry itself and another 1,400,000 by aircraft subcontractors and suppliers."

► **Post-War Employment**—The Bendix president said the aviation in-

dustry has no thought of being able to maintain employment at anything approximating wartime levels, but that it recognizes its responsibilities in this connection.

The United States, he pointed out, will continue to need an air force second to none in numbers and in constantly improved efficiency and at the same time the nation will want to develop its bright prospects in the field of post war commercial transportation by air.

► **Air Transport**—"To do this, the country must have a strong plane producing industry capable of carrying on research and development at least on a competitive basis with other nations," he said. "The aviation industry can discharge these responsibilities successfully only if wise and fair policies are adopted governing the renegotiation of its price on war contracts, the termination of these contracts, and the conditions of its conversion after hostilities have ended."

Breech contends that the industry did not have time before the war began, nor has it been permitted during the past two years, to accumulate adequate reserves of capital to go ahead, entirely on its own, on a scale which can contribute most to the "millions who have already seen its brilliant engineering and production skill give the United States supremacy in the war in the air."

Atlantic Shuttle

British radio announced that 10,000 planes have been flown from the United States to England. Probably as many or more have been shipped across. Since the above fly-away figure has been published, it is permissible to say that the number of American planes in combat, compared with the number delivered, is surprisingly small.

Last summer, during the War Department's Washington conference with war industries, labor, and the press, visitors were told that only 10,000 U. S. planes were in action with the Army Air Forces on all fronts. Deliveries to other belligerents, and the sizable number always in the modification centers and other sections of the "pipeline" accounted for the rest.

War's End Finds Railroads In Strong Competitive Position

Rails unlikely to be operating any air services in immediate postwar period but will be able to cut own rates and improve services.

By ROGER WILCO

The railroads are popularly supposed to be on the defensive and pictured as dreading the postwar era when the airlines will move in and garner all the choice traffic—both passenger and freight. Actually, nothing could be farther from the truth.

Well known by now are the determined efforts being made by the railroads to be permitted to enter the air transport field. While a few railroads have, through affiliates, filed for air route certificates, the more important roads have not. Their main interest is to have the unequivocal *right* to engage in air services if such a course proves desirable or profitable.

▶ **Red Tape**—Yet, assuming that legislative mandate cleared the path for railroad entry into the air lanes, it would take considerable time—measured in terms of years—before the administrative processes of the CAB or any other designated agency could possibly unwind to issue an air route certificate to a steam carrier. Existing certificated airlines are finding the way to new routes arduous and painfully slow. Certainly, the surface carriers will hardly find the course any smoother or more rapid, especially being the focal point of a heated legislative controversy.

On this broad premise and predicated on indicated CAB policy, it is highly unlikely that the railroads may be operating any air services in the immediate postwar period.

▶ **Roads Improve Position**—The railroads will, however, make their influence felt in their own field, once war restraints are removed. And it is this factor which promises to represent a formidable obstacle in the plans of the air carriers to broaden their markets.

Air transportation has received the plaudits in the rotogravure sections, but the railroads have probably derived the greatest tangible

benefits from war inspired activity.

Projections indicate that the steam carriers will emerge from the war with a reduction of about \$3,000,000,000 in debt. As a result, the railroads will be able to service their capital structures, even if traffic and earnings decline to the lowest levels prevailing during the depression period. This condition will give the railroads a potent competitive weapon in contending with other transportation media.

▶ **Fare Cuts Possible**—In other words, passenger and freight tariffs can be cut sharply and all types of added and improved services provided. Under such circumstances, airline gains can very well be limited if not actually curtailed. For example, unless speed is all-important, very few passengers will be inclined to pay 5 cents per mile to travel by air when they can make the same journey in comfortable rail equipment at 3 or 2 cents a mile.

It is a startling fact that the airlines will show no appreciable improvement in the planes to be in service immediately after the war over those used prior to hostilities. Not so the railroads. Speaking of technological progress and improvements, it is the steam carriers who can show material results—now and not on the drawing boards. Lightweight passenger cars, faster speeds and lower operating costs are accomplished facts. This in turn means greater profits and permits lower fares. The Pullman Company, at the outset of the war, met with tremendous success in the installation of a new type tourist-sleeper car. This and other innovations in rail equipment promises to keep considerable passenger travel on the ground.

▶ **Aircraft Gains**—Contrasting the railroad financial gains, the domestic air carriers will add but about \$25,000,000 in net earnings to their capital in the two years since Pearl

Harbor. Admittedly, these earnings, together with almost \$20,000,000 raised in new stock flotations, should strengthen the air carriers' financial position, but hardly compare with railroad accomplishments. Further, the airlines will be subject to a constant drain on their resources for expansion purposes and will be in no position to enter into any competitive rate-cutting contests.

Evidence of the confidence displayed by the railroads in their future is indicated by a recent statement made to stockholders by M. W. Clement, president of Pennsylvania Railroad—probably the nation's strongest steam carrier. This railroad professes its main policy to "perform a complete transportation service by rail, with such accessorial services as are necessary. . . ." Accessorial services can be construed to mean airline operations.

▶ **No Substitute for Railroads**—Nevertheless, "the Pennsylvania Railroad is confident that rail transportation will meet successfully and survive the competition to be expected in the future. It is sure that no other form of transportation can supplant railroad transportation. . . ."

Strong words, but they carry considerable substance and a warning that the airlines cannot afford to be complacent or take for granted any postwar gains at the expense of the railroads.

Financial Reports

▶ **Waco Aircraft Co.** reports a net profit for the fiscal year ended Sept. 30, 1943, of \$120,681 after depreciation, federal income and excess profits taxes, equal to 83 cents a share on 145,000 common.

This compares with a revised net profit of \$114,130 or 74 cents a share for the 1942 period. Net sales were reported at \$14,660,590, compared with \$2,160,067 for the previous year.

New UAL Preferred Conversion Price \$30

Rate set following authorization of 200,000 stock issue.

United Air Lines directors, following a meeting at which stockholders approved a \$10,000,000 financing plan, established \$30 a share as the price for United's common stock at which new preferred stock is to be convertible until Jan. 1, 1955.

The stockholders authorized 200,-

000 shares of 4½ percent cumulative preferred stock. The financing plan anticipates postwar development and expansion. In addition to authorizing 200,000 shares of 4½ percent \$100 par cumulative preferred stock, the plan includes a change in name from United Air Lines Transport Corp. to United Air Lines, Inc.; increase in authorized common stock from 2,000,000 to 2,500,000 shares and an increase in its par value from \$5 to \$10 a share, and authorization of 100,000 shares of management stock. Company expects to issue immediately 105,032 shares of the 200,000 preferred.

Thirty-three investment firms, headed by Harriman, Ripley & Co., have been named to underwrite the plan.

Canadian Output Up

All Canada's combat type airplanes are in production on a steadily rising curve. The Canadian War-time Information Board indicates that from now on increasing numbers of first-line modern planes will be delivered each month to the fighting fronts.

Canada makes *Lancaster* four-engine bombers, *Mosquito* twin-engine bombers, *Catalina* flying boats and *Curtiss Helldivers* as well as the *Noorduyn Norseman* transport, *Fairchild Cornell*, *North American Harvard*, *Canadian Anson* and *Bristol Bolingbroke* single and twin-engine trainers.

Convair Workers Get Management Courses

Training offered at U. of Arizona two nights a week.

Employees of the Tucson division of Consolidated Vultee Corp. may enroll in a course in Industrial Management which will be offered at the University of Arizona two nights a week, starting this week. This opportunity has been made possible through the Engineering Science and Management War Training program, which has made similar arrangements for war workers in other vicinities.

The course, which will require 16 weeks for completion, includes types and functions of machine tools, jobs description and methods, motion analysis, accounting and job standards, wage functions and wage setting and management and other auxiliary functions. It will be offered to Convair workers without charge.

A new organization, Airlines Clearing House, Inc., designed to expedite passenger revenue accounting in the United States and Canada, will be headed up by E. I. Whyatt of St. Paul, vice-president and treasurer of Northwest Airlines. Whyatt will re-



main in these capacities with Northwest, and, as president of the new clearing house, will work with other airline executives in directing the organization's activities. He already has been named a member of the board of directors.

Six other airline officials were elected to the Board. They are: V. J. Long, assistant treasurer, American Airlines; George Fleming, auditor of revenues, United Air Lines; G. O. Thornley, auditor, Transcontinental & Western Air; T. F. Armstrong, secretary-treasurer, Eastern Air Lines; L. B. Judd, comptroller, Delta Air Corp.; and C. S. Adams, secretary-treasurer, Braniff Airways.

Adoption of the clearing house system, first of its kind ever used by the transportation industry, will prepare the airlines for the greatly expanded passenger traffic expected after the war, according to Whyatt.

Donald S. Wolf, former assistant service manager, has been promoted to



the post of service manager of the Ranger Aircraft Engines division, Fairchild Engine & Airplane Corp. Wolf, who holds a private pilot's license, having learned to fly in 1938, joined Ranger in 1937 as a draftsman. He later became service engineer and then assistant service manager.

Norton C. Sather is the newly appointed manager of Consolidated Vultee Aircraft Corp.'s Miami division.

He replaces W. A. Hayward, who has retired. Sather has been active in aviation for 15 years, following his graduation from the University of Washington in 1928. He started work with Boeing Aircraft Co. at Seattle in that year, and worked his way up through successive positions to become production project supervisor and assistant production manager. He left Boeing in January, 1941, to join Vultee Aircraft at Downey, Calif., as manager of the business office. When Consolidated and Vultee merged, Sather retained the same position at the Vultee Field division till last July. Since that time, he has been on the staff of C. W. Perelle, vice-president in charge of manufacturing, at San Diego.



The new Philadelphia and New England offices of Dow Chemical Co, just opened, will be headed by Alexander Leith, Jr. (right), and Alfred A. Lawrence (left), respectively. Leith has



been with Dow's New York sales office for the past 20 years, and Lawrence, a native New Englander, has been with the company since 1940. Staffing the Philadelphia office will be: Frank H. Sellars, 3rd, magnesium sales; Elmer K. Stilbert, plastics engineering; and Charles E. Seel, heavy chemicals and pharmaceutical sales. In the New England office in Boston will be: Felix J. DeSantis, heavy chemicals and pharmaceuticals; George B. Makepeace, plastics engineering; and Bradford Durfee. Still to be appointed is a man to handle magnesium sales in this office.

Donald Urquhart has been named supervisor of reservations and ticket offices in Washington by American Airlines. He succeeds R. W. Baker, now eastern superintendent of reservations and ticket offices in New York.



Robert L. Ware, Jr., recently appointed district traffic manager in Newfoundland and in the Trinidad-Granada-Tabago area.

Capt. John W. Lasell, former state director of aeronautics for Massachusetts and for a time executive officer of the Massachusetts Civil Air Patrol wing, is missing in action in the Burma area, according to official notice from the War Department.

Comdr. Benjamin S. Custer, USN (naval aviator) has reported for duty in the Procurement division, Bureau of Aeronautics, Washington.

Capt. Hugh H. Goodwin, USN (naval aviator) has been detached from the Aviation Planning division Deputy Chief of Naval Operations (Air).

Some personnel changes in American Airlines de Mexico have been announced by Hollis R. Thompson, president. Stanley G. King has been appointed vice-president and director general, and is succeeded as general traffic manager in Mexico by George R. Corey, former traffic manager in San Francisco.

Corey, in turn, is replaced by Dall D. DeWeese. Francisco P. de Hoyod, traffic manager in Mexico City, has been appointed assistant to the president and director of personnel. He is succeeded by A. Gomez Palacio, former traffic manager in Monterrey, who is replaced by Fernando Lopez.

New employment manager of American Export Airlines is G. C. Smith, formerly with the Retail Credit Co., in charge of setting up their various offices throughout the country.

Capt. L. D. (Hap) Anderson (right), of New Orleans, who heads the seniority list among Chicago and Southern Air Lines' military and flight personnel,



Knight

Anderson

has been named chief pilot in charge of all flight officers. He succeeds Capt. Reed Knight (left), who moves up into the post of superintendent of flying and director of military cargo. Captain Anderson, who will be transferred from New Orleans to Memphis, has logged more than 12,000 hours during his 16 years of flying. During his career he has flown as pilot for Coast Airways in Los Angeles, and was also the first pilot to be employed by Pacific Seaboard Air Lines, which later became Chicago and Southern. Capt. Knight, who has been named superintendent of flying and director of military cargo, has flown more than 1,000,000 miles during his long career as a pilot.

In his new job, he will have charge of all Chicago and Southern pilots and first officers. Knight received his basic flight training at March Field in 1929. His advance training was received at Kelly Field, San Antonio, after which he was stationed for 16 months with the 2nd Bombardment Group at Langley Field. He flew the mail between Chicago and Kansas City for National Air Transport and was included among a group of American pilots who created the first military flying school for the Central Government of China. As director of the company's military cargo operations, Knight succeeds Capt. Glenn Doolittle, who has relinquished his post to return to Chicago and Southern commercial operations as flight captain.

J. A. Young, general manager of Chicago and Southern Airlines Modification Center at Memphis, has been named assistant to Bruce E. Braun, vice-president in charge of operations. He will supervise maintenance, modification, Continental engine overhaul, engineering, purchasing, stores and coordination of Army contracts. Young learned to fly in 1925 at Little Rock, and later became manager of Adams Field in that city. He has been associated with Commandaire, Inc., airplane manufacturers, and with American Eagle Aircraft Co. He is succeeded as general manager of the Modification Base by R. Todd Crutchfield.

Edward H. Fitch has been named merchandise manager of the combined automotive, aviation and government sales division of the B. F. Goodrich Co., according to G. E. Brunner, general manager of the three divisions. Fitch joined the company in 1931, after being graduated from Williams College and the Harvard School of Business Administration. After serving nine years in the credit and sales departments of the replacement tire division,

he was transferred to his present division on special assignments in 1940 and has been division operations manager since May, 1942.

John J. Daly, chairman of the board of Daly Bros. Shoe Co.; Spencer Shoe Corp.; and Triplex Shoe Co., has been elected to the board of directors of Piper Aircraft Corp. He is also a stockholder and director of Republic Aviation Corp.

L. V. Tuttle has been appointed foundry manager of the Gisholt Machine Co., Madison, Wis. He has been in a similar capacity with Koehring Co., Milwaukee, during the past twelve years.

Ralph L. Wilson, former chief of the constructional steels section of the Metallurgical and Conservation branch, Steel Division, War Production Board in Washington, has joined Timken Roller Bearing Co., as chief metallurgical engineer. Wilson was formerly with Timken as metallurgical engineer in the steel and tube division for ten years, and before that was with the metallurgical departments of the United Alloy Steel Corp. and Central Alloy Steel Corp. for six years.

He is active in the affairs of the American Society for Metals, of which he is a former trustee, and in the American Society for Testing Materials, the American Society of Mechanical Engineers, the American Petroleum Institute, and the American Welding Society.

L. Raymond Bell, public relations director of Pennsylvania-Central Airlines, has been appointed publicity chairman for the 1944 celebration of the President's Birthday in Washington. Bell was chairman of publicity for the Civilian War Services Division of the District Government.

Col. George C. Price has been named chief of the Office of Flying Safety, Headquarters AAF. Col. Price has been deputy chief under Col. Samuel Harris who started the office but who has been transferred to the Second Air Force. Col. Price was awarded his wings in 1928 after graduation from Brooks and Kelly Fields in San Antonio. After a tour of duty with the First Pursuit Group at Selfridge Field, Mich., Col. Price went on reserve status and in June, 1929, became one of the first two pilots of TWA, then Transcontinental Air Transport. He was a TWA pilot until 1935. He is on leave of absence as president of the Electrical Manufacturing Co., Battle Creek, Mich., manufacturers of fabricated steel parts for electrical companies.

Col. Price and his staff are stationed at Winston-Salem, N. C., headquarters for the Office of Flying Safety.

TRANSPORT

All American Seeks to Extend Lines to New York, Albany, Boston

Hawthorne Airways files for North and South Carolina routes; Albany-Plattsburg permit sought by Cray Air Transport.

Three applications for air pickup service were filed with the Civil Aeronautics Board last week. One came from the pioneer in the field, All American Aviation, which seeks to expand its property and mail operations to New York City, Albany and Syracuse, and into the New England states to Boston.

All American aviation enters also into the request for pickup air service filed by Hawthorne Airways of Orangeburg, S. C., which says that the former company has offered all assistance possible in helping them set up this service throughout North and South Carolina.

► **Albany-Plattsburg Line** — The third pickup application was filed by Bruce L. Cray of Jackson, Miss., who, as Cray Air Transport, wants

to carry mail, passengers and property in both landing and pickup operations from two bases, Albany and Plattsburg, N. Y.

Anticipating some curtailment in military cargo operations in which it is now engaged, All American said it expected some aircraft and personnel to be released for commercial operations at an early date. Company says it is in position to get equipment for operations immediately over the proposed new routes, which would add 2,902 miles to its present AM 49.

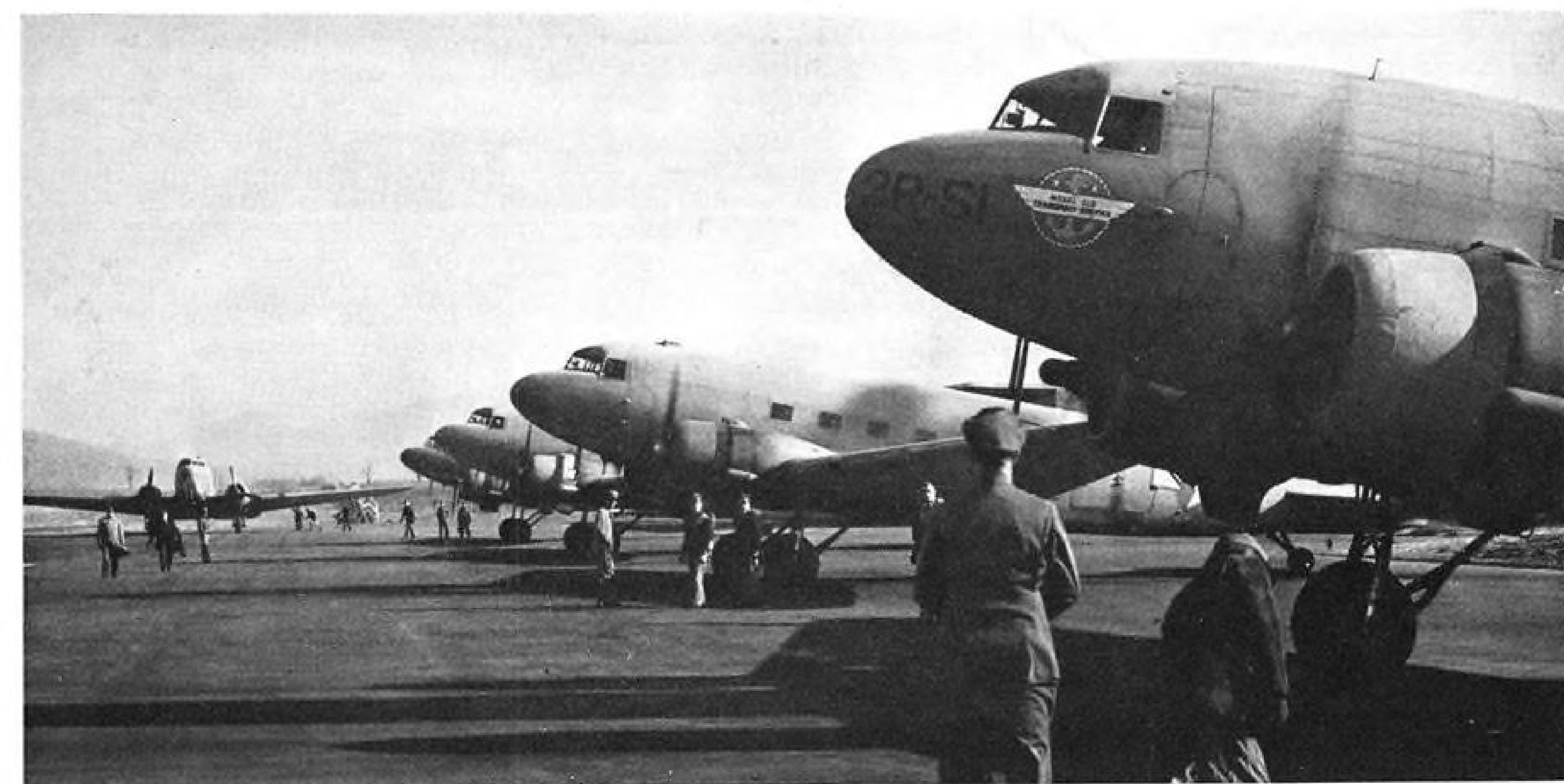
► **Alternate Routes**—The eight new routes include alternates between New York City and Harrisburg, Pa.; two between New York and Syracuse; two between New York and Boston; one between New York and

Albany; and one between Albany and Syracuse. It proposes to serve all the many intermediate points on these routes with two round trips daily, starting with day contact operations.

Application of Hawthorne Airways is lent weight by the stated assurance of All American Aviation of its willingness to cooperate and even release personnel, if they can be spared, to assist Hawthorne in setting up its operations. They have offered to make operating records, manuals and procedures available to Hawthorne.

► **Service to 167 Points**—Hawthorne's application covers a total of 1,789 miles, with service proposed to 167 points, by landing, others by pickup and still others, adjacent, by messenger service. Company expects to start operations for mail and property only, but when suitable equipment is available, they would carry passengers also. Hawthorne, indicating that some second-hand planes might be immediately available, specified Stinson SR-10C reliants with 260 hp Lycoming engines.

Hawthorne's six proposed routes would run from Greensboro, N. C., to Richmond, to Rocky Mount, N. C., to Columbia, S. C., and to Spartanburg, S. C.; also between Richmond and Rocky Mount, and between Charlotte and Spartanburg. Using one plane for each of the six routes,



PCA OPENS NAVY TRANSITIONAL SCHOOL:

Several of the eight DC-3's in which Pennsylvania-Central Airlines is giving transitional training to Naval Air Transport Service pilots at Roanoke, Va. Picture

was taken at Woodrum Field as the ships swung out for takeoff following ceremonies which opened the Navy's new transitional school.

with two reserve planes, they propose to serve 167 towns, 156 of which have no air service.

► **Flying Experience**—Executives of the company have many years' experience in the aviation field. Beverly E. Howard, president and treasurer, is said to be one of America's leading exponents of precision aerial acrobatics. He served as a pilot with Eastern Air Lines for four years, and for some years has operated the Hawthorne Flying Service, at present a contractor with the CAA War Training Service program. A further operation, the Hawthorne School of Aeronautics, is a primary training contractor to the Army Air Forces.

Vice-President John A. Cissel, on leave as a captain in the Army, was formerly assistant director of the Hawthorne School of Aeronautics.

Three other officers are former CAA employees. Joseph J. Mitchener, Jr., general manager, was superintendent of CAA war training service in the second region. He is a pilot and has been with Curtiss-Wright Sales Corp., head of aircraft lubricant sales for the Texas Pacific Coal and Oil Co., and with Southern Air Transport.

► **11 Years in Aviation**—Superintendent of operations for Hawthorne, William G. Catron, was a former CAA Assistant Aeronautical Inspector at Oakland, Cal., and was once director of aeronautics for Tennessee. Former CAA maintenance supervisor in the second region is Sam R. Monschke, who will serve as superintendent of maintenance for the new company. He has been in



EARLY CABIN PLANE:

This 1920 photo has been produced by United Air Lines as a picture of what it believes was the first cabin plane in the United States. R. D. "Sid" Edwards (left), now Chicago station manager for United, engineered the conversion of the de Havilland plane, shown here on the old Checkerboard Air Field at Maywood, Ill., when he was a mechanic for the Post Office Department air mail service. The covered cabin seated two passengers.

aviation 11 years, at the Curtiss-Wright airport in Grand Prairie, Tex., and in service and overhaul for Braniff. Charles L. Howard, who has been with the Hawthorne companies since 1936, is secretary of Hawthorne Airways.

Northwest Airlines requested two new routes. A direct route sought between Butte, Mont., and Portland, Ore., via Pendleton, would reduce the present airline mileage between the two cities by 364 miles. Northwest also asked permission to establish a route between Milwaukee and Spokane via Green Bay, Wis., Duluth, Minn., Fargo and Minot, N. D., and Great Falls, Mont. Fargo and Spokane are already served by Northwest, but this new route would give the territory between Fargo and Great Falls its first air service on an east-west line from ocean-to-ocean, according to Croil Hunter, president. This was predicated on Northwest's application for service between the Twin Cities and New York being approved.

► **Colorado Routes**—Mountain States Aviation, Inc., and Mountain States Aviation Co., of Denver, requested four circular routes out of Denver to various points within Colorado. Passengers, property and mail would be carried.

"The cotton fields of the south have been our classroom," says the application of Dixie Airways, Leland, Miss., which asks to carry mail, persons and property on two routes between Gulfport, Miss. and Memphis, Tenn. Head of the company, Joe Bell Ours, operates the Dixie Airplane Dusting Co.

Eastern Air Lines filed an amendment to a previous application in which it asked to extend route 6 from Columbia, S. C., to Detroit. The amendment seeks to include Wheeling, W. Va., among intermediate points previously requested. This point is almost exactly on the line of the proposed route, the application stated, and will increase the overall mileage by only one mile.

Midwest Meeting Set To Discuss Airports

Kansas City Chamber of Commerce schedules conference for Jan. 24-25.

A meeting to discuss airport needs and interests of local communities is set for Jan. 24 and 25 by the Aviation Department of the Kansas City Chamber of Commerce.

► **City Officials Invited**—Chamber of Commerce and municipal officials in towns and cities of 1,500 or over in a nine-state area will attend, from Missouri, Kansas, Iowa, Nebraska, South Dakota, Wyoming, Colorado, Oklahoma and Arkansas.

The meeting will be the second regional gathering under the department's auspices, and is a direct outgrowth of the local air service conference last November at which more than 300 persons representing 92 cities in the Kansas City area talked about trade area airline service. It became apparent then that the principal interest of virtually all the delegates, and especially those from the smaller cities, was in the postwar development and uses of local airports.

► **To Aid Local Areas**—Chamber officials seek to make the January conference "tailor made" to needs and interests of the local communities. Already more than 40 municipalities have sent questions and problems they wish discussed.

Among topics to be considered are airport uses and requirements, to be explained by representatives of light plane manufacturers, airlines and the Civil Aeronautics Administration; operation and maintenance of airports, including both small municipal airports and privately owned fields; financing of airports both from the standpoint of raising municipal funds for construction and development and the producing of income from airport activities; the importance of airplane sales, service, repair and training on local airports; the relationship of airports to college aviation training, and the future of Army airports.

Michigan Board Maps Laws on Air Control

Action eyed as move to regulate intrastate aviation.

Michigan Board of Aeronautics, at Lansing, indicated it would make a firm bid for control of intrastate aviation when it assigned a subcommittee of the state Aviation Advisory Committee to draft proposed regulatory legislation.

The Board recently granted license to Great Lakes Skyways, Inc., subsidiary of Great Lakes Greyhound Bus Lines, to operate two commercial helicopter lines in the state. The license was issued on recommendation by the Michigan Public Service Commission, whose chairman said, however, that Great Lakes Skyways definitely cannot operate until the state legislature, meeting this month, clarifies the state's authority to regulate air transportation.

► **Seeks to Curb PSC**—The projected legislation on which the aviation subcommittee is working, meanwhile, would bar the Public Service Commission from passing on certificates of convenience and necessity in intrastate airways operations petitions. It would be turned over to Gov. Harry F. Kelly for presentation before a special legislative session.

The subcommittee includes attorneys from the Aviation Committee of the Michigan State Bar and a member of the state attorney-general's staff. It is headed by Kit F. Clardy, Lansing attorney and legal counsel for trucking interests, and Menso Bolt, Grand Rapids, Kent county prosecutor.

► **Opposition**—Indicating that the group will continue to fight the airlines, the advisory committee said legislation to control intrastate planes is necessary because present Michigan laws have not delegated jurisdiction in this regard, and the "present ambiguous situation" must be clarified so that "prospective airline operators will have a definite jurisdictional body to whom they may apply."

Meanwhile, the committee, which is advisory to the Michigan Planning Commission, came out with an open letter soliciting help against the Lea bill (H. R. 3420) to revise the Civil Aeronautics Act. Signed by Bruce E. Anderson, chairman of the committee, the letter said "powerful but selfish interests are working day and night in Washington to force through Congress legislation that would shackle the development of civil aeronautics in this country



SLIDE SPEEDS UNLOADING:

This new wooden slide has been found so practical by American Airlines as an answer to unloading problems that the company expects to install similar equipment at stations throughout its transcontinental system. The device was given a two weeks' tryout before its acceptance was announced.

for generations to come." Reference was to the Lea bill specifically "and all other legislation of this type."

► **State Rights Involved**—Pointing out that the pending legislation may come to the floor of the House early this year, the committee letter added that "these measures would not only further infringe upon State Rights and strike a body blow at those people directly engaged in or interested in the development of aviation, but also rob American citizens of their right to modern, low cost air transportation facilities after the war."

In an enclosure, the committee circulated its resolution requesting that Congress "kill all such legislation" and that no aviation legislation be adopted until at least six months after the war ends.

Lee Loses Status As CAB Member

Senate fails to take action on his nomination for reappointment.

By MERLIN MICKEL

With Senate action on his reappointment to the Civil Aeronautics Board still pending, and Congress away from Washington, Josh Lee ceased to be a member of the Board Dec. 31.

Some Board sources said he would become an inactive member, but

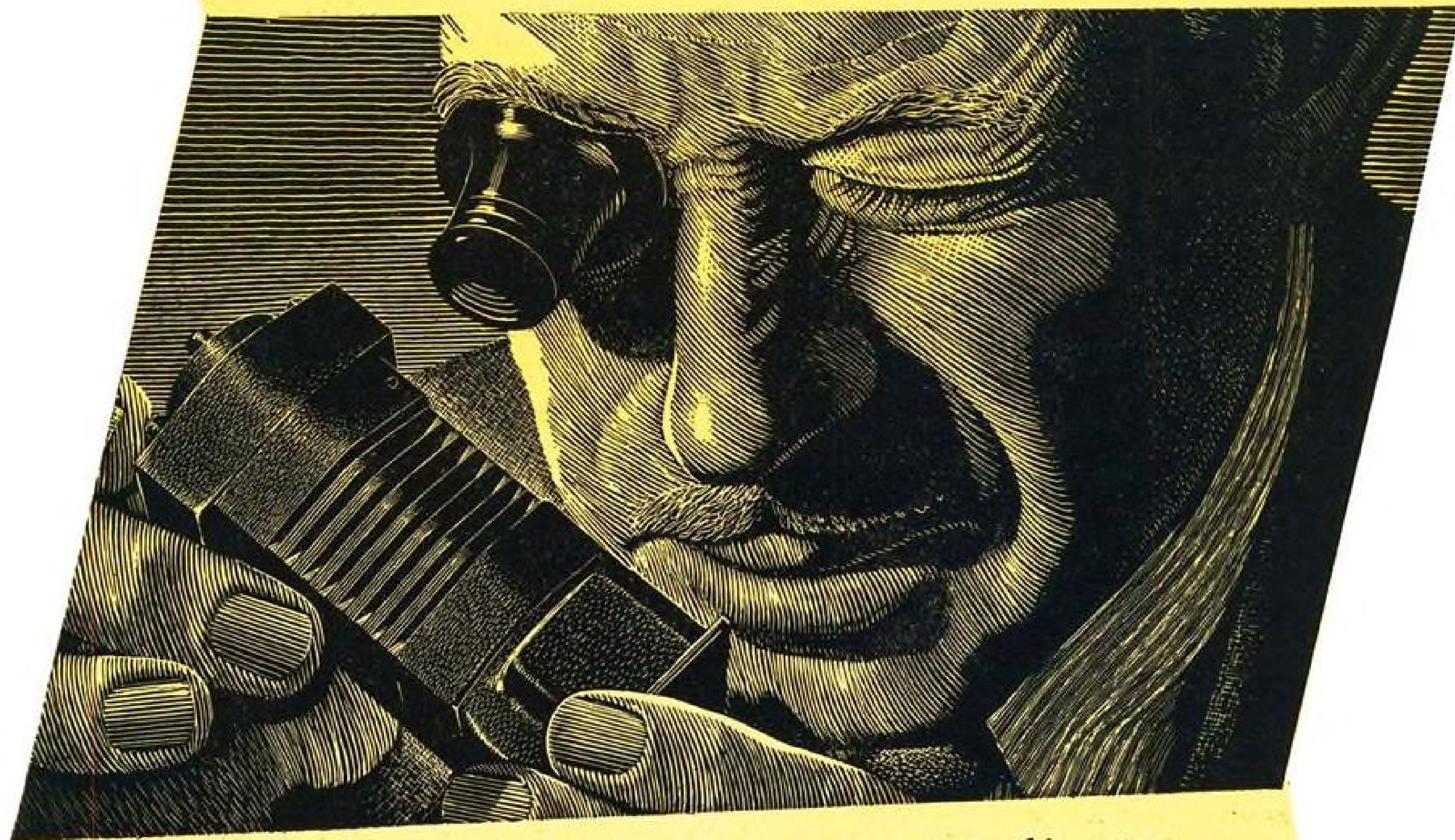
Lee said he knew of no such designation. In any event, expiration of his term on that date meant that he could not participate in Board action and would not receive pay from that date until such time as the Senate approves the reappointment, if it does so, as expected, and he thereafter takes the oath.

► **Named for 6-Year Term**—Former Senator from Oklahoma, Lee has been a Board member since Feb. 3, 1943. Mr. Roosevelt sent his reappointment for a full six-year term to the Senate Dec. 2, but it reposed in the Senate Commerce Committee when Congress adjourned to reconvene Jan. 10. By resolution the Senate preserved the status quo of this and other nominations at adjournment.

Lee's position is not without precedent. Appointments of Civil Aeronautics Board members have gone over without confirmation for several days after terms expired on at least two previous occasions. In some government posts, the incumbent carries on until his successor takes office, but this is not true at CAB, where terms expire on definite dates.

► **Opposition Unlikely**—There were indications that the opposition to Lee's original appointment would not recur when his name is before the Senate for confirmation this time. Senator Moore, of Oklahoma, who opposed him last year, has

Who can use this after the war?



SO far this is definitely a war baby. It was born to meet an exacting wartime need. Every one that is made goes right into the fight.

It is an electric motor designed for jobs which no regular electric motor could fill.

The jobs are on America's fighting planes. Working control flaps—opening and closing cooling shutters—lifting landing gears—and the like.

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of engineering to make this motor.

It took new ideas from the drawing board up. It took new materials—like glass-insulated wire—to build it. It required finer, more precise craftsmanship than had ever gone into a motor before.

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been quoted in Oklahoma newspapers to the effect that he would make no protest. Senator Thomas of Oklahoma has written the committee endorsing the reappointment.

The Board chairmanship of L. Welch Pogue and vice-chairmanship of Edward P. Warner also were to expire Dec. 31, but the President was expected to reassign them to those posts before that date.

United Cites Gains In 1943 Traffic

Revenue passenger miles up 23 percent, mail ton-miles 61 percent, express ton-miles 7 percent.

In a year-end review, W. A. Patterson, president of United Air Lines, reports that United's 1943 gains, with December estimated, will run 23 percent in revenue passenger miles, 61½ percent in mail ton-miles, and 7 percent in express ton-miles over 1942.

This compares with the 10 percent, 78 percent and 34 percent in these categories, respectively, estimated last week for all the airlines by Col. Edgar S. Gorrell, president of the Air Transport Association.

► **Revenue Plane Miles Off**—Because of reductions in its fleet of planes, due to the war, United's revenue plane miles dropped 9 percent in 1943 under those flown the year before. Abnormal wartime conditions were responsible for all-time highs of 357,000,000 revenue passenger miles, 11,030,000 mail ton-miles, and 3,941,000 express ton-miles.

These totals, again with December estimated, compare with actual totals in 1942 of 290,273,780 revenue passenger miles, 6,827,977 mail ton-miles and 3,679,393 express ton-miles. Revenue plane miles were 21,900,000 against 22,100,203 in 1942.

Patterson cited United's new financing plan and preparations to spend between 18 and 20 million dollars for development immediately after the war, including contemplated expenditures for four-engined 40-50 passenger, 250 mph airplanes to cut United's travel time a fourth and make 12-hour coast-to-coast service possible. As part of the expansion program, United's purchase of control of Lineas Aereas Mineras, S. A., airline in Central Mexico, was mentioned.

► **Rates Reduced**—As other high spots in the year, he referred to reduction of passenger rates by about 10 percent to a 5.1 cents-a-mile average, and a drop of about

Helicopter Cabs

The Pennsylvania Public Utilities Commission has been asked by the Yellow Cab Co., of Pittsburgh, according to Paul L. Houston, president, for permission to operate helicopter service between the airport, downtown Pittsburgh and elsewhere in Allegheny county in the postwar period. War-time flyers are expected to pilot the planes.

Eugene, Ore., as a Pacific Coast stop, and has opened coast-to-coast car-goliner service. Five DC-3S turned over to the government in 1942 were returning during 1943.

Patterson's report referred to applications United has filed with the Civil Aeronautics Board to add 65 cities and approximately 8,475 route miles to its system.

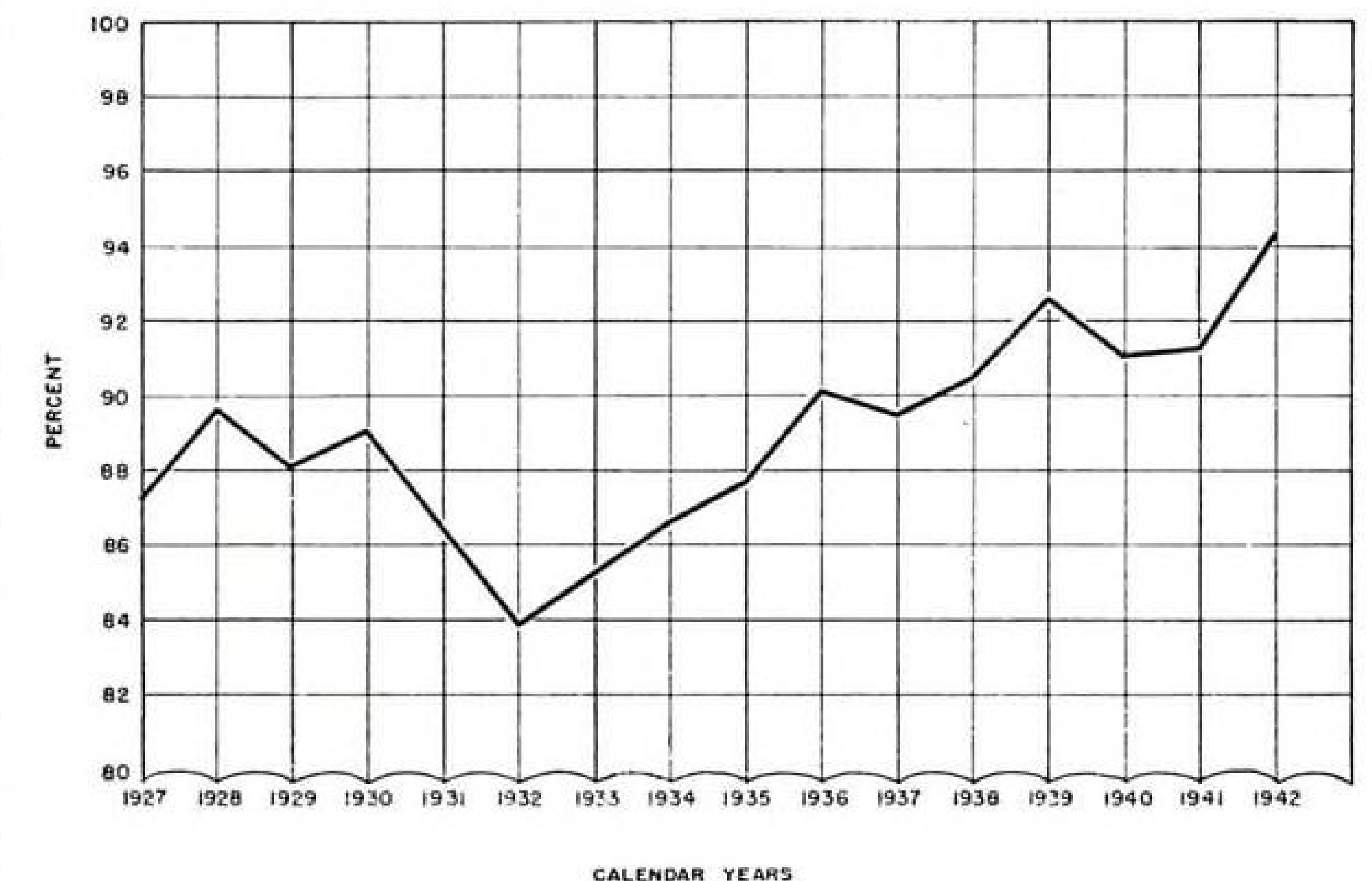
Ferry Services Shift To Long Wave Radio

Six stations set up in North Atlantic and Arctic.

A shift to long-wave radio communication as an aid in the North Atlantic ferrying of aircraft was disclosed by the War Department

12 percent in air express rates. United also accepted lower payments for transportation of air mail. The line started service into Washington, resumed operations between Los Angeles and San Diego, added

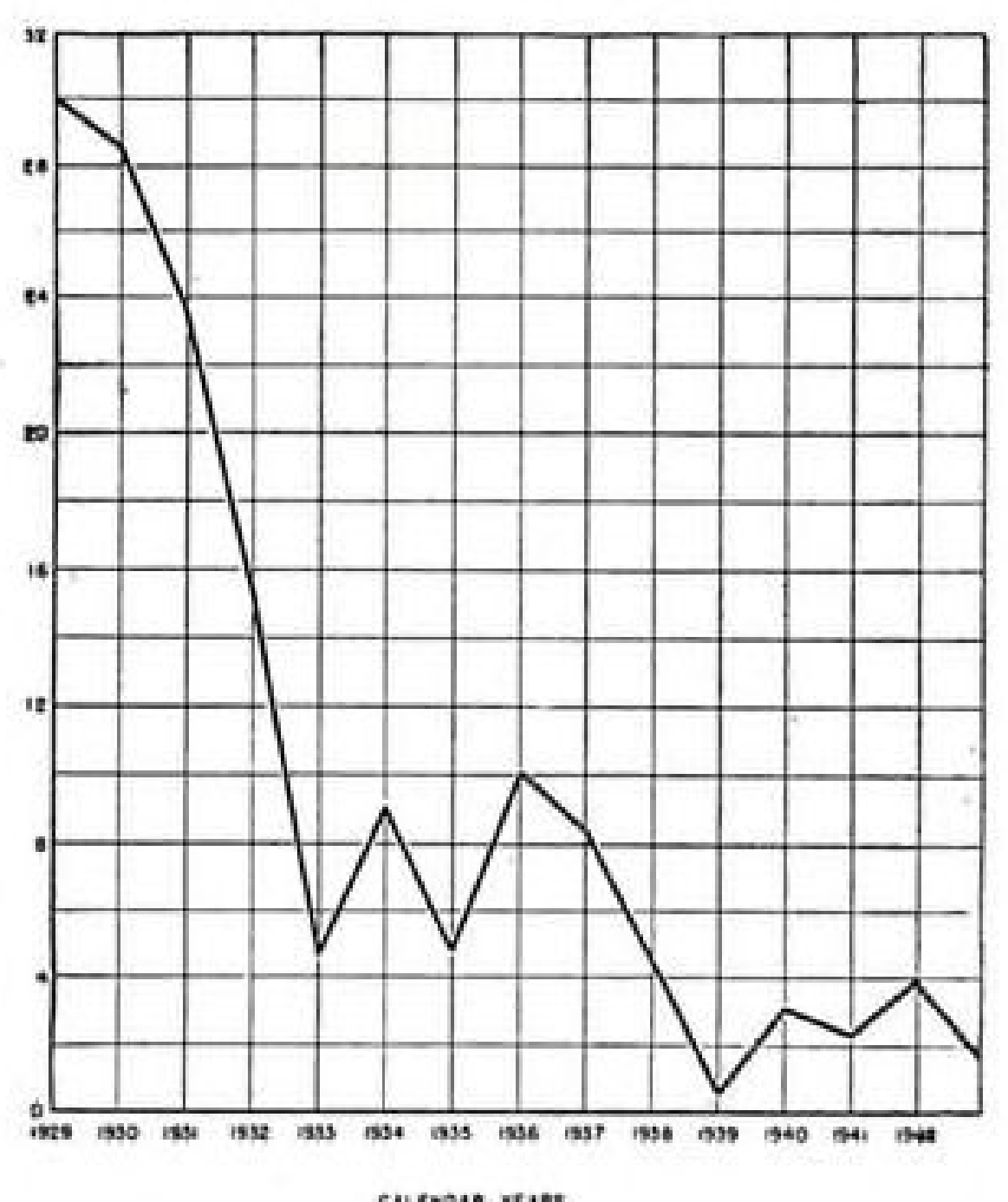
Ratio of Trips Completed to Trips Scheduled In Domestic Air Transport Operation



AIRLINES' NEW RECORDS:

These charts illustrate safety and service records of the domestic airlines. The accident rate dropped to 2.2 per 100,000 passenger-miles for the year ended last Nov. 30 from about 7.8 for the years from 1933 to 1937, with only 1939 exceeding the record for those twelve months. The other chart graphically demonstrates the rise in regularity of service. Where the percentage of scheduled trip completion never had risen above 92½ before 1942, last year it was just over 94, and the first nine months of this year promised a further slight increase.

Passenger Fatalities Per 100,000 Passenger Miles





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By R. Dixon Speas, *American Air Lines*. In handy form for pilots, flight crew, and others concerned with flight and transport management—the technical factors affecting airplane power control, fueling, loading, etc., and how to use charts and rapid means of computation in applying them to requirements of specific flight problems. 121 pages, \$1.50

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By James M. Markley, *Eastern Air Lines*. For people new to mechanical and aircraft work, bringing them a simple explanation of theories underlying the operation of the airplane and its various systems, and providing a wealth of practical information on such subjects as blueprint reading, shop mathematics, and aircraft construction materials. 345 pages, \$4.00

4. *Greenwood and Silverman—Stress Analysis for Airplane Draftsmen*

By E. J. Greenwood and J. R. Silverman, *United Aircraft Corp.* Based on numerous illustrative problems from actual airplane designs, this book reviews the principles of applied mechanics and shows how to use them in gaining an understanding of stress analysis, sufficient to evolve an approximately correct design and to solve a great number of everyday airplane structural problems. 291 pages, \$3.00

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with the announcement that six stations of this type installed by the Signal Corps of the Army Service Forces are in operation in the North Atlantic and Arctic areas. Short wave communications previously in operation on the far northern routes were bothered by atmospheric disturbances and magnetic storms.

The six new stations link the United States with Newfoundland, Labrador, Greenland, Iceland and Great Britain. Constituting part of the AAF Army Airways Communications system, they were set up through the combined efforts of Army and civilian technical experts, some of whom flew from Africa, South America, Alaska and both coasts of the United States.

► **Planes Carry Equipment**—Army Air Forces and the Royal Air Force cooperated in carrying equipment, the major part of which was flown to the new sites, although some of the heavier material went by sea, along with duplicate sets of the

tic station allowance had to be made in antenna installation for maximum winds of 160-mile-an-hour velocity. To facilitate hauling of supplies and equipment from air fields and harbors, special roads had to be built, and in some cases cloudbursts washed out those in operation.

TCA Reported Making West Indies Survey

Expected to operate via New York and Bermuda.

By JAMES MONTAGNES

Canada-owned Trans-Canada Air Lines, already operating a service across the Atlantic, is reported to be making a survey of a route to the British West Indies via Bermuda.

The route is expected to operate via TCA's direct route to New York, not taking on Bermuda passengers at New York, or from Halifax over water, as Trans-Canada has no direct route south across the United States except that from Toronto to New York.

► **International Routes**—Under Canadian government policy, announced last summer by Prime Minister King, only TCA will operate new international routes from Canada after the war. Domestically, however, Canadian Pacific Air Lines has renewed application for and completed familiarization flights on a route from Regina to Edmonton via Saskatoon, Prince Albert, North Battleford, Lloydminster and Vermillion.

The route will give a direct CPA link from Regina to the Yukon and Mackenzie River Canadian Pacific routes via Edmonton, at the southern end of both these runs into the far north. The service is planned to operate twice daily in each direction and, as contemplated, will not necessitate additional planes or crews, but merely be an extension of the service from Regina to North Battleford.



SHORTLINES

► Canadian Pacific Air Lines has been supplied with four new Noorduyt Norseman UC-64 aircraft by the Munitions Supply Committee for Air at Washington. The aircraft are manufactured at Noorduyt Aircraft Ltd., Montreal, and have been placed in service in Quebec province on various war projects. They replace four similar single-engine utility aircraft which have been retired from service.

► Northwest Airlines planes carried 1,391,668 pounds of air express during the first eleven months of 1943, an increase of 335,237 pounds over the same period in 1942, as well as a record for an eleven-month period. Express pound miles were 904,736,663, compared with 785,088,374 for the 1942 period.

► United Air Lines has assigned the two DC-3's lately returned to it by the Army to its coast-to-coast route.

► In the first ten months of 1943, Canadian Pacific Air Lines carried 61,822 passengers and 1,873,368 pounds of mail, increases respectively of 22 and 40 percent over the 1942 period. Air cargo increased 2 percent to 8,586,588 pounds. Mail pound-miles jumped from 337,346,000 to 759,214,000.

► Railway Express Agency reports rail-air express cargo up 16.9 percent in October, 36,585 shipments moving in that month, compared with 31,292 in October, 1942. Express charges on the cargo totaled 25 percent more. The Agency estimates 30 percent of all air express shipments originate at or are destined for off-airline offices.

► Number of employees of Cia. Mexicana de Aviacion, Pan American affiliate, has more than doubled in two years. Dec. 7, 1941, it was 505. At the end of 1942 it was 862, and now the number has reached 1,376.

► Newark city officials have disclosed that four major airlines have been in constant touch with developments at Newark airport since they moved to La Guardia field four years ago. There are said to be indications the lines hope to use the Newark field again after the war. It now is an important Army Service Command project. Spokesmen for the Port of New York Authority, meanwhile, have advised that metropolitan planners consider development of additional landing areas on both sides of the Hudson.

► The sixth annual Christmas bonus paid by Delta Air Lines totaled \$40,000 to its 858 present employees and 87 former personnel now on leave with the armed services. The bonus was \$50 each for employees with the company ten months or longer and proportionate amounts for others.

► Latest report by Northwest is that the first 11 months of 1943 gave it a record of 4,466,961 airmail pounds, an

increase of 1,693,885 over the 1942 period. For November, airmail poundage was 482,584, and pound mileage 366,720,918. Airmail pound mileage

CAB ACTION

● In his report to CAB in the Topeka-Salina-Hutchinson, Kan., operation, Examiner Lawrence J. Koster disagreed with Public Counsel V. Rock Grundman's recommendation that both Continental's application to serve Hutchinson and Braniff's to serve Topeka be granted.

Examiner Koster recommended only that Continental's application be granted, and that those of both Braniff and TWA be denied. He gave his opinion that benefits derived from the inclusion of Topeka, Salina and Hutchinson on TWA's Route 2 "would be outweighed by the detrimental effect on the development of a sound national transportation system."

He considered that these would be a substantial diversion of revenue from Continental, and further reasoned that there is a "limit to the extent to which transcontinental carriers should be permitted to divert their routes to include additional points, since such additions have a tendency to diminish the value of fast continental service and to weaken the economic and competitive position of the local carrier."

In suggesting that Braniff's application to serve Topeka on Route 9 also be denied, Examiner Koster felt that this would result in a loss of traffic to Continental between Topeka and Wichita, and that the convenient and adequate connections that probably will be established after the war at Kansas City, which is an interchange point for several converging routes, passenger inconvenience could be reduced to a minimum on transfers. He felt that Continental was well able to meet the need between Kansas City and Topeka.

By granting Continental's application, Koster admitted that traffic previously interchanged at Wichita would be diverted from TWA and Braniff. The record revealed, however, that only about one passenger per day has moved over this routing in the past.

● Hearing on American Airlines' application to include San Antonio as an intermediate point on FAM 26 between Fort Worth-Dallas and Monterrey, Mex., has been assigned for Jan. 10, in Washington.

● A contract between Pan American Airways and Panair do Brasil for certain facilities and services furnished by the latter to Pan Am, has been approved by CAB.

● Petition of Eastern Air Lines that the CAB reconsider its decision served last November, denying the airline's application to operate between Memphis and Greenville, S. C., via Muscle Shoals, Huntsville and Chattanooga, was denied; without prejudice to Eastern's right to file for additional service in this territory.

● William J. Denning has withdrawn as counsel in National Airlines applications for two alternate routes between New Orleans and Kansas City, as he is representing Mid-Continent in the same territory. Counsel for National in this proceeding will be Paul R. Scott and Robert H. Anderson of Loftin, Calkins, Anderson, Scott & Preston, Miami.

● William Howard Payne, Washington attorney, will represent Page Airways, Rochester, in their applications for pick-up service in New York, New Jersey, Connecticut and Vermont.

● City of Amarillo, Tex., asked leave to intervene in the matter of TWA's application to add Santa Fe as an intermediate point from Amarillo to Winslow and to Albuquerque.

● Brief filed by Air Line Pilots Assn. in the proceedings concerning Western's acquisition of Inland Air Lines suggests that before the CAB grant approval, Western and the Air Line Pilots Assn.

for the first 11 months of 1943 was more than a billion over the 1942 period, having risen from 2,249,758,914 to 3,573,613,649.

reach a mutual agreement and present it in writing to the Board as to the employment and seniority rights of Inland's pilots.

● County Commissioners of Pinellas County, Fla., asked leave to intervene in the Caribbean, Central and South American cases. They pointed out that the Pinellas County Airport, operated by the County Commission, could serve St. Petersburg, Tampa and Clearwater and would like to have it so designated in the granting of any applications to any of these terminals.

● Tentative dates set by Examiners Francis W. Brown and William F. Cusick in proceedings involving applications for service in the general area between the Twin Cities and New York are: 1) case summary, Jan. 20; 2) exchange of exhibits, Feb. 7; 3) exchange of rebuttal exhibits, Feb. 15; 4) hearing, Feb. 28. Parties to the proceedings are American Airlines, Braniff, Colonial, Northeast, Northwest, PCA, TWA, United, City of Detroit and Port of New York Authority.

● CAB issued an order enlarging the scope and permitting the inclusion of additional evidence in the case concerning air mail rates of Pan American Airways between San Francisco and Auckland, New Zealand, Hong Kong and Singapore. Reconsideration will be given to the amount of reserve against non-collection of certain postal accounts which was allowed Pan Am as an item of expense in the Board's opinion on Aug. 31, 1942, when rates were fixed. Additional evidence to be allowed in the record is the affidavit of George H. Grayson, director of the Division of International Postal Service, attesting to payment by Netherlands Indies and Malaya of the postal accounts for which the CAB allowed a reserve to be established.

● In a routine request to CAB for leave to intervene in the matter of Hughes Tool Co.'s control of TWA, the Department of Justice stated: "The effect of subsidies of air transportation by manufacturing concerns upon independent airlines is not shown. For this reason, among others, the issue is raised in this proceeding whether competition of independent airlines will be unduly restrained by the consummation of the action for which approval is sought."

● CAB approved the agreement between American Airlines and Braniff, Chicago & Southern, Continental, Delta and PCA regarding local and joint passenger tariffs for transportation into Mexico.

● A CAB order approved an agreement between all operating domestic air carriers as the result of a resolution made by the Air Traffic Conference of America which states that a member may use one banner head in advertising in any telephone directory, but only on the page of a directory on which its telephone listing is given or opposite that page.

● Eastern Air Lines asked the CAB to remove the restriction on its certificate for Route 5, which prohibits stops on the same flight at Winston-Salem and Greensboro, N. C., and Raleigh, W. Va., and Winston-Salem, and at Raleigh and Greensboro.

● Public Counsel Russell S. Bernhard in brief submitted to Examiner Barron Fredricks in the matter of TWA's application to serve Morgantown, W. Va., concluded that this application should not be granted at this time. It raises certain "basic issues," he said, involving local service, on which policy has not yet been determined by the Board. He said Morgantown was only one of several towns that TWA proposes to add to Route 6 and that granting of this application would, in effect, be awarding a local route to TWA.

● Date for hearing on applications by Eastern and National for service from Miami to Key West is Dec. 30. Hearing will be held in Washington before Examiner Vincent L. Gingerich.

Plywood Possibilities

ARMY, NAVY AND CONGRESS were charged with a failure to support the full development of plywood aircraft construction in this country in a recent address by Lawrence Ottinger, president of United States Plywood Corporation, before a New York Stock Exchange group.

Mr. Ottinger said that more than two years ago he returned from Europe with information regarding the now famous *Mosquito* all-wood warplane. When he offered the data to Army and Navy, their officials said "we will build our own planes." He contended that the Department of Agriculture's Forest Products Laboratory at Madison "has been begging the government for funds to develop engineering data on plywood planes for years. . . . England knew a good deal more about plywood in its technical sense than we did." Much of the plywood for the *Mosquito*, called the world's fastest plane, is manufactured in the U. S., Mr. Ottinger said. Most of his charges appear to be substantiated.

"Prejudice" of the services against plywood has been a popular subject of debate for years. Consensus of Army and Navy officials is that they were slow in awakening to plywood, but that in the last two years they have recommended to Congress the sizable appropriations which have been made to the Madison Laboratory for extensive and successful work. It is known that in 1940 General Arnold ordered all available experimentation. In this line, the Navy never has shown significant interest.

ARMY OFFICIALS also point to "considerable achievement" in wood design by the American aircraft industry; the Beech AT-10 and the Fairchild AT-21 are both constructed almost entirely of wood; partly made of wood are the North American AT-6, the Vultee BT-13, the Fairchild PT-19, Cessna AT-17, Beech C-43, Fairchild C-61, the Howard GH Navy transport, and the Waco C-2. The glider program should be included in any wood design summary too, they say, because it adds up to considerable tonnage.

Nevertheless, the trainer program is dwindling

and action to capitalize on our studies has been almost nil.

Important research has been conducted by the laboratory in the past two years—so valuable in fact, that British government aircraft officials recently requested that a technical mission be sent to England from the laboratory to report on its research progress on aircraft plywood and plywood compositions. The mission, comprising five forest products men and a representative of Civil Aeronautics Administration, has now returned from a 60-day tour. They report that U. S. plywood research is well ahead of that of Britain—the world's leading user of wooden planes. In application, however, Britain, with 40 warplane and trainer types of varying percentages of wood, and 60 percent of its propellers of this material, is far ahead of the U. S.

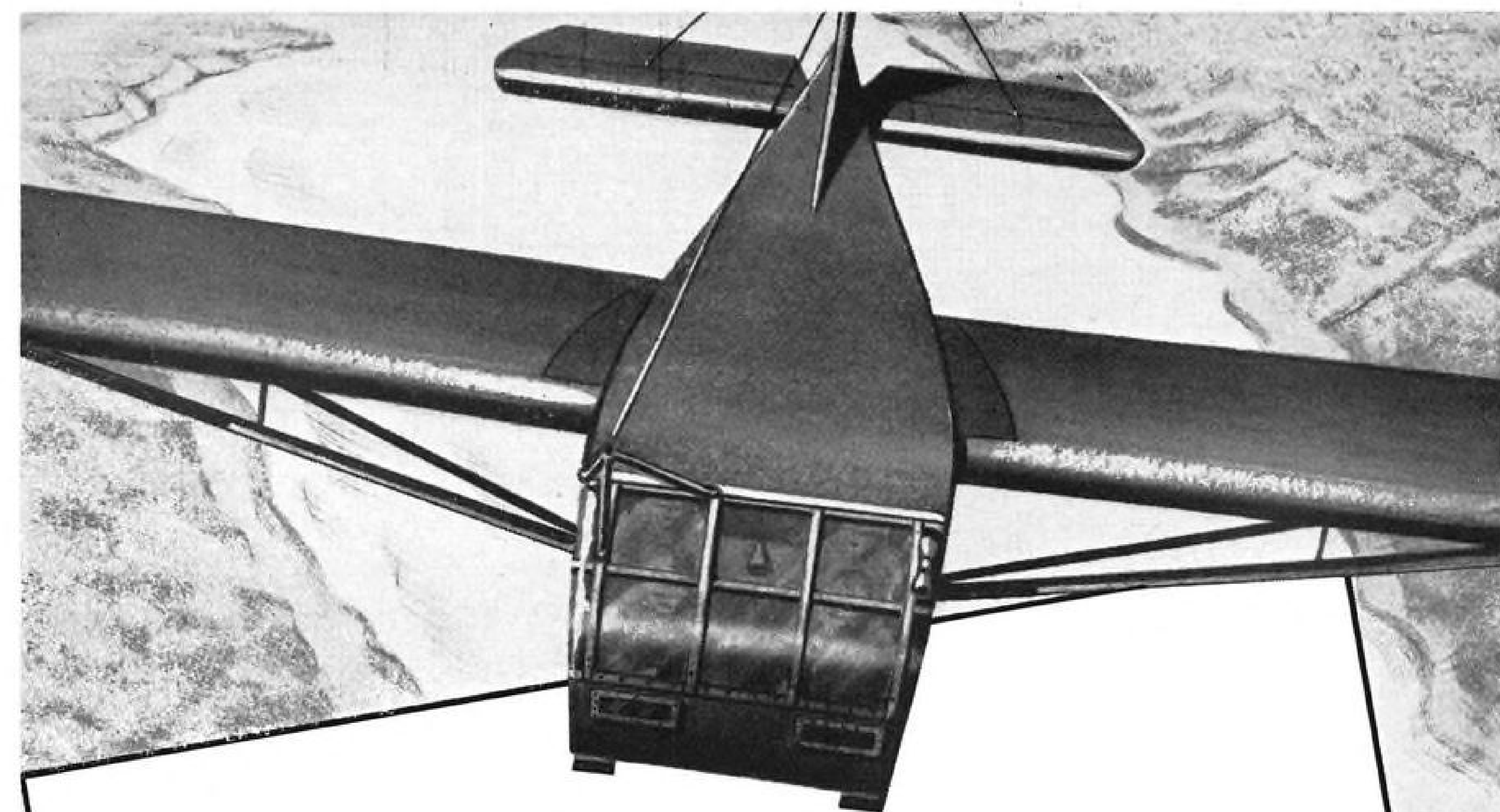
So now, after liberal appropriations, we have become the world's leaders in aircraft plywood research, but outside of a few training planes of wood we aren't doing anything about it. That is the basis for current complaint.

Army and Navy air officials make no secret that they are metal-minded. They are rightfully against any disruptive changeover to wooden warplanes in the midst of a global air war. But proponents of wood feel strongly that design and construction of new warplane types should be started. They are convinced that the importance of the project rates the few engineers who would be needed, and that plant facilities exist without any interference with the metal plane program.

Despite the finest research in the world, we are using less wood in aircraft today than we were using six months ago, and as requirements now are set up we shall be using even less in the future than we are today.

It is no reflection on our aircraft industry to advocate using all available aeronautical research at our command to help end the war. The commercial aircraft industry certainly will explore every possibility of wood when the war is over, but why wait until then?

ROBERT H. WOOD



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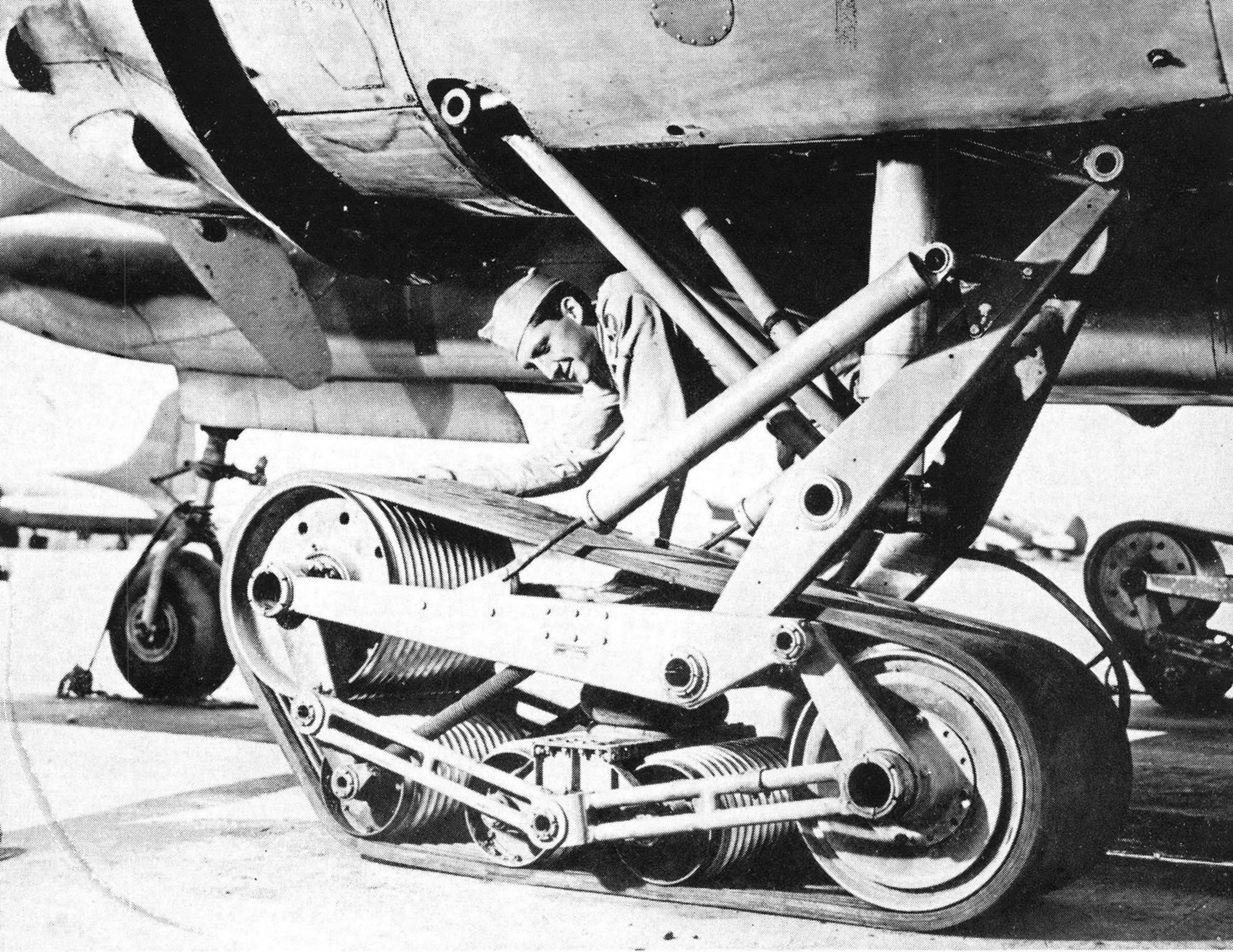
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with this gear have landed at 120 miles per hour!

What about bearings? The adverse operating conditions are there; heavy loads, shock and high speeds together with the necessity for the highest degree of dependability. What bearings were selected for this newest innovation in landing gear? Timken Tapered Roller Bearings, of course. The Timken Roller Bearing Company, Canton, Ohio.

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