

Aviation News

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APRIL 3, 1944



Competition Question Threshed Out at CAB: *Civil Aeronautics Board members heard exhaustive arguments for and against competition among big and little air carriers when the question of additional service between Boston and New York was debated last week. Left to right, Board members are Oswald Ryan, Vice-Chairman Edward Warner, Chairman L. Welch Pogue, Harllee Branch and Josh Lee.*

Hull Maps Senate Committee Talks on World Air Policy

State Dept. to open full-scale program of consultation with Senate groups on problem of post-war organization, Senator Connally reveals.....Page 7

Vast Fruit, Vegetable Potential Discussed at Detroit

Total ranges from six times all airborne express in 1941 at 15 cents per ton mile to 968 times 1941 total at three-cent rate, survey shows.....Page 32

Tightened Draft May Take Many More Plane Workers

Few deferment requests for men under 22 to be supported; technical and engineering branches likely to be hardest hit by new rules.....Page 9

ACCA Clarifies Industry's Stand on Cost-Plus Contracts

Aeronautical Chamber urges continuance of system in view of unusual success in meeting production schedules and quality of planes.....Page 24

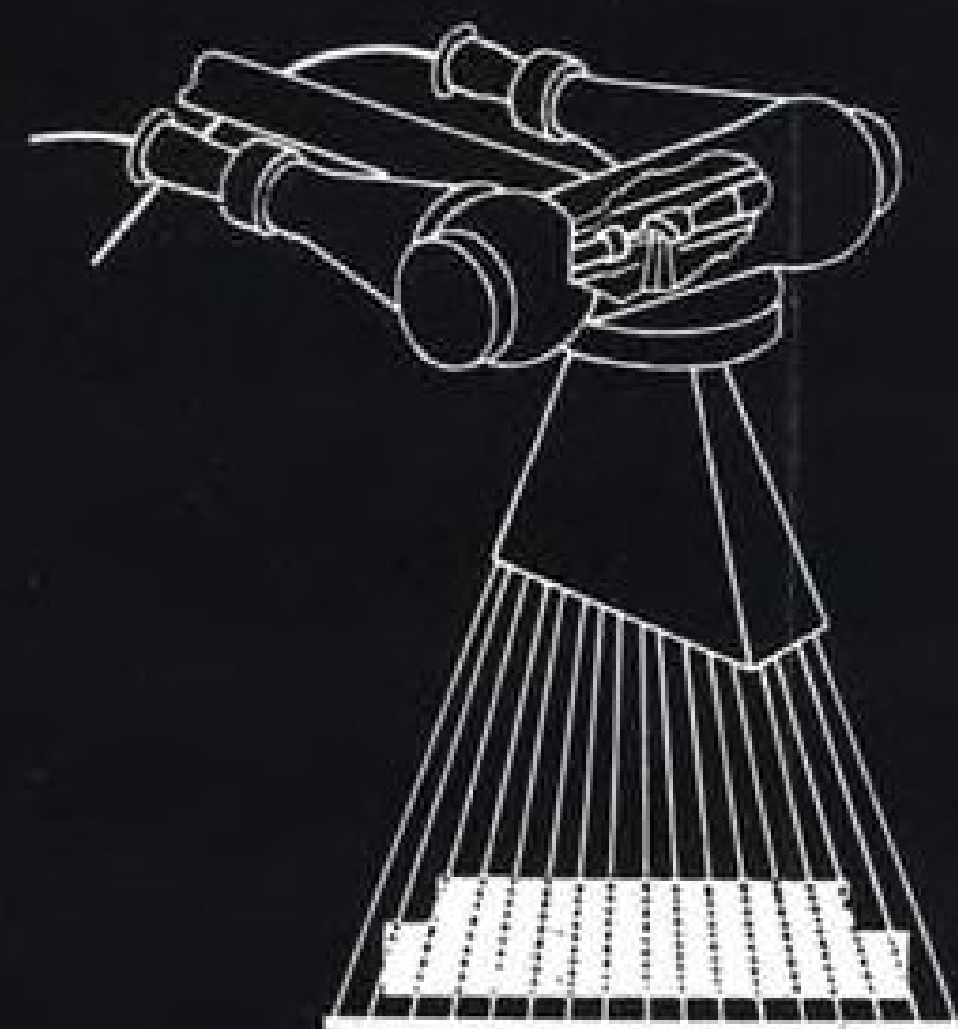
CAB Cites Commercial Hazards in Reinsurance System

Study points out international business relation whereby important data may reach foreign interests to detriment of U.S. world commerce.....Page 34

Domestic Airlines Resume Plans for New Financing

Northwest to offer stockholders rights to subscribe to 117,460 common; National arranges private financing for Jacksonville-N.Y. route.....Page 44

5 reasons why you need x-ray for aircraft production



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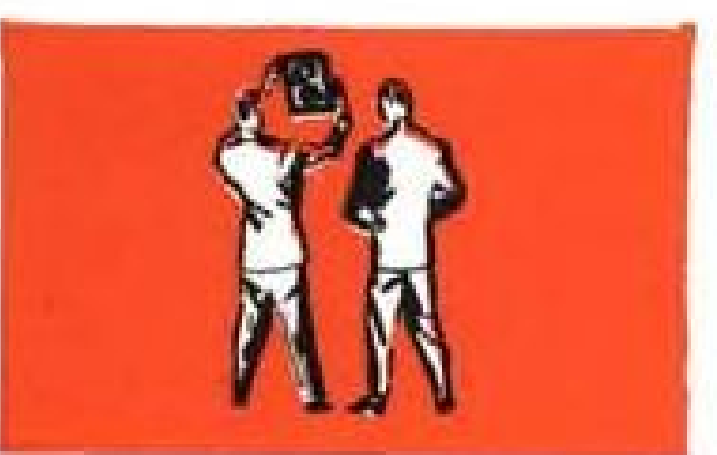
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THE AVIATION NEWS

Washington Observer

MANPOWER MOVES—Outside of the front-line war news, the Capital has been turned upside down over the manifold and conflicting pronouncements on manpower. An analysis of the situation indicates that, even if Selective Service gets all the so-called vulnerables in the aircraft industry in the 22-25 age limit, the total will be insignificant against the announced needs of the armed forces. On the other hand, this total, small in comparison, is in the age category most in demand by the armed forces. The effect on the aircraft industry will be marked, of course, since many of these young men are engineers, technicians and other critical workers. But the conclusion seems to be that the aircraft industry might as well prepare to produce as many planes as possible with available personnel, regardless of the departure of men now regarded as vital to schedule-meeting.

★ ★ ★

PLANE CUT-BACK—It should not be overlooked that a cut-back in aircraft production schedules is not outside the bounds of possibility. Aircraft unit production for the first three months of this year is something over 26,000. The AAF already has cut back its training program for airmen, and if there is a reduction in the aircraft production schedule, none should be surprised.

★ ★ ★

AAF ADVERTISING—Big advertisements in metropolitan newspapers proclaim that the AAF aviation cadet program is ahead of schedule. The AAF has, the advertisement says, sufficient men in training and in the Air Corps Enlisted Reserve to meet its present schedule for combat crews and therefore must balance this activity with over-all needs. Thus the conclusion is that the air forces at the moment have more men than they have airplanes. The AAF appar-

ently plans to advertise further, since the current statement says, "We shall continue to report developments—so that when we invite further active enrollment on our flying team, the nation will be familiar with our activities and the vital nature of our needs." Most of the information presented in the advertisement was given before a Congressional committee.

★ ★ ★

MANPOWER UTILIZATION—There are increasing signs of more efficient utilization of manpower in the aircraft industry, according to WPB officials. This is traceable to at least two factors. First, production schedules are now more certain than at any previous time, and second, a higher worker productivity has been made possible by the greater know-how that management and labor have gained during the period since the war production program began. There is little doubt that manpower will become more and more a critical problem and that its various phases will be more widely debated than ever in the months ahead.

★ ★ ★

RECONVERSION—Action on reconversion legislation continues to be retarded by overlapping jurisdiction of various Congressional committees and controversies over details as well as by conflicting viewpoints of some high officials. This is in the face of what appears to be a rising sentiment in Congress for statutory regulation of conversion programs as against the shaping of policies by executive agencies. As pointed out by Donald Douglas in his significant remarks to his company's stockholders, government has a duty to remove by legislation and prompt equitable action all obstacles and uncertainties in the path of restoration of the company (Douglas) to peacetime activities without delay or impairment.

B-17G Flying Fortress on practice flight with two port engines off and props feathered.



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AVIATION NEWS

April 3, 1944

CONTENTS	PAGE
Washington Observer	3
Headline News Section	7
Air War	16
Personnel	20
Aircraft Production	24
Transport	32
Financial	44
Editorial	46

THE PHOTOS

Staff	Cover, 32
U. S. Army Air Forces	3, 5, 7, 8
U. S. Navy	9, 12
Westinghouse Electric & Mfg. Co.	13
British Information Services	16, 38
North American Aviation	18
Ryan Aeronautical Co.	26
Boeing Aircraft Co.	29, 31
Transcontinental & Western Air.	33
United Air Lines	34, 37

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DALLAS MALLARD	Art Director
ANDREW B. MARTIN	Sales Manager

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

Editorial Headquarters,
1252 National Press Building,
Washington 4, D. C.

Mid-West Office, 955 Reibold Bldg., Dayton, O.
Pacific Coast Office, 601 W. 5th St., Los Angeles

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Advertisers Index

Aircraft & Diesel Equipment Corp.	41
Chandler-Evans Corp.	19
Clifford Manufacturing Co.	27
Curtiss-Wright Corp. (Airplane Div.)	17
Darnell Corporation, Ltd.	42
General Electric Co.	4th Cover
Goodrich Co., The B. F.	6
Guiberson Diesel Engine Co.	4
Gulf Oil Corp.	25
Heintz & Kaufman, Ltd.	36
Kelite Products, Inc.	42
Kellert Aircraft Corp.	28
Lapointe Machine Tool Co., The.	30
Link Aviation Devices, Inc.	21
McQuay-Norris Mfg. Co.	22
Standard Oil Co. of California.	35
Timber Structures, Inc.	43
Westinghouse Elec. & Mfg. Co.	2nd & 3rd Covers

TURNOVER—Turnover or "quit" rate in aircraft manufacturing plants is not worrying manpower officials as much today as the rate in other war-related but not directly war-production industries. Situation is serious, for example, in railroads, cotton mills, mines and the lumber industry. Mines are estimated to need 40,000 men to maintain proper rate of production. Railroads are scheduled to lose 85,000 men by July 1 on the basis of present replacement schedules. The aircraft manufacturing industry, although in a serious condition, is not facing a crisis. Turnover rate has been cut to less than 6 percent and there has been an "astounding rise in productivity" per individual worker that permits reductions in personnel without too harmful a reaction on production. Plants and personnel have gone through the shakedown period in good form.

BEARING SHORTAGE—Chief headache of the manpower-production front now appears to center in the ball-bearing plants of the country. A very critical manpower shortage is being given attention and estimates are that 5,000 new employees would have to be channeled into the eleven ball-bearing plants that produce the bulk of the nation's output. The situation is so tight that WMC has resorted to strong persuasive methods in some sections to force people into these plants. In Hartford, testimony shows workers laid off by other industries, were refused availability certificates for less essential work in an effort to force them into a ball-bearing plant at near-by Bristol, Conn. Effort backfired, though, and these workers went on relief.



U. S. bombs rain down on Nazi Europe.

Washington Observer

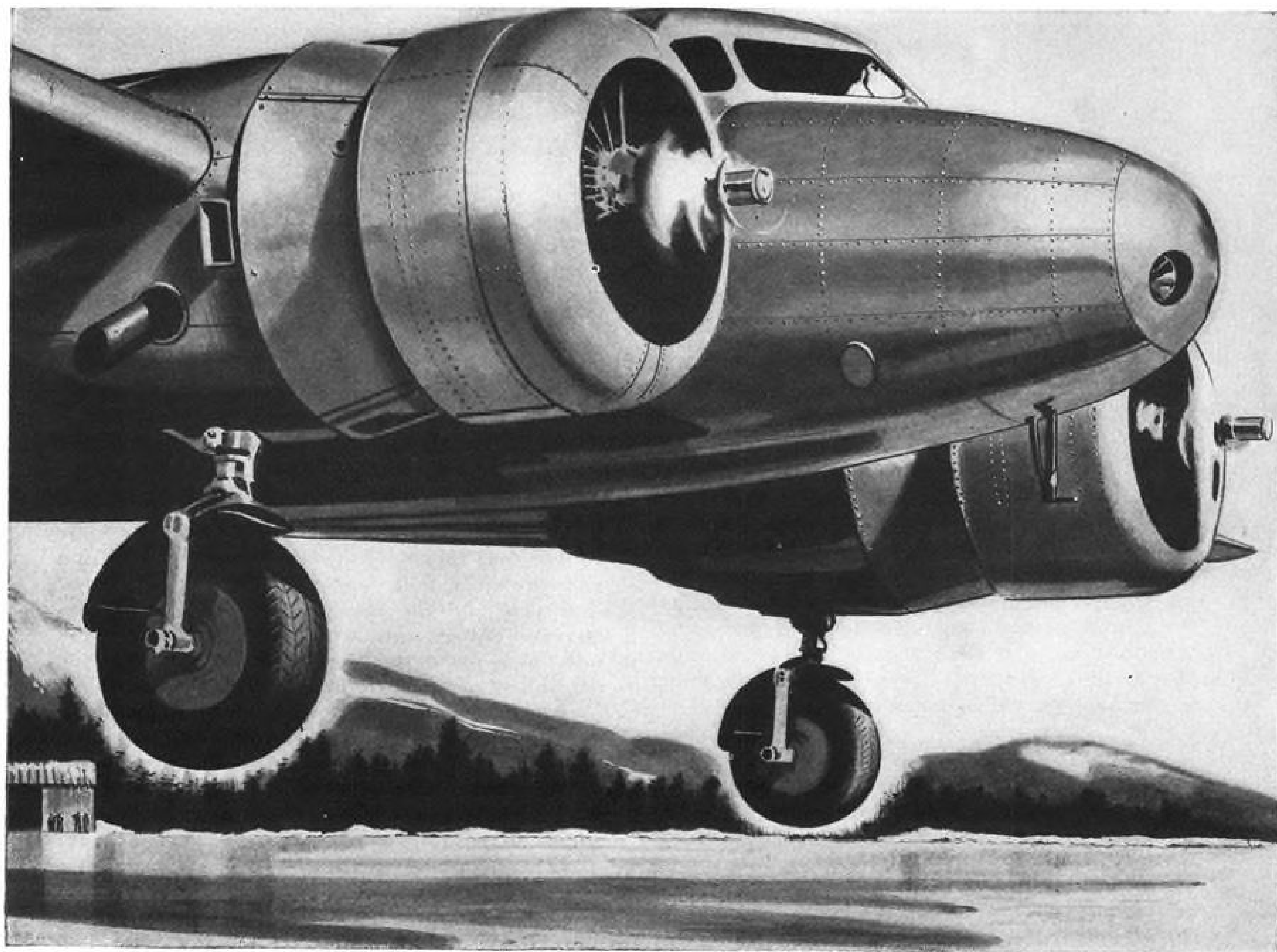
HALT ON EUROPEAN AIR MAIL—The shadow of things to come is seen in the suspension of Civil Airmail Service between Great Britain and more than a dozen countries in and near continental Europe—for operational reasons—the same given for a ban on civilian movements in the 700-mile strip of the British coast facing occupied France, the Netherlands and Belgium.

NATIONAL SERVICE ACT—Congress continues cool toward National Service legislation and probably will continue to be in this election year, despite the pressure of high-placed government officials, who contend that it is the only answer to the manpower problem. This continued pressure indicates to some observers in Washington a tendency to place on the Congressional doorstep any blame which may accrue for lack of manpower in the days to come. In its present mood, Congress is not likely to take this pressure without fighting back—if it comes to a showdown.

OTHER MERGERS—Proposed acquisition of American Export Airlines by American Airlines naturally leads to speculation on whether other similar deals are contemplated by other airlines. The answer is that some mergers are being considered, though perhaps not yet to the point of actual negotiation.

POST-WAR POLICIES—Lack of opposition either in committee or on the floor of the House to establishment of a select committee that will have a major voice in the formulation of post-war military policies is indicative of a Congressional trend in thinking on this problem, particularly as regards the kind of peacetime aircraft industry and the kind of air force that we will maintain. It should be a source of satisfaction to aviation generally that Congress is thinking along these lines and the industry should and will follow closely the activities of this committee, which has bi-partisan support.

TRUMAN COMMITTEE POLITICS—It is regrettable from the viewpoint of the aviation industry that politics has reared its ugly head in the Truman Committee. Some of the activities of this committee have annoyed certain sections of the industry, but the general feeling has been that this group has done a good over-all job in the joint war effort. Differences of opinion within the committee in an election year are likely to reduce the standing of the committee in the eyes of those who have looked to it to keep the war effort on the highest plane.



CHALLENGE: MAKE A BRAKE TUBE THAT WILL STOP THIS PLANE AT 65° BELOW ZERO

The new Air Corps spec for ET brake tubes was clear enough. From now on, it said, tubes must function efficiently in any temperature from about 400°F. to -65°F. The high limit wasn't a problem. But that -65° figure—that was a real challenge to B. F. Goodrich engineers. The former low limit was -40°. Here's what they were up against.

Most rubbers, both natural and synthetic, tend to become brittle and crack when flexed at low temperature. This tendency had to be overcome. Then there was another problem. A new brake fluid, used to obtain better flow below zero, was more destructive to the tube.

B. F. Goodrich engineers met the challenge two ways: First, a change was made in the shape of the tube which reduced the flexing required for efficient operation. This greatly relieved the strain on the tube and reduced its tendency to crack. To lick the problem of brittleness, however, and that of the more destructive brake fluid, a completely new synthetic rubber compound was needed.

B. F. Goodrich chemists worked out a compound of a special-purpose synthetic

rubber. Sample tubes were tested (more severely than prescribed by the Air Corps) and results proved the compound could meet Air Corps specifications. Thus, once again, B. F. Goodrich engineering met changing requirements quickly and satisfactorily.



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Hull, Congress May Merge Forces In Formulating World Air Policy

State Dept. to open full-scale program of consultation with Senate committee on problem of post-war organization, Sen. Connally reveals.

Capitol Hill and the State Department soon may merge their forces to attend to the urgent business of formulating a national policy on post-war international aviation.

This is believed to be a reasonable expectation following disclosure by Sen. Tom Connally, chairman of the Foreign Relations Committee, that Secretary of State Cordell Hull will launch a full-scale program of consultation with Senate committees concerning the problems of post-war world organization.

► **Straws in Wind** — Keeping the larger issues of diplomacy in mind, one still can foresee readily that the pressure of steadily developing events in the aviation picture will force consideration and perhaps definition of the country's position with respect to post-war overseas operations, as these consultations progress. The impression results from these straws in the wind:

► The British have let it be known they consider international commercial aviation will be one of the outstanding forces in the post-war period.

► The United States is about to enter exploratory talks with Britain, Canada, Russia and possibly China, followed by talks with other interested powers, on aviation problems of mutual interest.

► Canada has presented to the State Department for study and reaction a fully detailed scheme for an international air organization envisaging freedom of transit.

► On the domestic scene, Sen. Pat McCarran has stolen a march on his colleagues of the Senate Aviation Subcommittee by placing all the issues squarely before Congress. The Republican party is warming up the bugles on all matters deal-

ing with American foreign policy.

Aviation circles in Washington, of which there is a wide assortment, reason therefore that more rapid progress in resolving the complex problems of international air transport must be made. They argue that the issues must be thrown wide open in Congress, and the State Department must begin to make more clear its position.

► **Liaison**—Already informal liaison

has been established between State and Congress through discussions between members of the Aviation Subcommittee, of which Bennett Champ Clark is chairman, and Assistant Secretary of State Adolph Berle, Jr., who has been handling the matter for the Department. Berle likewise has given the Foreign Relations Committee a limited preview of the question.

McCarran's bill, introduced while Aviation committeemen cautiously and unhurriedly continued their researches, placed these vital issues in the open:

► Chosen instrument versus regulated competition.

► Government versus private-company negotiation with foreign countries.

► Air sovereignty versus freedom of transit.



MODEL OF NEW 760-MPH. WIND TUNNEL:

Hundreds of pressure and speed tests have been conducted on this one-twentieth scale, pine model of the AAF Materiel Command's new high speed wind tunnel, to be ready at Dayton next summer. It will have a 10-ft. test chamber. Dr. Frank Wattendorf (left) began designs about two years ago. It will be the largest tunnel in the world with such wind velocity, approximating the speed of sound, 765 mph. Models to be tested inside the tube probably will be built of steel to prevent destruction. Maj. Charles Lutz is shown on right.

► The controversy between steamship companies and airlines as to whether the former shall be permitted to enter the aviation business.

► The question of a treaty status for any international air agreement.

Discussion of the McCarran bill brought out some wide divergences of opinion between Senators and State Department.

The State Department's views, as far as the public has been informed, are not crystallized, although more than a year of study has gone into the question, but it appears at this sitting that the United States delegates will go into international talks favoring:

► Freedom of transit agreed to on a multilateral basis.

► Inter-government negotiations for landing rights instead of the prewar unilateral system used by private companies.

► Some kind of international authority, with much less power perhaps than proposed by Canada, and within the general United Nations framework.

Congressional opinion is sketchy thus far, but it can be said there is much sentiment for continued retention of air sovereignty, unilateral negotiations and a definite insistence upon Senate approval of any international system that may be worked out.

► **Final Policy**—The final policy—



CONTROVERSIAL PARACHUTE TYPES:

At Materiel Command laboratory, Lieut. Col. Verne E. Stewart, chief of Materiel Command parachute branch, Wright Field, shows, left, standard three-release, (recently criticized by a columnist for being difficult to release quickly) fastened by swivel-snaps at chest and at both sides of waist on dummy's chest. Other photo shows central mechanism of the single release device, which is a disk on the dummy's chest, secured by pin, held by Stewart, and which contains a spring mechanism. To release harness, the jumper turns the disk which cocks the spring, and then slaps the disk to accomplish final release.

Aviation Calendar

- Apr. 5-7—SAE National Aeronautic Meeting, Hotel New Yorker, New York.
- Apr. 24—East and West Coast Aircraft War Production Councils, joint meeting, Los Angeles.
- Apr. 27-28—National Light Aircraft Meeting, Institute of Aeronautical Sciences, Detroit.
- Apr. 27-May 3—Third Wartime Aviation Planning Conference, Texas A. & M. College, College Station, Texas.
- Apr. 28-30—Southwest Aircraft and Accessories Exposition, Dallas.
- May 2-3—National Conference on Aviation, Aeronautical Institute of Canada, Toronto.
- May 15-16—South Dakota Airport Planning Conference, Huron.
- Oct. 5-6—SAE National Aircraft Engineering and Production Meeting, Los Angeles.
- Dec. 4-6—SAE National Air Cargo Meeting, Chicago.

which seems still to be quite distant in statement—will be based on two cornerstones: what is best for national defense and what will promote best the commerce of the United States? This conclusion is implicit in Hull's foreign policy declaration and in the position formally taken by Clark's Committee.

The Committee plans to recess until the Easter vacation is over after which it will hear more airline officials and representatives of the Army and Navy, among others. The Army is said to feel a vital interest in the ultimate decision on foreign commercial air policy.

When public hearings begin, the committee will hear all groups indirectly affected by aviation; for instance such organizations as the Brotherhood of Locomotive Engi-

neers, Brotherhood of Railroad Trainmen, Railway Labor Executives' Association, and other labor groups. Those named have declared for the chosen instrument and air sovereignty.

► **Regulated Competition**—Increasing attention also is expected to be given the proposition, presumably fostered by American Export, among others, of regional monopolies, described as "regulated competition."

The destiny of McCarran's bill, as such, is not clear, but evidence that it caught the committee off guard was seen in Clark's statement that the bill "will not get a priority . . . our plans will not be changed by introduction of this bill." Clark said the committee will work out its own bill, but although there undoubtedly was considerable resentment at McCarran's jumping the gun, it appeared very probable that many points in his bill will be included in the final committee draft.

5c. Ariz. Gas Tax Measure is Buried

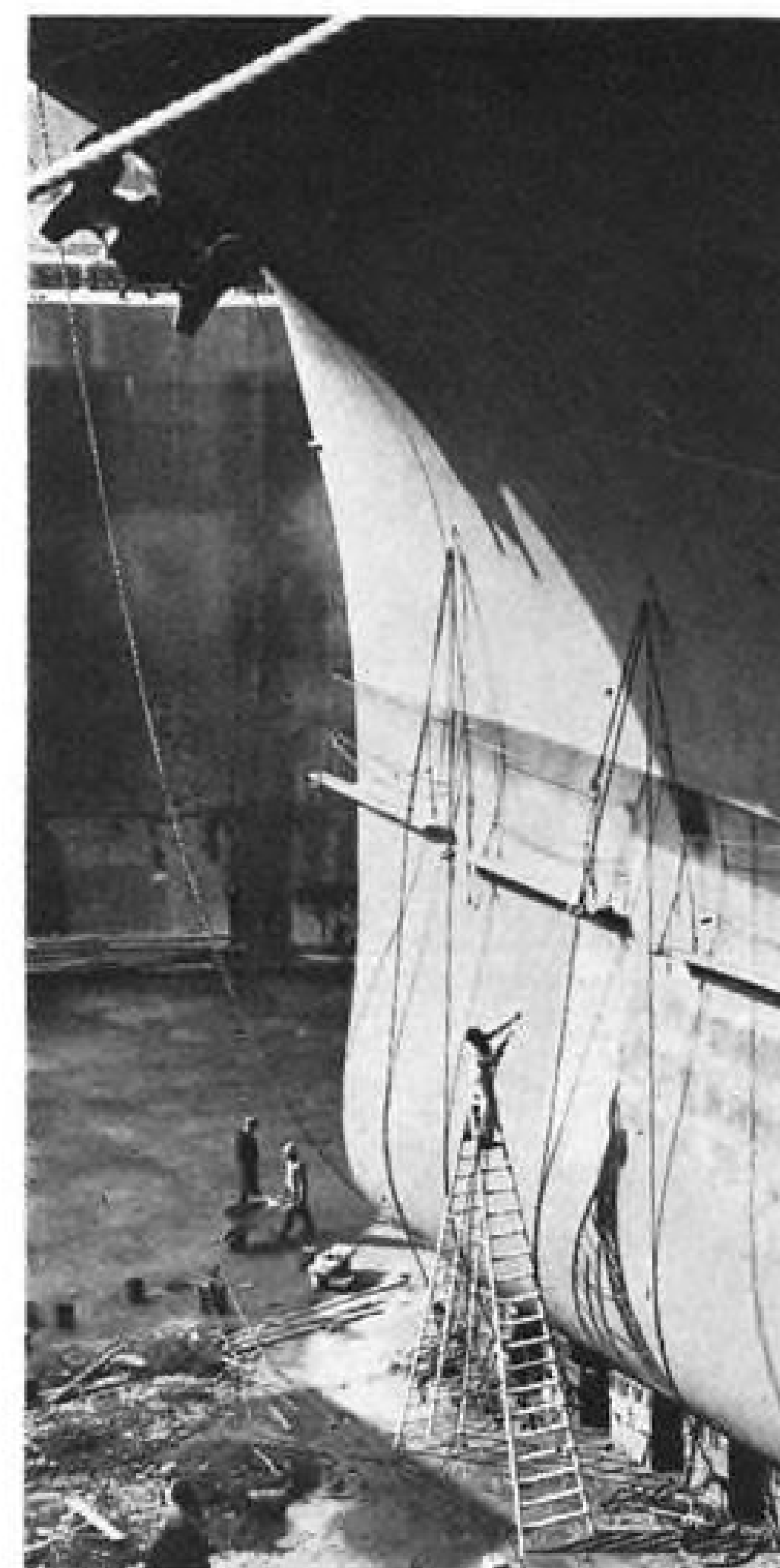
A tax bill that would have given Arizona 5 cents a gallon on aviation gasoline purchased in that state lies buried in legislative committee.

Airlines estimated that the proposal would have accounted for a state revenue between \$150,000 and \$200,000 annually and would have forced airlines to operate at a loss within the state. Most seriously affected would have been Transcontinental & Western Air, and American Airlines.

► **Hearings**—Although five weeks of hearings were held, it took the House Highways Committee only a brief one to decide to table the document. The state Senate conducted an aviation tax hearing, although it presented no bill.

Protest appearances were made by Clancy W. Dayhoff, assistant to TWA's regional manager; Russell Cantwell, TWA executive assistant, and James Robb and George Kemble, representing American at Phoenix and Fort Worth. In three House committee hearings protests were entered by private flyers, tourist industry spokesmen and Phoenix civic spokesmen.

► **Raised Operating Costs**—Dayhoff said the levy would add 2½ cents a mile to TWA operating costs across Arizona, where a 1 cent per mile addition to present costs would put the airline in the red for its Arizona operations.



CARRIER SCRAPED:

Photo shows one of America's aircraft carriers being cleaned and painted at a drydock somewhere along the East Coast.

Survey Asks Easier Taxes, Renegotiation

Changes must be made in present renegotiation and tax policies to permit the aircraft industry to build up adequate working capital, Guaranty Trust Co. points out in a survey of reconversion problems.

Saying that peacetime production and employment of the aircraft industry will not greatly exceed 10 percent of the industry's wartime peak, the Trust Company in its monthly survey said that its readjustment would be "one of the most critical reconversion problems."

► **Plant Disposal**—"The great bulk of the \$3,000,000,000 in additional plant facilities built since the beginning of the war will have to be scrapped or converted to other uses."

The survey said that "in order to meet the problems of reconversion in an orderly and constructive way, the industry must be allowed to maintain itself in a strong financial position and particularly to build up adequate amounts of working capital."

Tightened Draft Expected to Take Many More from Aircraft Industry

Few deferment requests for men under 22 likely to be supported; technical and engineering branches hardest hit.

By SCOTT HERSHEY

As the aircraft industry moves to comply with new Selective Service regulations, it becomes increasingly apparent that many young men in the 22-25 age limit, now regarded as essential in meeting production schedules, are going to be drafted and that few if any requests for deferment of men under 22 will be supported.

While the total number thus lost to the industry—some estimates are as high as 75,000—is not large in comparison to total employment and to the numbers of young men sought by the armed services, the new regulations will strike hardest in technical and engineering units. ► **Campaign for Women**—Some industry leaders foresee new campaigns to enlist women workers for aircraft work, since many recruiting campaigns for men have fallen far short of current needs.

Even under the strict interpretations of the new regulations there will be some deferments, however. Men in the 22-25 age limit necessary to support specifically listed production programs and engaged in jobs requiring an extreme skill or knowledge or highly educational or specialized qualifications, undoubtedly will receive deferment consideration from draft officials. In addition, some deferment consideration probably will be given individual workers not replaceable from other less urgent work.

► **Critical Cases**—Support for deferments within the 22-25 age group will be limited to those plants in which production necessary to meet designated programs is so critical that the output of end products is insufficient to supply immediate war objectives.

There is some speculation in Washington regarding the reasons behind the tightening of deferments, especially in critical industries, since the total which the armed forces will obtain is so small comparatively and the question always arises as to whether a man's contribution to the over-all war effort is more important in this case in the armed services than it would be on the production lines. One highly placed official commented

that an educational campaign was needed to impress upon some people that a man in civilian clothes can contribute importantly to the nation's economy and the war.

► **National Service Act Pressure**—Some observers see in the tightening of deferment restrictions, a pressure for enactment of national service legislation, although the administration's position on this is somewhat clouded by varying statements made by President Roosevelt, War Manpower Commission Chairman Paul McNutt and Selective Service Director Hershey.

Mr. Roosevelt, at a news conference, seemed to indicate that he still favored enactment of such legislation on a fairly broad scale. McNutt, testifying before a House Military Affairs Subcommittee, advised against enactment of such legislation, recommended conditionally by Mr. Roosevelt more than two months ago. Hershey, in a speech at Providence, R. I., said he was going to insist that some of the 4-F's in the 18 to 26 age group be taken for war service.

► **Measures Possible**—He said that, regardless of what measures are taken to insure participation by other groups, there are measures which can be taken to insure that everybody between 18 and 45 who is physically capable of work, does work and added that "we have arrived at the day and the hour when we should move to accomplish this objective."

There were indications, however, that these three Administration leaders might settle on some such middle ground as suggested by Rep. Costello, of California, that all men from 18 to 45 rejected by the armed forces should be compelled to enter essential industry. This proposal is still in the most tentative form, but is receiving some consideration by those working on the manpower problem.

Regardless of the action taken on the over-all manpower situation, the feeling is strong in official Washington that few men under 26 are indispensable in war plants and all of them are indispensable on the battle-fronts.

Select Committee Gets AAF Data For Early Start on Post-War Plans

Unified air force to be one of main points of program, with Congressional group expected to begin work next week.

By WILLIAM G. KEY

The House military policy committee—unique in the history of the nation—will begin its work the middle of this month with an “amazing amount” of material already available to it as a result of forward-planning by the armed services. One of the first proposals to be studied will be for a peacetime aviation program providing some means for implementing a unified air force.

The committee is charged with investigation of the basic requirements and the fundamental policies of aviation and other military structures after the war, and much

of its work will be in preparation for recommendations to Congress “when we know our commitments.”

It will study manpower problems, both in the armed services and for aviation and other industrial mobilization in the event of another war, procurement procedures, training, command practices, stand-by facilities and all other phases of the type of warfare the world may expect as a result of the lessons of this war.

The 23 members provided in the resolution prepared by Rep. Wadsworth (R., N. Y.), will comprise

seven members each from the Military and Naval Affairs Committees and nine from the House general membership. The chairman will be a strong aviation enthusiast, Rep. Woodrum (D., Va.).

► **Non-Partisan** — Although more than a year of discussion and planning has gone into the organization of the special committee, action in the House was speedy and entirely non-partisan. With the support of the Military and Naval Affairs Committees and the majority and minority leadership, it was introduced Mar. 8, reported out of the Rules Committee a week ago and voted by the House last Tuesday. In a companion action, the House voted the committee \$25,000 from its general fund to carry out its work. There will be no similar committee in the Senate.

It was conceded that from the studies of the committee there might come a recommendation of the wisdom of changing the historic structure of the House itself by merger of the Military Affairs and Naval Affairs Committees, although it was emphasized that the matter must first be given careful study.

Wadsworth and Naval Affairs Committee Chairman Vinson (D., Ga.) told the Rules Committee that the trend of thought in the nation was toward a unified command and that this might basically be applied to the Congressional Committee. Pointing out that unity of command is an actuality in many theaters of war, Wadsworth said one of the prime studies of the committee would be an examination of this system, the wisdom of its continuation and the extent to which it should go.

► **Material Available** — Wadsworth revealed that the services had been studying post-war activities and said “an amazing amount” of material will be available to the committee.

“The air forces bring new and interesting developments into the picture,” said Wadsworth, “and this study should be made before the war ends, so that plans can be ready to submit to Congress when we know our commitments.”

The Senate, for the present at least, will leave the responsibility for investigation of future military needs to this new House Committee, it has been learned. It will be closely watched, however, by both branches of Congress and by the public, since authority of the committee will die with this Congress and it is imperative that it prove

its value before the end of the year to win new life from the next Congress.

► **Preparedness** — It cannot be emphasized too strongly that the work of the committee is unique in the history of the country and can provide for the first time a fundamental military policy designed to prevent the unpreparedness that has marked America's entry into every war into which it has been drawn. The shape of the committee arises chiefly from recognition of the new tempo of warfare stemming from aviation.

In view of the swift development of aviation and the threat it holds to the nation's security, it is certain that much of the attention of the new committee will be devoted to this latest dimension of warfare, and those close to the thought of national leaders responsible for its creation say they feel that one primary function—and certainly its most important single function—will be the development of a policy that will maintain air strength able to cope with any that might be brought against the nation.

FEDERAL DIGEST

GMC Signs 35 Million Contract with DPC

Funds to provide for plant expansion at Buffalo and Tonawanda, N. Y.; summary of activities in U. S. and war agencies.

By MARY PAULINE PERRY

Largest contract increase granted by Defense Plant Corp. to the aviation industry recently was \$35,000,000 to General Motors Corp., Detroit, to provide additional facilities at Buffalo and Tonawanda, N. Y.

Chevrolet Division's Tonawanda plant will be tooled up to produce Pratt & Whitney 2,000 hp. Model R-2800 engines, it is understood. The company, at this plant, has been building Pratt & Whitney's R-1830 model and last year ranked fifth in horsepower delivered in aircraft engines.

► **Allocation** — Major portion of the increase will be spent at the Tonawanda plant, but a portion will go into Chevrolet Division shops in Buffalo, according to General Motors officials.

Aircraft parts are being built at Murray Corp., of America's Scranton, Pa., plant where additional facilities to cost about \$1,650,000



FLYING SCHOOL SEEKS POST-WAR BUSINESS:

When the race for post-war airplane sales gets under way, Fred Romy and his Inter-City Flying Service at Fort Wayne, Ind., will be ready. This Taylorcraft distributor is advertising now—student instruction, chartering, service and repairs and sales of used planes, instead of waiting for the post-war ship to come in.

will result in an over-all commitment between company and DPC of approximately \$12,600,000.

War Production Board places airplanes at the head of its urgency list for tire retreading, recapping, and repair equipment. A detailed list of types of equipment has been released to manufacturers who have been directed to use their facilities to turn out items most urgently needed before they use their facilities to fill equipment orders of secondary importance. Full circle tire molds and matrices for airplanes are the most urgent.

Additional uses of aluminum for products essential to the war effort have been allowed by WPB but only for products which contribute materially to the war program. The military services have been returning to aluminum, where substitute material had been used, the Board said.

Office of Price Administration extended rent control to three war-activity areas including a center of aircraft parts production, the new Hillsdale Defense-Rental Area, embracing

Hillsdale County, Mich., which will have a maximum rent date of Jan. 1, 1943. Rent control will be administered from the Area Rent Office in Jackson, Mich., but a temporary office for registration will be set up at Hillsdale. Other two centers are Berkeley County, W. Va., and Yakima, Wash. OPA said landlords in the areas will have 45 days from the effective date, Apr. 1, to register.

Interior Dept.'s Bureau of Mines has released a new educational sound motion picture, "Magnesium-Metal from the Sea," showing wide use of magnesium metal in the construction of aircraft and other equipment where lightness and strength are essential.

National Labor Relations Board's trial examiner recommended that Republic Aircraft Mfg. Co., Dallas, cease and desist from discouraging membership in United Electrical, Radio and Machine Workers of America-CIO, or from in any other manner interfering with, restraining, or coercing employees in their self-organizational rights; offer back pay to one employee; and post compliance notices for 60 days. At the same time the examiner recommended dismissal of complaint insofar as it alleges that company discriminatorily discharged two other employees.

Production and maintenance employees at Dodge Chicago Plant, Division of Chrysler Corp., will vote for or against UAW-CIO. NWLB ordered elections for ten other types of employees in the same plant.

General Motors Corp., Chevrolet Motor division, parts and service warehouse, Flint, Mich., hourly paid clerical employees elected UAW-CIO. The corporation's AC Spark Plug Division, Flint, timekeepers, time clerks, and floor checkers in three departments elected UAW-CIO; and designers, detailers, tracers and blueprint operators at the Brown Lipé Chapin division, Syracuse, N. Y., elected UAW-CIO.

At Douglas Aircraft Co., Inc., Park Ridge, Ill., maintenance painters, sign painter specialists, and sign painters elected Painters' District Council 14 of Brotherhood of Painters, Decorators and Paperhangers of America-AFL.

War Dept. awarded contract for construction of extensions to runways, additional taxiways and drainage systems at Sacramento Air Depot near Sacramento, Calif., at \$1,105,006. Another contract for \$777,904, has been awarded for construction of runway improvements at Brookley Field, Mobile, Ala.

In addition, War Dept. let contracts amounting to approximately \$3,577,000 for construction of facilities at AAF depots, airports and assembly plants.

Dept. of Labor has issued a textbook on successful employee relations in industrial firms that employed women for the first time or that expanded their force of women workers since the war. The pamphlet is titled *When You Hire Women*.

Rayburn Lists Committee Members

Speaker Rayburn, in Los Angeles to make an address, told AVIATION NEWS he would appoint the following members to the committee on post-war military policy.

Chairman, Woodrum (D., Va.). May (D., Ky.), chairman of the Military Affairs Committee.

Vinson (D., Ga.), chairman of the Naval Affairs Committee.

Bland (D., Va.), chairman of the Merchant Marine and Fisheries Committee.

Drewry (D., Va.), member of the Naval Affairs Committee.

Bulwinkle (D., N. C.), who has been actively interested in aviation as a member of the Interstate and Foreign Commerce Committee.

Thomason (D., Tex.), member of the Military Affairs Committee. Snyder (D., Pa.), member of the Appropriations Committee.

Merritt (D., N. Y.), member of the Military Affairs Committee.

Andrews (R., N. Y.), member of the Military Affairs Committee and holder of the DSC for gallantry in action with the AEF.

Maas (R., Minn.), a reserve colonel in Marine Corps aviation, who has served with the fleet in this war. He is the ranking Republican member of the Naval Affairs Committee.

Wadsworth (R., N. Y.), who introduced the resolution creating the committee, a member of the

Foreign Affairs Committee and long an advocate of a strong national defense.

Allen (R., Ill.), member of the Accounts Committee and the Rules Committee.

Powers (R., N. J.), member of the Appropriations Committee.

Mott (R., Ore.), member of the Naval Affairs Committee.

Short (R., Miss.), member of the Military Affairs Committee.

Arends (R., Ill.), member of the Military Affairs Committee.

Cole (R., N. Y.), member of the Naval Affairs Committee.

Miller (R., Conn.), World War flyer who lost both legs in an air crash in France. He is a member of the Post Office and Post Roads Committee.

Lyndon Johnson (D., Tex.), member of the Naval Affairs Committee.

Magnuson (D., Wash.), member of the Naval Affairs Committee.

Costello (D., Calif.), member of the Military Affairs Committee.

Sheppard (D., Calif.), member of the Appropriations Committee.

Veteran observers in Washington viewed the committee lineup as an exceptionally strong one, well suited to meet all demands.

Speaker Rayburn, in revealing the names of the committeemen, commented that “a post-war military policy we must have; we can't again afford to be caught as we were in 1941.”

U.S. Officials Discount Post-War Airline Competition by ATC

Military air transport organizations expected to be kept after armistice for peacetime defense and training but not to detriment of commercial aviation, Washington consensus.

By BLAINE STUBBLEFIELD

Rising speculation in air transport circles over possibilities of a peacetime Air Transport Command which would deprive commercial air services of traffic has been met with pledges by several responsible officials that the Army has no intention of maintaining such an operation to the detriment of private lines.

The speculation was stimulated by a recent statement of Air Secretary Archibald Sinclair that in his opinion the British Air Transport Command will become a permanent part of the Royal Air Force and that for years it may be larger, in terms of airplanes, than the British civil air system.

Termination Expected With War—U. S. Army Air Force commanders, according to one highly placed authority, agreed verbally with persons in the civil air system early in the war that the Air Transport Command will be abolished promptly upon the return of peace.

This understanding is said to have been reiterated as recently as a few months ago.

Most official comment makes a point of the fact that "peace" is a

flexible term. If arms are stacked the world around when the principal enemies collapse or when treaties are written, that is one thing. But if the nations maintain large forces in expectation of action, proportionate military transport services might stand for a long time, carrying goods that commercial lines would like to carry.

Post-War Disturbances—If civil or international wars follow this war, and if the United States participates in efforts to quell them, civilian air transport services cannot be allowed to enter such combat zones, and the military transport services will continue until there is actual peace.

Large armies of occupation in Axis territory, even if there is general peace, probably would require continuation of a large Air Transport Command. Conceivably some rehabilitation of devastated countries might have to be serviced by military air transport.

Return to Peace Basis—Putting the wartime Air Transport Command back on a peace basis probably would take a couple of years after the armistice. The airline contract auxiliaries will have to be

terminated by the usual contract cancellation procedure. This should not take long, however, and the disposition of the operators will be to get back to their own business and to their efforts to obtain overseas certificates. One observer said he thought the contractors might want to continue on their military routes while they are seeking certification.

Nearly all interested persons believe the military establishments will make efforts to perpetuate large standing forces indefinitely. Probably the air forces will have more success than other defense branches. But they will have to contend with post-war antipathy to military enterprise, and with a strong economy bloc in Congress.

Army, Navy Units Established—Almost certainly the Army and the Navy will maintain air transport organizations for strictly military and training work. The Army had a transport service for years before the war started, shuttling between Air Force depots, and running to Alaska and the Canal Zone more or less on schedule. Spare engines, motorcycles, a variety of parts and light equipment, and officers and troops were carried. Army also maintained a steamship service in the Pacific, which in itself is precedent enough for an air transport organization.

There is some consideration of assigning military transport planes for use only in zones of maneuvers or operations, leaving most supplies for civilian transport lines to carry. The airlines believe, and Army authority is said to agree, that commercial flying of supplies for the Air Force can be done at much less cost, allowing for a profit, than it can be done under the most careful military management.

Post-War ATC—Naturally the post-war size of the Air Transport Command will be coordinated with the size of the military establishment which Congress will decide on. The 21-man Woodrum committee is being set up in Congress for that purpose. At this time it can only plan alternatives; it cannot lay down any program till it sees the shape of the peace to come.

In the Air Force there is an unpublicized unit called Post-War Division of the Office of Assistant Chief of Air Staff on Plans. This group, headed by Col. R. C. Moffatt, is working on such problems as: What AAF commands will be needed in peacetime? What kinds of equipment? How shall pilots and air crewmen be dribbled back

into civilian life for the best interests of the Army, the aviation industry, and the public? This plans division doesn't know any answers as yet. When it does, it can only recommend. Undoubtedly it will have something to say concerning ATC.

Canadian-Vickers Turning out DC-4's

Douglas plane manufactured under agreement with U. S.

Disclosure that Douglas DC-4 transports will be manufactured in Canada under an agreement approved by the War, Navy and State Depts. was followed by an announcement that manufacture of the plane has already started at a government-owned plant operated at Montreal by Canadian-Vickers Co.

Manufacturing rights for the Douglas craft were obtained as a post-war project and the Canadian-Vickers Co. designated under terms of the agreement, which gives Canada exclusive, but non-competitive, right to build the big four-engine planes and sell them to operators in Canada.

Curbs Competition—The agreement guards against possible competition with American airlines and aircraft workers. John M. Rogers, Douglas vice-president, said that under no circumstances is the Canadian government permitted to deliver or use Douglas equipment manufactured in that country prior to the time the company in the United States is ready to deliver commercial DC4 transports to United States airline operators.

Four Other Types—In addition to the DC-4, Canada has four other types of post-war aircraft projected or already in production. Canada will continue production of the Canadian-designed single-engine Noorduyn Norseman (UC64) transport, made in Montreal, and has plans for two other transports of small and medium types. The Dominion is also "interested" in a trans-Atlantic type of transport which combines Canadian and British design. The design on this plane is well advanced, according to H. J. Symington, president of Trans-Canada Air Lines.

The Canadian industry also plans production of jet propulsion aircraft and has been associated in the development of jet propulsion engines for the past two years.



CEILING PROJECTOR:

This beam, shot from a 16-inch searchlight, seeks out the location of cloud layers, which the observer transcribes into ceiling height and passes on to the pilot approaching for a landing. This five-mile-high beam shown here at the Cleveland Lighting Division of Westinghouse, is helping to overcome flying hazards for airmen at home and in battle areas.

CAB Urges Simpler Certificate Rules

Simplification regulations on private pilot certification has been suggested in a memorandum sent aviation circles by the Safety Bureau of the Civil Aeronautics Board. The action followed successful distribution for comment of Part 60 of the Civil Air Regulations dealing with air traffic rules.

Suggestions are sought by June 1 on the Part 20 revisions, which include reduction of the age limit to 16 from 18; increase in dual requirements and decrease in solo requirements; elimination of all but elementary navigation and meteorology requirements; easing of educational and physical examination regulations; and modification of the private pilot flight test.

New Certificate System—The present airman certificate would be dropped and a pilot certificate substituted, showing designation as private or commercial pilot.

Jesse W. Lankford, director of the Bureau, said the Bureau would circulate modification of several items in Part 60 on which a difference of opinion was shown by comment of air experts.

Future of Gliders In Post-War Upheld

Laister-Kauffmann official says advantages will prove commercially feasible.

Admitting the glider industry has some problems to overcome, M. Nanson Whitehead, vice-president of Laister-Kauffmann Aircraft Corp., contends the commercial and sports future of powerless flight is promising.

Although the details of glider development cannot be released now because of war restrictions, Whitehead feels the military cargo glider can be converted to commercial operation, and that its payload can be increased simply by eliminating military equipment. The speaker's opinions were given in an address before the National Aeronautic Association Conference at Minneapolis.

Cost Reduced—"By using cargo gliders, only the carrier will be spotted for loading and unloading," said Whitehead. "In the meantime, the towplane is working elsewhere."

"We can safely estimate that a cargo glider manufactured under peacetime conditions will cost a fourth, or perhaps even a third less than a powered ship of the same capacity."

"The use of gliders for transport literally acts to insure the cargo carried. It eliminates fire hazards completely. This feature, coupled with the ability to descend at a remarkably steep angle of glide without building up excess speed . . . means cargoes can be recovered almost 100 percent, even under crash conditions."

Pickup and Delivery—"We look to see the day when our gliders will make possible pickup and delivery service for many thousands of small towns and cities heretofore left out of air schedules . . . we hope to see the comfort and safety of glider travel proved . . . within the next few years."

Whitehead said the industry is contacting airline officials, and is doing research work in their field. He believes gliders in tow will have important advantages in airline competition with railroads, steamships, and even trucking lines, on a comparable weight rate basis. Incidentally, he said today's glider is capable of carrying a 10 percent greater payload than a powered plane of comparable size.



NAVY AIRMEN MELT SNOW OFF WALK AT AMCHITKA:

Employing an octopus-like device known as an airplane engine warmer, these Navy flyers, were able to clear the snow off their boardwalks.

Survey Shows Slim Light Plane Market

Texas University instructor urges development of mass outlet for post-war private aircraft.

The light plane market faces heavy going in the post-war period, perhaps as heavy as that confronting heavy plane factories, concludes Dr. John H. Frederick of the University of Texas after a survey for light plane manufacturers.

He told a group of Austin, Tex., business men that the market for light planes probably will be comparable with that for motor boats. **► Urges Mass Market**—"Unless the light plane field can find a mass market," asserted Dr. Frederick, who is a professor of transportation and industry, "it will be fortunate to escape being written off just as the heavy plane manufacturer will be written off, and just now I do not see such a mass market."

He said the average period of plane ownership before the war was less than four years and that only 15 percent of the flying students obtained certificates. Among post-war market factors he cited reasonably priced ground service, distribution and dealership systems to promote plane markets, and courses of instruction at reasonable cost and without interference with working hours.

Canadian Car Maps Post-War Program

A peacetime production committee has been set up by Canadian Car and Foundry Co., Ltd., Montreal, together with plans for large-scale employment involving unannounced products.

The greater part of the company's wartime operations last year was in aircraft and, while definite plans have not been announced, there are strong indications that Canadian Car will be an important factor in post-war aircraft production.

► Markets Studied—Victor M. Drury, president, disclosed that the company's peacetime production committee has directed a large staff of specialists in an intensive review of potential markets in Canada and abroad, for products best suited to equipment.

He added that decisions reached up to this time promise a continuation of large-scale employment

with a minimum of operational let-down for retooling and change-over.

The company now makes Curtiss *Helldivers* for the United States Navy, twin-engine *Anson* trainers, has recently completed a large order of Hawker *Hurricanes* and is making propellers as well as carrying on considerable overhaul and repair work on aircraft.

Dodge Speeds Output Of 2,200 Hp. Wrights

With employment at 60 percent of the goal for this year, the Dodge Chicago Plant of Chrysler Corp., has gone into production and is "now producing and shipping in substantial and increasing quantities 2,200 hp. Wright air-cooled engines," Chrysler's President K. T. Keller reports.

Described as the largest airplane engine plant in the world, the 500-acre operation reportedly has had some difficulty in obtaining sufficient trained employees in addition to the normal troubles of getting a plant of that size and an engine of that complexity into operation.

► Quantity Production — Keller's statement, made to directors, is the first announcement that the plant had gone into quantity production. The sprawling factory cost well over \$100,000,000, and one of its 19 buildings contains more floor space than the whole Pentagon building in Washington. Willow Run, Ford's great bomber plant, could be set down inside the Dodge plant with room to spare, it was said. Despite its enormous size, the plant was in production two years after ground was broken.

Chance Vought Joins AWPC

Chance Vought Division, United Aircraft Corp., became a member of the Aircraft War Production Council, East Coast, at a Council meeting last week in Atlanta. Rex Biesel was named to represent the company on the council board.

Grumman and Brewster are the only major aircraft companies not members of the Council.

The Council board discussed policies on hiring of veterans in conformation with latest Selective Service regulations and also laid plans for the meeting of the National Aircraft War Production Council in Los Angeles Apr. 24.

Personal Aircraft Group Lists Aims

Chamber spokesman urges establishment of thousands of landing areas, curb on regulations and education in light plane use.

Establishment of thousands of landing areas throughout the country, less restrictive and more practical regulations on private flying, and education of the public in the uses of light airplanes were presented by James Welsch, staff assistant, Consolidated Vultee, as the three major objectives of the Personal Aircraft Committee of the Aeronautical Chamber of Commerce. Mr. Welsch spoke last week on behalf of the Committee before the National Aeronautic Association's chapter at Minneapolis.

Small airfields will be needed everywhere, the speaker said, like roads and highways. These fields should be owned by individuals and groups, near parks, beaches, golf courses, racetracks—wherever people gather. They will be needed especially near homes and places of business. Elaborate airports are necessary for scheduled operations at cities, but every community will have use for small fields.

► Vicious Circle—Some persons will suggest that the small field program be put off until there is actual need for the facilities. Mr. Welsch contended that the vicious circle should be broken now; that development of personal flying will follow, as motoring followed building of good roads. Establishment of the small fields will interest the community, he said, and especially home-coming men and women of the services.

► Asks Curb on Regulation—Other industries equally responsible for public safety exist with minimum regulations, and aircraft producers, in Mr. Welsch's opinion, should be able to keep regulation at its "constructive minimum." This can be done, he believes, by allowing the industry to accept part of the responsibility for safety.

► Urges Conservative View — He said the light plane industry should base its relations with the public on conservative claims. There should be a wide range of designs for farmers, urbanites, salesmen. The most difficult competition will not be between makes of planes but between aircraft and autos, refrigerators, boats, houses, etc. The light plane must be sold in terms of its utility; it must be taken out of the luxury category.

Stress Competition In Air Policy Stand

Committee's clarification of earlier declaration is mainly expansion of five-point program.

"Clarification" by the Airlines Committee for United States Air Policy of its earlier declaration of its desires in post-war international aviation was in fact more of an expansion of its original five points, with the emphasis on competition.

The recent statement stressed at the start the committee's opposition to the "chosen instrument" idea expressed in Senator McCarran's proposed revision of the Civil Aeronautics Act. "The term 'chosen instrument' is simply another name for monopoly," said the committee. "The terms are synonymous." This was followed by reaffirmation of the belief of the 17 members of the committee in their ability to compete successfully against "chosen instruments" of other nations.

► Other Factors Revealed—Elaboration of the stand taken last July put on paper several angles that have been known for some time as the committee's viewpoint, but had not been expressed officially before. The new statement was issued by Chairman S. J. Solomon after a directors' meeting.

In it the 17 signatories to the committee's policy—American Export was the latest to join—acknowledged that not all of them may be certificated to fly overseas, and recognized that the international field may require regional division of their efforts if economical operation is to ensue on a competitive basis. Regulated competition, they explained, offers opportunity to more than one airline in this field, "but only those lines should be certificated for operation in any one region as the public interest, the traffic potential, the postal service and national security may require."

► Olive Branch — The committee extended a small olive branch to Pan American Airways which, with United Air Lines, has declined to sign the statement of policy, giving assurance of support of "the right of Pan American Airways or other certificated American Flag trans-oceanic air carriers to continue operations as separate entities, and where adjudged by the proper authorities to be in the public interest, to expand those operations."

This, however, did not alter the committee's stand against the the-

ory of Pan American and United that one American Flag line, though perhaps with all United States air carriers as its shareholders, should be this country's agent in the post-war international air transport field against the expected single line competition from other nations.

► Sees Principles Periled—McCarran's Bill, the committee declared, would destroy the principles on which the nation's air transport system is based—"The traditional American policy of competition, intelligently regulated by appropriate government agencies."

The 17 airlines, pointing out that the war had proved their ability to fly "anywhere in the world," contended that there is no more reason to adopt the government monopoly or chosen instrument theory of any other nation than to adopt its form of government or other internal policy.

► Regulated Competition—Free and open competition, worldwide but subject to reasonable government regulation was the first point in the committee's original statement. Others called for private ownership and management, a government-fostered sound worldwide air transportation system, worldwide freedom of transit in peaceful flight, and acquisition of civil and commercial outlets required in the public interest.

Pan American observed the same silence after the committee's latest statement as earlier, when American Airlines and American Export announced their proposed merger.

Committee Votes CPT Extension

Senate Commerce Committee approved Sen. Pat McCarran's bill extending the Civilian Pilot Training program beyond its June 30 expiration date. A qualifying amendment would limit annual appropriation for the program to \$30,000,000. The current fiscal appropriation was \$29,400,000, although with added Army and Navy funds the program is scheduled to cost \$96,000,000.

McCarran explained that the bill would provide for training civilians in cooperation with educational institutions separate from the Army and Navy training program. He said the group to receive training would be citizens not subject to military training—17 to 18 year olds, women, and men not acceptable to the armed services.

Goodyear Hits Peak In Corsair Output

Goodyear production of the Navy's *Corsair* fighter was in full stride at the end of 1943, P. W. Litchfield, chairman of the board, told stockholders at the annual meeting in Akron last week. Employment at the aircraft subsidiary plants at Akron and Litchfield Park, Arizona, became stabilized at 35,000, he revealed, while production of wings for the Martin *Marauder* and subassemblies for other planes, was continued at a high level.

Trans-Canada Plans Toronto-Yukon Line

Trans-Canada Air Lines, government-owned trans-continental air service, plans a new route from Toronto to Yukon and Alaska, and for post-war purposes has surveyed routes it plans to fly to the West Indies and South America, according to the annual report of TCA tabled in the House of Commons at Ottawa by H. J. Symington, president.

The new route north will run from Toronto via Sault Ste. Marie, Port Arthur, Winnipeg, Saskatoon, Edmonton to Whitehorse and Dawson, and will be opened as soon as "ground and other facilities" can be installed. First section operated will be Winnipeg to Edmonton via Saskatoon.

► International Routes—The report states that TCA and the Canadian government are making intensive plans for international air routes to be operated by the publicly owned system which Ottawa has announced will have exclusive franchise for international Canadian airlines, and points out that TCA already has surveyed routes to the West Indies and South America.

Other new routes contemplated when the necessary facilities can be provided are from St. John, N. B., to Halifax and Sydney, and from Ottawa via North Bay to Sault Ste. Marie, to replace or supplement the present run through northern Ontario via Kapuskasing and Armstrong.

► Business Volume Up—The 1943 report shows a big upturn over 1942 in business volume, with increases of 34 percent in passengers, 126 in air express, and 61 in mail. Operating revenues were \$9,379,501, or \$2,042,183 above 1942.

THE AIR WAR

COMMENTARY

Pacific Air Campaign Capitalizing On Teamwork Tested in Libya

400- to 500-mile strides against enemy effected through preliminary softening-up operations before follow-up attacks by carrier-based planes and invasion forces.

The spectacular success of the central Pacific air offensive has not only advanced the timetable by several months, but has indicated that from now on important operations against the Japanese aggressor will go forward without regard to the campaign in Europe. In this offensive, all elements of an American land-sea-air team have turned in a brilliant record of cooperation and laid down a pattern of more important operations which lie ahead.

Land-based aircraft of the Army Air Forces play an important part in the preliminary neutralizing of enemy air forces and preparing Jap-held islands for successful attacks by carrier-borne aircraft and Navy surface vessels, followed by amphibious assault operations by Marines and Army Ground Forces.

By capturing strategically placed islands and neutralizing others in the group, gigantic strides of 400-500 miles at a time are being taken, and the Nipponese outer perimeter defense has already collapsed.

► **Land-Based Air Supports Navy**—In a theater in which vast water distances prevail, all military operations are predominantly naval, supported and augmented by land-based aviation. Following the line of modern air power doctrine, Major Gen. Willis Hale's Seventh Air Force heavy bombers may be regarded as the Strategic Air Force, his medium, light and fighter-bombers coupled with Rear Admiral Marc A. ("Pete") Mitscher's carrier-based aircraft forms the Tactical Air Force, and Admiral Ray Spruance's Central Pacific invasion force (fleet and landing



RAF'S NEW SIX-TON BOMB:

First closeup picture of the new 12,000-pound bomb, which the Royal Air Force is dropping on Nazi-occupied Europe every night, is shown here in comparison with the smaller bombs. The new 12,000 pounder has been used with devastating effect on industrial plants working for the enemy.

Air War Glossary

Guide to air operations and air communiques, as provided by the European Theater of Operations command:

Flight—three or more aircraft; **squadron**—two or more flights; **group**—three or more squadrons; **wing**—three or more groups; **division**—composition unlimited, depending on number of wings available for assignment; **air force**—unlimited.

Mission—An ordered operation which may include one of many operations such as bombing, strafing, dropping paratroopers, photography, diversions intended to draw the enemy away from the main target, etc.

Sortie—A single aircraft accomplishment when, on an ordered operation or mission, it enters in area in which the enemy's defense ordinarily is active or a mission on which the aircraft is subject to enemy attack.

forces) make up the surface units with which it cooperates. Thus the pattern of victory first worked out in the desert of Libya has a salt-water counterpart.

Strategic air power strikes supply lines, creates an aerial blockade, and isolates the battle-field. Tactical air power (in this case heavily assisted by Naval shelling) knocks out the defenses and cooperates in the landing operations. The enemy base captured, miracle-working Seabees soon have extended airfields ready for the next leap-frog operation on the road to Tokyo. When bases are near enough to attempt it, direct bombardment of Japan will give land-based strategic air power a new and exciting role.

► **Army's Over-Water Air Force**—Plans for the Central Pacific air offensive were shifted into high gear last summer. Admiral Nimitz gathered together a Naval task force of tremendous striking power—carriers, cruisers, destroyers, with floating bases for carrying supplies to meet every need, giving the fleet a much greater operating radius. The Seventh Air Force provided the striking arm of land-based aircraft for the task force.

Ever since the decisive battle of Midway, the crews of the Seventh, based at Hickam Field, carried out a series of long-range over-water missions averaging 2,500 miles



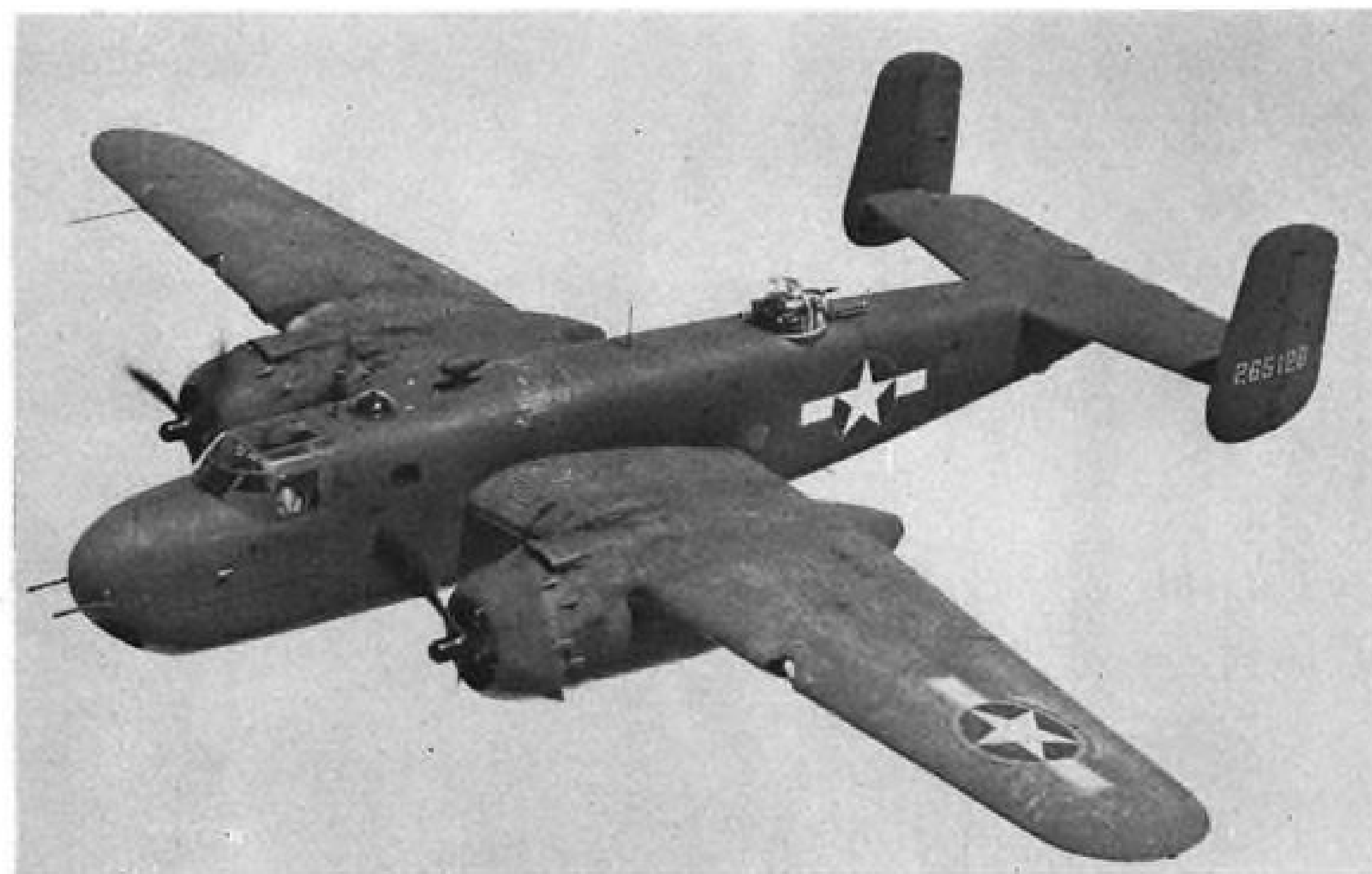
"THROUGH THE WORLD'S dirtiest WEATHER....."

This is the Burma Road of the air! It hurdles the Himalayas. It bores through the world's worst weather. Yet, over it, on a day and night shuttle service, Curtiss C-46 Commandos carry to China a greater weight of supplies than ever wound their way up the old Burma Road.

Here winds roar, clouds are low and "stuffed with rocks", fields "sock in" with no notice, icing altitudes vary as much as 2000 feet in a day, instrument flying is the rule, oxygen is always required, Jap fighters prowl the fog and Naga head-hunters wait below.

Through this maelstrom, Curtiss Commandos lug tons of vital cargo. Many of them have accumulated hundreds of hours of flight time with little maintenance other than that offered by the crude facilities of temporary bases. These planes have proved their merit under the toughest conditions known to flight. They'll prove it again when they make their bid as peace time transports and air cargo carriers. Curtiss-Wright Corporation, Airplane Division, Buffalo, St. Louis, Columbus, Louisville.





NEW IMPROVEMENTS FOR THE MITCHELL:

The North American B-25G Mitchell, shown here, is being equipped with an improved 75-mm. cannon, specially designed for aircraft and several hundred pounds lighter, with a new mechanism making recoil hardly noticeable, according to Navigator, AVIATION NEWS commentator.

round trip, with pin-point bombing and pin-point navigation at a premium. In March, 1943, units of the Seventh moved into Funafuti, largest of the Ellice Islands, some 2,500 miles from Hawaii and about 1,000 miles due east of Guadalcanal.

► **Gilbert Operations**—The joint operations against the Gilberts began in September, with air attacks against such targets as Makin and Tarawa. Within a few weeks the Seventh started its amazing climb up the ladder of the South Central Pacific island bases. Funafuti to Nanumea (150 miles), to Tarawa (350), to Makin (100), in the Gilberts, to Kwajalein (500) and Eniwetok (400) in the Marshalls. Putting it another way, the Seventh Air Force began its bombing of enemy bases in the Gilberts Nov. 13 from its bases in the Ellice Islands some 4,000 miles from Tokyo. Twelve weeks later its most advanced base in the Marshalls (Eniwetok) was about 2,500 miles from Tokyo. Here is a gain of 1,500 miles, an average of over 17 miles per day. And this is just a beginning.

Already the important supporting bases to the east of strategically placed Truk, including Kusaie (400 miles S/W of Kwajalein) and Ponape (500 miles S/W of Eniwetok) have been heavily bombed by Liberators with a view to their neutralization. Substantial attacks by the Seventh Air Force and by Fleet Air Wing Two were made on the enemy bases in the eastern

Marshalls which were by-passed in the surprise attack on Kwajalein some weeks ago. These include Jaluit, Mille (Mili), Taroa (on Maloelap), and Wotje.

► **The Flying 75**—The adaptation of the 75 mm. cannon in the Mitchell medium bomber (B-25G) to the requirements of the Central Pacific theater was an interesting aspect of the Marshalls campaign. This fast-firing heavy cannon proved to be a highly formidable weapon with a surprising degree of accuracy. It was effective against shipping, but was particularly useful in neutralizing Jap ack-ack and fire from automatic weapons which had previously taken a heavy toll of the Mitchells in their minimum altitude attacks against Jap island installations.

With the flying cannon, the B-25's were able to drive the Jap gun crews from their weapons, and frequently to destroy the weapons themselves. Ten or more shells could be fired by each bomber in the approach to the target. In the new attack model of the B-25, the cannon is especially designed for aircraft, being several hundred pounds lighter, with a new mechanism which makes the recoil hardly noticeable; the two forward-firing .50 caliber guns in the nose have been increased to four, with a set of two package guns on each side of the forward fuselage. Two more .50s in the top turret, two in a tail turret, and one waist gun on each side of the fuselage complete a terrific fire power of fourteen

.50s, plus the 75 mm. cannon. A ton or more of bombs makes this new Mitchell, now in the Pacific and other theaters, a mean customer.

► **Other Members of the Team**—None the less valuable is the far-ranging Liberator, long arm of the Seventh's striking force, and in a different way the accurate-hitting Dauntless A-24B dive-bomber, Army equivalent of the improved Navy SBD-5. Fighters on the team for defense of newly acquired bases include the newest Warhawk (P-40N) and Airacobra (P-39Q), both used for short range work as sturdy fighter-bombers. Navy Liberators (PB4Y) and Venturas (PV-1), Helldivers (SB2C) and Avengers (TBF), Corsairs (F4U-1) and Hellcats (F6F) complete the picture.

No wonder Jap airpower is melting away in the Central Pacific. We will catch up with it, sometime, somewhere, and tough fights are ahead, but the final outcome is sure.

NAVIGATOR

AAF Surgeon Lauds Air Ambulance Role

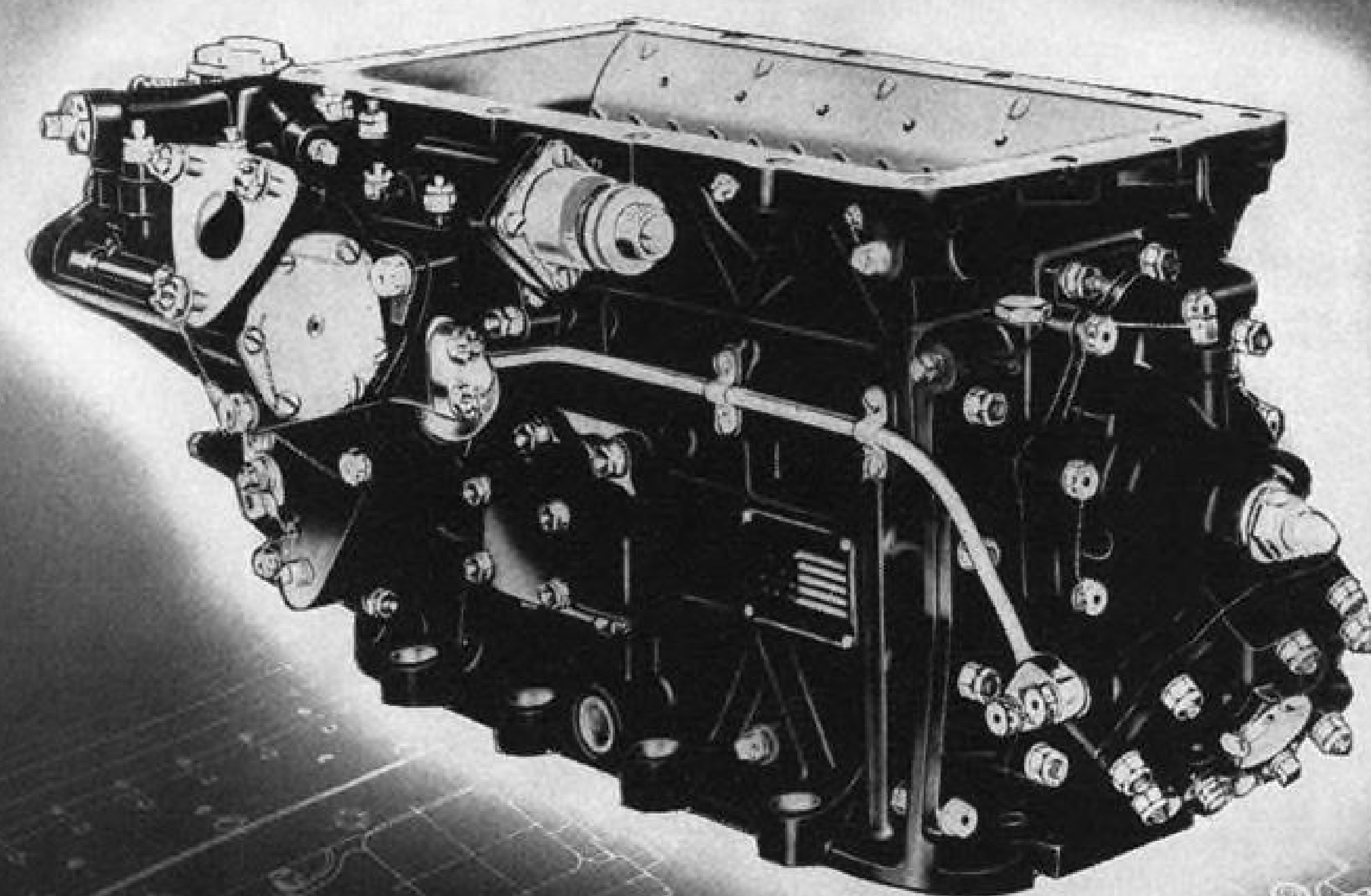
Air evacuation of sick and wounded service men is placed in a group with the sulfa drugs and blood plasma as one of the three greatest life-saving measures of modern military medicine by Maj. Gen. David N. W. Grant, Air Surgeon, in a report to Gen. Arnold.

General Grant reported that 173,527 patients—sick and wounded of United States and Allied forces—were evacuated by aircraft during 1943. The figure refers to patients admitted to a medical service and therefore includes not only non-battle casualties, but also patients air-evacuated more than once from one hospital to another.

► **Evacuated to U. S.**—Of the total evacuated from theaters of operations into the United States aboard Air Transport Command planes, 70,808 were from New Guinea; 24,767 from the Solomon Islands; 58,479 from Tunisia, Sicily, Italy. The report said that in the Mediterranean area, evacuated patients were flown a total of 16,491,266 miles and 131,762 hours. The average flight was 282 miles and the average flying time 2.2 hours. Out of the Solomons, the route was more than 1,000 miles and flying time ranged from 4½ to 7½ hours. Evacuations in the New Guinea theater involved shorter flights for the most part.

TOMORROW'S STRIKING FORCE

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★ ★

Capt. Eddie Rickenbacker will receive the degree of Doctor of Science at Westminster College's commencement May 20.




Capt. Felix B. Stump and Capt. Alfred M. Pride, who were among the earliest of the Navy's airmen, have been nominated rear admirals.

partment in Washington. He will be general superintendent of airmail traffic and will conduct research in all phases of post-war airmail handling.

Maj. Alexander P. DeSeversky was guest speaker at the open meeting of the North Texas chapter of the American Society of Tool Engineers in Fort Worth.

Elmer H. White has been appointed general manager of U. S. Rubber Co.'s fuel cell division which is responsible for large volume production of airplane fuel cells, portable synthetic rubber gasoline tanks, and other important war products.



Francis A. Lewis is the new district traffic manager for Continental Air Lines in Kansas City. He was previously at Albuquerque.

Brig. Gen. Ray G. Harris (photo) has been appointed chief of the AAF Materiel Command's inspection division with headquarters at Wright Field. He is the first general officer to hold such a post and succeeds Col. George W. Polk, Jr., who has received an overseas assignment. Gen. Harris was formerly supervisor of the midwestern procurement district of the Materiel Command at Wichita, and has served in numerous aviation plants as AAF resident representative. Growth of the division indicates design and quantity, empha-

after having flown PAA's routes through Mexico and Central America.

Capt. Felix B. Stump and Capt. Alfred M. Pride, who were among the earliest of the Navy's airmen, have been nominated rear admirals.

Floyd M. Williams has been appointed to the cargo traffic department of American Airlines, Inc. He is a former executive of the Post Office De-

A black and white photograph of a middle-aged man with receding hair, wearing thick-rimmed glasses and a light-colored collared shirt. He is shown in profile, looking towards the right, and is holding a dark telephone receiver to his ear. The background is a plain, light-colored wall.

Harris

Maj. Gen. Walter H. Frank, commanding general of the Air Service Command, Patterson Field, Ohio, pins the Legion of Merit on the blouse of Col. John des Islets, now chief of the utilities and construction section, ASC headquarters, for his work in India theater.

sized during the earlier stages of war production, are now being equaled by maintenance and a close check on quality of production.

Sigmund A. Czarnecki, chief equipment engineer of Hamilton Standard Propellers, United Aircraft Corp., has become staff assistant to the factory manager, coordinating all equipment



Czarnecki Ritchev

and tool engineering. At the same time, Hamilton announced that Park D. Ritchey, assistant equipment engineer, will replace Czarnecki.

Howard P. Maginnis, Jr., has been appointed subdivision head for the Douglas Aircraft Co.'s industrial and public relations division at Tulsa.

Robert Van Roseboom (photo) is Western Air Lines' newly appointed District Traffic manager in San Diego replacing Roy Backman, who has been assigned to Western's general traffic office in Los Angeles. Prior to joining W. A. L. last October, Roseboom was a Union Pacific railroad traffic representative.



1 December, 1927, when Wm. B. Lester was test pilot for Fairchild, sectional air transport companies operated throughout the country. By 1931, American Airways had taken over the operation of a number of these lines, and Montreal passengers could fly American all the way to Los Angeles. Bill Lester graduated from testing planes to become co-pilot on American's commercial routes.



3 January, 1937—American Airlines installed the first Link Trainer in Chicago. Then Hugh L. Smith, now Vice President, stated: "The Link Trainer enables the pilot to brush up on the radio signals and beams of another route; to perfect technique in approaching the airport by instruments." Bill Lester became Link Instructor; then Chief Instructor, Pilots' School.



5 Today, American Airlines is operating over routes totalling 8,454 miles. Its overseas flights, for the Air Transport Command, reach to the four corners of the world, with 150 trans-Atlantic crossings monthly. Seven thousand employees keep the "Flagships" flying and are making a major contribution toward winning the war.



2 1933—Co-Pilot Lester, interested in improving his skill, "flew" one of the first models of the *Link Trainer* when it was tested before a curious crowd at the old Newark Airport. May 13, 1934, American Airways became *American Airlines, Inc.* Lester continued with the company as a full-fledged pilot. He became Assistant Flight Superintendent at Chicago in September, 1936.



4 December 8-11, 1941: The United States declared war on Germany and Japan. Shortly after, American Airlines turned over almost half its proud fleet of "Flagships" to the Government for war service. In the remaining planes, American carried increasing numbers of passengers on essential missions, military personnel and cargo urgently needed in the war.



6 American Airlines has given instrument flying instruction to more than 1,000 of its own pilots in the Link Trainer. All American pilots are required to take Link Trainer refresher courses, even million-mile pilots like E. J. Goeringer, pictured above.



7 Now in charge of pilot-training, Capt. Lester is married to former American stewardess, Hazel Brooks, at present Supervisor of Stewardess Service for the company. Lester says: "Link Training has materially increased the air transport capacity of American Airlines, with undiminished safety, under rigorous war-time conditions."

LINK is proud to have a part in the great job being done by American Airlines. Link Aviation Devices, Inc., Binghamton, New York; Link Manufacturing Company, Ltd., Gananoque, Ontario—Link Trainers, Aviation Sextants, and other products contributing to the safety of flight.

STORY OF A PILOT AND AN AIRLINE

Air Power

Through Piston Rings

McQUAY-NORRIS ALTIMIZED PISTON RINGS

PISTONS...PINS... HARDENED AND GROUND PARTS

McQuay-Norris is definitely air-minded. We are now suppliers of precision parts to the world's largest makers of aircraft motors. Our 34 years' experience in precision manufacture enables us to meet every demand of modern aviation for sturdy, unfailing precision parts. Your inquiries are invited.



PARTS FOR AIRCRAFT ENGINES

Piston Rings
Oil Sealing Rings
Supercharger Rings
Carburetor Parts
Machined Aluminum Pistons
Piston Pins
Counterweight Cheek Pins
Machined Magnesium Parts
Cylinder Hold Down Nuts
Hardened and Ground Parts

PARTS FOR PROPELLER ASSEMBLY

Machined Magnesium Parts
Piston Rings

EQUIPMENT FOR MAINTENANCE OF AIRCRAFT

Pistons for Oxygen Compressor
Piston Rings for Oxygen Compressor
Pins for Oxygen Compressor
Pistons for Air Compressor
Pins for Air Compressor
Piston Rings for Air Compressor

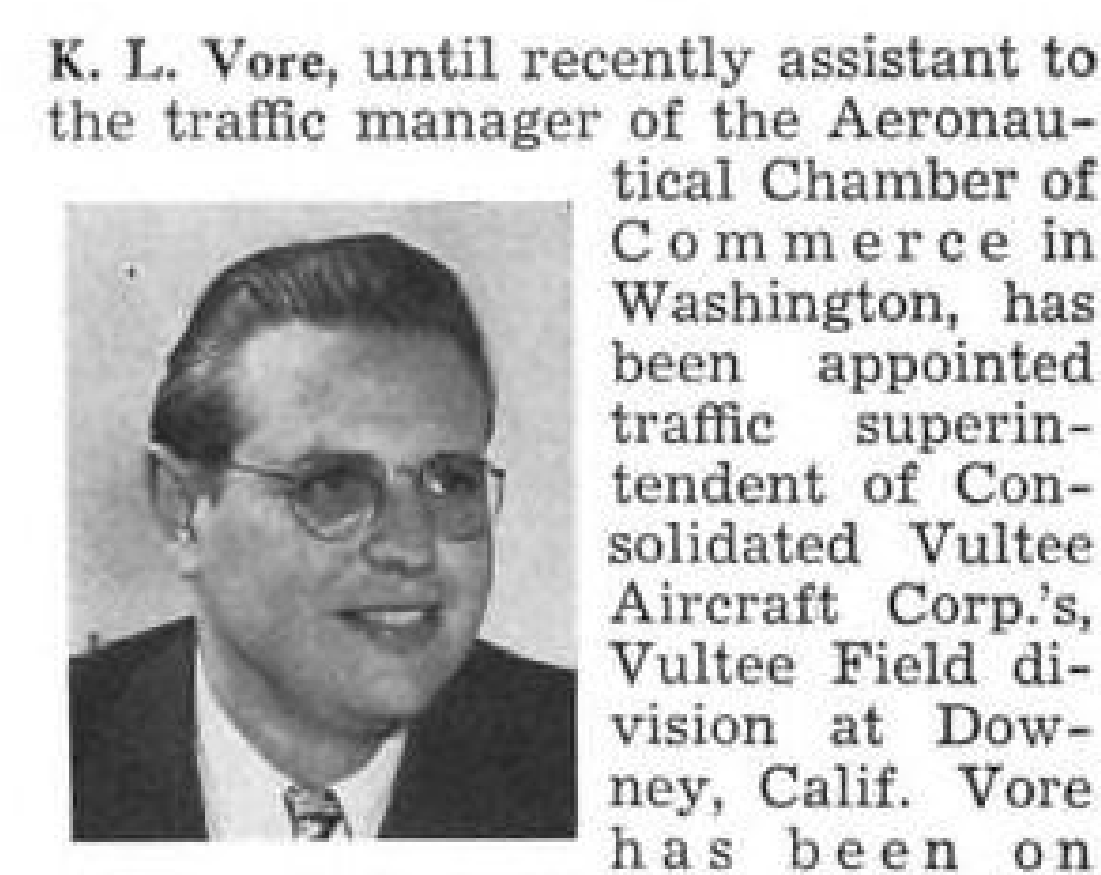
LANDING GEAR PARTS

Machined Aluminum Pistons
Piston Rings
Hardened and Ground Parts

PRECISION WORKERS IN IRON, STEEL, ALUMINUM, BRONZE, MAGNESIUM



McQUAY-NORRIS MFG. CO. (AIRCRAFT DIVISION), ST. LOUIS, U. S. A.
CANADIAN PLANT, TORONTO, ONTARIO



K. L. Vore, until recently assistant to the traffic manager of the Aeronautical Chamber of Commerce in Washington, has been appointed traffic superintendent of Consolidated Vultee Aircraft Corp.'s, Vultee Field division at Downey, Calif. Vore has been on leave from Consolidated to the Chamber. He had been assistant traffic manager at Vultee Field.

Edward J. O'Brien has been appointed district traffic manager at Phoenix for Transcontinental and Western Air, Inc.

Two new appointments at the new Chicago C-54 plant have been announced by Douglas Aircraft Co. Herman O. Olsen (left), has been named



assistant superintendent of assembly. He was formerly general supervisor of installation sections. E. N. Classen, Jr., (right) has been appointed assistant superintendent of fabrication. Classen has been with Douglas for 15 years and before his present position was general superintendent of the process section. At the start of war he was made supervisor of all insignia markings, camouflage and exterior markings.

Lorenz Iversen has been named chairman of the executive committee of the board of directors of Pennsyl-



Iverson



PAA CHIEF GETS LL.D.:

Juan Trippe, Pan American president shown after he received an honorary Doctor of Laws degree from University of California. Congratulating him is Sam Judd, of Pan American.

vania-Central Airlines. Iversen, president of Mesta Machine Co., has been a PCA director since 1938. He succeeds the late George T. Ladd as chairman. Iversen is also a director of Fidelity Trust Co., of Pittsburgh.



REA ISSUES NEW BOOK:

Air Express division of Railway Express Agency has issued a new 16-page booklet, Vision Unlimited, tracing the growth of air cargo. Looking it over here are P. H. Cummings (right), air traffic executive, and R. G. McLain, public relations superintendent, REA.

Comdr. Sherman W. Betts, USN, has reported for duty to the Aerology Section, Flight Division of the Navy Dept. under the deputy chief of Naval Operations for Air. He will serve under Comdr. H. T. Orville.

TELLING THE WORLD

► Louis C. Boochever, of Hill and Knowlton's New York office, has been assigned to the Allentown division of Consolidated Vultee as resident director of public relations. He succeeds J. Clark Samuel, assigned to public relations for the Aeronautical Chamber of Commerce, in Washington. Before joining Hill and Knowlton a year ago, Boochever did public relations for the American Red Cross, Western Union Telegraph Co., and Manhattan Knitting Mills in New York.

► Essig Co., national advertising directorate for Douglas Aircraft, has opened an office in Chicago.

► Piper Aircraft Corp. has appointed Abbott Kimball Co. as its agency for radio and public relations.

► Whittlesey House is cooperating with the Navy's Public Relations Office and the Council on Books in Wartime in the publication of Lieut. Max Miller's *Daybreak for Our Carrier*. The book describes life aboard an aircraft carrier and will be illustrated with forty official Navy photographs taken by Lieut. Charles E. Kerlee. Lieut. Miller is the author of *I Cover the Waterfront* and is stationed in Public Relations, Magazine Section, at Navy.

► Weatherhead Co., Cleveland, has announced through Gene P. Robers, advertising director, that all six of the company's campaigns for 1944 will be placed through Maxon, Inc., New York. Hill and Knowlton have been appointed publicity and public relations counsel for the company. Publication advertising embraces 66 magazines in the general and trade paper fields, and 17 newspapers in 15 metropolitan centers.

► Douglas Wood Gibson, publicity, advertising, fiction, radio and film continuity writer and editor, whose experience includes publicity for American Airlines, has joined the radio department of N. W. Ayer and Sons, Inc.

► Bell Syndicate has for release, in serial form, *A Ship to Remember*, the story of the carrier *Hornet*, written as a novel by Charles Spalding and Otis Carney.

► In a series of national advertisements, Braniff is outlining its plans for national and international expansion. Route applications pending before CAB are explained and maps illustrate the existing and proposed routes of the carrier. Foreign expansion is to be undertaken with trans-Atlantic, South American and European routes.

► The TWA Advanced Technical Training School at Kansas City has closed, but training is continuing under the Army at Rosecranz Field, Mo.

AIRCRAFT PRODUCTION

ACCA Clarifies Industry's Stand On Cost-Plus Plane Contracts

Aeronautical Chamber in statement urges continuance of system in view of unusual success in meeting production quotas.

The aircraft industry's stand on cost-plus-fixed-fee contracts is presented in a statement by the Aeronautical Chamber of Commerce, trade association of the industry, which urges continuance of this type of contract.

It is made clear that the airframe manufacturers face a post-war period which will be highly competitive and it is not believed that they are short-sighted enough to permit their organizations to operate on anything but the most efficient basis possible in order that their organization may be in the best position to meet post-war conditions.

► **Emergency**—The detailed statement, submitted to the War Contracts Subcommittee of the Senate Military Affairs Committee, points out that the industry was called on to produce planes at a rate which was far in excess of facilities at the outset of the war production program and that the emergency could not await negotiation of fixed-price contracts designed to cover all

contingencies that might arise.

It points out further that, under cost-plus-fixed-fee contracts, the industry has met production goals set by the armed services and has produced under this form the finest military aircraft in the world.

► **Only Practical Means** — The Chamber holds with Under-Secretary of War Patterson that, in the early days of hostilities, "fixed-fee contracting was the only practical means to obtain maximum benefits from the small nucleus which then constituted the aircraft industry."

"Without this type of contract," Patterson added, "the aircraft industry would have been utterly unable to meet the huge demands for airframes, engines and propellers and their components."

The Chamber adds that "we believe that the form of contract, such as cost-plus-fixed-fee, cost-plus-incentive-fee, or fixed-price, is not so important as the administration of those types of contracts.

The same evils alleged to exist under cost-plus-fixed-fee contracts also may be alleged to exist under fixed-price contracts.

► **Basic Points**—Nine basic points are advanced in support of the position that cost-plus-fixed-fee contracts should be continued:

► Length of time necessary to develop and negotiate an equitable fixed price would greatly delay the war program.

► Unusually rapid technological advances of aeronautical sciences and revisions in tactical employment of aircraft require frequent changes of specifications.

► There is difficulty in developing new models under fixed-price contracts, experience having proved that the cost of developing new models cannot be estimated with any degree of accuracy and also, the tendency has been toward larger airplanes so that substantial sums are involved.

► Threat of inflation is involved, since ordinary contracts for a large number of airplanes require months and even years for their complete performance.

► Uncertainty as to availability of materials, distribution of which is controlled and determined by government.

► Uncertainty of availability of manpower, unpredictable fluctuations of which could increase costs substantially by prolonging the period of performance.

► Inadequacy of working capital prevalent in the aircraft industry in relation to volume of business called for under aircraft war production contracts.

► Termination risks under fixed-price contracts on the ground that the cost-plus-fixed-fee type is much more desirable because of the present uncertainty that surrounds the procedure for the fixed-price contract.

► Efficient operation under cost-plus-fixed-fee contracts.

The statement conceded that perhaps it was true that, before the renegotiation law, the fixed-price contractor did have a greater incentive than the fixed-fee contractor to reduce costs because he was permitted to retain the entire difference between his selling price and the cost of operation, but emphasized that under the renegotiation statute, this is no longer true.

Sentiment in Congress on elimination of cost-plus-fixed-fee is still mixed and the final answer is not yet apparent, but it is apparent that the industry has presented a case which cannot be ignored.



NEW BELL HELICOPTER:

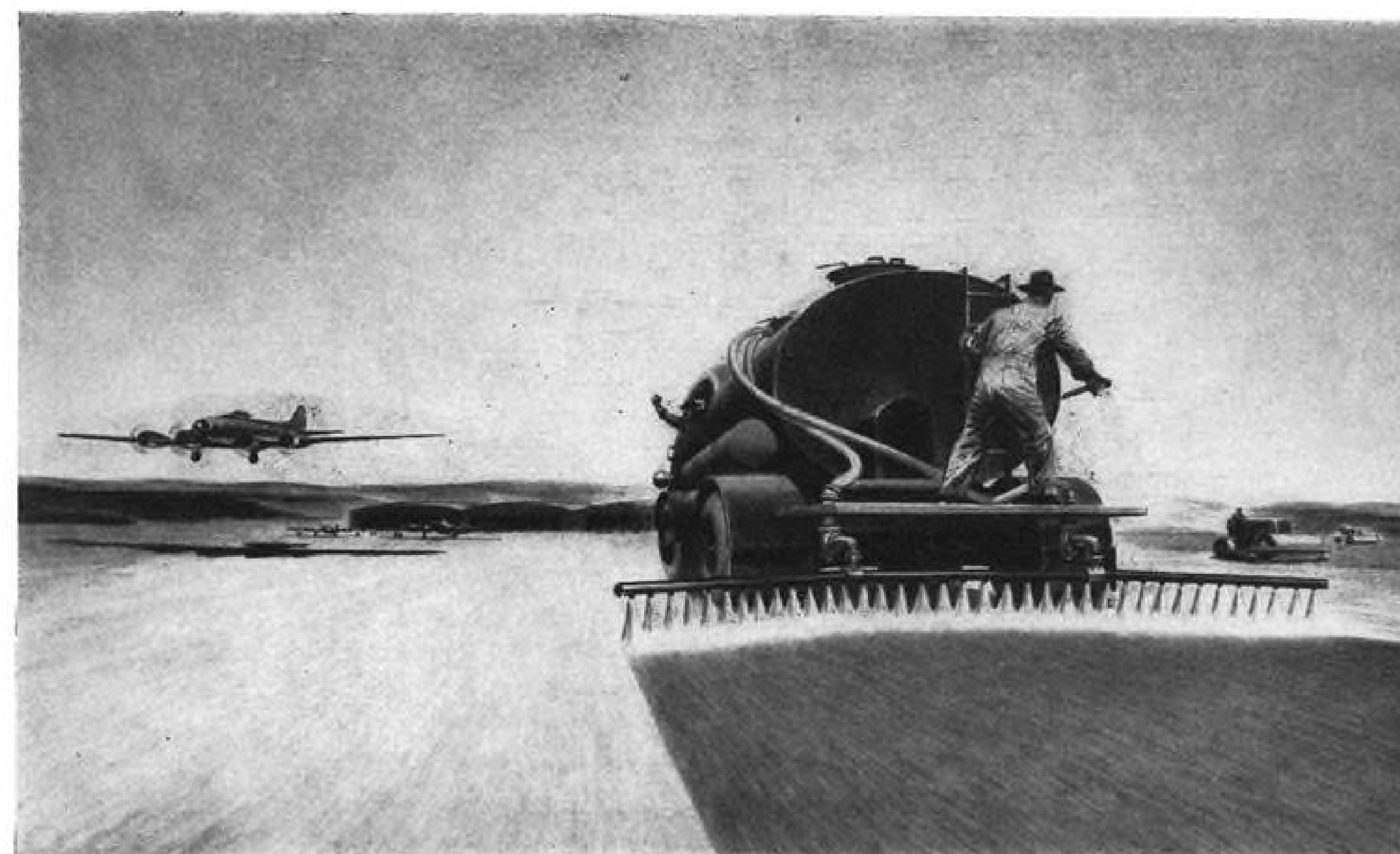
One of the first sketches of the helicopter being perfected by Bell Aircraft Corp., a new model of which has been test flown. The craft incorporates a principle which gives it great stability in flight and has attracted favorable attention from engineers, according to the company.

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Why Gulf Sani-Soil-Set is the practical answer to YOUR dust-annoyance problems:

Highly Effective—Gulf Sani-Soil-Set completely eliminates dust annoyance immediately after application. No long waiting periods are necessary before the ground is ready for use. The dust allaying effect is accomplished by the action of the compound in adhering to and weighing down dust particles. In addition, Gulf Sani-Soil-Set possesses valuable germicidal properties.

Long Lasting—Because of its extremely low volatility and insolubility in water, Gulf Sani-Soil-Set remains effective for long periods. One application per season is usually sufficient.

Easily Applied—Gulf Sani-Soil-Set is free-flowing, easy and pleasant to use. It can be applied by sprinkling can or sprinkling truck, and spreads quickly and uniformly.

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Write today for the booklet giving complete information about this modern, proven dust allayer.



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Please send me, without obligation, a copy of the booklet, "Gulf Sani-Soil-Set—the modern proven agent for controlling dust."

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Company _____

Title _____

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Martin Lists Gains Despite Labor Loss

Net sales reported almost doubled in face of fact 18,000 workers left Baltimore plant to enter services.

Production problems faced by aircraft manufacturing plants because of the steady drain of the draft—now intensified by the tightening of deferments—are pointed up in the annual report of the Glenn L. Martin Co.

Selective Service took 8,366 men from the Baltimore plant alone, Martin said, to boost the total of Martin people in the armed services to 18,000. Women at the end of the year comprised 35 percent of the working force, and the report forecast a higher percentage in 1944.

► **Sales Up Sharply**—Despite this loss of manpower, net sales of the Glenn L. Martin Company and subsidiaries virtually doubled from \$337,556,000 in 1942 to \$632,163,870 in 1943. This latter figure contrasted sharply with the net sales of only \$30,663,337 in 1940 and was almost 10 times the 1941 total.

Net income for 1943 is reported at \$12,437,583, compared with \$6,658,809 for 1942. Net income per share was \$11.15 for 1943 against \$6.01 in 1942. The 1943 earnings may be renegotiated.

► **Reserves**—The company's reserve for contingencies was increased by \$7,000,000 and now stands at \$10,-

000,000. Stockholders are told in Martin's report that the company is "not unmindful of post-war problems" and that, "while it is not advisable for obvious reasons to publish post-war plans at this time, your management feels considerably encouraged in regard to future prospects of the aircraft industry, particularly over the long range. We feel that your company is in a superior position for the post-war period."

Breeze Corps. Cut Accidents 59 Percent

A 59 percent decrease in accidents last year, compared with 1942, is reported by Breeze Corps. plants at Newark and Elizabeth, N. J., despite a 30 percent increase in the number of employees. This compares with increased accidents of 26 percent reported for last year by the U. S. Bureau of Labor Statistics for manufacturing plants classed with Breeze.

J. T. Mascuch, president, credits the great improvement in safety for part of the 40 percent increase in Breeze production of aircraft accessories last year. In November, 1943, all plants and offices operated without a lost-time accident. Rigorous safety regulations, personnel demonstrations and addition of more nurses and safety equipment, together with a broad educational program were emphasized.

Allison Hp. Output Reaches 60,000,000

Company's 50,000th engine comes off assembly line at Indianapolis plant.

Total horsepower produced by Allison Division of General Motors reached 60,000,000 last week when the 50,000th Allison liquid-cooled aircraft engine came off the assembly line at Indianapolis.

This power has been installed or is in transit to fighter aircraft of the air forces of the United States, Britain, Russia and China. The Allison V-1710 engine powers the Lockheed *Lightning*, the Bell *Aircobra*, the North American *Mustang* and *Invader* and the Curtiss *Warhawk*.

► **Fighter Plane Engines**—Total production includes only complete engines destined for actual installation in fighter planes and does not include the flow of replacement parts to Allison powered planes, nor engines built for experimental or service training purposes.

Completion of engine No. 50,000 was marked by ceremonies at the Allison plant and at Weir Cook Municipal Airport. This engine was exchanged for Allison engine No. 1, which was taken to Indianapolis from Wright Field where it rounded out a tour of duty in experimental and instructional work. Engine No. 1 went into service in December, 1936. The plane which this engine powered was one of the first projects undertaken by the then newly formed Bell Aircraft Corp.—a low-wing, two-place monoplane of all metal construction with a monocoque fuselage and retractable landing gear. Designed at Buffalo, the plane was assembled for flight tests at Wright Field, where the engine was installed.

► **Engine Efficiency Up**—Engine No. 1 was rated at 1,000 hp. against the 1,800 hp. of engine No. 50,000, which weighs considerably less per horsepower, occupies less space in a plane and has a smaller frontal area than No. 1, despite the fact that it represents a horsepower gain, since war started in Europe, of 63 percent.

E. B. Newill, general manager of Allison, said the company's was the world's first aircraft engine to be accepted for installation in military planes with a rating of more than 1,000 hp., the first engine to reach the goal of less than one pound per horsepower and claimed that it still leads the world in weight-to-

...IT'S ALL ALUMINUM

WEIGHT SAVING = $\frac{2}{3}X$ = EXTRA ARMAMENT AND FUEL FOR THE ARMY AIR FORCES

Here's an unknown that's worth knowing about because it's making history on far-flung aerial battle fronts. X is the total weight of copper coolant radiators and oil coolers... a weight engineers tried for years to reduce. $\frac{2}{3}X$ is the amount of weight currently being saved now that Clifford's epochal discovery of the long-sought method of brazing aluminum makes possible the replacement in identical

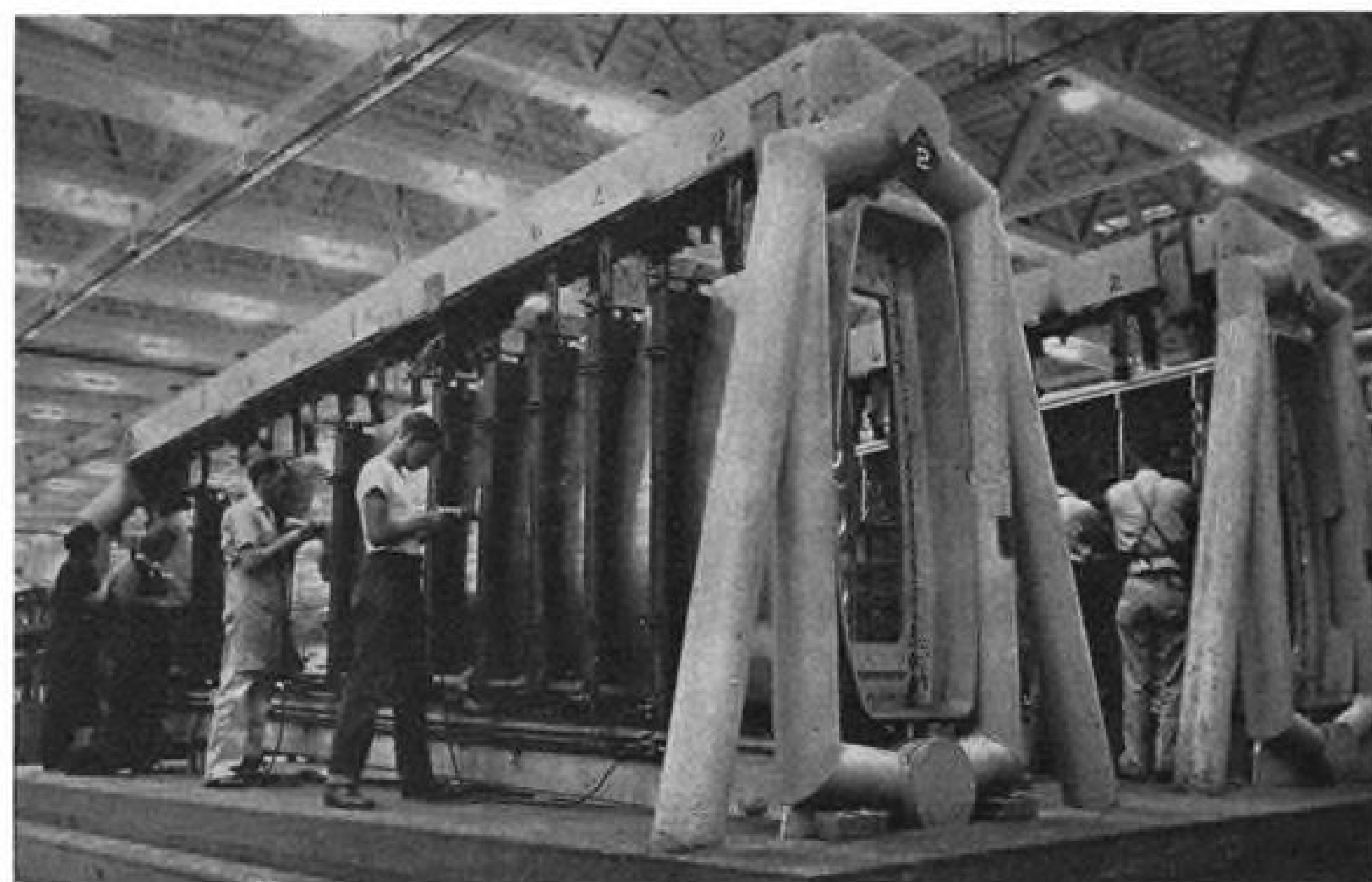
size and shape of heavy-weight copper by Feather-weight all-aluminum alloy. Clifford's $\frac{2}{3}X$ is being put to good use by the United States Army Air Force... saving 130 pounds for one type of fighter—a weight-saving already translated into performance... and now being applied to another fighter with a $\frac{2}{3}X$ potential saving of 320 precious pounds.

CLIFFORD MANUFACTURING CO.
Boston 27, Mass.

CLIFFORD FeatherWeight OIL COOLERS AND COOLANT RADIATORS

Save $\frac{2}{3}$ The Weight .. same size and shape

CLIFFORD'S "HYDRON" BELLOWS
the first hydraulically-formed bellows produced for industry.



MOVABLE JIGS AT RYAN PLANT:

Jigs for outer wing panel for four-engine bomber at Ryan Aeronautical Co's. plant in San Diego. Ryan makes wide use of movable three-point jigs. Rigid construction and three-point contact on base plates, according to Ryan engineers, eliminate necessity of heavy bolting to floor foundations and periodic realignment.



A Kellett in operation-tests with a State Guard Unit, during pre-war maneuvers.

Pioneer . . . Blazing Air Trails

PIONEERING is an American tradition. Every step in America's advance has been made because pioneer spirits first endured hardships to mark new paths—trails that encouraged others to take up the journey.

The scene pictured above is just one of the blaze-marks in the fifteen year trail marked by rotary wing pioneers. The aircraft flying close to tree tops was an early model, direct-control Kellett, demonstrating its ability to hover in a slight breeze, and to take off or land on any open spot of pasture. Most of this Kellett pioneering was during the most severe depression

the U. S. and the world had ever experienced. It required faith to carry on with confidence in the goal ahead.

Today, Kellett's expanding staff of engineers, backed by this fifteen years of charting new paths, looks forward to Peace—when developments in rotary wing aircraft will have opportunities to serve in the patrolling and servicing of cross-country electric lines and oil pipe lines, in spraying and dusting agricultural crops, in ranching, forestry fire patrol—and many more ways. Kellett Aircraft Corporation, Upper Darby (Philadelphia), Pennsylvania.

KELLETT

OLDEST ROTARY WING AIRCRAFT MANUFACTURING COMPANY



Eight years ago—a U.S.A.A.F. Kellett taking off from in front of the Operations Hangar, Wright Field, Dayton, O.

horsepower ratio, total engine horsepower and small frontal area and that it is distinctly ahead of all European liquid-cooled engines in these categories.

Wright Corrects

Wright Aeronautical Corp. reports that "Through a typographical error made in the statistical report on aircraft engine production, the figure reported on the total horsepower of Wright engines produced in the period between America's entry into World War II and Jan. 1, 1944, should have read 184,200,000." AVIATION NEWS, in its story on this production in the Mar. 27 issue, used the company's figure 284,200,000 as originally announced by Wright.

ACCA Backs NAA Private Flyer Plans

The need for coordinated assistance to private flyers will be met by the new program of the National Aeronautic Association, the Personal Aircraft Committee of the Aeronautical Chamber of Commerce states in endorsing the new NAA emphasis on service to the consumer.

"Changing the nature of its operations from that of sponsorship of general activity to direct service to the consumer supplements the operations of the manufacturers and fills a long-felt need," the committee said.

► **Studies Begun**—The NAA has begun studies of a service program for private flying after the war, to offer flight maps, routing service, airport directories and approved landing, repair and hotel facilities. Under the program, NAA will stress local chapter organization for overall cooperation in developing aviation.

Magnesium Group Formed in Chicago

Designed to assure the future of magnesium alloys and to foster development of fabrication techniques, industry members—producers and fabricators—have formed The Magnesium Association, with headquarters at 2537 West Taylor St., Chicago. One of the purposes will be to give members and the public authentic information on magnesium alloys.

Surplus Disposal Plan Held Stopgap

New York WPB-Aircraft launched program to reduce some stocks now.

A surplus distribution program, under way in New York and sponsored by nearby aircraft companies and WPB is merely a stopgap plan being utilized to reduce some surplus stocks pending institution of an over all program, industry sources reveal.

The New York program involves displays at the Hotel McAlpin, and "on the spot" decisions on priorities and waiving of limitation orders by WPB representatives, so that portions of stocks usable in other industries will be moved from excess inventories of the manufacturers participating—Bell Aircraft, Eastern Aircraft division of General Motors, Glenn L. Martin Co., Republic Aviation Corp. and Eclipse-Pioneer division of Bendix Aviation Corp.

The display opened Mar. 27 and will continue through Apr. 8.

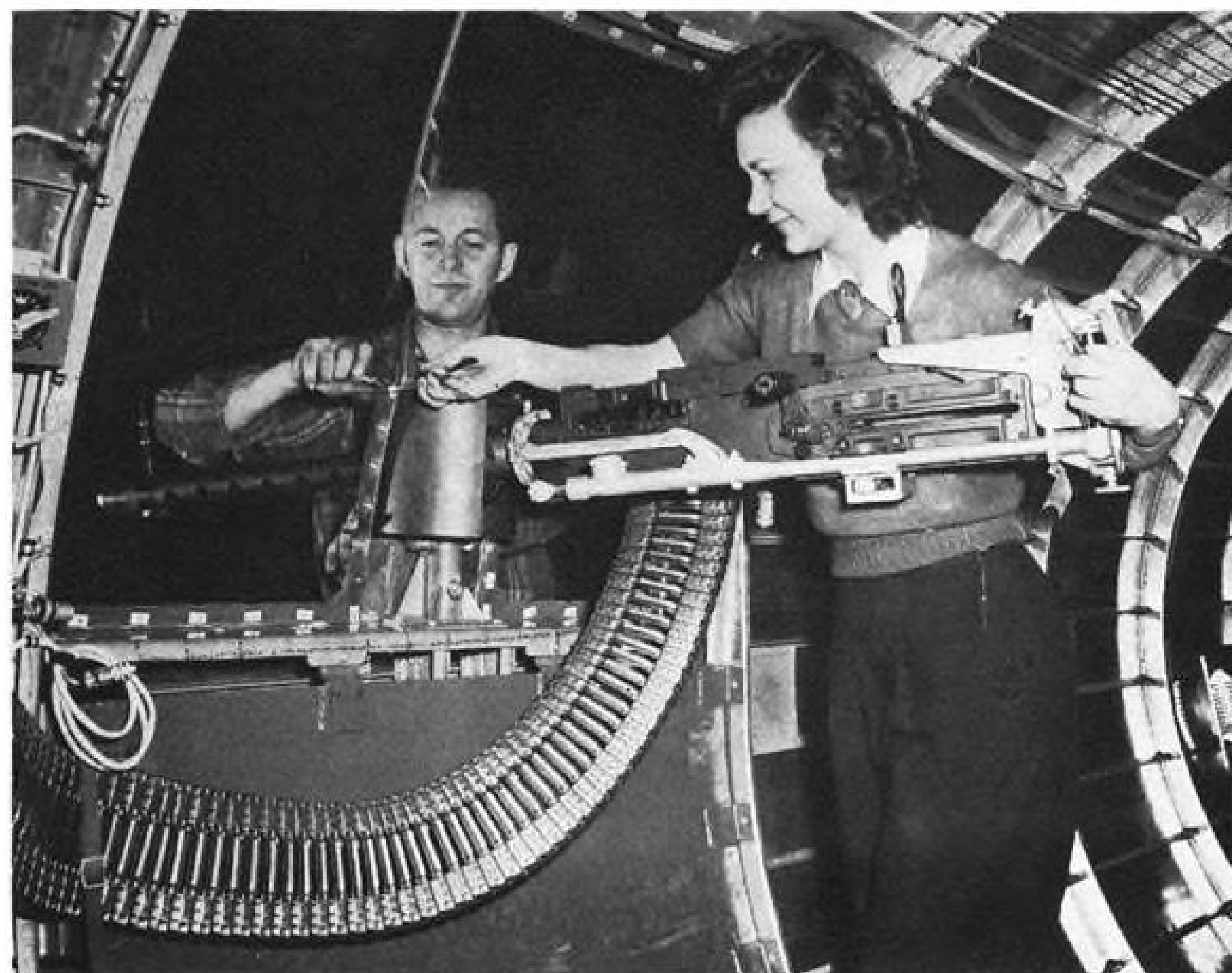
► **Sample Displays**—On the West Coast, sample displays are being handled by the AWPC, but no concerted effort such as that in New York is being attempted.

But in the meantime, 409 manu-

facturers are being brought into the surplus inventory segregation plan under which physical separation of all surplus will be carried out and the plants relieved of the direct burden of the surplus. It has been estimated that the West Coast surplus total will run approximately \$50,000,000 and that the eastern total will run substantially higher.

► **Complete Reports**—Full and accurate reports are expected to be available by June. When a clear picture of the problem is available, an effort to move the goods in commercial channels will be made. By that time it is expected that definite "rules of the game" will be laid down, so that Congress, contract officers, WPB officials, prime contractors and subcontractors will know what can be done and what cannot be done without fear of contradictory orders and investigations.

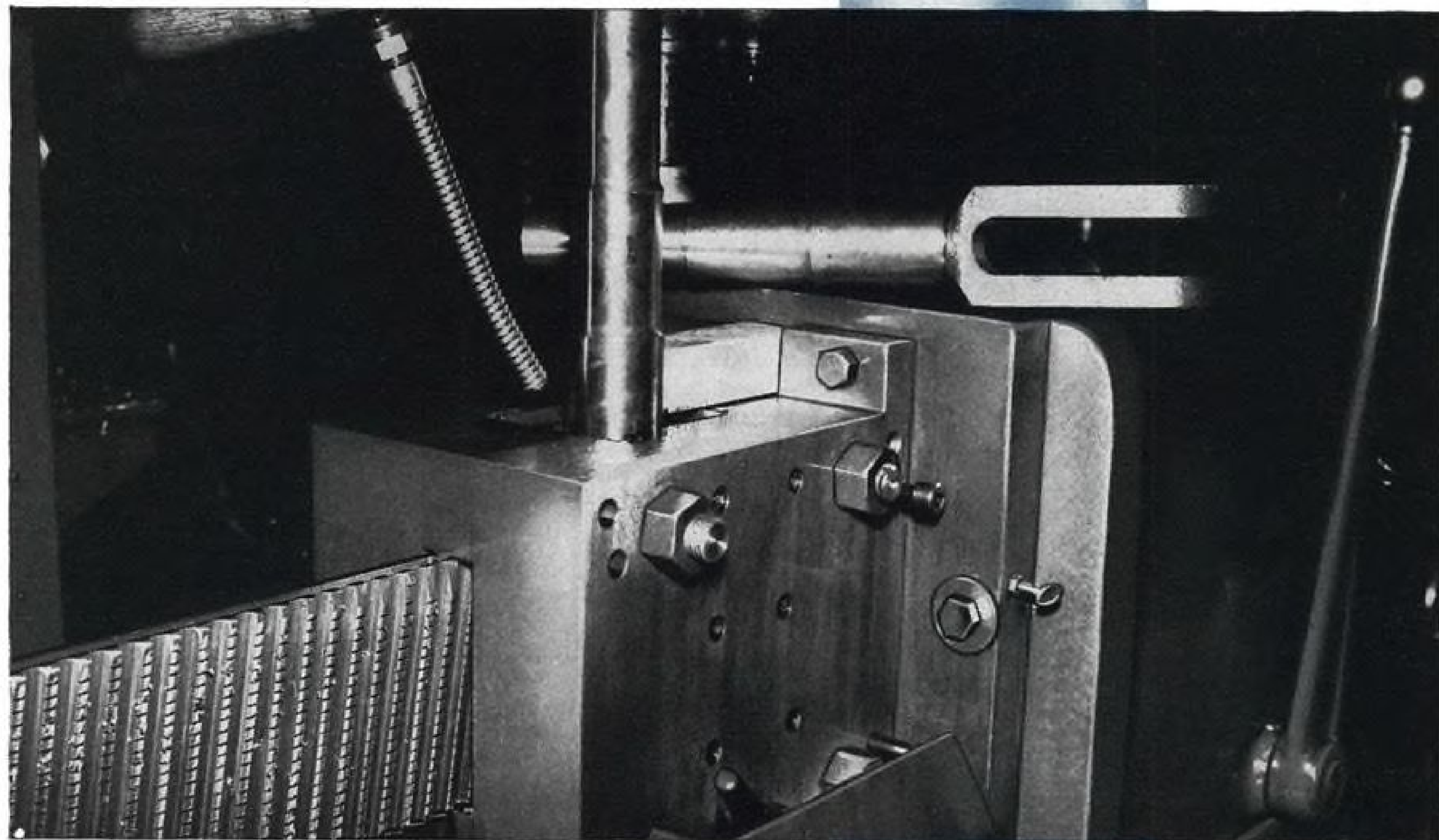
The eastern manufacturers' display also is being studied in the hope that the companies indicate procedures that may be used to speed the materials redistribution and disposal problem. The industry has been warned that huge surplus stocks may prove the fatal bottleneck in termination procedures and that an effort must be made to meet the problem before large-scale contract terminations begin.



WINDOW PROTECTS GUNNERS:

New plastic waist gun installation, incorporated on all Boeing Flying Fortresses now coming off the lines, protects gunners from rigors of high altitude weather. Waist gun positions formerly were open to weather. Employees here are putting finishing touches on new installation.

Split Thousandths



This is a story of production, a story which is more than merely adequately handling a difficult job. It's typical of broaching's part in precision production.

The part shown is a Steel Spar Terminal. The job—to make more parts per hour with less tolerance than was ever thought possible before the war. The answer—a 3L Horizontal Hydraulic Broaching Machine with special broach which with a special fixture made production and precision a matter of seconds rather than hours—a matter of split thousandths rather than thousandths.



The LAPOINTE Machine Tool Company
HUDSON, MASSACHUSETTS, U. S. A.

Canada Raises 1944 Plane Weight Quota

Total for year also increased but emphasis is on tonnage rather than number, Howe indicates.

Canadian aircraft plants expect to produce 4,312 aircraft in 1944, according to C. D. Howe, Munitions and Supply Minister. He admitted the figure was only slightly above last year's 4,133, but said more emphasis was being placed this year on combat types now and that the total weight of planes would be up substantially.

The poundage of aircraft produced in Canada last year was 20,088,864, compared with an estimated 21,430,000 this year. Howe told Parliament at Ottawa that Lancaster bomber production is to be increased from the current nine planes a month to 17 by May and 30 a month by next December and that Mosquito bomber production will be increased from 33 planes a month to 52 by June.

Mosquito Problems—"More problems have arisen with the production of the Mosquito bomber than of any other plane manufactured in Canada," Howe said. "I may tell the House that the English producers have experienced the same difficulties that have been met here." He did not elaborate.

To date, 183 Mosquitoes have been built in Canadian plants, with highest production in February, when 33 were turned out.

Up to mid-March, 39 Canadian-built Lancasters had been delivered, including two to Trans-Can-

ada Air Lines for its trans-Atlantic service.

Curtiss Helldiver output is expected to reach 70 a month by mid-summer, as compared with the present 20 planes monthly, and to increase to 130 by the end of the year.

Trainer Output—Production of trainers in Canada, as in the United States, is on the decline. Cornell elementary trainer output is being reduced from the current 125 a month to 50; Anson twin-engine trainers from 70 to 35; Harvard secondary trainers will be continued in production at 100 a month until the year-end.

A table of number of aircraft and weight produced in Canada as given by Howe, follows:

Year	Number of Aircraft	Poundage
1940	846	1,628,118
1941	1,697	6,358,442
1942	3,811	17,578,309
1943	4,133	20,088,864
1944 (estimate)	4,312	21,430,000

Employment in Canada's aircraft industry has jumped from 1,000, when Canada went to war in September, 1939, to 122,000 today.

Bendix Salvage Plan

Segregation of metals by alloy types throughout all production stages contributes to the efficiency of the salvage program which recovers nearly 800 tons of scrap metals a month at Bendix Products Division of Bendix Aviation Corp. at South Bend.

Steel chips and shavings, classified in six different alloys, represent the biggest item in the plant's metal salvage program, according

to H. F. Bundy, salvage manager. **Month's Salvage**—He said that during an average month the plant salvages 100,000 pounds of cast iron, 160,000 pounds of aluminum in 11 different alloys, 35,000 pounds of magnesium in five alloys and 15,000 pounds of brass in three alloys.

In addition, the salvage program recovers each month 84 tons of paper, about 8,000 gallons of cutting oil and approximately 16 tons of such miscellaneous material as graphite, emery wheels, wooden kegs and barrels, burlap bags and wire and metal bindings.

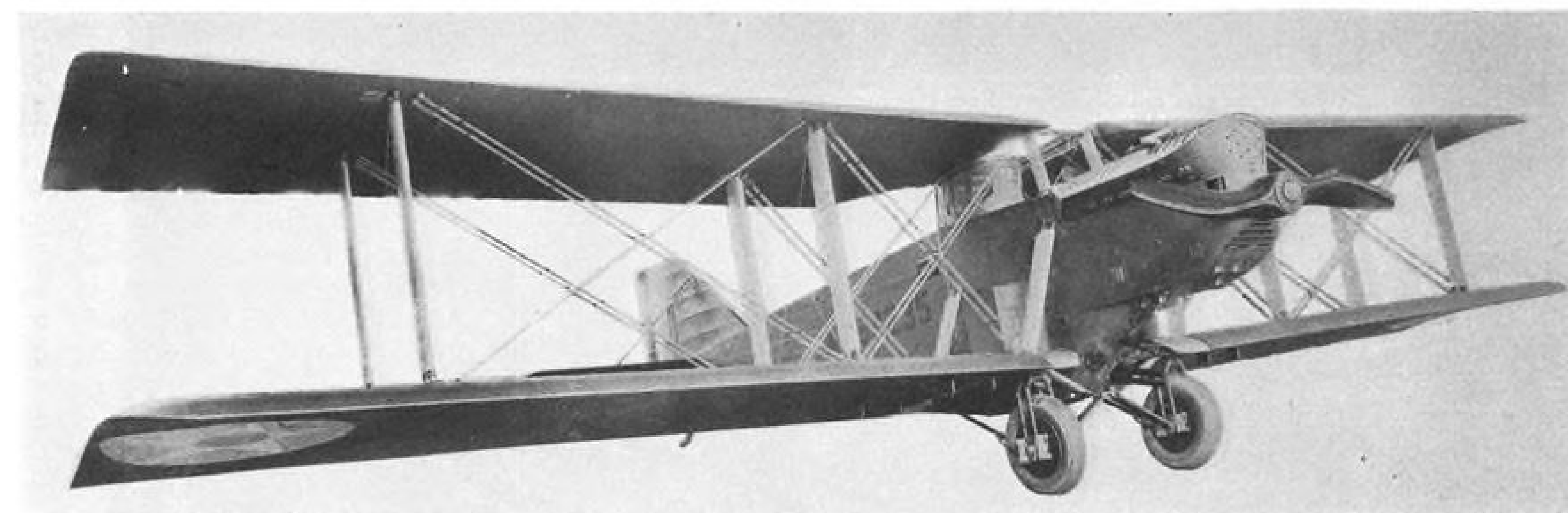
Cross-Wind Landing Device Developed

Device that permits planes to land on cross-wind runways is being developed by the British, who now are using it on some small planes, the British Information Services have revealed.

Authorities in this country said such landing gear had been discussed but that the increased weight of any practical application had operated against development.

British say the gear, invented six years ago, has been undergoing intensive tests and now is used on the Airspeed Oxford, a twin-engine advanced trainer, the Miles Magister, a two-place primary trainer, and other ships.

The newly disclosed device is described as one that permits turning of the landing gear to runway direction while the ship is held into the wind.



PREDECESSOR OF FLYING FORTRESS:

The Boeing GA-2 of 1922, which packed 37 mm. cannon, .50 caliber machine guns, a brace of .30 caliber guns, an armored turret, and 1,600 pounds of armor plate. The cannon was mounted just above the landing gear spreader struts, had a field of fire 60 degrees from vertical. Two .50 caliber machine guns above

the cannon had a downward sweep to 60 degrees from vertical and 15 degrees from horizontal. The other .50 was carried in a rear tunnel in fixed position, and operated by remote control by either the top (rear) gunner, or by the cannoner (lower gunner). Scarf-mounted Lewis guns completed the armament.

TRANSPORT

Vast Fruit, Vegetable Potential Discussed at Detroit Meeting

Total, according to Wayne University survey, ranges from six times all airborne express in 1941 at 15 cents per ton mile to 968 times 1941 total at a 3-cent rate.

By ALEXANDER MCSURELY

Importance of the vast potential traffic available for air cargo in fresh fruits and vegetables was demonstrated and discussed in a comprehensive forum meeting at Detroit.

One of the speakers expressed belief that transports now flying can provide rates sufficiently attractive to carry approximately six times the total tonnage of 1941 air express, in fruit and vegetable cargo.

Primary purpose of the forum meeting was announcement of results of the first of a series of air transport studies by Wayne Uni-

versity, this one on the air cargo potential in fresh fruits and vegetables.

► **Findings**—Main finding of the survey, conducted by Dr. Spencer Larsen, may be boiled down to the following paragraph:

"The potential air traffic in fresh fruits and vegetables alone, at 15 cents per ton-mile, is approximately 6 times the total of all airborne express in 1941. At a 10-cent rate, the potential is 15 times; at a 7-cent rate, 80 times; at a 5-cent rate, 233 times, and at a 3-cent rate the potential is actually 968 times the total air express volume of 1941."

Packaging Factor

Other factors besides rates must be taken into consideration by the shipper who plans to use air cargo, Chairman L. Welch Pogue of the Civil Aeronautics Board, told the Detroit air cargo luncheon. Pogue, who was moderator of the ensuing forum, said packing could be lighter and hence less expensive.

Excessive handling can be eliminated and breakage and spoilage will be reduced through air shipment. Decreased risk and reduced time of coverage will lower insurance costs. Inventories can be reduced "when a consumer market is within hours rather than days or weeks of the wholesaler."

In addition to these money saving factors, Pogue pointed to elimination of capital goods requirements, where a plant can serve increased territory. And "refrigeration, where required, may be provided by nature absolutely free at 10,000, 15,000, 20,000 or more feet altitude, depending on how cold you want the cargo to be."

Airline and manufacturer's representatives on the panel forum pointed out that existing airplanes are far from the efficiency necessary to make a three-cent ton-mile rate economically possible. However, William Mara, of Consolidated-Vultee Aircraft Corporation, Wayne, Mich., representing the manufacturer's viewpoint, asserted that "there is reason to believe several larger planes now flying can operate at 14 cents a ton mile." (He included in this category the C-54, *Liberator Express*, *Constellation*, and *Curtiss Commando*.) The Douglas DC-3, he said, was operating on a passenger basis at approximately 52 cents a ton mile, but some operators believed it could be operated for 21 cents a ton mile if used solely for cargo transportation.

► **Cargo Potential** — The Wayne study showed that strawberries and tomatoes would be the only practicable air cargo at the 15-cent rate. At 10 cents, these would be joined by peaches and beans; at 7 cents, by grapes, cantaloupes, cherries, pineapples, plums, prunes, raspberries, avocados, lettuce, asparagus, cabbage, peas, spinach, corn, cucumbers, and endive. At 5 cents, the list would expand to include

pears, honeydews, tangerines, apricots, peas, celery, peppers, cauliflower, beets, broccoli, brussels sprouts, radishes, shallots.

► **Volume Traffic Urged**—William Varker, New York City airport consultant, estimated that, at the 15 cent ton-mile rate, two or three cargo planes a day would come into New York, but with volume available at 3 cents a ton-mile, 200 planes a day would land in New York airport bringing fresh fruits and vegetables. He suggested possibility of shipment of daily newspapers by air from the larger cities to the southwest, as one means of providing a return flow of traffic. Eventually secondary airports for produce alone, may be established in the larger cities, he predicted.

Viewpoints of the producer and the produce merchant, anxious to take advantage of air shipment as soon as rates make it economically possible, were presented by Earl R. French, New York, national marketing director, Atlantic Commission Co., and by a spokesman for Austin Anson, manager of Texas Citrus and Vegetable Growers and Shippers Association.

► **Tests Asked** — William Garfitt, executive vice-president of the United Fresh Fruit and Vegetable Association, urged the start of actual, practical flying tests with fruit and vegetable cargoes.

Other speakers included L. Welch Pogue, CAB chairman; John B. Crane, chief of transportation unit, Commerce Dept.; CAA Administrator Charles I. Stanton, who emphasized the importance of community study on the future place of its airports; Rep. Louis C. Rabaut, of the House Appropriations Committee; Dr. Warren E. Bow, president, and Dr. David Henry, vice-president, of Wayne University, and Col. Edward S. Evans, president of Evans Products Co., who endowed the survey.

At 3 cents would be added bananas, oranges, grapefruit, lemons, fresh figs, carrots, onions, turnips, and sweet potatoes. More "durable" fruits and vegetables such as apples and potatoes will not be moved by air even at the 3-cent rate.

► **U. S. Study Made**—Principal speaker at the luncheon before the forum, Secretary of Agriculture Claude Wickard, reported findings of a supplemental study made by the Department of Agriculture with the University.

This study shows that tomatoes could be shipped post-war from Florida to Detroit by air, arriving

at retail counters in Detroit, at practically the same price as by surface carriers.

Principal advantage of the air shipment, Wickard pointed out, is in improvement of quality of fruit or vegetable, by permitting it to ripen in its natural state, with increase in palatability, vitamin content and yield per acre.

► **Vitamin Losses**—Dr. George K. Anderson reported that losses of from 20 to 50 percent in vitamin C resulted within a week's storage of fresh fruits and vegetables, and that sizable losses of other vitamin content also were found. Dr. Anderson, secretary of the American Medical Association's council on foods and nutrition, predicted that economical air transportation of fruits and vegetables would have an important influence on the public health, by eliminating nutritional deficiencies, and supplying vitamin-filled fresh foods.

Less optimistic view about the immediate prospect of 15 cents a ton-mile rates was taken by J. Prescott Blount, manager of perishable cargo, United Air Lines, speaking for William A. Patterson, UAL president.

► **New Equipment Factor**—"It may be several years before the domestic airline can offer rates as low as 15 cents per ton-mile," he said. "Even considering that shipper and consignee will perform pickup and delivery service at their own expense, we cannot expect to transport any cargo traffic with present equipment or that available immediately after the war at a rate of 15 cents per ton-mile or less. While



PERISHABLES FLOWN:

TWA plane at Los Angeles loads avocados, artichokes, carrots, Imperial Valley lettuce, asparagus, broccoli and Utah celery for shipment to the national air cargo conference at Detroit.

direct flying costs of larger transports now used in military and naval service may run less than 15 cents per ton mile, it must be realized that an estimate of rates prior to actual determination of such things as plane utilization and cargo load factor would be quite hazardous."

► **Early Loss Possible**—Blount said it may be necessary to develop perishable traffic by taking a loss for a year or two, if this will result in sufficient volume to justify continuance at rates which have prospect of becoming economically sound. He urged an educational program showing consumer benefits of fresh airborne fruits and vegetables, with products hauled identified as airborne; a study seeking to get airports as close as possible to the immediate producing areas to eliminate expensive trucking to remote airports; plans to develop airport terminal fruit and vegetable market facilities. He reported his organization is running tests in a pressure chamber at Chicago on effects of altitude and various temperatures on selected fruits and vegetables.

Plane Conversion

Sponsor of the air cargo studies by Wayne University, first of which was reported on at Detroit, emphasized that little success can be expected in conversion of warplanes into peacetime cargo carriers.

Col. Edward S. Evans, president of Evans Products Co., whose endowment made possible the first study and others to come, urged use of military transports in limited quantities, until modern cargo planes can be delivered. He forecast important future developments affecting cargo planes, in diesel engine development, jet propulsion, and use of glider trains, but believes helicopter cargo carrying will be limited to the family shopping tour or suburban deliveries.



HAWAIIAN LEIS FLOWN TO DETROIT MEETING:

Secretary of Agriculture Claude Wickard receives a lei of tropical flowers, shipped by air, from American Airlines Stewardess Betty Jane Nelson, at the Detroit Air Cargo luncheon. At Wickard's left is Col. Edward S. Evans, Detroit air cargo pioneer, whose grant made possible the Wayne University study on potential shipment of fresh fruits and vegetables by air. The luncheon menu included a wide variety of such foods, shipped by airline as a demonstration.

CAB Cites Commercial Hazards In Aviation Reinsurance System

Study points out international business relationship whereby important data may reach foreign interests to detriment of American world trade.

By MERLIN MICKEL

The Civil Aeronautics Board, in a current study on aviation insurance, calls attention critically to an international business relationship whereby information may reach foreign interests "to the detriment of our foreign commerce, or perhaps even to our national security."

Stemming from the heavy reliance by American aviation insurance underwriters on foreign insurance sources for their reinsurance, this situation persists, the Board finds, despite the presence in America of adequate insurance assets. These assets are sufficient, the study showed, to develop an independent American market sufficient to handle present and future insurance needs of American air commerce.

► **Growing Interest**—Moreover, the Board found evidence of growing interest in aviation insurance by insurance companies in this country not now underwriting aviation risks. This might indicate the situation may correct itself.

In addition to the foreign reinsurance problem, the Board found possible significance in the bearing of insurance costs on distribution of air traffic, and pointed out that it is important to future international air cargo development that insurance be available on American Flag air carriers at rates favorably comparable with those on foreign air carriers. Such matters, the report said, have a bearing on the national welfare as well as on the development of American aviation.

► **Reinsurance Pool**—In stressing the need for reinsurance availabilities here, the Board stated that "formation of an American aviation reinsurance pool or pools seems to be highly desirable as a means to establishment of a strong American aviation insurance market, and for the full utilization of American insurance resources in connection therewith." Reminding of its own difficulties in obtaining information, the CAB urged that data on the aviation insurance

market be published periodically in summary form to be available not only to interested government agencies but also to purchasers. Such procedure, it was said, would make "substantial contribution" to self-regulation of the market.

► **Three Groups Dominate**—The Board said the information it has, much of which was submitted confidentially, would not permit final conclusion as to whether the functioning of the market had not been consistent with the public interest in aviation development.

A single federal agency to collect such data was proposed, with comment that reporting of such information on a nationwide uniform basis is necessary to a proper appraisal of the aviation insurance market.

Three groups of insurance companies—Aero Insurance Underwriters, Associated Aviation Underwriters, and United States Aviation Underwriters, Inc.—were found to dominate the American aviation insurance scene. During 1942 these wrote all but 4 percent of the aviation insurance reported to the New York State Insurance Department.

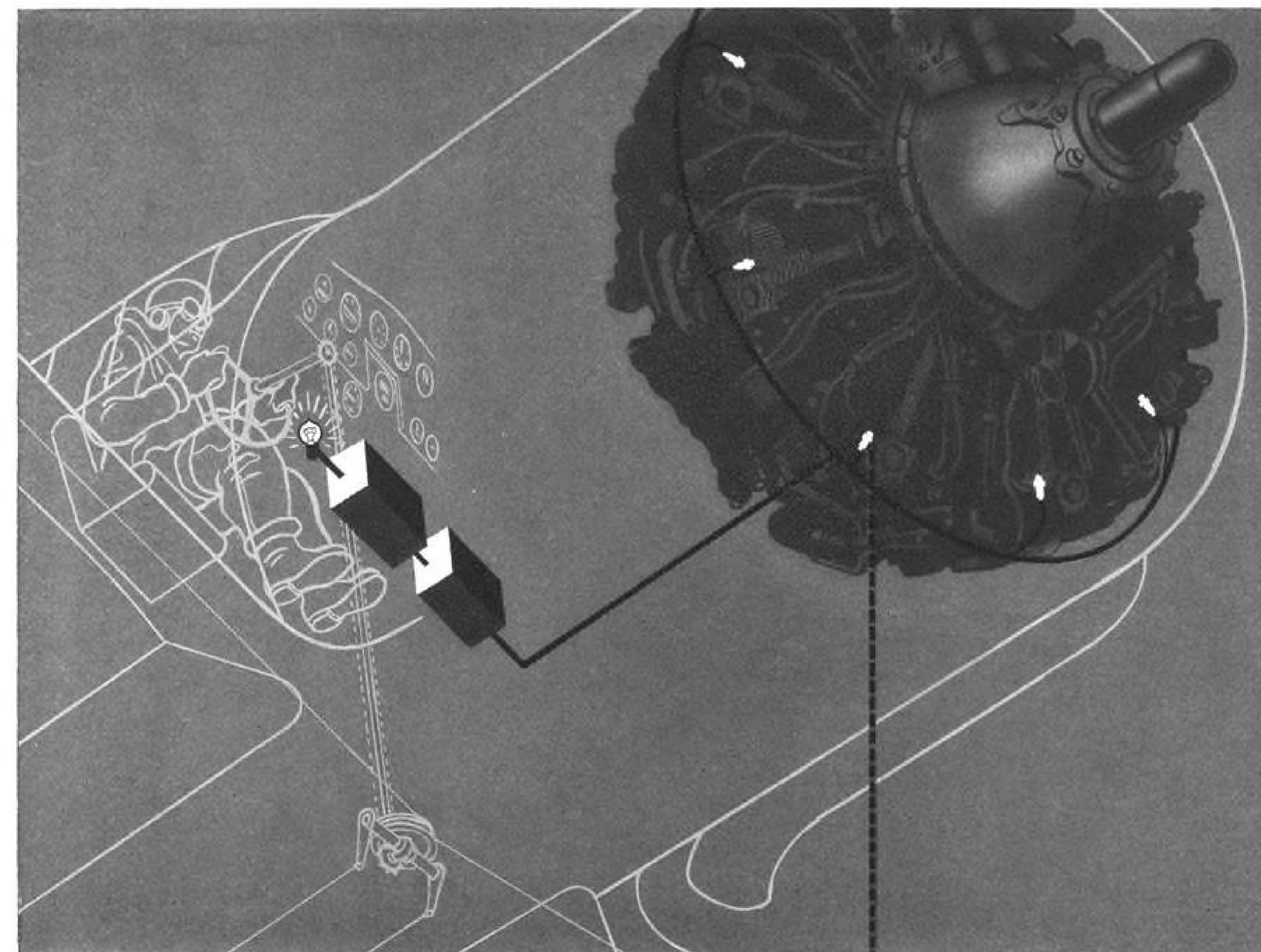
► **Volume Increases**—Acknowledging that other companies write relatively small amounts, the Board confined its studies to these three leading groups. It found their underwriting experience "very favorable," with "substantial profits" of \$4,498,132, or 25.4 percent of pre-



UNITED'S ATC PLANES LOSE WAR PAINT:

The 500 man-hours originally required to remove the war paint from the big ships used by the Air Transport Command have been reduced with a soluble paint remover. Sprayed on the olive drab, this causes bubbles which crack the paint and ease the scraping

process. Photo shows cleaning process on one of planes operated by United Air Lines overseas for the ATC. The shift to the plane's own natural "silver skin" will lighten it 200 pounds and increase cruising speed approximately seven miles per hour.

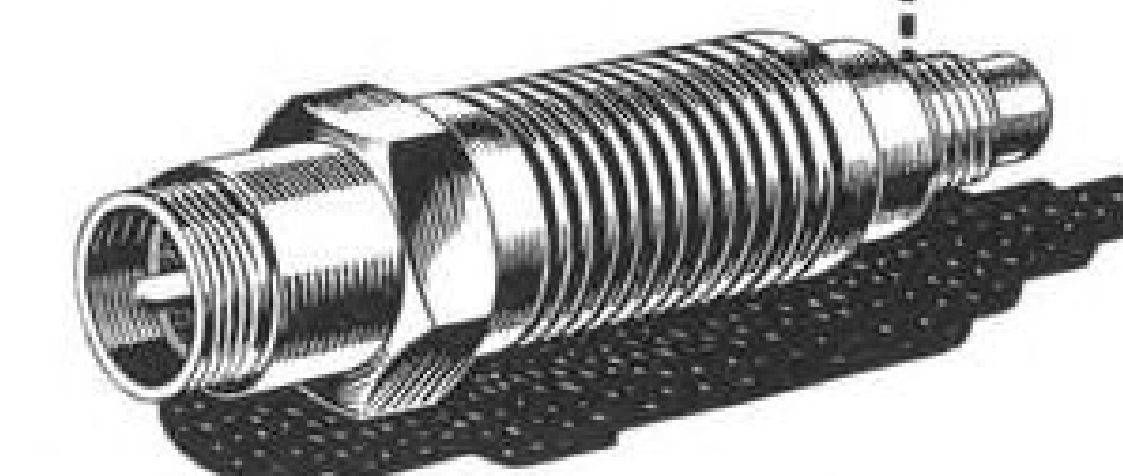


Seeing eye for an engine's blind spot

You can't determine an aircraft engine's full power potential with a slide rule—no more than you can judge a sprinter by the length of his legs. An individual motor's capacity is sometimes far greater than its listed horsepower.

So, rated horsepower is often a blind spot; the point beyond which a pilot dare not pour on power lest detonation dampen engine performance—or even wreck it. But, Standard of California scientists, gauging new aviation fuels, had to know the *actual* output ceiling of aircraft engines—so they worked out a Detonation Indicator.

With this device on guard, motors can be fully unleashed—often far beyond listed horsepower. Speed and critical altitude can be boosted, fuel economized—and detonation checked. When the engine is pushed to the detonation point, the in-

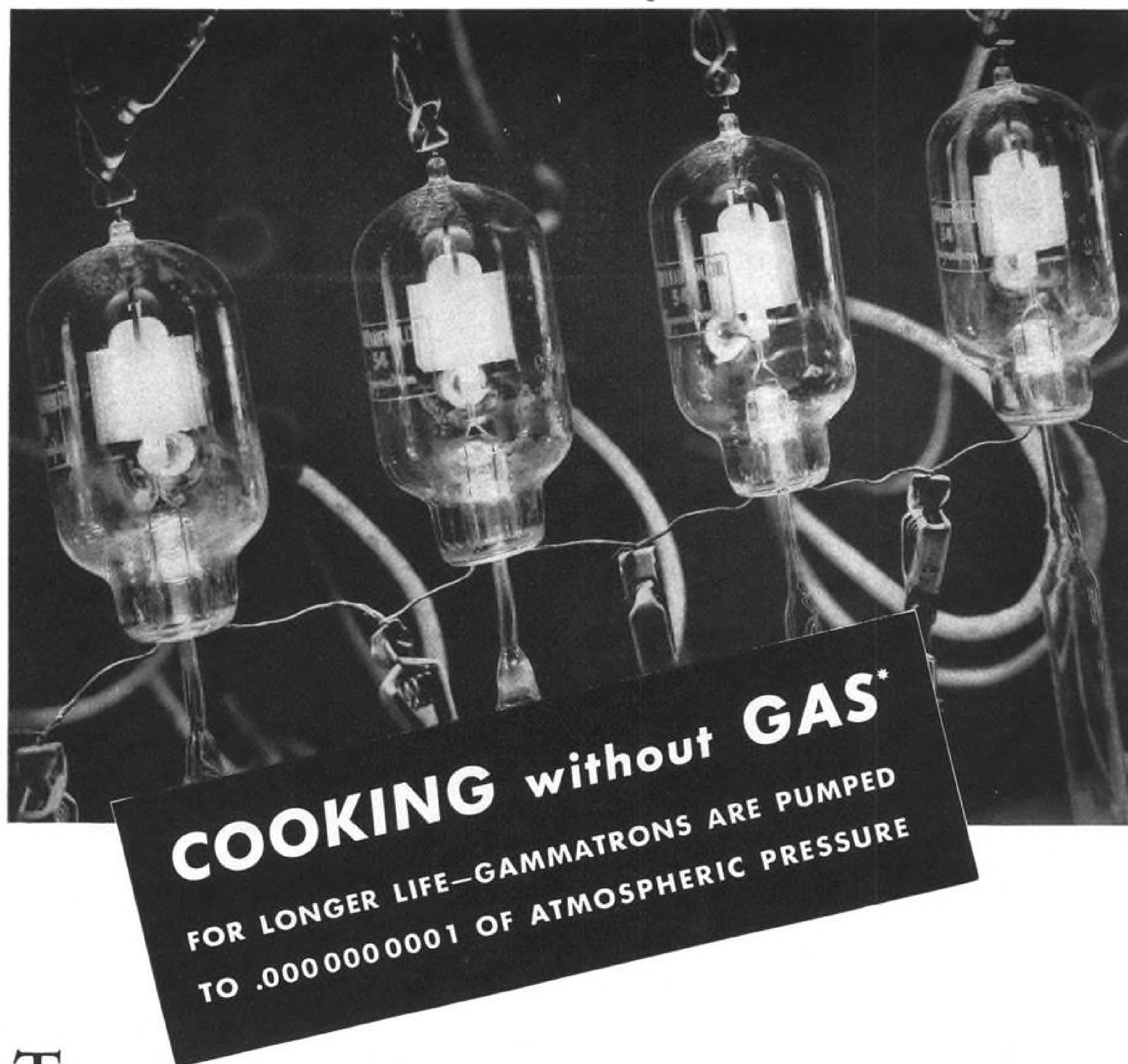


dicator flashes a warning to the pilot. Then he knows it's time to throttle down.

We've licensed the Lane-Wells Co. of Los Angeles to manufacture and sell this Detonation Indicating equipment so that it can be made available to others on war jobs. In many laboratories it's helping improve aviation gasolines—and the motors that use them. And its story is just one page from our research notebook. As you read this, Standard of California is developing new ways to push back sky frontiers, new seeing eyes for aviation's blind spots.

STANDARD OF CALIFORNIA





These Gammatron tubes are being submitted to an exhaust process so severe that only tubes made with tantalum elements can withstand it. They are "cooking" at 3,000° F, running at this temperature from 30 to 40 minutes. At the same time they are being pumped to create a vacuum equal to one ten-billionth of atmospheric pressure... the best commercial vacuum obtainable.

Heintz and Kaufman Ltd. has perfected such a rigorous pumping process to protect Gammatron tubes from filament bombardment. If many gas molecules remain in an evacuated tube, electrons traveling from the filament to the plate strike these molecules and ionize them. These ions, being positive, dart toward the filament, hitting with such force they strip the filament

of its coating. This action, termed filament bombardment, materially shortens the life of a tube.

The severity of the Heintz and Kaufman exhausting process assures superior protection against filament bombardment, and thus adds to the operating life of all Gammatrons.

(*Practically, but not precisely true. Even at .0000000001 of atmospheric pressure, there are two billion gas molecules to the cubic centimeter of evacuated space.)

HEINTZ AND KAUFMAN LTD.

SOUTH SAN FRANCISCO • CALIFORNIA, U. S. A.



Gammatron Tubes

FOR VICTORY AND SECURITY BUY WAR BONDS

miums for airline insurance alone for the period 1934-1941, and \$8,927,943, or 25.9 percent, for the period 1937-1941 when all classifications of aviation risks were considered.

Heavy increase was noted in volume of premiums since 1932, earliest year for which these data were available, with the observation that aviation insurance will increase in importance. Absence of competition between the three leading groups was evident as to non-airline business, and the board found lacking "affirmative evidence of competition" in airline premium rates and practices.

► **Costs Criticized**—New York, incidentally, appeared as the only state in which aviation insurance reports are filed, and the only one to have undertaken regulatory action. The market as a whole is without government regulation.

As evidence of the importance of aviation insurance costs, the Board pointed out that for 1942 this expense exceeded \$2,850,000 for all domestic airlines, ranging from 2.2 to 6.9 percent of total operating expenses for the various carriers. Complaints have been made that airline insurance costs are too high and the market too restricted, and the Board said it was concerned over insurance costs as a factor in mail, passenger and property rate determination.

Liberators Used As Camera Planes

Northwest Airlines has disclosed that special Consolidated Liberator bombers equipped with a battery of six super-eye cameras instead of bombs are being turned out at the company's St. Paul bomber modification plant.

The planes have been used secretly for several months on reconnaissance work in both the European and Pacific theaters. First of this type craft was prepared last fall, after the AAF Materiel Command called Northwest engineers and maintenance personnel together and outlined the needs.

► **Mockup**—A mockup was constructed. Workers stripped a B-24 of all bombing equipment, installed fuel tanks in front bomb bays to increase the ship's range. All bomb racks and other structural obstacles were removed and the crawl deck raised to permit head clearance for a photographer. Five windows were cut for cameras and special protective glass put in.

CAB Hearing in N.Y.-Boston Case Centers on Need for Competition

Big four airlines and three smaller air carriers present oral arguments in dispute over applications for lucrative field.

By DANIEL S. WENTZ

Oral arguments were presented before the Civil Aeronautics Board last week in the New York-Boston case. The lucrative New York-Boston run was the bone of contention, with all the big four as interested applicants, plus three smaller air carriers and numerous interveners presenting their views in a two-and-one-half day discussion.

The case has had a long history before the CAB of many changes, amendments, and revisions of the consolidated docket. The original prehearing conference was held in 1941 and hearings followed in September, 1943. Examiner Thomas L. Wrenn, in his report last January recommended extension of Northeast Airlines' route from Boston to New York, and the addition of five intermediate points on American Airlines' Route 18 plus two additional intermediate points on that line's AM 21. During the oral arguments, the examiner's report was under heavy fire from practically all applicants except Northeast.

► **Competition** — The competition question arose in the attempts by counsel to show who should com-

pete with American, only presently certificated operator between New York and Boston. The examiner, public counsel, and all applicants agreed that the volume of traffic over this route would bear more than one-carrier operation.

The case for the small regional carriers versus the big national systems was argued by J. Raymond Hoover, counsel for Northeast, and Seth W. Richardson, for Colonial. Northeast, having Examiner Wrenn's blessing, expanded its previous arguments, pointing to the large volume of local traffic in New England which, it was claimed, could best be served by a line whose main interest was in local traffic. The extension to New York, Hoover said, would make Northeast self-sufficient, and provide sorely needed local service in the most densely populated area of the United States. Assailing American's New York-Boston operation over AM 18 as an "unadulterated cold-blooded monopoly," Richardson exhorted the Board to protect the position of the small carriers.

► **Open Field Asked** — Paul M.



UNITED MODIFIES 3,500th FORTRESS:

United Air Lines' modification center at Cheyenne has turned out its 3,500th B-17. Mrs. Ira C. Eaker, wife of the lieutenant general who commands Allied Air Forces in the Mediterranean area, is shown putting a finishing touch on the "3,500th Headache for Hitler." Members of the crew of "Hell's Angels," another Flying Fortress, look on, with Capt. John R. Johnston, pilot, in the new ship's window.

Godehn, counsel for United, called for wide open competition over the route, claiming that Boston is entitled to service by all three trans-continental carriers. Godehn also took the position that the large carriers could provide all the benefits of small carrier services plus additional advantages.

Eastern's Counsel, E. Smythe Gambrell, saw the problem as a north-south question. Eastern, he said, has been the leading specialist among the airlines in local traffic, and would be desirous of serving the local needs of New England as well as the long haul traffic. He also expressed Eastern's intention of developing what he called "medium haul service" between Boston and Washington. TWA and United, he said, should be given entry to Boston only from the west.

► **TWA's Stand**—George A. Spater, counsel for TWA, said Northeast could not compete successfully with such a large line as American, and that if competition were needed, TWA would be in a much better position to provide competition that would result in refinement of service between New York and New England as well as a second transcontinental outlet for the Boston area.

Claiming that, despite the enormous traffic potential over AM 18, the short distance and frequent stops increased operating expenses and made net profits very small, Hamilton O. Hale, counsel for American, urged the board not to consider giving American "competition for competition's sake." On AM 18, he said, it would tend to be destructive rather than a public benefit. He disagreed with the philosophy of attempting to nourish small unprofitable carriers by giving them new routes, stating that the formation of a sound transportation pattern for the nation would be better implemented by tying such lines into larger self-sustaining systems.

► **Duplication of Facilities**—Public Counsel Henry L. Hill pointed out that competition is not mandatory under the Civil Aeronautics Act. He said there is little need for it at present as an incentive toward better service, and added that duplication of facilities and expenses might have a tendency to make it uneconomical.

Among the interveners were E. W. Wiggins Airways, the Boston Port Authority, the Commonwealth of Massachusetts, the State of Ohio and City of Cleveland, and the State of Connecticut.

Application Asks Seattle-Miami Route

Prairie Airways files for permit for system to cross U. S. diagonally.

A large system of airlines, cutting the continent diagonally from Seattle to Miami, was proposed by Prairie Airways, Inc., of Alliance, Neb., in an application filed with the Civil Aeronautics Board for a permanent and/or temporary certificate covering 7,493 miles. Scheduled transportation of persons, property and mail by conventional type aircraft is planned. In addition to the Seattle-Miami route, they ask certificates between Sheridan, Wyo., and Chicago; Great Falls, Mont., and Nome, Alaska; Casper, Wyo., and Seattle; and Kansas City and St. Louis. The company, which presently owns no aircraft, was formed by business, professional and stockmen in Nebraska.

► **Helicopter System**—A helicopter system to serve the Greater New York area is requested in an application by Metropolitan Airways, Inc., of New York. They propose to carry persons and property in a scheduled service connecting La Guardia Airport, Idlewild Airport, the financial, shopping and entertainment centers of Manhattan and points in nearby states.

Pan American Airways Corp., parent of Pan American Airways, Inc., proposes to dissolve China

Airways Federal, Inc. CAF, Inc., is holder of 1,873 shares, or 45 percent of the issued and outstanding stock of China National Airways Corp. The CNAC stock would be acquired by Pan American Airways Corp. At present there are 50,000 shares of CAF, all owned by PAA, Inc. An application has been filed with the CAB requesting approval of this transaction.

► **Air Taxi Service**—Yellow Cab Co. of Philadelphia has filed for an aircraft taxi service by helicopter in the Philadelphia-Camden metropolitan area, with additional charter services reaching out to Atlantic City, Allentown, and Harrisburg-York, Pa. Persons, property, baggage and mail would be carried, and a scheduled service to outlying terminals is planned.

Cincinnati, Newport and Covington Railway Co., a bus and streetcar operator, have filed for a permanent certificate covering scheduled and charter transportation of persons, property and mail by conventional aircraft over four routes in Kentucky. One route would serve the Covington-Cincinnati-Northern Kentucky metropolitan area, and others would connect that area with Louisville, Ashland, and Bowling Green, Ky.

A non-scheduled freight service using airplanes, helicopters, or commercial gliders to convey perishable and high grade food and medicinal products between the U. S. and Canada, Alaska, the Caribbean, Central America, and some South American countries was proposed by Producer's Air Lines, Inc., of Toledo, in an application for a permanent certificate. E. J. McKeown, president of the corporation, is the head of a common motor carrier.

Canadian Air Group Plans Flight Strips

Flight strips for every Canadian town of more than 1,000 population, to be built immediately after the war, will be proposed by the Aeronautical Institute of Canada at the first national conference under its auspices at Toronto, May 2-3.

The institute's President, C. R. Patterson, estimated that the strips would cost about \$50,000 for the smaller towns and proposed that the towns provide one-third of the cost, with the federal and provincial governments supplying a third each. Total cost of the program is estimated at \$20,000,000.

Feeder Hearings Set for April 5-6

With preliminary work on the local-feeder-pickup investigation complete, the proceedings will come up for hearing before the Civil Aeronautics Board Apr. 5 and 6. Two days will be allowed for arguments and time allotments to individual parties have been made. It is significant that the largest time allotments have been made to the Greyhound Corp., All American Aviation, the Airline Pilots Association and public counsel. Greyhound and All American are expected to present the points of view of bus operators and pickup operators respectively.

► **Schedule**—The list of those appearing in order of appearance and minutes to each is as follows:

Associated Truck Lines, 30; Burlington Transportation Co., 30; W. J. Dillner Transfer Co., 5; Greyhound Corp., 45; Otto Aviation Corp. and Hawthorne Airways, 10; Page Airways, Inc., 20; Public Service Interstate Transportation Co., 15; Southwest Airways Co., 30; State Airlines, Inc., 30; All American Aviation, 45; Aero Pickup Service Corp., 5; Automatic Airmail, Inc., 10; American Airlines, 30; Braniff, 30; Chicago and Southern, 10; Colonial, 30; Eastern, 30; National, 15; TWA, 30; United, 20; Air Line Pilots Association, 45, and Public Counsel, 45.

Airlines May Have To Build Own Ports

Indication that commercial air carriers some day may be forced to construct their own airports is contained in the "statement of principles" adopted by the Civil Aviation Joint Legislative Committee at a one-day meeting in Washington. The subject has been given some attention in the air transport industry.

The eight aviation groups represented at the session asked that any legislation providing that airports constructed or maintained in whole or in part by public funds shall have reasonable provision for the use of airport facilities by private and non-scheduled aircraft.

While much would rest on the construction of the word "reasonable," many authorities have been advocating complete separation of commercial and private flying ac-

tivities, and this stand taken by the eight-group committee is viewed as an effort to forestall this trend. Safety and traffic considerations might then force a change in present systems of handling commercial craft.

► **Represent Air Groups**—Members of the Joint Committee are representatives of the Aeronautical Chamber of Commerce of America, the American Association of Airport Executives, the Aviation Distributors and Manufacturers Association, the Early Birds, Aviation Insurance Groups, the National Aeronautic Association, the National Association of State Aviation Officials and the National Aviation Trades Association. William P. MacCracken Jr., Washington attorney, is chairman.

The statement, spokesmen said, is being referred to the Aeronautical Law Committee of the American Bar Association with a request that a bill be drafted incorporating the principles, or that amendments to presently pending legislation be prepared to bring this legislation into conformity with the desires of the committee.

► **Safety Restrictions**—Other provisions of the statement ask that air space restrictions be only those necessary for safety requirements, national defense, and sound economic development of interstate and foreign air commerce; that the federal authority have power to make recommendations for aeronautical characteristics of airports and to make safety regulations pertaining to the construction, maintenance and in-flight operation on and off airports used in interstate scheduled air transport; that zoning be left to the states; that there be a clear-cut distinction between scheduled and non-scheduled carriers and that non-scheduled carriers be subject to a minimum of regulation consistent with safety.

Also, that federal funds for the direct training of civilian pilots, technicians and mechanics be expended under contract with private enterprise; that independence of the federal aviation administrative agency be restored, with legislation restricting powers of the "commission and administrator" so that all intrastate operations come under jurisdiction of the states; that taxation of aircraft should not be a subject of a federal legislation; that there be an independent air safety body; and that no federal legislation be enacted with respect to aviation insurance.

Burden Predicts 30% Air Fare Cut

Airline passenger fares can be cut as much as 30 percent below Pullman fares in the first post-war decade, William A. M. Burden predicted last week before the St. Louis Chamber of Commerce in his first speech since his appointment as Assistant Secretary of Commerce.

"Improvements in air transport services will mean that by the end of the first post-war decade the average moderately well-to-do American will do almost all of his long-distance traveling and a substantial amount of his short-distance traveling by air. Excluding very short-haul traffic as too difficult to forecast, we should transport by air in the United States at least twenty million passengers a year, or 70 percent of pre-war pullman traffic," Burden forecast.

► **Railroad Express**—He also estimated that as much as 70 percent of the present rail express volume may be moving by air.

Rails Issue Study Of Air Transport

Result of two years of research by a committee of the American Association of Railroads, a study of the air transportation industry is being circulated primarily to rail executives. The survey is largely factual and apparently designed to afford rail executives a basic knowledge of air transportation techniques and costs.

The study does point significantly to what the committee terms a disparity in revenue paid airlines and railroads for the handling of mail and to the facilities provided airlines at terminals, in weather services and ground needs.

► **Credits Rail Express**—It credits the Railway Express Agency, Inc., with pioneering and development of air cargo in this country and reports that 30 percent of air shipments move part way by rail.

The railroad committee asserted that "adequate consideration has not been given to integration of air transportation policy with a broader national policy covering all agencies of transport, nor has it sufficiently considered the development of coordination between air, land, and water transport . . . sound policies can spring only from an informed public opinion."



DIRECTION FINDER:

New courses in radio have been instituted by the Women's Division of the Royal Canadian Air Force at the RCAF's Wireless Training School, Montreal, where this direction finder is used as a piece of laboratory equipment.

Survey Shows Airline Operations 7.3 Percent of Plane Traffic at Ports

Check on fields serving 118 large cities reveals that military itinerant and local services are responsible for bulk of activities.

Check of airports serving 118 large cities shows that scheduled air carriers during January represented 7.3 percent of aircraft operations. Of 1,053,458 takeoffs or landings, the air carriers were responsible for 77,286, the remainder being accounted for by the military itinerant and local services.

There is no evidence that the percentage of scheduled air carrier movements to total operations will move upward after the war. Most experts believe the percentage will move downward, especially if the great increase in private flying being predicted by government sources takes place.

► **Comparisons** — January figures show that at only a few airports did the commercial carriers account for any appreciable part of total traffic in and out of the air terminals. At Chicago, Jacksonville, New York, Pittsburgh and Washington, the scheduled carriers accounted for about half of the movements, but at the remaining points under survey, the other groups far surpassed the commercial lines in aircraft operations.

Some idea of the traffic comparisons may be seen from the adjoining table of part of the 118 airports under study.

These figures emphasize the importance of airport facilities to post-war commercial and private flying. Few, if any, of the airports around the country are operating at a profit. One of the reasons may be because they are generally managed by persons not trained in the business field. In other words, not enough attention has been paid to merchandising the airport.

Before the war, for example, the Washington National Airport actually made money. These officials merchandised aviation: a fee to watch airplanes from particular spots—fine restaurant and cocktail service—etc. The same type of business management must be carried on at all the airports if the communities hope to break even. There are many sources of revenue for airports other than revenues derived from strictly aeronautical

activities that must be explored. ► **Port Problems Studied** — The scheduled air carriers are anxious to assist the communities wherever possible with their airport problems. They presently are responsible for approximately one third of airport revenues. Two committees already have been formed among the airlines to study airport facilities. They are working through the Air Transport Association, and they have on their agenda for consideration everything from the consolidation of airport services to the sale of post cards.

One of the more specific points under consideration is a uniform airport lease. At present an airline serving 20 different cities would have a like number of assorted leases. While a standardization of leases might not swell revenues to the airport, it certainly would establish a formula by which revenues to accrue from air carrier operations could be forecast with accuracy, thereby permitting an airport to determine the additional revenues which would be needed in order to keep out of the red.

Airport	Scheduled Air Carrier	All Other Groups Including Military	Total
Abilene.....	138	8,158	8,296
Akron.....	454	4,477	4,931
Albany.....	194	6,911	7,105
Albuquerque.....	1,036	21,738	22,774
Atlanta.....	1,257	16,137	17,394
Birmingham.....	548	4,389	4,937
Boston.....	703	2,418	3,121
Buffalo.....	1,048	4,933	5,981
Burbank.....	2,143	6,186	8,329
Charleston.....	748	4,929	5,677
Chattanooga.....	220	4,359	4,579
Chicago.....	3,872	3,104	6,976
Cleveland.....	1,908	28,556	30,464
Dallas.....	2,038	13,844	15,882
Detroit.....	1,543	13,637	15,180
El Paso.....	1,211	13,746	14,957
Evansville.....	88	6,890	6,978
Houston.....	389	18,224	18,613
Indianapolis.....	972	6,992	7,964
Jacksonville.....	1,586	2,142	3,728
Kansas City.....	1,772	10,569	12,341
Long Beach.....	436	24,159	24,595
Louisville.....	482	43,918	44,400
Memphis.....	1,192	17,344	18,536
Miami.....	1,376	5,452	6,828
New Orleans.....	748	3,133	3,881
New York.....	4,186	3,514	7,700
Pittsburgh.....	2,331	1,462	3,793
Richmond.....	342	10,408	10,750
Rochester, N. Y.....	250	7,696	7,946
St. Louis.....	1,188	35,518	36,706
San Francisco.....	1,367	5,690	7,057
Savannah.....	174	5,647	5,821
Spokane.....	368	13,918	14,286
Syracuse.....	212	17,289	17,501
Washington.....	3,312	3,224	6,536
Wichita.....	1,065	12,021	13,086

Every community wants an up-to-date airport. In some cases, however, communities will join together and maintain one airport. The time may come when the air carriers, operating in cities where the volume of scheduled air traffic is sufficiently large to warrant an airport for strictly scheduled air carrier use, will be forced to build and to maintain their own airport facilities.

CAB to Allocate Returned Planes

Allocation of the nine planes unofficially reported on their way back to the airlines from the Army is the first job of this nature to come under the new setup whereby the Civil Aeronautics Board, instead of the Army, has the responsibility in these matters.

CAB's determination of the manner in which the nine shall be distributed is understood to have been made, but the process has not been completed.

► **Brings Total to 34**—This will bring to 34, not counting replacements, the number returned since the Army took over a large portion of the airlines' equipment almost two years ago. It also brings the total for airline operation to 200, the wartime limit set by presidential order.

Likelihood that this limit may be relaxed was seen, however, in another unofficial report that the nine planes constitute only part of those the Army feels it can release for the airlines' commercial service. Some sources say an additional 20 to 25 ships may soon become available.

Meanwhile, details are being worked out on the new plan whereby responsibility for returned plane allocations has been turned over to the Civil Aeronautics Board by the War Department.

► **Method**—In brief, the method of allocation follows this pattern: The Army notifies the CAB that it expects to be able to release a given number of planes. The Board then works out its allocation plan, which is submitted and sent back through the same Army channels for submission to the Munitions Assignments Committee for Air. This is a subcommittee of the Munitions Assignments Committee of the Munitions Assignments Board. This group, on the subcommittee's recommendation, then assigns the returned ships.

Army Chiefs Attend Weir Cook Ceremony

High ranking Army officers attended ceremonies in Indianapolis last week marking the dedication of the municipal airport named for Lieut. Col. H. Weir Cook, ace pursuit pilot of World War I, who re-entered the Army shortly before Pearl Harbor and fell to his death in the South Pacific a year ago.

Some 2,000 persons, including Lieut. Gen. Joseph T. McNarney, assistant chief of staff, and the son of the late pilot, Aviation Cadet Weir Cook, Jr., attended the memorial banquet and dedication which climaxed a four-day aviation exhibit in the Indiana War Memorial Plaza.

► **250,000 See Displays**—An estimated quarter-million people viewed Materiel Command displays of military aviation equipment, and other exhibits shown by Indiana aviation manufacturers, housed in three circus-type tents.

Among those paying tribute to Col. Cook at the banquet were Maj. Gens. Walter H. Frank, Air Service Command; John F. Curry, Western Technical Training Command, Denver; Jacob Fickel, Eastern Technical Training Command, St. Louis; James L. Collins, Fifth Service Command, Columbus; Brig. Gens. Franklin O. Carroll, engineering division, Materiel Command; F. W. Evans, First Troop Carrier Command and Lieut. Col. Earle Johnson, national commander of the Civil Air Patrol.

Other speakers included Gov. Henry F. Schricker, of Indiana; Maj. Gen. Robert Tyndall (retired) mayor of Indianapolis; Col. Roscoe Turner, president, National Aviation Trades Association; C. Walter McCarty, managing editor, *Indianapolis News*, toastmaster, and Chairman Walker Winslow, manager of the airport.

Airline Operations Show Sharp Gain

Figures on January operation by 18 domestic airlines, from the Civil Aeronautics Board, show increases over the 1943 month of 51 percent in mail pound miles, 22 percent in express pound miles, 24 percent in revenue miles, and 42 percent in revenue passenger miles.

Here are the comparisons between last January and January, 1943: revenue miles flown, 9,476,039 and 7,626,633; revenue passen-

ger miles, 141,133,035 and 99,302,392; mail pound miles, 7,069,239,134 and 4,678,676,944; express pound miles, 2,621,141,882 and 2,153,338,255; passenger load factor, 87.93 and 77.01 percent.

► **Load Factor**—The January passenger load factor, or percent of seats occupied, was based on 18 average available seats a mile, against 17½ a year earlier. The planes flew 91 percent of scheduled mileage in January, the average load being 16 passengers, 747 pounds of mail and 277 pounds of express. January, 1943, loads averaged 13 passengers, 614 pounds of mail, and 283 pounds of express.

New Canadian Policy Clouds CPA Plans

Canadian Pacific Airlines' plans, in connection with the Canadian government's policy that all airlines must be divorced from surface transportation ownership within a year of the end of the European phase of the war, apparently are in doubt.

Commenting on the government's announcement, made only recently, D. C. Coleman, chairman and president of the Canadian Pacific Railway Co., stated that following the investigation in 1940 by the Board of Transport Commissioners of the operation of small airline companies, the CPR, "with the encouragement and approval of the government, undertook to acquire control of a number of the competing airlines and consolidate their operations.

► **Heavy Investments Cited**—"Every step in this process has been taken with the full knowledge and approval of the authorities and the company, in good faith, has invested a large sum of money which cannot be expected to yield any return for some time to come."

He pointed out that in the operation of seven air training schools, the CPA has returned the entire profits voluntarily to the government; that the CPR in 1919 was authorized by special act of Parliament to operate air services; that the company's first air undertaking was buying stock on an equal share with the government-owned Canadian National Railways in Canadian Airways Ltd.; and that the government's move was a radical departure, since in Canada the two railways operated not only trains, but also steamships, telegraphs, airlines, express services, buses, trucks and hotels.



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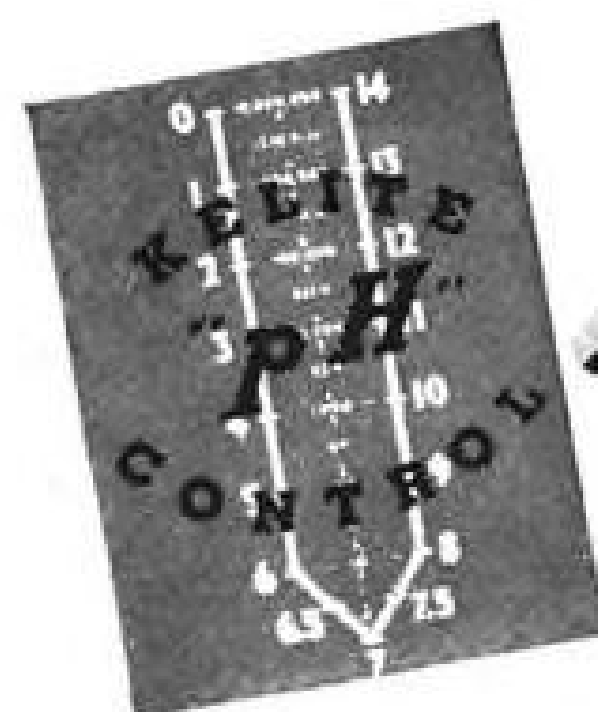
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Air Cargo Survey Shows Post-War Rise

Field men report wide interest in low-cost fast freight service.

Reaction in the business world to the survey of post-war air freight possibilities being made by Air Cargo, Inc., leads officials of that organization to believe marked expansion of air cargo transportation can be expected.

Industry's response has been "highly encouraging" to the field men currently conducting the survey daily in 14 major market areas. They report that it has disclosed wide interest among business men in the effect on their enterprises of the development of low cost, fast air cargo transportation. These men, Air Cargo officials say, have been "most cooperative" in supplying the required data.

► **Shipping Practices Studied**—The organization's analysts are studying shipping and distribution practices among a selected group of representative manufacturers, wholesale and retail companies, and service and financial establishments. The survey is aimed at determination of industries in each market area that will most widely use air cargo transportation, and effect of expanded use of air shipment on sales and distribution policies.

Studies are covering possible expansion of market areas, reduction in cancellations and returns, economies in warehousing, reduction of inventories, reduced packaging costs, effects on distribution of style merchandise, and air shipment of perishables. It is hoped that it will establish service requirements of shippers and receivers as to pickup and delivery methods and times, and requirements for special handling.

► **Covers 30 Major Markets**—All this information, say those in charge of its assembly, will help determine type and size of plane to provide most efficient operation for increased air shipment volume anticipated when planes are available for commercial use. A related part of the study has to do with airport cargo and ground handling facilities, pickup and delivery service, schedules and rates.

Scheduled for completion by June 30, the study is to cover eventually the 30 major market areas in the United States, with attention to international as well as domestic shipments.

Already it indicates that in some industries shipment by air may become a major method of transportation. Few industries have been found which will not find place for a "substantial use" of air transport, Air Cargo men say, even though it may not replace surface transportation for the bulk of their shipments.

New Tail Wheel Unit

A new automatic tail wheel assembly has been developed by Scott Aviation Corp. engineers, who say it combines the advantage of both the steerable and full swivel types, along with automatic features of operation. It is designed to fit practically all types of light aircraft.

CAB ACTION

• Civil Aeronautics Board denied a petition of the Chamber of Commerce of Kansas City to intervene in the New Orleans-Kansas City case. (Docket 661 et. al.) The City of Little Rock, Ark. was granted permission to intervene in the same proceeding.

• Western Air Lines has been authorized by the Board to begin service over AM 63 between San Francisco and Los Angeles. Required airport notice has not yet been filed.

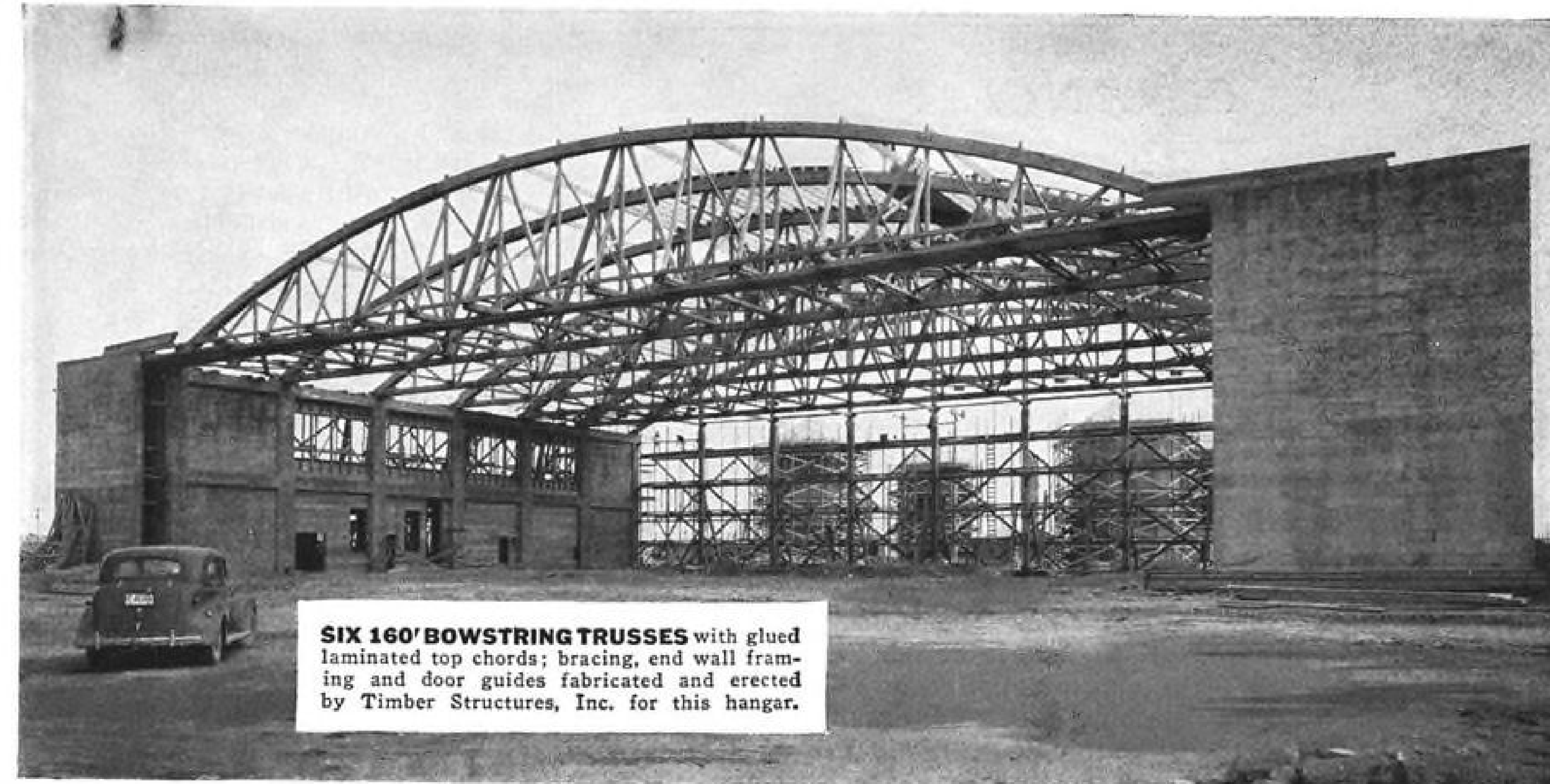
• Pan American has received permission to operate non-stop between Miami and Merida, Mexico, beginning Apr. 3. A Pan American representative stated that service will be started early in April and that flying time between Miami and Mexico City will be appreciably decreased.

• Proposed purchase of Cordova Air Service, Inc., by Alaska Airlines failed to gain the approval of Examiner Lawrence J. Koster. He found that Alaska Airlines is in "hazardous financial condition" and that the acquisition of Cordova would tend toward the uneconomical development of Alaskan airways. He added that Alaska Airlines is in a dominant position in interior Alaska and that the contemplated addition to its existing routes would increase an undesirable monopoly.

• Examiners Madden and Spang, in a pre-hearing conference report on the Washington-Canada proceedings, characterized the case as involving primarily north-south service and recommended that applications of TWA and United should not be incorporated with the docket, inasmuch as they request additional stops on existing east-west routes. Hearing is scheduled for Apr. 17.

• Briefs in the case involving Hughes Tool Co. control of Transcontinental & Western Air are to be filed by Apr. 15, date set by Examiner Frank A. Law at a recent hearing. Hughes Tool asked for CAB approval of the control, if necessary. Since counsel has agreed that such control exists, speculation arose as to the reason the application was filed. The question may have come up because a subsidiary of Hughes Tool Co., the Hughes Aircraft Co., is engaged in airplane production under government contract. The Civil Aeronautics Act prohibits control of an air carrier without Board approval by "any person engaged in any other phase of aeronautics." The Department of Justice was an intervenor in the proceeding, department counsel suggesting that approval of the relationship should be granted only on condition that the CAB would re-examine the case if Hughes Tool Co. undertakes the manufacture of aircraft or aircraft parts.

• Apr. 15 has been selected as the date for prehearing conferences on the applications of two Alaskan airlines. Alaska Star Airlines has applied for a route between Homer and Kodiak, and has requested designation of its route between Fairbanks and Homer as a mail route. (Docket 864) Woodley Airways application asks authorization for a route between Anchorage and Kodiak, and has further requested that its Anchorage-Homer route be designated a mail route. (Dockets 889 and 890)



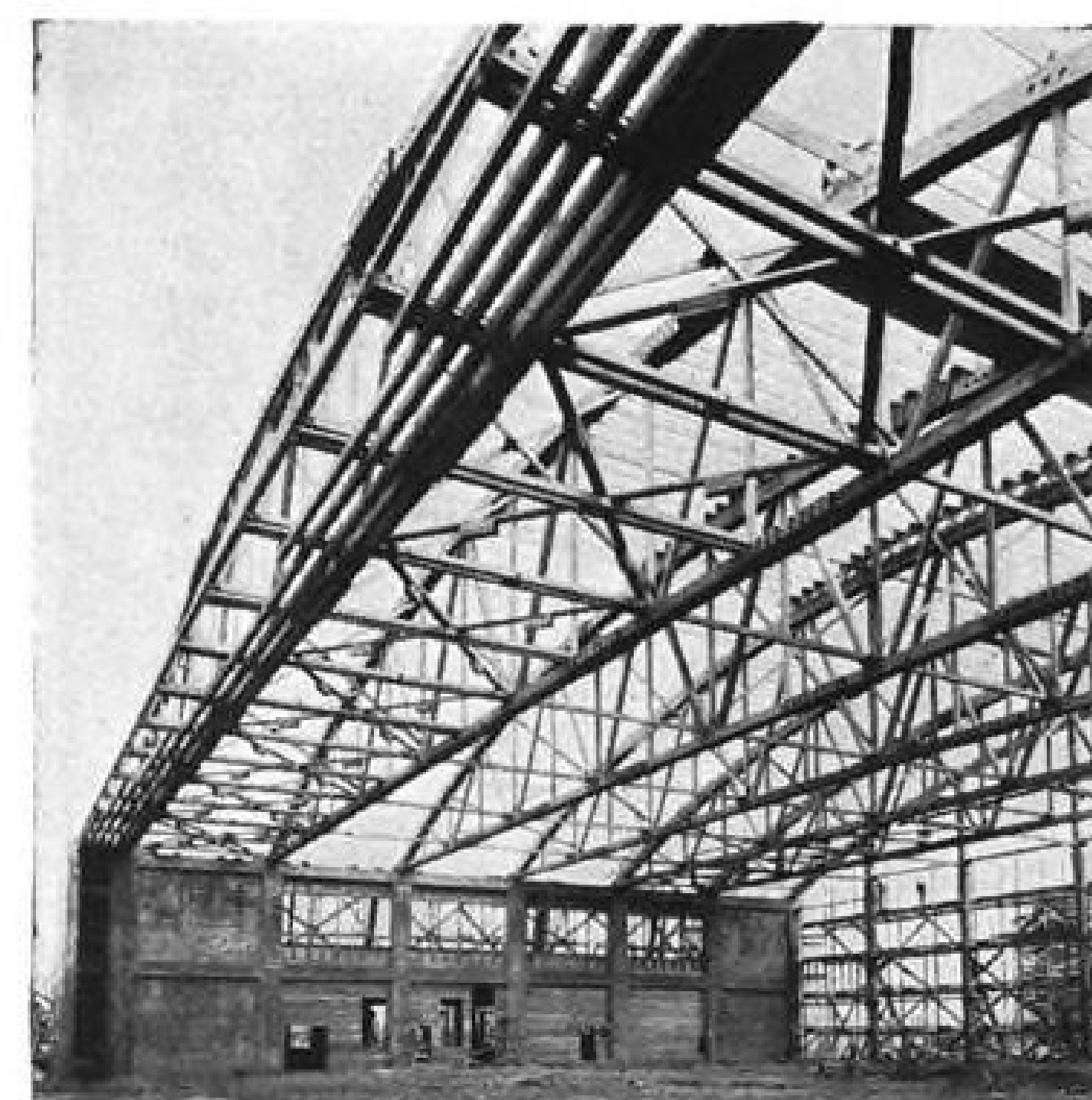
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Domestic Airlines Resume Plans For New Financing Operations

Total funds needed for entire air transport industry expected to reach 700 million during next ten years, according to estimate based on TWA's forecast of 100 million required by 1954.

By ROGER WILCO

After a short breathing spell, the airlines have resumed their plans for a march on the capital markets.

Northwest Airlines will soon offer its stockholders "rights" to subscribe to 117,460 shares of additional common stock. All unsubscribed shares will be underwritten by investment bankers. At present market prices, the airline may realize gross proceeds of about \$2,500,000 from this transaction.

It is noteworthy that Northwest is continuing the practice of the industry in looking to equity capital for new funds. Favorable market conditions have undoubtedly encouraged this pattern. The nature of airline operations, too, has favored stock issues in preference to other forms of financing. It is questionable, however, if equity issues will continue to predominate in the future plans of the industry.

► **National's Plans**—The projected plans of National Airlines, in this connection, are particularly significant. This carrier recently announced that arrangements have been made for the private financing of its new operation (Jacksonville-New York) as authorized by the Civil Aeronautics Board. No public stock or bond offering is contemplated according to the company's president. Further, National hopes to avoid flotation of new security issues if additional new routes are obtained as a result of its extensive applications now pending before the CAB.

Where, then, will National obtain the necessary funds? Most likely this will be forthcoming with the assistance of private bankers and may logically be expected to take the form of equipment notes or similar paper. Lehman Brothers has previously

appeared in the National picture and in view of the profitable association may continue to remain. The banking firm was last reported as owning an option to purchase 10,000 shares of National's common stock at \$7.50 per share on or before Apr. 15, 1944. This option was received as an outgrowth of past financial assistance. With National's common stock currently selling at 16½ bid, 18 asked, the profit is self-evident.

► **Baker Holds Similar Option**—G. T. Baker, National's president, holds a similar option for a like number of shares. It is obvious that both options will be exercised before their date of expiration—if they have not been done so already. As an incidental result, the air carrier will issue a total of 20,000 additional shares, receiving in return, \$150,000 in cash. Further, this will bring the total capitalization to 290,000 common outstanding and representing the carrier's sole security.

The full extent of National's future financial requirements is not indicated. The authorized new operation, however, heralds a substantial capital outlay.

► **Outline**—The ultimate financial requirements of the industry as a whole are beginning to assume a rough outline. TWA's executive vice-president, E. Lee Talman, recently forecast that his company's capital expenditures and requirements by 1954 for domestic operations alone would be about \$100,000,000. Applying the same measure to the entire domestic air transport industry would result in an aggregate projection of about \$700,000,000 as the group's capital outlay during the next decade. This will represent a monumental financing job and it is questionable if the full portent of the task

ahead is clearly recognized by the airlines and the financial community.

A few comparative facts will illustrate: Total resources of all domestic airlines, at last count, aggregated about \$100,000,000. During the past eight years, 14 separate air carriers sold a total of 27 individual stock issues to gross about \$45,500,000 in new funds.

► **Ten-Year Program**—Now then, if Talman's projection is sound, the industry in the next ten years will be required to increase its capital about seven-fold and obtain more than 15 times the amount of new money than it did during the last eight years.

In the past, new money has been obtained primarily from marketing additional stock issues. The risk characteristics of the industry favored this course. Further, small stock capitalizations made it expedient to issue additional shares. For example, while Northwest will add 117,460 shares, its total common stock capitalization will then only amount to 352,380 shares, which isn't too diffuse for a major-sized corporation.

► **Capitalization Diluted**—However, the carriers as a whole have progressively diluted their existing stock equities by issuance of new shares and are close to the point where this continued practice may become increasingly difficult. The trend toward growing share capitalizations is evidenced by Braniff. In August, 1943, this operator did some additional financing, which resulted in an increase from 400,000 to 1,000,000 shares outstanding. (A stock dividend accentuated this increase.)

One of the reasons for the underlying financial strength of the aircraft industry today can be attributed to the small equity capitalizations most of the companies have retained throughout the war-inflated years. By using supplementary financial media, the aircraft builders have been able to handle a substantial increase in volume of operations to the profit of their stockholders. The deflationary processes will, as a consequence, be less drastic on the basic financial structure of the industry than would have followed had the group sought greater amounts of "permanent" capital.

► **Diversified Paper**—The experiences of the aircraft and other industries along with the ever-changing complexion of the air carriers themselves may well point

to the airlines' employing diversified "paper" in the future. It is likely that equipment trust notes, bank and other short-term loans may finance the "flying assets" while equity money may take care of the other capital requirements. Clear-cut manifestations of this trend may come into evidence when the airlines will be called on to acquire the high-priced planes of the future with which many carriers expect to open services as soon as war exigencies permit.

War Hazards Cited In Douglas Report

Message accompanying financial statement forecasts increased financial stringency with reconversions and contract terminations.

The remarks of Donald W. Douglas, head of Douglas Aircraft Co., made in connection with the company's financial report for 1943 are significant in the philosophy outlined, which is that survival rather than profits is the first problem of war industries and because financial hazards and uncertainties of contract terminations and reconversions threaten survival of these companies, profits alone are not of primary importance.

The financial statement of the company backs up the philosophy. While establishing an all-time production record and new peak of \$987,687,196 in sales and fixed-fee billings, the Douglas Co. derived a net income of only \$5,952,257, a ratio of only six-tenths of 1 percent of sales volume.

► **Profits Subordinated**—"National welfare, rather than the stockholders' earnings, becomes of paramount importance, and the normal rewards and aspirations of stockholders are set aside for the duration while the company becomes to all intents and purposes an adjunct of the federal government, operated in its behalf," Douglas said.

"To this concept of a corporation's duty to its government in time of war, the company subscribes freely and fully," said Douglas.

► **Reciprocity**—He notes, however, that the government has a reciprocal obligation to industry, a duty to remove by legislation the obstacles and uncertainties in the path of restoration of the company to peacetime activities without delay or impairment.

"Management's principal obliga-

tion to both stockholder and the nation likewise is the preservation of the company and its resources," Douglas says. "To speed victory and preserve the peace, the company must remain a strong instrument of national defense."

► **Disbursements**—Out of 1943 operations, the company paid \$363,000,000 in wages and salaries; \$50,000,000 in direct taxes to federal and local governments; \$560,000,000 to approximately 6,000 subcontractors and vendors and only \$3,000,000 to more than 9,000 stockholders. The number of stockholders increased during the year by 6 percent, but dividends per share showed no increase during the entire period of wartime operations, remaining constant at the annual rate of \$5 per share since 1939.

Highlights of the Douglas report included:

► Increase in production of more than 200 percent over 1942 and 2,-

Tax Load Mounts

The financial situation of the aircraft industry is pointed up by the report by Douglas Aircraft Co., which shows that the tax bill for 1943 increased 22 percent over 1942 and 100 percent over 1941.

It equals \$83.33 per share of stock, about eight times net earnings a share and 5 percent of the dollar volume of business, excluding indirect or hidden taxes.

A reserve for adjustment to income, including disallowances amounting to 0.6 percent of sales was deducted during 1943. The amount set aside for contingencies, including war uncertainties and post-war risks was \$6,950,000 or 0.7 percent of total volume of business. This sum, the report says, brings reserves for contingencies to but 0.4 percent of current backlog and to a sum adequate for only two weeks of current payrolls. After the contingency reserve and dividends, \$2,952,257 remain from 1943 earnings to add to surplus.

On Nov. 30, 1943, net working capital of Douglas was \$35,438,727. Unrestricted cash and government securities available at the close of 1943 for current and future operations amounted to \$41,300,294. Bank borrowings at the end of the year were \$12,000,000, obtained from a \$40,000,000 credit.

770 percent over 1939. Productive floor space under company operation increased 32 percent.

► Unit costs to government on military aircraft produced by Douglas reduced an average of 22 percent on the company's six production models.

► Employment increased 103 percent and reached a high of 160,000 in August. Women accounted for 51 percent of workers employed in direct manufacturing, 46 percent of total employment.

► Douglas produced 112,000,000 pounds of combat airplanes and spare parts; 15.8 percent dive-bombers; 19.3 attack bombers; 31.4 heavy bombers and 33.5 transports. Eight distinct models are in production and four new ones under development.

► Douglas was the only manufacturer to produce three 4-engine types—its own C-54 combat cargo transport; Boeing B-17 *Flying Fortress* and Consolidated B-24 *Liberator*. In addition, the company turns out the *Dauntless* SBD dive-bomber, the A-20 *Havoc* and the C-47 *Skytrain*, military version of the DC-3.

Douglas noted that the aircraft industry "has assumed responsibility for liabilities staggering in size and proportion to stockholders' capital. Cash items, though large in comparison to those of the industry before the war, are small relative to the bulk of payables owed to the Government for taxes, to the size of commitments to the industry's thousands of suppliers, to the value of wartime plant expansion and to wartime payrolls."

Financial Reports

► **Edward G. Budd Manufacturing Co.** reports 1943 net profit of \$2,764,137 after taxes and reserve of \$600,000 for post-war conversion, but before renegotiation, compared with \$1,302,030, after renegotiation and reserve of \$1,420,000 for post-war rehabilitation of plant in 1942. Sales were \$119,326,645 compared with \$106,289,828.

► **Kellett Aircraft Corp.** reports net sales of \$11,297,106 for 1943—more than double those of the prior year. Net income for 1943 is listed at \$48,739 before renegotiation, or 11.8 cents per share on 428,098 common. Options were exercised on 48,000 shares at an option price of \$1 a share.

► **McDonnell Aircraft Corp.** declared regular quarterly dividend of \$1.50 per share, payable Apr. 1, to stockholders of record Mar. 25.

Reconversion Chaos

CONGRESS has recessed until mid-April without taking positive action on uniform industrial demobilization. Contract terminations already total some 16 billion dollars for all industries. Before the war ends the nation may have completed 40 percent of our war contracts. A popular view that this is a post-war problem is fallacious and dangerous. No group has more at stake in reconversion than the aircraft industry, which has risen from 44th in national dollar volume to first, entirely on war orders.

Industry has not been entirely blameless. The aircraft industry itself, although maintaining a special committee on contract termination in the Aeronautical Chamber of Commerce, has not united to the point of utilizing it unanimously, and various companies are spending thousands of dollars a month working independently on this subject. A firm stand by the entire industry would have an important effect on Capitol Hill.

Even so, it is no secret in Congress that the leading industries have no major objections to either of the George-Murray bills. These are S-1718 for contract termination, and S-1730, the Omnibus Demobilization Bill containing the provisions of S-1718 intact as title III. Baruch, Byrnes and Hancock probably would have no objection to the termination bill if they believed positive action by Congress would be forthcoming. Action by Congress is desperately needed on terminations.

Congress, however, is bogged down in duplication and overlapping, without common purpose. One element is the long pent-up resentment at the Executive branch. So far Congress has refused to take kindly to the Baruch report from the other side of town. Petty jealousies so far have prevented any unity on even legislation originating on the Hill. Meanwhile, most observers believe that if we do not get legislation passed by June we shall wait until after the November elections.

THERE ARE NOW at least 31 bills dealing with termination and reconversion being considered by ten committees in the House alone. The same situation exists in the Senate. Virtually without exception, when a reconversion bill is introduced in the House a companion measure is tossed into the Senate hopper.

Leadership in the Senate on this subject by more or less general agreement has been given Sen. George chairman of the Post-War Planning and Policy Committee, however, the subcommittee of the Senate Military Affairs Committee has taken considerable interest in the subject while the Senate Small Business Committee, headed by Sen. Murray, has also attempted to direct legislation. Another active group has been a subcommittee of the Small Business Committee, called the Murray Contract Termination Committee.

The George Committee has issued numerous

reports but in very few has it agreed with other committees or other agencies working on the subject, and in several instances hasn't agreed with itself. The chief stumbling block is—will the Senate try to push an overall reconversion bill or will it break the subject up and pass separate bills on terminations, disposal of surplus property, financing reconversion, re-employment and re-training?

On this question the Senate snagged recently and it is still snagged. Some want to enact one measure tying it all up. Others say the subject is too big and should be divided. Meanwhile, nothing is done except methodical criticism of the Baruch Plan, which has been the only definite program advocated.

ON THE HOUSE SIDE there has been even more disagreement and disunity. Rep. Vinson introduced a measure providing a separate termination of Navy contracts (apart from those of Army, Maritime, etc.), but so far he has brought forward no reason. He would have separate machinery set up to deal with Navy contractors despite the fact that the same contractors may have contracts with the Army also.

Rep. Kefauver introduced a weird bill similar in part to the George Bill. The Colmer Committee, alleged to be the House counterpart of the George Committee, is in no sense moving in the same direction. It has held hearings, but has become hopelessly lost in a maze of testimony and to date has done nothing except duplicate the George Committee.

There is lack of agreement on the House side, too, whether terminations should be provided in a separate bill. Appearing before the Colmer Committee, John Hancock testified that if it was a bill on terminations that the Committee wanted, he could get one drawn up within two weeks that would have approval of all six procurement agencies. Nothing was done.

The Colmer Committee, the House Military Affairs Committee, House Naval Affairs Committee, House Judiciary Committee—all are studying reconversion legislation, and all are moving on different bills.

Meanwhile, Mr. Baruch showed that he was becoming nettled at Congressional inactivity. He declared he was amazed that "our report has been in the hands of official Washington more than a month and there seems to be little disposition on the part of Congress to cooperate by moving along the lines we have indicated. Prestige or individual feelings should not be a factor. Who cares where a plan for meeting the shocks of returning peace originates? For my own part, I will accept a plan from any source, provided it will do the job."

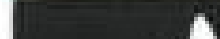
Baruch has a right to ask questions. So has industry.

ROBERT H. WOOD



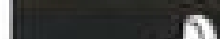
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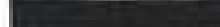


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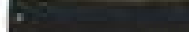
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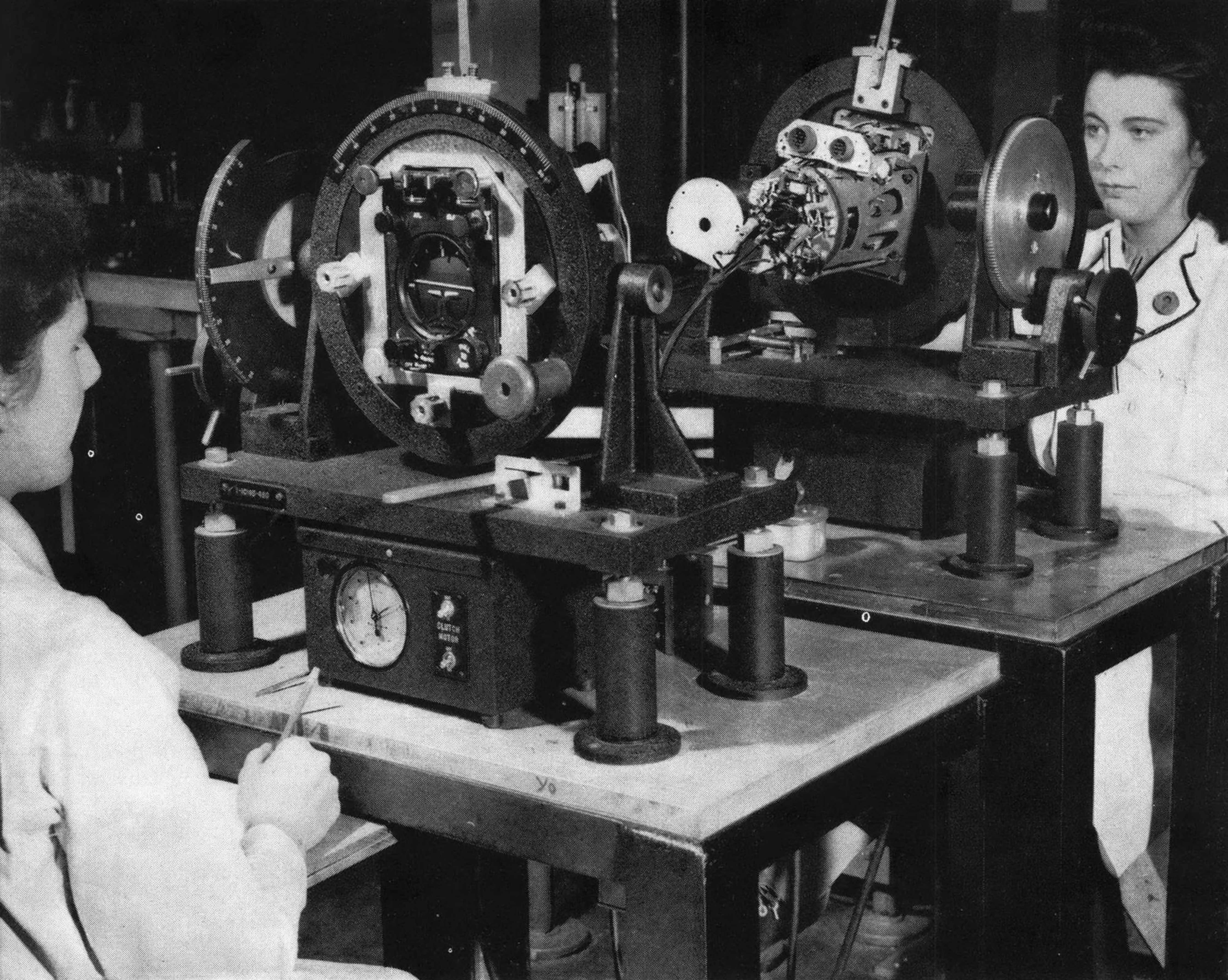


Whether it's "Power for Plainville" or "Superbombers for Tokyo", a-c increases the range. By means of an A-C Calculating Board, Westinghouse engineers are now analyzing a-c requirements of modern bombers . . . another new development is a 65,000 rpm small motor to drive grinding wheels for finishing precision parts . . . still another is a midget searchlight visible for 60 miles, a lifesaving aid to fliers forced down at sea.

Literature mentioned in "Plane Talk" . . . additional information on any item can be secured from any Westinghouse office, or by writing Westinghouse Electric & Manufacturing Company, Dept. 7-N, East Pittsburgh, Pa.



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