

Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

DECEMBER 4, 1944



***Thunderbolt Amphibian Unveiled:** Formidable contender among family type personal aircraft for post-war use is new Thunderbolt amphibian built by Republic Aviation Corp., Farmingdale, L. I. Plane is all-metal construction, seats four and is expected to sell for less than \$4,000.*

CAA Port Plan Lets Congress Solve Landing Problem

National program provides for 3,050 new airports and improvement of 1,625 at cost of \$1,021,567,945.....Page 9

Provisional Body Prepared As World Air Talks Close

Some major differences between U. S., Britain and Canada on multilateral civil air transport agreement still unsolved.....Page 7

Echols Urges Constant Research on Aircraft Design

Woodrum Post-war Military Policy Committee told that equipment now in use will be obsolete two or three years after war.....Page 11

Next 6 Months May Clarify West Coast Industry Aims

"Confidential" customer previews of mockups of post-war planes is gradually giving form to general picture.....Page 16

Boeing Converts Seattle Plant from B-17's to B-29's

Project, already past half-way mark and expected to be completed early next year, will bring total of units to five.....Page 35

House Group Hits CAB Stand Against Ship Firms

Bill recommended authorizes Commission to make "final and conclusive" findings as to right of steamship operators to use aircraft.....Page 42

Heavier "fire power" licks this enemy, too



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THE AVIATION NEWS

Washington Observer

CAA TRAINING PROGRAM — Indications are that the CAA has acted fast on its proposed civil air training program. Informed persons expect a report from CAA soon, recommending to Congress an extension of Civil Pilot Training, under which federal money would be matched with that of school-sponsors and of students, for training courses. Primary aim is to generate a large flying population which will support a big aircraft manufacturing industry; and secondly, to create a military backlog of aviation skills. CAA intends to go below physical standards of the Army and Navy to cover a large student group. Of course, all acceptable students would be available for whatever peacetime military training may be established. Some opposition to CAA's plan is expected, on the ground that it will tend to federalize aviation to the detriment of local government and private initiative and enterprise.

★ ★ ★

PEC REORGANIZATION—A full-dress reorganization of the Production Executive Committee is in the making for the purpose of making it a full-time operating unit. Formerly, PEC meetings were held once a week, but with the PEC functions split among four newly-organized divisions, the unit will be in a position to study and properly consider the mass requirements and schedules which should be examined before cutbacks are ordered. All cutbacks of any size clear through this group, which coordinates the procurement and manufacturer positions. It is important and should be watched.

★ ★ ★

CONGRESSIONAL OUTLOOK—Chances of obtaining revisions of the surplus property law necessary to make it workable are now very poor for the reason that Congress, rather than being receptive to the views of the new SPB, is questioning two of the three appointments. Senator Gillette, scheduled to be the third member, is a lame duck and will be confirmed.

★ ★ ★

AVIATION DIVISION—Happily, this phase of surplus handling is in strong position, with policies firmly outlined and activities already under way. However, it should not be overlooked that a new SPB could move in and radically revise the entire setup. This would be extremely serious, since the policies now in effect have been drawn from the experience and knowledge of both independent and aviation groups and, as it stands now, there is good chance that aviation surpluses will be disposed of without wrecking much of the industry. Any rocking of the boat could be disastrous.

V-E DAY CUTBACKS—The Army is now said to believe that the 40 per cent cutback of munitions previously estimated for V-E Day is too high and is seeking to slash that figure sharply in production scheduling discussions with WPB. Chairman Krug now is reported to feel that the 40 per cent figure is a trifle high and believes that it will be somewhat less than that, although it does not drop as low in his estimate as the Army's figure. Krug's current thinking is said to be that the overall cutback will be about 35 per cent. Although the five per cent drop seems slight, actually it will amount to nearly \$300,000,000 a month in dollar volume. At any rate, the uncertainty over the extent of the cutback come V-E Day, is one of the factors holding up the highly-publicized Priorities Regulation No. 26. This regulation spells out Krug's V-E Day plan. He had intended to release it long ago, according to Washington insiders, but has acceded to Army demands to withhold it until immediately before V-E Day.

★ ★ ★

SURPLUS PROPERTY BOARD—The high hopes held for a top-notch Surplus Property Board went glimmering with the new appointments. Many were puzzled by the switch-over from various candidates to those finally named. A strong board might have handled a poorly-written law and obtained quick and necessary legislative revisions.

★ ★ ★

LEND-LEASE—Reports emanating from the Chicago conference that Lend-Lease will be used to equip the commercial airlines of some of our Allies, even before the war has ended, have been denied by officials of the FEA.

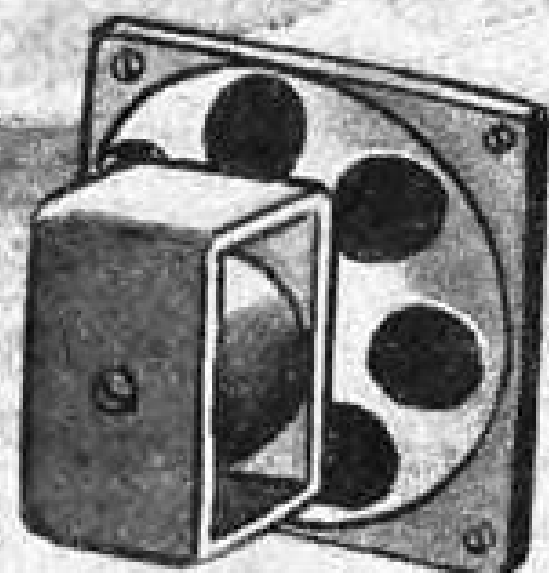
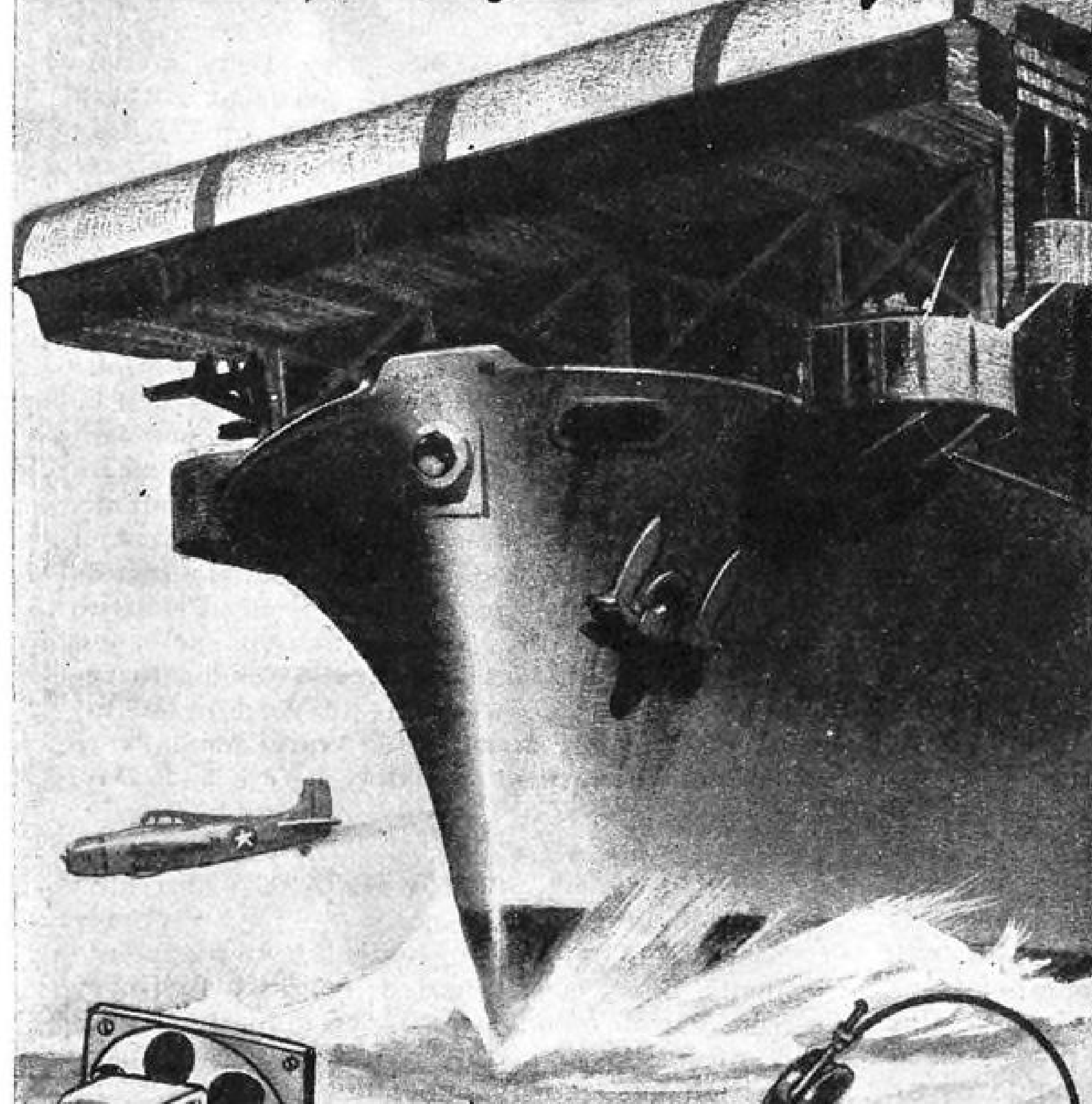
★ ★ ★

SHARP INCREASE IN DEMANDS—While admitting a sharp increase in requests for transport planes under Lend-Lease, FEA officials say that each such request must be justified solely in the light of its military urgency. The program for providing Lend-Lease to Britain during Phase Two (after Germany falls) does not call for any substantial increase in transportation equipment, according to best sources in the Capitol.

★ ★ ★

KRUG TO WEST COAST—Plans for WPB Chairman Krug's airplane trip to the West Coast to expedite production in war plants there have changed almost daily since he first announced his intention of making the trip. Now tentatively scheduled for this week, it may be changed again. One hitch came when Krug

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agreed to take along six press representatives. A snarl developed over the selection of the six men to go along. When he does go to aircraft plants and shipyards on the West Coast, Hiland G. Batcheller, operations vice-chairman and Harold Boeschstein will be touring the Middle West and East for the same purpose. The newly-created Aircraft Division of WPB, which will be under the Transportation and Radio Bureau, will report to Batcheller.

ANOTHER WPB DEPARTURE—The next top-drawer official to leave WPB, according to capitol insiders, will be Arthur H. Bunker. He is now chief of staff and policy head of the Production Executive Committee. Bunker has not publicly intimated that he plans to leave, but high WPB officials expect his departure from the agency in the not too distant future.

NO MORE—One sentence was noteworthy above all else in a speech at Oklahoma City by Lieut. Gen. Barton Yount, substituting for Gen. H. H. Arnold. In the speech he declared: It is probable that no further fighters with conventional gasoline engines will be designed. The

Industry Observer

North American's announcement last week of a 450 mph. level flight speed for the Mustang must be considered conservative. It is the War Department's latest "publishable" speed for the fighter and covers an already obsolescent series of the spectacular P-51 group. This model is also credited with a publishable top altitude of 40,000 feet plus, and range of 2,000 miles. When the Army is ready to concede fighter speeds of "over 500" mph., North American should be a claimant.

Several companies which have announced postwar personal planes have a unique worry. Enthusiastic sales departments and an enthusiastic public have stacked up literally thousands of orders for postwar deliveries, frequently covered by cash deposits. How long the public will be willing to wait for these craft before deciding to call back the deposit and apply it to an auto or refrigerator is a moot question. Some company production chiefs have jitters, wondering how quickly they can turn out the new ships once materials are available, and how much they should expand production facilities to hit the market while it is hottest.

Lockheed stockholders, who will receive their fourth fifty-cent dividend shortly, anticipate that it may be the last payment for some time in light of President Robert Gross' statement that "Lockheed's policy is to declare dividends from time to time as conditions warrant, but not to establish a schedule of regular payment."

The aircraft industry expects that further announcements on new planes and developments

Washington Observer

sentence is the best indication so far by top authority of the amazing performance of the new jet-propulsion fighters, which within three short years have far outstripped the progress of 40 years of conventional aircraft engines, so far as speed is concerned.

BUILD-UP—CAA top-men are looking for considerable further expansion of the federal government setup administering aviation laws and regulations. But they don't want the agency to snowball too rapidly, and they want to hold expansion within reasonable limits. Hence they are looking with favor on proposals of uniform state regulations which would supplement CAA and CAB, so long as they actually supplement and don't interfere.

TRANSPORT EQUIPMENT—The United Kingdom, Russia, Australia and other Allies who have obtained air transport equipment from use under Lend-Lease have pledged that this equipment will not be used to carry commercial passengers. Title to all such equipment remains with the United States government, as is the case in all Lend-Lease transactions.

will be cleared by the War and Navy Departments for publication during the next few weeks. Denials that any Beech UC-45 transports are being diverted from military to civilian or commercial use are being issued by the War Department, in response to industry reports. Officers say this twin-engine ship is in much demand by both services. WPB reports that production has stopped on the Beech single-engined transport, however. Future status of the Air Transport Association is receiving careful attention of top airline officials as the International Civil Aviation Conference nears its close. Question revolves around the types of memberships to be permitted. Should ATA remain essentially an association for U. S. lines only, or for all airlines on the continent, or should it encompass all air transport companies in the Western Hemisphere? The Air Traffic Conference, an ATA organization, has recently favored membership in ATA by all foreign flag lines which will serve the U. S. and Canada, mainly so that these companies could join the ATC.

Proposed changes in Civil Air Regulations, Part 17, which would set up type certification of instruments used in civil aircraft, are strenuously opposed by the airlines, aircraft companies, and instrument makers, as being unwarranted on the basis of the established safety record involving instruments.

Cheaper trip insurance for airline passengers, possibly as low as 25 cents for each twenty-four hours of flying, is being advocated by some airline executives. Present charge is 25 cents for the first four hours and 25 cents more for each additional four hours, but not to exceed a total of a dollar. One new plan also would be valid for any regularly scheduled Canadian line.

Information please...

at the NATA Convention...

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given us a lot of information which we'll be pleased to pass on. We're anxious to share our experience with you—to add what we have learned to your fund of knowledge—to consult with you on your own specific problems, and to submit workable, profit-making suggestions.

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Provisional Organization Prepared As World Air Talks Draw to Close

Delegates to Chicago conference pack for home after month of deliberations, with some of major differences between U. S., Britain and Canada on plans for multilateral civil air transport agreement still unsolved.

By MERLIN MICKEL

Weary delegates to the International Civil Aviation Conference packed to go home last weekend after more than a month of deliberation, leaving unsolved some of the major differences between American, British and Canadian plans for multilateral air transport agreement.

So strong was support for the latest U. S. proposal, however, which would give signatory states virtually unrestricted freedom of the air, that it appeared a likely basis for interim operation until a permanent convention could be affected.

Provisional Organization Planned—Special trains were ordered to take the delegates away from Chicago Sunday, but before they left they were to set up a provisional organization, with committees on air transport, air navigation, and a multilateral convention, to function until a treaty can be agreed to or another conference is held.

As the conference entered its fifth week, even the most stubborn optimism waned in the face of a situation that found the United Kingdom, despite some compromise, insisting on a strong international body with powers beyond those the U. S. was willing to accord a world air organization, while Canada continued its attempts to provide a universally satisfactory plan as meeting ground for the divergent views.

Five Air Freedoms—Most of the discussion hinged on the fifth of the five freedoms of the air proposed by the United States, under which each member state would give international air services by other signatories privileges (1) to fly across its territory without landing; (2) to land for non-traffic

purposes; (3) to put down passengers, mails and freight taken on in the territory of the state whose nationality the aircraft possesses, (4) to take on passengers, mails and freight destined for the territory of the state whose nationality the aircraft possesses, and (5) to take on passengers, mails and freight destined for the territory of any other member state and put down passengers, mails and freight coming from such territory.

The tug-of-war between the Americans and British involved largely questions whether intermediate pickup traffic under this fifth freedom might be used, as the U. S. had advocated, in determination of capacity and increases in that capacity under proposed "escalator" clauses. The British re-

Hughes Plane Burns

Army scrutiny of the high-speed photo reconnaissance airplane developed by Howard Hughes, and due to be in production next year, was climaxed last week when the plane was inspected at Hughes' Culver City, Calif., plant by Col. Elliot Roosevelt, head of the photographic unit of Eighth Bomber Command.

At the same time it was learned that Hughes' colorful, twin-boom D-2 experimental plane, which patterned the photographic airplane, was destroyed Nov. 11 when Hughes' hideaway hangar at a Mojave Desert dry lake burned.

While Hughes periodically was reported to have established new speed records with the D-2 during a year of test flying, no announcement of results have ever been issued by the designer.

jected the idea, but the Americans insisted it must apply if long routes were to run at a profit, without subsidy.

Impasse—The impasse brought about by this divergence resulted in submission by the U. S. of a



Top Men at Air Conference: Three of the key figures at the international air conference in Chicago are shown here. Left to right they are Lord Swinton, chairman of the United Kingdom delegation; Adolf A. Berle, Jr., chairman of the U. S. delegation and president of the conference, and C. D. Howe, chairman of the Canadian delegation.

simpler proposal, without many of the complications of the earlier U. S. proposal. Omitting provisions on traffic quotas and escalation, this retained the five freedoms, specifying with respect to the last three that each member state undertake to permit through services only on a route constituting a reasonably direct line out from and back to the homeland. In deference to certain countries, it also provides that a plane making a non-traffic stop may be required to offer commercial service. Cabotage would be restricted as usual. Each member state would designate the international routes to be followed within its borders. It also contained the usual requirements for non-discriminatory treatment, provision for technical services and the filing of reports by international airlines.

One provision in favor among the conferees was that countries not joining in the proposed convention be left to make their own arrangements bilaterally. Presumably the latter would include Great Britain. Most of the small countries at the conference sided with the American view for unrestricted development of international air traffic. France gave the only unqualified acceptance of the British proposals.

Under the American plan, signatory countries may contract in and out of the fifth freedom, involving intermediate traffic, as they see fit. Any member state objecting to an action by another could ask examination by a regional council, which, if consultation with other member states failed to resolve the difficulty, or the offending state failed to act remedially, could recommend suspension, effective on two-thirds vote of signatory states.

► Dominion Proposal—The Canadian plan, which also provided that a member state could join in or not on fifth freedom traffic, provided restrictions for escalation on the basis of such traffic. These restrictions the U. S. does not want.

The British, in a revised draft of their own position, adopted a great part of the Canadian proposal, with the change, however, that on second and subsequent divisions of a through route, the council of the world organization shall, in consultation with airlines concerned, determine and recommend the capacity a state might operate on entering the division. The British delegation suggested that the question of counting fifth freedom

traffic in escalation be submitted to the judgment of the international organization, thus maintaining the position they have held all along for a strong international body.

Indications were that the U. S. delegation view had the support of the majority of the conference. The Latin American group approved it unanimously, and a spokesman predicted that the 20 votes from those delegations would be matched by a like number from other nations in the event of a full conference vote.

Branch Confirmed

The Senate Commerce Committee last week confirmed President Roosevelt's nomination of Harllee Branch to succeed himself as a member of the Civil Aeronautics Board for a term of six years beginning Jan. 1.

Brazil to Make AT-6's

North American Aviation has granted Brazil license to manufacture the AT-6 *Texan* advanced trainer, the same which also is produced under license in the Noorduy plant in Canada and the Commonwealth Aircraft Corp. plant in Australia.

In addition to complete data on the plane's construction, North American is providing Brazil's Ministry of Aeronautics with enough sets of *Texan* component assemblies to build a number of airplanes, none of which is assembled.

► Training for Workers—Building of the planes from major assemblies and then from detailed parts will enable the new Brazilian aircraft workers to gain sufficient experience to build the plane from parts made in their own plant.

Breakdown by States on National Airport Plan

A table showing existing airports, projected improvements and projected new airports, by states, under the new CAA national airport plan submitted to Congress last week, follows:

State	Existing Fields to be Improved	Cost	New Airports	Cost	Existing Fields Unimproved	Total Airports Class					At Completion
						1	2	3	4	5	
Alabama.....	27	6,205,000	*35	5,980,000	48	41	30	*22	12	5	*110
Arizona.....	15	3,079,330	*44	7,855,810	63	35	44	17	*12	14	*122
Arkansas.....	25	23,195,889	65	21,913,745	20	57	33	5	15	—	110
California.....	137	19,018,520	174	37,893,980	114	150	135	37	47	56	425
Colorado.....	31	7,663,000	36	4,515,000	22	29	44	6	1	9	89
Connecticut.....	11	4,707,000	26	11,643,000	11	22	16	5	—	—	48
Delaware.....	7	1,540,000	11	1,144,000	6	13	7	1	1	2	24
D. C.....	—	—	—	—	3	—	—	1	1	1	3
Florida.....	48	13,694,200	57	10,040,430	144	13	96	61	53	26	249
Georgia.....	17	3,975,000	50	5,335,000	51	19	52	14	24	9	118
Idaho.....	28	5,517,300	23	3,568,000	23	28	30	10	3	3	74
Illinois.....	55	22,445,000	105	17,631,000	32	85	60	26	15	6	192
Indiana.....	28	7,762,000	68	8,270,000	28	40	54	16	12	2	124
Iowa.....	28	4,143,500	80	5,808,000	22	64	50	8	7	1	130
Kansas.....	42	4,145,000	76	3,588,000	34	62	55	19	4	14	152
Kentucky.....	14	2,141,000	76	5,724,000	14	67	23	6	6	—	104
Louisiana.....	35	15,084,073	63	25,533,817	15	37	31	8	14	3	113
Maine.....	24	5,506,000	43	12,799,000	6	31	21	12	4	4	73
Maryland.....	7	1,597,000	64	12,568,000	19	45	32	5	5	3	90
Massachusetts.....	26	15,429,000	35	14,302,000	29	34	34	12	7	3	90
Michigan.....	80	14,627,000	92	8,186,000	41	110	65	18	16	4	213
Minnesota.....	36	7,856,000	114	3,880,000	9	90	52	11	5	1	159
Mississippi.....	22	5,995,000	51	4,745,000	38	54	28	14	11	4	121
Missouri.....	32	9,336,500	71	9,586,500	26	49	49	17	9	5	129
Montana.....	52	7,350,700	24	3,122,400	25	23	57	10	4	7	101
Nebraska.....	37	3,336,000	54	5,488,000	20	45	44	3	6	13	111
Nevada.....	24	3,515,800	30	1,236,300	19	33	15	8	4	13	73
New Hampshire.....	14	6,005,000	25	8,929,000	2	15	17	6	2	1	41
New Jersey.....	24	9,406,940	59	22,561,840	26	38	51	11	7	2	109
New Mexico.....	28	10,620,806	52	22,395,788	41	53	38	7	11	12	121
New York.....	60	22,632,795	*122	35,958,100	69	107	89	36	14	*5	*251
North Carolina.....	34	9,333,000	55	10,443,000	33	54	27	23	12	6	122
North Dakota.....	18	2,028,000	55	1,816,000	14	50	28	4	5	—	87
Ohio.....	77	15,418,000	129	15,745,000	27	99	100	20	9	5	233
Oklahoma.....	43	16,945,335	89	20,355,105	52	91	69	9	16	9	184
Oregon.....	22	2,943,000	33	3,636,000	28	22	30	12	14	5	83
Pennsylvania.....	76	20,179,000	131	26,488,000	64	164	79	19	7	2	271
Rhode Island.....	7	1,352,000	11	3,217,000	1	10	5	1	1	2	19
South Carolina.....	12	2,434,000	40	10,403,000	36	20	36	9	10	7	88
South Dakota.....	14	2,662,500	26	2,068,000	15	21	24	2	4	4	55
Tennessee.....	20	4,182,000	55	8,960,000	12	20	51	7	7	2	87
Texas.....	123	52,490,731	213	68,432,421	196	244	190	44	47	37	532
Utah.....	19	3,298,280	54	8,822,510	4	28	32	18	2	7	87
Vermont.....	10	3,034,000	25	9,833,000	2	14	19	4	—	—	37
Virginia.....	30	7,658,000	103	15,581,000	33	92	48	12	9	5	166
Washington.....	37	7,273,000	42	12,885,000	39	24	50	9	21	14	118
West Virginia.....	12	4,550,000	73	24,099,000	12	63	24	6	4	—	97
Wisconsin.....	33	12,172,000	81	5,772,000	15	62	45	17	4	1	129
Wyoming.....	24	2,113,500	10	1,355,500	17	10	29	6	5	1	51
Totals.....	1625	\$429,303,699	3050	\$592,264,246	1630	2597	2198	654	520	336	6305

CAA Port Plan Gives Congress Job of Solving Landing Problem

National program provides for 3,050 new airports and improvement of 1,625 at cost of \$1,021,567,945, to be shared by federal and local governments.

Announcement of CAA's national airport plan—to provide 3,050 new airports and improve 1,625 existing fields at a cost of \$1,021,567,945 with federal and local governments sharing the cost—last week presented the urgent problem of increased landing facilities for the nation to Congress for action.

Prepared in answer to a request from the House of Representatives for such a program, the plan calls for appropriations not to exceed \$100,000,000 annually over a period of years, to be used as federal aid to local governments in "developing an adequate system of airports for present and immediate future needs of civil aeronautics." As precedent for the airport plan, the public roads program in which federal and local governments have been sharing costs on an equal basis over a period of years is cited.

► 5,269 Communities Affected—The plan provides for locating one or more airports at 5,269 cities, towns or communities, which would place at least one airport in 88 per cent of the counties of the United States, while currently only 53 per cent of the counties have airports. A listing of the airports by communities accompanies the report. Officials of any locality desiring specific information on airport facilities proposed for their area should contact their CAA regional office for particulars. However, it is assumed that many local officials already are familiar with the improvements proposed for their areas, since the plans were prepared by CAA regional offices in cooperation with officials of the various localities which would be served.

Proposals in the plan would increase the number of Class 1 airports, (designed primarily for private flying) from 981 to 2,597; Class 2 airports, (for private flying and feeder airlines) from 810 to 2,198; Class 3 airports, (accommodating present twin-engine transport planes) from 443 to 654; Class 4 airports (for larger four-engine equipment) from 403 to 520, and Class 5, (for long-range domestic or foreign) from 305 to 336.

► Cost Distribution—Costs of Construction, not including land or buildings, would be distributed as follows: Airport site preparation (grading, drainage, excavating, etc.) \$525,304,322 or 51.4 percent; paving, \$395,305,460 or 38.7 percent; lighting, \$55,081,978 or 5.4 percent; radio, \$10,983,000 or 1.1 percent; miscellaneous, (approach clearing, access roads, marking and landscaping) \$34,893,185 or 3.4 percent.

Airports intended for private flying only would get 39 percent of proposed expenditure, improvement of presently designated air carrier stops, would amount to 10.2 percent, and improvement or construction making possible extension of airline service, and in most cases also improving personal flying facilities would account for 50.8 percent.

Of money to be expended, communities of less than 50,000 would get 83 percent and communities over that size 17 percent, although this ratio is tentative and subject to alteration.

► Zoning Provisions—CAA proposes that cost of approach clearing and protection be included in the federal aid program, and recommends that adequate zoning laws protecting airports, be required of political subdivisions as a condition of receiving federal aid.

The plan is described as meeting all requirements for a useful public works program. Actual construction including labor on required buildings and other facilities would provide 1,250,000 man months of employment.

After the airports were constructed, it has been estimated that continuous employment would be provided 63,000 persons, at an average of 10 per airport, not counting additional employment provided by allied aviation interests and increased community business resulting from the airport.

► Military Bases—Use of existing civil airports by Army and Navy today points to increased use of civil airports as potential military bases and for training a reserve of civilian flyers, it is pointed out.

Suggested Requirements

CAA recommendations accompanying the national airport plan submitted to Congress suggest that the following requirements be made for state and local governments participating in the federal aid program:

► Any federal aid airport project must meet CAA approval as to development, cost, location, layout, grading, drainage, paving, lighting.

► States participating shall: establish and empower an official or official body to conduct its share of the program; have or enact legislation protecting airport approaches and enabling local subdivisions to participate as sponsors of airport projects; have no special taxes on aviation (facilities, fuel, operations or businesses) the proceeds of which are not used entirely for aviation purposes; ensure operation of all public airports within the state without discrimination or unreasonable charges; make airports which receive federal aid funds available for unrestricted use of U. S. government aircraft without charge except to cover damages done by such planes; require a standard accounting and fiscal reporting system at each federal aid airport, satisfactory to CAA.

► Sponsors of projects shall contract with CAA to insure proper maintenance and protection of federal aid airports and their operation in the public interest.

Community benefits from speedy air transportation, future increasing value of the airport to the community, protection of public health and safety, by increasing safety of flying, and by providing emergency transportation facilities, encouragement of additional investments by private interests, and ultimate savings in transportation cost to the public, all are cited as benefits which would accrue.

► 6,000,000 Pilot Prospects—The report estimates a total pool of 6,000,000 prospective flyers will be available after the war, from military aviation, aviation factories and high school aviation courses. If only one in four takes up flying, this would mean 1,500,000 flyers, plus millions of potential airline riders. It estimates that there will be 400,000 civil airplanes in this country ten years after the war

AVIATION CALENDAR

Dec. 4-6—SAE National Air Cargo Meeting, Chicago.
Dec. 5-7—Second Annual Meeting, Aviation Distributors and Manufacturers Association, Jefferson Hotel, St. Louis, Mo.
Dec. 6-7—National Aviation Trades Association, Annual Convention, Jefferson Hotel, St. Louis, Mo.
Dec. 11—Joint Meeting, Industrial Conservation, Aviation and War Production Divisions, American Society of Mechanical Engineers, 7:30 p.m., Engineering Societies' Building, 29 West 39th Street, New York.
Dec. 12-13—First California Aviation Conference, Hollywood Roosevelt Hotel, Hollywood, Calif.
Dec. 13—Canadian Aircraft Traffic Managers Meeting, Montreal.
Dec. 17—Wright Brothers lecture, Institute of Aeronautical Sciences, Washington.
Jan. 8-12—SAE Annual Meeting and engineering display, Book-Cadillac Hotel, Detroit.
Jan. 30-Feb. 1—13th Annual Meeting, Institute of Aeronautical Sciences, New York.
April 4-6—National Aeronautic Meeting, Society of Automotive Engineers, Hotel New Yorker, New York City.
Apr. 10-11—Airplane Technical Committee, ACCA, New Orleans.
Apr. 13-14—National Airworthiness Requirements Committee, ACCA, New Orleans.
May 6-9—International Aviation Fraternity, first annual convention, Miami Beach, Fla.
May 20-27—Pan-American Aircraft Exposition, Dallas.

ends, compared with approximately 25,000 civil planes today, and expects the number to continue to increase beyond the 400,000 mark.

It is pointed out that towns of less than 25,000 show the greatest deficiency in airports. Only 2,340 of the 6,275 towns with population of 1,000 to 25,000 have airports, while the 412 cities with populations above 25,000 have 602 airports. And it is emphasized that every airport provided for the smaller communities will increase the utility of the existing airports, and will provide additional landing places for flyers residing in the metropolitan districts.

New Hillercopter

Under the wing of Henry Kaiser, young Stanley Hiller, Jr., is in full experimental development of new designs for his "Hillercopter." A two-place version may be expected early next year.

Refinements in it will pace the design that may go into post-war commercial models, which he expects to sell at prices competitive with personal airplanes of conventional design.

Hiller currently is developing all-metal rotor blades which will be tested on his single-seat prototype model. As head of the "Hillercopter" division of Kaiser Cargo, Inc., Hiller has opened an experimental plant at 1920 Addison St., Berkeley, Calif., a block from the city's business center.

4795 Ports Planned For Private Flyers

Total of Class I and II fields is provided under CAA national airport program.

A total of 4795 Class I and II airports suitable for private flyers would be made available with completion of the proposed CAA national airport plan, recommended to Congress last week in a report, filed at request of the House of Representatives. Currently, there are 2017 airports in these classes. The program calls for improvement of 1002 of the existing fields, and for construction of 2907 additional new fields, in Classes I and II.

The program, as announced, places special emphasis on the possibilities of personal flying, pointing out the urgency for increasing the utility of the personal plane by additional landing facilities.

► **Mass Market Seen**—Sale of personal aircraft "offers the brightest hope for a mass market to maintain a reasonable fraction of our present 20-billion dollar-a-year aircraft industry" the report declares, and points out the necessity for preserving a sound nucleus as a source of employment in peace and as a source of weapons of war "should we ever need them in a hurry."

Need for airports, near the potential flyers' homes, or places of business, and near recreational areas, national parks and other places to which they might want to fly, is urged, with the observation that the majority of today's small airports were located with low development cost as the primary motivating factor, rather than convenience to residents of the community served.

► **Civil Pilot Training**—Emphasis is placed on the training of civilian pilots as a reserve of airpower as another important factor requiring development of private flying airports. It is pointed out that in many of the smaller towns there are no fields for either private flying or transport service, while in metropolitan areas there is additional need for new small air fields to separate private flying from the growing air transport traffic.

A study, showing distribution of Class I and II airports by population groups, shows that the 14 areas with over 500,000 population each have 39 airports while the 14,710 communities with under 5,000 population, have 1,141 airports, a ratio of .07 airport per

community, as against 2.78 airports per metropolitan area. Proposed airports under the new program would bring the figure up to 3.42 for the large cities, and to .23 for communities under 5,000.

Another study sets average estimated cost for improving or developing one of the 2,597 Class I fields at \$73,770 and the cost for improving or developing one of the 2,198 Class II fields at \$257,468.

Forrestal Urges Air Policy Group

Secretary of the Navy James V. Forrestal asked Congress last week to enact legislation setting up a commission—comparable to the widely known Morrow Board—to formulate post-war military and civilian air policies.

Forrestal's recommendation was contained in a report submitted to Chairman Josiah Bailey (D., N.C.) of the Senate Commerce Committee on legislation creating such a commission, introduced by Sen. James Murray (D., Mont.) in August.

► **Opposed By Berle**—Assistant Secretary of State, Adolf A. Berle, however, raised objection, although he did not outrightly place the State Department on record as opposed to passage of the legislation. Berle said the proposed Air Policy Commission, making all recommendations on military and civilian aviation policy to Congress six months after its creation, would slow up the process of establishing foreign air routes.

The commission would be composed of two members of the Senate, two members of the House, four members of the Executive Branch of the Government, and six public members, including industry and labor representatives, and a chairman.

► **Wants Coast Guard Represented**—"The Navy Department would favor a new examination of the relationship of the service and industry by a new 'Morrow Board'," Forrestal declared and suggested that the commission be enlarged to include representation from the Coast Guard.

"It is likewise desirable to point out the interest of the Coast Guard as the principal agency of the Federal Government charged with carrying out the program of safety in the establishment of national policy governing maritime safety required in connection with trans-ocean air navigation," he said.

Echols Urges Constant Research On Aircraft Design, Accessories

Assistant chief of air staff, materiel and services, tells Woodrum Post-war Military Policy Committee that equipment now in use will be obsolete two or three years after war.

By WILLIAM G. KEY

It is of the utmost importance that the aircraft manufacturers maintain relatively large, competent engineering staffs, and these engineers should be kept constantly at work on the development of new designs of aircraft and accessories, Maj. Gen. Oliver P. Echols, assistant chief of air staff, materiel and services, has told the Woodrum Post-war Military Policy Committee.

General Echols advocated replacement of one-fourth of AAF equipment each year for a period of five years after the war, pointing out that every piece of equipment now operated will be obsolete within two or three years after the war, adding that there is every reason to believe that the changes in the next ten years will be much greater than the changes in the last ten years.

► **Favors Research Board**—The AAF officer did not elaborate on plans for maintaining engineering staffs of the aircraft industry, which was hampered in pre-war years because it was not permitted to assign engineering costs to service airplanes, other than to say that research and development did not depend so much on facilities as it did on the money made available to utilize these facilities.

General Echols supported the proposal of Undersecretary of War Patterson for a Research Board for National Security. In order to be acceptable from the AAF viewpoint, it must have AAF representation on the Board, he said, and on all subcommittees concerned with research projects of interest to the AAF.

The Committee on Post-war Research set up by the Secretary of War and the Secretary of the Navy and headed by Charles E. Wilson, recommended that the Board be composed of 20 civilians and 10 officers each from the Army and Navy, with an executive committee of three civilians and one officer from the Army and one from the Navy.

► **Organization**—The chief question of the Board's establishment lies in its organization, whether under

the charter of the National Academy of Sciences or as an independent agency. If it is set up under the charter of the Academy, funds would be provided through earmarking of items in Army and Navy appropriations bills, with whatever other money may be available from other sources. If organized as an independent agency, the Board could go directly to Congress for its funds, a feature that the majority of the committee felt desirable but one that the War Department is opposing. General Echols echoed this War Department view in his testimony.

Army Ground Forces, on the other hand, expressed approval of the independent agency plan in a communication signed by Brig. Gen. R. W. Crichlow for Maj. Gen. A. W. Waldron. The communication pointed out that research "flourishes best in an atmosphere of complete freedom" and that the independent agency plan would permit parallel approach to problems which might not be possible where the funds for research are obtained by means of earmarking items in Army and Navy appropriations bills. The AGF testimony cited the advantages of independent research in developments of this war.

Expect Woodrum Report on Research

Committee, reconstituted by new Congress in January, is likely to submit results of studies on important development phase.

The question of post-war compulsory military training, with its related problems of the status of the National Guard and Reserve components of the Army, will be taken up in detail by a Congressional body for the first time soon after the new Congress convenes in January.

Capitol observers said they felt positive that the Woodrum Select Committee on Post-war Military Policy would be reconstituted in the new Congress as it has request-

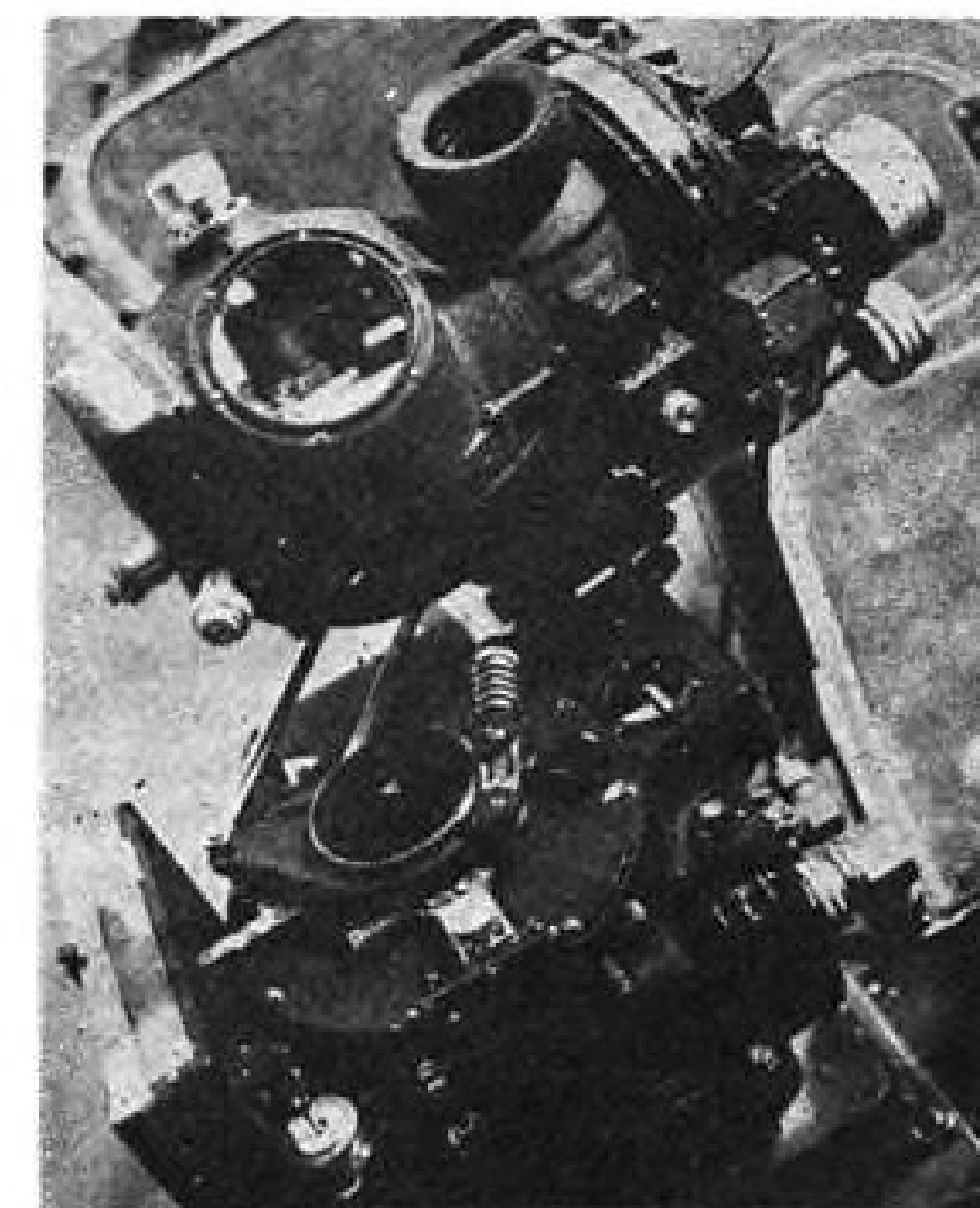
ed in its last interim report of this session.

The committee has no legislative power, simply recommending to the House its conclusions drawn from a series of hearings and investigations. As such, it will supply the sounding board for proponents and foes of universal military service and compulsory training before arriving at its own conclusions.

► **Two Members Defeated**—Two of the most active members of the committee were defeated in the last elections, Rep. Maas (R., Minn.) and Rep. Miller (R., Conn.). In all, four members of the committee, at least, will have to be replaced. Rep. Costello (D., Cal.) was defeated in the primaries and Rep. Merritt (D., N. Y.) in the election.

The committee was not able to complete its current studies—on research and development—during the current session because of the absence from Washington of Dr. George W. Lewis, director of aeronautical research of the National Advisory Committee for Aeronautics, and Dr. Vannevar Bush, of the Office of Scientific Research and Development.

As soon as these experts can testify before the committee, it is expected to submit a report on the research and development phase,



NORDEN BOMBSIGHT:

One of the first photos of the famous and long-secret Norden bombsight is shown above. The lower half usually is permanently installed in the plane and is the stabilizer, containing horizontal gyroscope maintaining azimuth control. The vertical gyroscope, which stabilizes the telescope, is in the upper half, as is the range computing apparatus, right.

generally considered in the aircraft industry to be the most important single subject heard by the Woodrum Committee. It will then take up the question of compulsory military service.

► **Favored By War Dept.**—The War Department unquestionably will advocate compulsory training for all youths with continued refresher training over a specified period. The position of the Navy has not been indicated, although traditionally the Navy favors voluntary service and the Marine Corps is known definitely to favor the re-establishment of the Corps as a voluntary organization as soon as the war is over. The Woodrum Committee hearings are expected to develop these viewpoints for the guidance of Congress.

Following the last war, the War Department sought a great standing army, with little or no reliance on a citizen reserve. This attitude has been changed, it is understood, with the War Department now favoring the citizen-soldier concept of national defense.

► **Pilot Training**—The AAF looks with disfavor on the training of pilots within the compulsory period, principally for the reason that the period of compulsory service probably will be one year, insufficient time to complete the peacetime training of a service pilot. It may be that trainees will be given the option of AAF training if they volunteer for a longer pe-

riod of service. This would also be the viewpoint of the Naval air arm.

The Marine Corps is planning to revert to its former requirement that aviation officers serve a period of two years with the ground forces before assignment to the air arm.

Aviation Insurance Coverage Broadened

Accident policies to be available in amounts up to \$200,000, North American Companies reveal.

Broadened coverage of aviation accident insurance handled by the North American Companies, including riders covering passengers, students, pilots and instructors in other than commercial airliners, was disclosed last week. Accident insurance will be available in amounts up to \$200,000, the announcement brought out.

The revised master policy for aviation accident insurance removes restrictions on travel in the western hemisphere and on travel only on insurance company-approved airlines. It also removes the "three hundred miles over water" restriction, but does not include travel on domestic airlines operating internationally outside of the western hemisphere. Special coverage is retained for travel in this category.

► **Restrictions Removed**—Connecti-

cut General Life Insurance Co., early in November, removed restrictions on air travel, providing coverage on any American airline operating anywhere on the globe.

The riders covering privately or industrially-owned planes, both for pilots and passengers, have been rewritten to make them more clear cut, but the rates remain the same.

Rates are lowered, however, in the charges for weekly indemnity and medical expense applying to passengers in commercial and non-commercial planes.

► **Basic Accident Policy**—The basic accident policy is issued at a rate of \$1.20 per thousand, with the first \$500 blanket medical costing \$2 and each hundred additional 40 cents. The rate for each \$5 of weekly indemnity is quoted at 50 cents.

The rate with rider covering passengers in non-commercial planes is \$3.60 per thousand. First \$500 medical is quoted at \$5, compared with the \$2 rate of the commercial airline travel basic policy, but additional \$100 medical remains at 40 cents. Weekly indemnity charges are doubled with this rider. The rate with rider for non-commercial pilot is \$5 per thousand, other charges being the same as that for a passenger in non-commercial flight.

For commercial pilots, the rate is \$5 per thousand for the first \$3,000 of principal sum and \$10 per thousand for each \$1,000 over \$3,000. Weekly indemnity again is doubled, this time to \$2 for each \$5 of indemnity. The first \$500 medical remains the same as for non-commercial pilots—\$5, but each additional \$100 is quoted at 70 cents instead of 40 cents.

Cover, Stupar Killed

Col. Carl A. Cover, 51, vice-president of Bell Aircraft Corp., and Max Stupar, 59, Bell industrial planning director, were killed last week in the crash of their twin-engined plane as they were approaching Wright Field, at Dayton.

Cover, formerly in charge of test flying and development for Douglas Aircraft, had returned to active service with the AAF Materiel Command at Wright Field, in charge of modification work, and left that post to go with Bell, heading the Marietta, Ga., B-29 Bell plant. He was widely known in aviation through his test flying over a long period of years, having piloted the Douglas DC-4 and other

well known planes on their first flights. His work in the B-29 program won commendation from Gen. H. H. Arnold.

► **Aviation Pioneer**—Stupar, a native of Austria, formerly associated with Curtiss-Wright Corp., pioneered in aviation manufacturing, operating the Stupar Air Works in Chicago, from 1909 to 1912, and later was chief engineer of the Chicago Air Works, and manager of the Standard Airplane factory in New Jersey. He had been with Bell since 1940.

Aircraft Surplus Offered in Canada

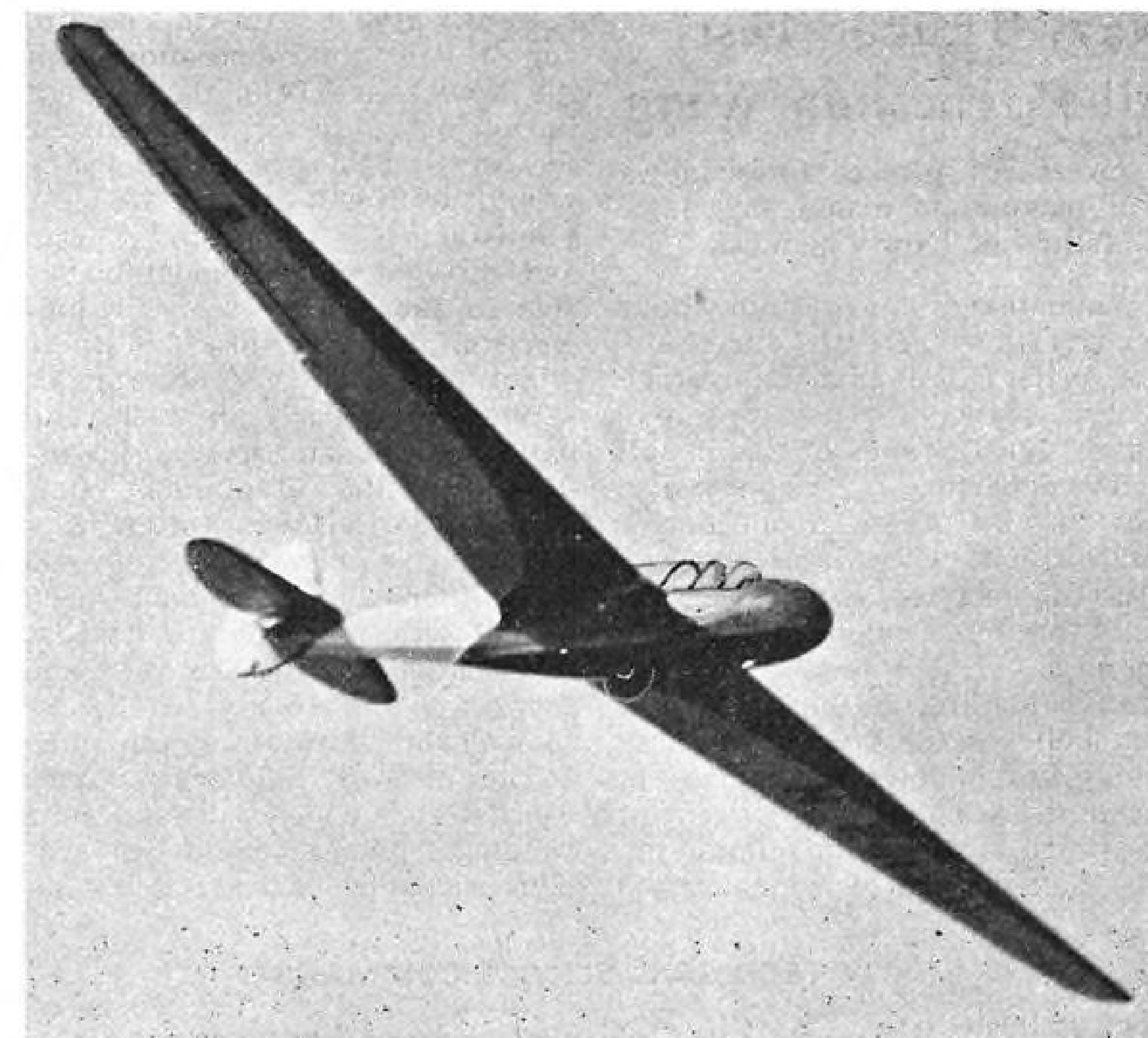
Surplus aircraft material, as well as buildings and grounds of the Canadian Pacific Air Lines' aircraft repair plant at New Westminster, B. C., were among the \$1,000,000 worth of surplus supplies recently placed on sale at Vancouver by the Canadian War Assets Corp. All sales were made through established dealers on a "sight unseen" cash basis. Bidding between dealers is the method being used, with top priority going to government departments, the armed services and provincial governments.

Federal Aircraft Corp., government-owned, in conjunction with War Assets Corp., controls the sale of excess aircraft and surplus materials. At Boeing Aircraft Co. of Canada, Vancouver plant, a large amount of miscellaneous materials and supplies not exclusive to the aircraft industry, is being sold as commercial hardware through civilian channels, with other aircraft plants having first call on equipment. Construction and logging equipment of the government-owned Aero Timber Products Co., also is being placed on sale, with declining needs for airplane spruce procured on the Pacific coast.

Lift Plumbing Order

War Production Board lifted the standardization order governing manufacture of aircraft plumbing fittings, reporting that adequate facilities for manufacture now exist. Revocation permits deviations from standard designs to be made wherever needed without special permission from the aircraft scheduling unit of WPB's Aircraft Resources Control Office.

However, the Board pointed out that no additional requirements for controlled materials, critical materials or labor are allowed and



"Yankee Doodle Two": This new photo shows the commercial version of the TG-4A glider trainer which was developed by Laister-Kauffman Aircraft from the single-place sailplane, Yankee Doodle which has appeared at numerous soaring meets and airshows.

that manufacture remains subject to priorities regulations.

Glider Type Tested

Type tests on its models LK-10A and LK-10B gliders have been completed by Laister-Kauffman Aircraft Corp. of St. Louis for which a type certificate has been issued by CAB.

LK-10A is the designation given to the TG-4A trainer which was delivered to the AAF as a two-place glider trainer. These ships, many of which are being sold as surplus, will be eligible for certification under the type certificate, on compliance with necessary service bulletins. The company plans to issue service bulletins together with a kit for making the necessary changes.

► **Commercial Version**—The LK-10B, known as the *Yankee Doodle Two*, is the commercial version of the TG-4A, and was developed from the single-place *Yankee Doodle*, high performance sailplane, which has appeared at numerous soaring meets and airshows.

The company is working on an improved model for post-war production.

Navy Lifts Wraps From New Seahawk

"Radical" new seaplane type is Curtiss SC-1.

First public mention of the Curtiss SC-1 *Seahawk*, described as a radical new Navy seaplane type, is made by Rear Admiral DeWitt Clinton Ramsey, chief of the Bureau of Aeronautics, in Army-Navy "E" ceremonies at the Columbus, O., Curtiss-Wright plant.

No details are disclosed by Admiral Ramsey, who predicted that the plane would "prove outstanding in the specialized field of its operations."

► **Shipboard Operation**—However, the fact that it is announced as a seaplane type would indicate that it is a new plane designed for shipboard operation from battleships and cruisers, supplementing or replacing the Chance-Vought *Kingfisher*.

The *Kingfisher* has proved to be one of the war's most valuable planes, despite the fact it is obsolete by present standards. It has notably been used for rescue of downed airmen in Pacific actions and seamen from wrecked or torpedoed vessels.

Revision of Pre-war Policy Asked

Aircraft industry sources, reviewing testimony before the Woodrum Post-war Military Policy Committee on post-war development, expressed the hope that pre-war policy on the development of military planes would be revised to permit maintenance of the engineering staffs and activity sought by the Army in testimony of Maj. Gen. Oliver P. Echols, assistant chief of air staff for materiel and services.

Prior to the war, the manufacturers were invited to bid in prototype competitions for planes of types specified by the Army. Wright Field would specify general characteristics desired, from which the manufacturers would design and build a prototype experimental plane. These "X" jobs would then be scored on a point system, and production contracts issued on that basis. The prototype of the successful manufacturer would be bought by the Army, generally at the cost of a production model. Other manu-

facturers were saddled with the design and development cost of a prototype, in which their only hope to recoup was in sale of the model in production quantities to a foreign government.

The successful manufacturer could prorate development costs to profits from production models, sometimes not too well since costs of development ran from \$250,000 and more for a fighter to several million for a heavy bomber. Where costs couldn't be absorbed in production profits, they had to be taken up in commercial activities of the manufacturer.

While manufacturers expressed belief that prototype competition would not be as necessary in post-war years because of better knowledge of performance measured from the drawing board, they point out that there is no assurance that this will be the case, and that some equitable method should be assured to meet the engineering costs for military ships.

Navy Trainer Tests All-Magnesium Wing

Success of project foreshadows all-magnesium planes, says J. C. Mathes, of Dow Chemical.

While use of magnesium alloys in aircraft has increased during the war to the extent that the average fighting plane now uses approximately 1,000 pounds of this metal, a new departure in design is disclosed with the announcement that airplane wings fabricated entirely of magnesium have been in flight for more than a year on Navy trainers.

J. C. Mathes, of Dow Chemical Co., believes the success of these wings foreshadows all-magnesium airplanes. Magnesium is about one-third lighter than aluminum. He disclosed that his company has

been working on the magnesium wing project in cooperation with the Navy since 1940, the original set of wings being designed for the Navy's SNJ-2 advanced trainer built by North American.

► **Satisfactory**—After static tests and certain minor changes in design in 1942, thirty sets of wings were ordered. Mathes said these wings have now been in regular service since early in 1943, and have proved satisfactory. In addition to the aluminum wing, Mathes said that wings of low carbon steel, stainless steel, plywood and other materials have been tested with reported results that magnesium was the strongest and lightest, being 14 percent lighter than the standard aluminum wing.

The aircraft industry's search for materials which will reduce the weight of planes without jeopardizing strength characteristics has

been given impetus by the development of a process to give magnesium alloys adequate protection from corrosion and abrasion.

N. H. Simpson and Paul R. Cutter, chief chemist and research chemist, respectively, for Consolidated Vultee's Fort Worth Division have been working on the development of a surface finish for magnesium alloys that would offer adequate protection.

► **New Surface Finish**—Convair officials recently reported that Simpson and Cutter had developed a surface finish, known as the C.V.A.C. No. 1 AC and the C.V.A.C. No. 1 DC process, which they will share with other companies.

Prior to this development, Convair was using magnesium sparingly in the manufacture of aircraft inasmuch as the metal is susceptible to atmospheric corrosion. The company now is using the light metal for dorsal fins, tails, castings, wing trailing edges, instrument panels, pilot seats, and general furnishings.

Convair engineers say that magnesium can now be used in subsequent models for skin, formed ribs, control surfaces and stiffeners in addition to its present applications.

Bids on Surplus Planes Analyzed

Analysis of bid invitations on surplus airplanes over a two-week period reveals that the proportion of heavy trainers to light trainers offered now is running virtually neck-and-neck on a national basis, but that the bulk of lightplane offerings now is centered in the Pacific Northwest.

In the east and south the offerings are almost entirely in heavier trainers—with Navy N3N3's constituting more than half.

► **Bids**—In the bids analyzed, there were 112 Fairchild PT19's, N3N3's, Ryan PT22's and Wacos. Fifty-nine are N3N3's. There were also 112 Taylorcraft, Aeronca, Interstate and Piper planes. There is only one Piper in this group. The Interstate, powered with a 113 hp. engine, actually is in between the two classes. Of these, 71 are being offered at Washington, Montana and Oregon airfields.

In the New York, New Jersey, Massachusetts and Pennsylvania area there are one Taylorcraft, one Beechcraft UC-43D, four Piper gliders and 33 N3N3's offered.

Approximately 50 light gliders are on the bid lists.

Huge New Gliders Tested by ATSC

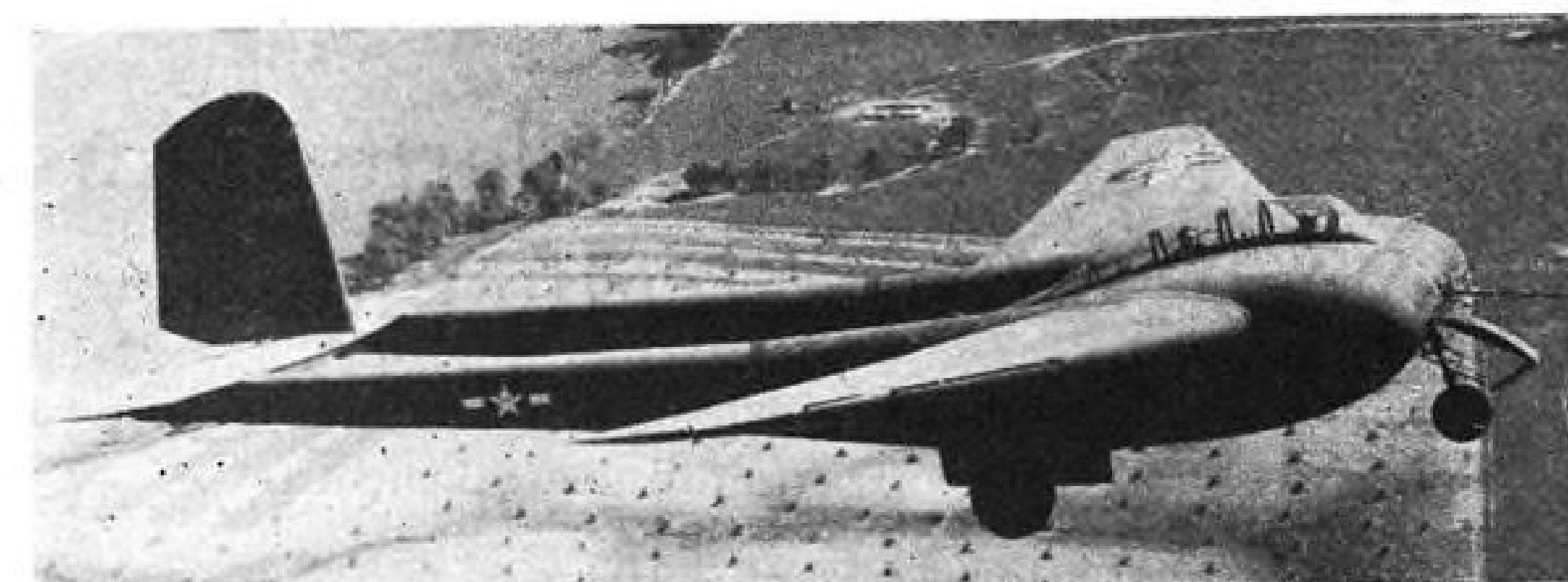
Craft capable of carrying four- and five-ton payloads tried out at Wright Field.

Additional information on the Army's two new cargo gliders, the XCG-16 modified flying wing, and the XCG-10A Trojan Horse is disclosed in announcement from Air Technical Service Command headquarters, Wright Field, Ohio, which is conducting tests with the big aerial freight cars at Clinton County Air Base, Ohio.

The gliders are similar only in purpose, laminated plywood construction and utilization for the first time in cargo gliders of retractable nose wheels, while XCG-16 carries a four-ton payload and XCG-10A, a five-ton payload, believed to be the heaviest carried by any military glider.

► **High Wing Monoplane**—XCG-10A, manufactured by Laister-Kauffman Aircraft Corp., St. Louis, is a high-wing monoplane with broad, deep fuselage, fitted with a single tailboom, and conventional tail assembly, set high to facilitate loading through huge "clamshell" doors which swing open under the tailboom. Cargo space 30 feet by 7 by 8½ feet will accommodate a fully assembled 155 mm. howitzer or a 2½-ton truck. Rear loading was chosen after combat experience indicated rear of gliders was less subject to damage than nose, in landings. Glider requires a four-engine tug, such as B-17 or C-54 when fully loaded, but only normal pickup and landing area are needed.

XCG-16, manufactured from a Hawley Bowlus design by General Airborne Transport, Inc., Los Angeles, was ferried cross-country to the Clinton County field for test. It has twin cargo sections 15 ft. long, 7 ft. wide, and with height varying from 5 to 2½ ft. separated by a structural rib-like wall. Each compartment will carry a 75 mm. howitzer or a jeep. Cockpit, at top of the wing-like fuselage, has plexiglas canopy, seats two-man crew in tandem. Twin tail booms are used for the first time in American military glider construction, with a tall single fin in the center of the horizontal tail surface. It is the first military glider with fully retractable landing gear. Plexiglas loading doors in the leading edgelif upward, operated by hand-jacks, while forward sec-



Army Tests XCG-16 Glider: Details of the modified flying wing cargo glider, XCG-16, are shown in this AAF flight photo, made near Clinton County Air Base, Ohio, glider test center for Air Service Technical Command. Cargo is stowed in the two capacious holds on each side of the cockpit which form a wider, deeper center section of the wing. Glider has 91 ft. 9 in. wingspan, 48 ft. 3 in. length.

tion of cargo compartment floors is hinged and lowers for use as loading ramp.

ATS Operators Ask Uniform Training

Seek to standardize peacetime instruction in aviation schools and bases throughout country.

Plans for peacetime flight training operations of several hundred aviation schools and bases from coast to coast under a uniform system sponsored by Aeronautical Training Society are being formulated by a committee of ATS-school operators appointed by J. Wendell Coombs, president.

Named as members of the committee on uniform flight training are: Cody Laird, Atlanta, president of Southeastern Air Service; Capt. Maxwell W. Balfour, Tulsa, director of Spartan School of Aeronautics, and Maj. C. C. Moseley, president of Cal-Aero Technical Institute, Glendale, Calif.

► **Peacetime Project**—Maj. Moseley and Capt. Balfour each have been operating three Army flight contract schools, in addition to private flying and technical aviation schools, while Laird has operated two Army primary flight schools and is developing a chain of fixed base operations specializing in flight training in Southeastern states.

The new uniform flight training program for peacetime is expected to extend and adapt the uniform course offered by ATS schools as military flight training in wartime. Taking advantage of the experience of the member schools, which since 1939 have been doing all primary flight training for the AAF, and have trained many

United Nations military pilots, the ATS expects to develop an equally rigid training course for peacetime aviation, maintaining standards set in military training. Nucleus for the peacetime operation is expected to be formed from the peacetime bases in some 30 states operated by ATS members, who in wartime conducted some 64 contract flying schools in 13 states.

While details of the uniform system are to be worked out, it is understood that plans are looking toward a uniformity that will permit flight students to transfer from one ATS-member school to another, without loss of time and study because of the transfer.

TELLING THE WORLD

• Tom Gillette, formerly public relations director of Wright Aeronautical Corp., Paterson, N. J., is now associated with Burke Dowling Adams, advertising and merchandising agency in Montclair, N. J.

• Hawthorne aviation organizations have initiated a daily radio program in Columbia, S. C. They believe it to be one of the first programs of its kind ever sponsored by an aviation operating company. The program, every day except Sunday, features "Spotlighting Sports" and gives latest news dispatches on national and local sports activities.

• Edward M. Benham and Laurens H. Fritz have been named assistants to Norman V. Clements, director of advertising and publicity for United Aircraft Corp. At the same time, George E. Slye succeeds Benham as publicity representative at the Pratt & Whitney Aircraft division. All three men have newspaper and agency experience.

• American President Lines, Ltd., has retained McCann-Erickson, Inc., as advertising counsel in connection with extensive plans for post-war steamship and airplane services.

AIR TECHNICAL SERVICE COMMAND

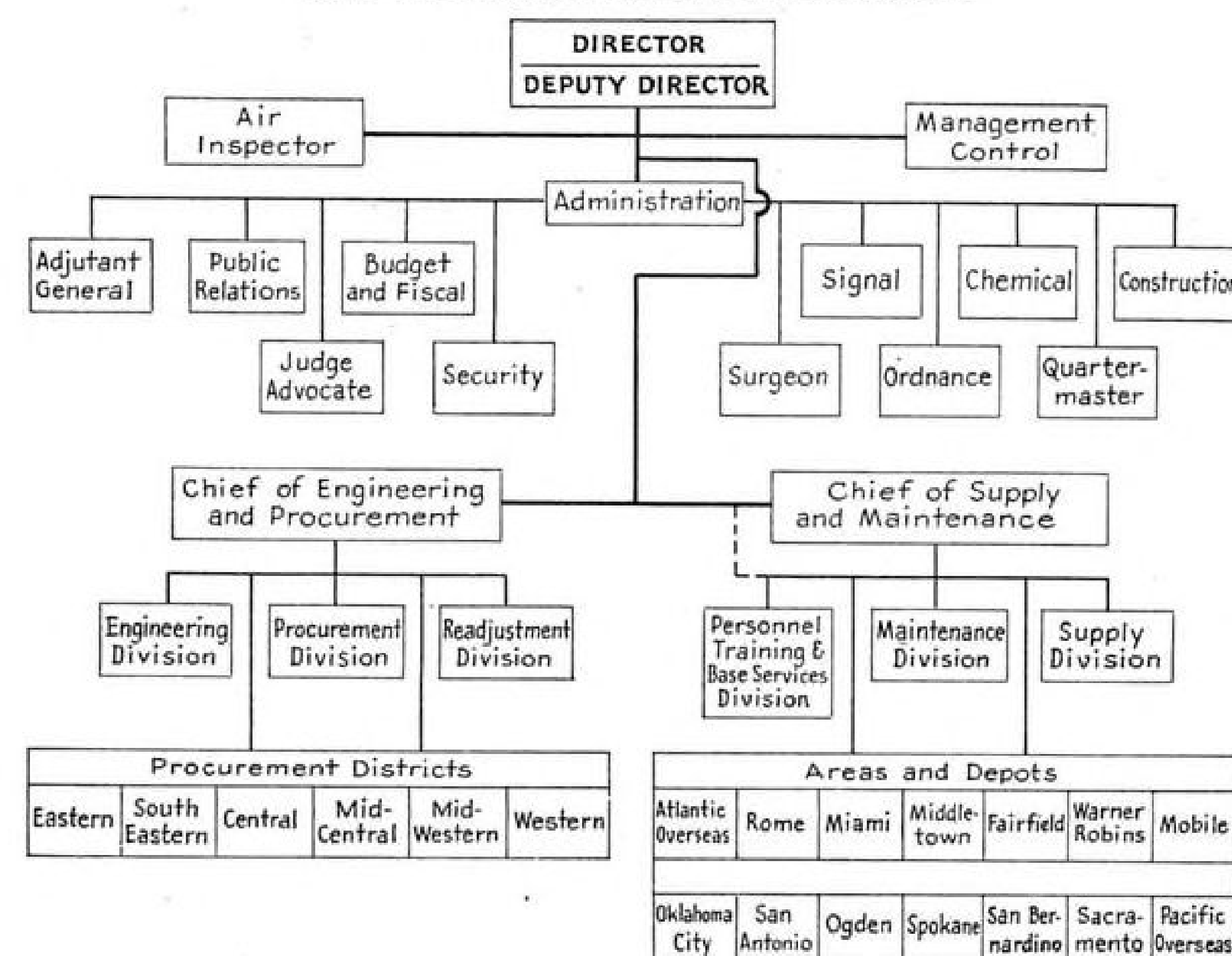


CHART SHOWS ATSC ORGANIZATION:

New organizational chart of the Air Technical Service Command, AAF, created by consolidating the Materiel and Air Service Commands, shows how administrative functions of the two commands have been merged while operating functions of two main subdivisions, Engineering and Procurement, and Supply and Maintenance, continue much as before under the two separate commands. Key men of the combined staff of Lieut. Gen. William S. Knudsen, director, include Maj. Gen. Bennett E. Meyers, deputy director; Maj. Gen. Clements McMullen, chief of maintenance and supply; Brig. Gen. K. B. Wilfe, chief of engineering and procurement; Col. T. A. Sims, Jr., chief of administration; Brig. Gen. E. E. Adler, chief of management control; Brig. Gen. C. H. Ridenour, air inspector; Maj. Gen. L. T. Miller, chief of supply; Brig. Gen. Lucas V. Beau, chief of personnel and base service; Brig. Gen. F. O. Carroll, chief of engineering; Brig. Gen. O. R. Cook, chief of procurement; Col. Albert Boyd, chief of maintenance, and Col. E. W. Rawlings, chief of readjustment.

Next 6 Months May Clarify Aims Of West Coast Aircraft Industry

"Confidential" customer previews of mockups of post-war planes is gradually giving form to general picture.

By SCHOLER BANGS

There is every reason to believe that within the coming six months the West Coast aircraft industry will have defined with fair accuracy its post-war objectives.

It will not be so much the result of their desire to talk post-war while still in military production as of competitive pressure.

Opportunity to capitalize on public interest in specific types of aircraft will be a constant lure to publicity directors to talk about company plans for building such types.

► **Previews**—"Confidential" customer previews of mockups of post-war airliners, feeder planes, and personal aircraft both airplane and helicopter, will not remain "confidential" for any extended period. A leak in one company's personal plane ambitions will tempt other companies to disclose their own plans.

To date only a limited disclosure of post-war planning has developed through Douglas airliner contracts; Convair's display of a "400-passenger" design mockup; Lock-

heed's *Constellation* production and "leaks" on the company's much bigger *Constitution*; Northrop's continued activity in flying wing development; Boeing's *Stratocruiser* project.

► **Personal Planes**—Major company interest in personal aircraft has gained expression only in Convair's Stout Research Laboratory experiments with helicopter and roadable plane designs, and the declaration by Lockheed's Hall Hibbard, vice-president and chief engineer, that he feels the helicopter will be the answer to personal aircraft needs.

Reticence of other Western builders in discussing personal aircraft plans may be attributed to a lack of definite knowledge of what the public wants, the price it will pay, and the market potentials that will exist under competition with light plane manufacturers whose identities have been firmly fixed in the public mind.

One West Coast builder hesitates to announce plans for a twin-en-

'Giro vs 'Copter

All the talk about helicopters has left almost forgotten the autogiro, which once received the same dubious acclaim now accorded the powered rotor. The autogiro can match many of the helicopter's performance characteristics; with normal headwind it can land in a space as small; and even with pre-war jump takeoff it could clear the ground immediately.

The 'giro has the advantages of simplicity, and of less weight and cost because it needs no engine reduction gears, no engine cooling plant, and fewer controls—all necessary to the helicopter.

Development of the 'giro is going ahead quietly, with the prospect of considerable post-war improvement in performance and reduction in cost. It could and may become a strong competitor in the race to meet public demand for garage-based aircraft.

gine four-passenger plane because, by the time he can be in production: 1) helicopters may be stealing the show; 2) turbine power may have advanced to a degree where he may have to revise his model's structure and entire performance specifications, now based upon a small reciprocating power plant. ► **Public Safety**—If corrective steps have not been taken by the time this has been printed, commercial airlines may be demanding stricter control of military aircraft flying over civil airways.

Airlines hesitate to complain publicly of instances in which pilots of their transports have had to dive and dodge to escape collision with military planes. Yet, it has happened to such a degree on the West Coast that pilots are "on edge" with watchfulness.

► **"Passes" Made**—At a Civil Aeronautics Board hearing in Los Angeles a military pilot testified that P-61 night fighter pilots using radar had made "passes" at military cargo planes following the airway between Los Angeles and San Francisco. He didn't know whether they had made similar mock attacks upon civil airliners.

Airline officials feel that responsibility for eliminating this wartime hazard rests squarely with the military and urge stern punishment, regardless of rank or combat record, of military pilots who stray from flight plans or dive on and crowd airliners.

PRIVATE FLYING

Republic Develops Four-Place Amphibian for Post-War Market

New all-metal craft reported to have 130 mph top speed, five-hour cruising range at 105 mph with selling price under \$4,000.

By ALEXANDER MCSURELY

Republic Aviation Corp., at Farmingdale, L. I., has given other personal plane builders something to shoot at, with the announcement this week of the new Republic all-metal four-place amphibian, designed to sell for less than \$4,000, with 130 mph. top speed, and five-hour cruising range at 105 mph.

Best information available indicates Republic has the first four-passenger post-war personal plane design, already flying, in the field, although at least a half-dozen other four passenger designs, all landplanes, are in various stages from drawing-board through mockup to partial assembly, in other factories.

► **"Thunderbolt" Amphibian**—Tentatively called the *Thunderbolt* amphibian, the new plane is of interest not only to post-war flyers, but has aroused Army and Navy interest for its possibilities for sea rescue work.

A roomy, comfortable cabin with three doors offers interior appointments similar to those of the modern passenger automobile. Upper half of cabin is principally of

plexiglas, affording excellent visibility. A full cantilever wing is placed at top rear of cabin, where the 175 hp. Franklin aircooled six-cylinder pusher engine, is mounted. Location of engine and propeller behind cabin insures greater safety in landing and docking, protects the powerplant from waterspray, and makes for reduced noise and better forward vision.

► **17 Inches Draft**—The hull of the amphibian is designed to permit easy landing or takeoff from water with only 17 inches draft required when plane is fully loaded. Single-strut floats are suspended from wings. Vacuum-operated slotted wingflaps make possible landings at 50 mph. Main landing wheels retract into wells in side of cabin, and a small tail-wheel, just below the high clipper-type tail, completes the land gear.

All-metal, except for fabric-covered control surfaces, the *Republic Amphibian*, is one of first completed planes in a trend in smaller plane manufacture toward all-metal fabrication which has been noted in many recent announcements.

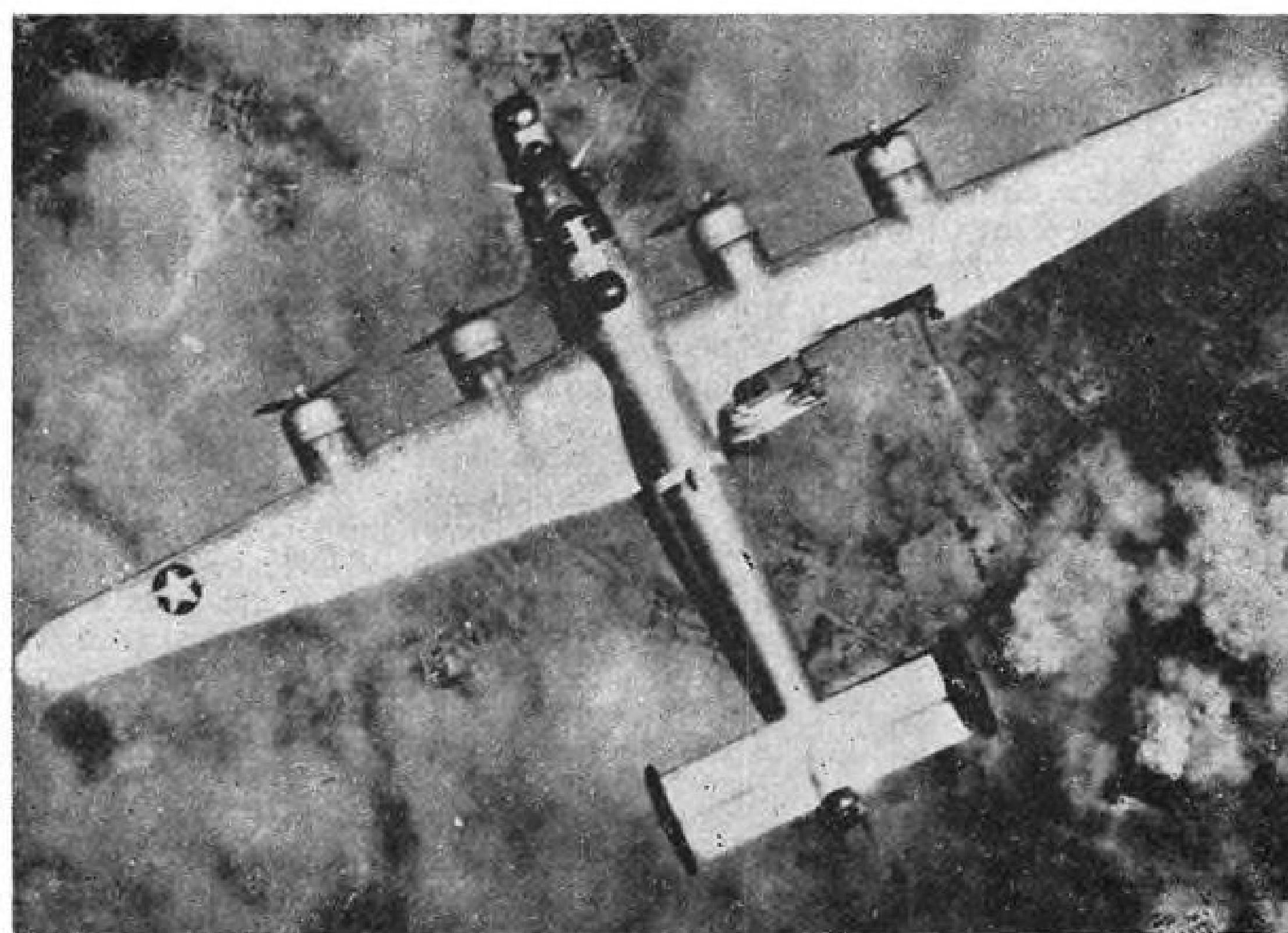
Specifications

Preliminary data announced for Republic Aviation Corp.'s four-place amphibian, designed as a post-war personal plane:
Gross weight—2600 pounds
Wingspan—36 feet
Length—26 feet 6 inches
Height (on wheels)—8 feet 7 inches
Maximum speed—130 mph.
Landing speed—50 mph.
Cruising speed—105 mph.
Power—175 hp. 6-cylinder Franklin aircooled engine in pusher installation
Range—5 hours
Construction—all-metal except fabric-covered control surfaces.
Design—high-wing cabin monoplane, with retractable landing gear, vacuum operated slotted wingflaps, full cantilever wing with single strut-supported wingfloats.

The plane has a 36 feet wingspan, 26 feet 6 inches overall length, and is 8 feet 7 inches high, on its wheels. Its gross weight figures at 2,600 pounds.

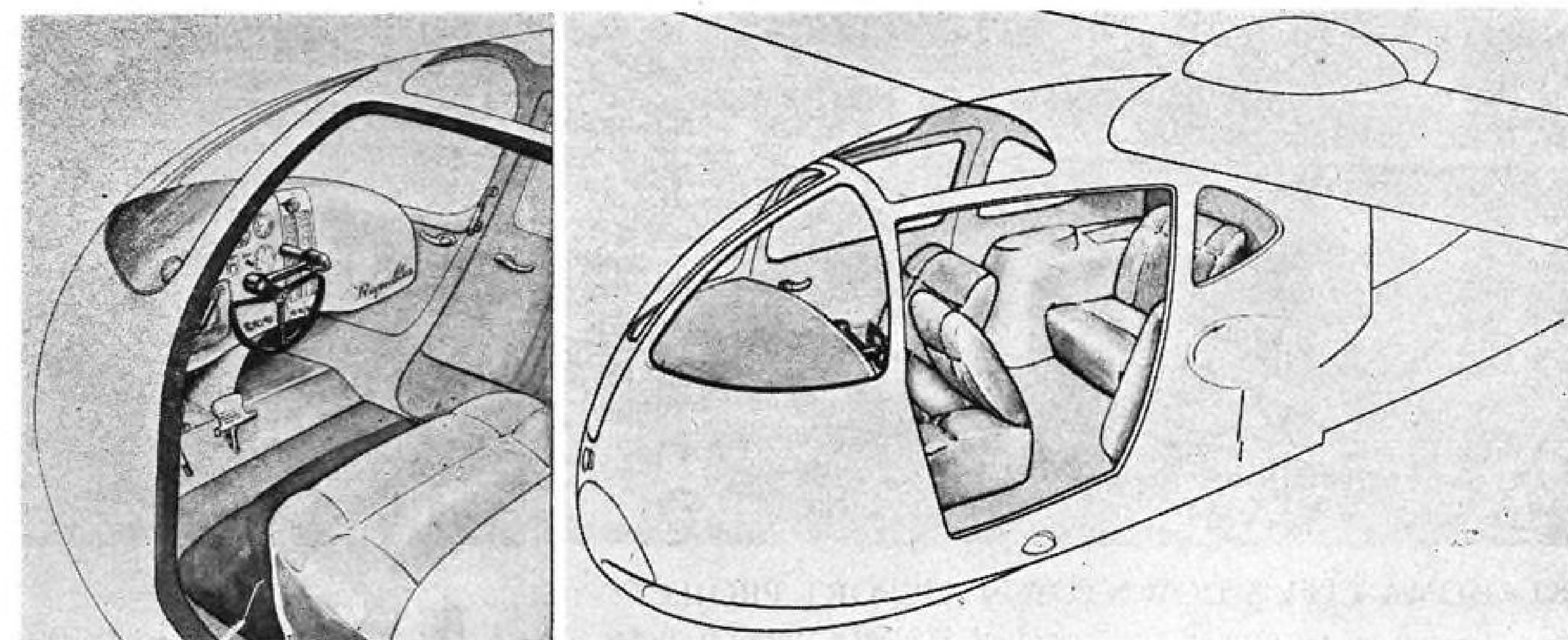
► **Quantity Production**—The plane, now flying, redesigned for quantity production, may still be altered considerably before it goes on the market, as Republic engineers continue to seek ways to improve it and to reduce its production cost, Alfred Marchev, Republic president, points out.

It has been developed from a design by P. H. Spencer, Republic engineer, credited with having more experience with single-engine amphibians than any other pilot. A plywood and fabric covered prototype amphibian, powered with a 125 hp. engine, and seating two with a third "jump-seat" in the rear, has flown several hundred hours in tests leading up

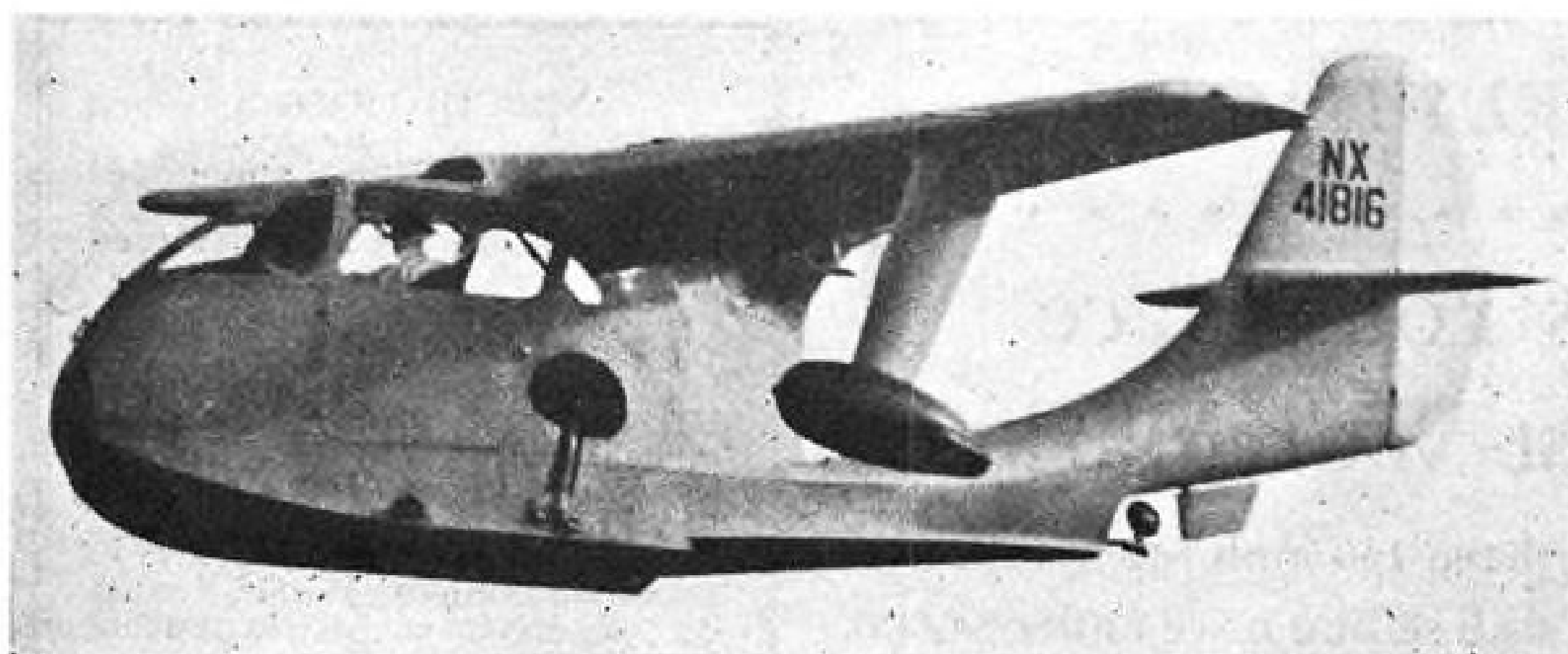


FLAK-TORN LIBERATOR FLIES ON:

German AA-fire gouged this inboard section from the wing of a Liberator B-24 during an attack on the submarine pens at Toulon before the capture of that French port.



Sketches Show Amphibian Interior: Automobile-type interior fittings and instrument panel of new four-place Republic Thunderbolt Amphibian are shown in the above drawings.



New Republic Amphibian: First flight picture of new Republic four-place amphibian for personal aviation uses shows plane over Long Island near Republic plant at Farmingdale.

to redesign of the current much-improved model.

► **Changes**—Comparison of the two planes indicates among other changes, elimination of twin tail booms extending back to the main tail, replacement of plywood and fabric construction with all-metal construction, enlargement of cabin capacity to four, replacing stick control with wheel control, improvement of cabin fittings, increasing horsepower from 125 to 175, adding third door, adding landing gear wells in cabin sides for more complete retraction of gear, and numerous less obvious changes.

President Marchev admits to being an optimist about the post-war personal plane picture, but points out that only by marketing

the *Thunderbolt* amphibian in quantity can the expected low prices be attained.

Embry-Riddle School Sets Safety Record

Carlstrom Field unit reported operating 192,224 hours in training activities without a single fatality.

The Embry-Riddle primary flight training school at Carlstrom Field last year operated 192,224 hours in training activities without a fatal accident, the Aeronautical Training Society discloses.

The record of the field at Arcadia, Fla., was the best in the

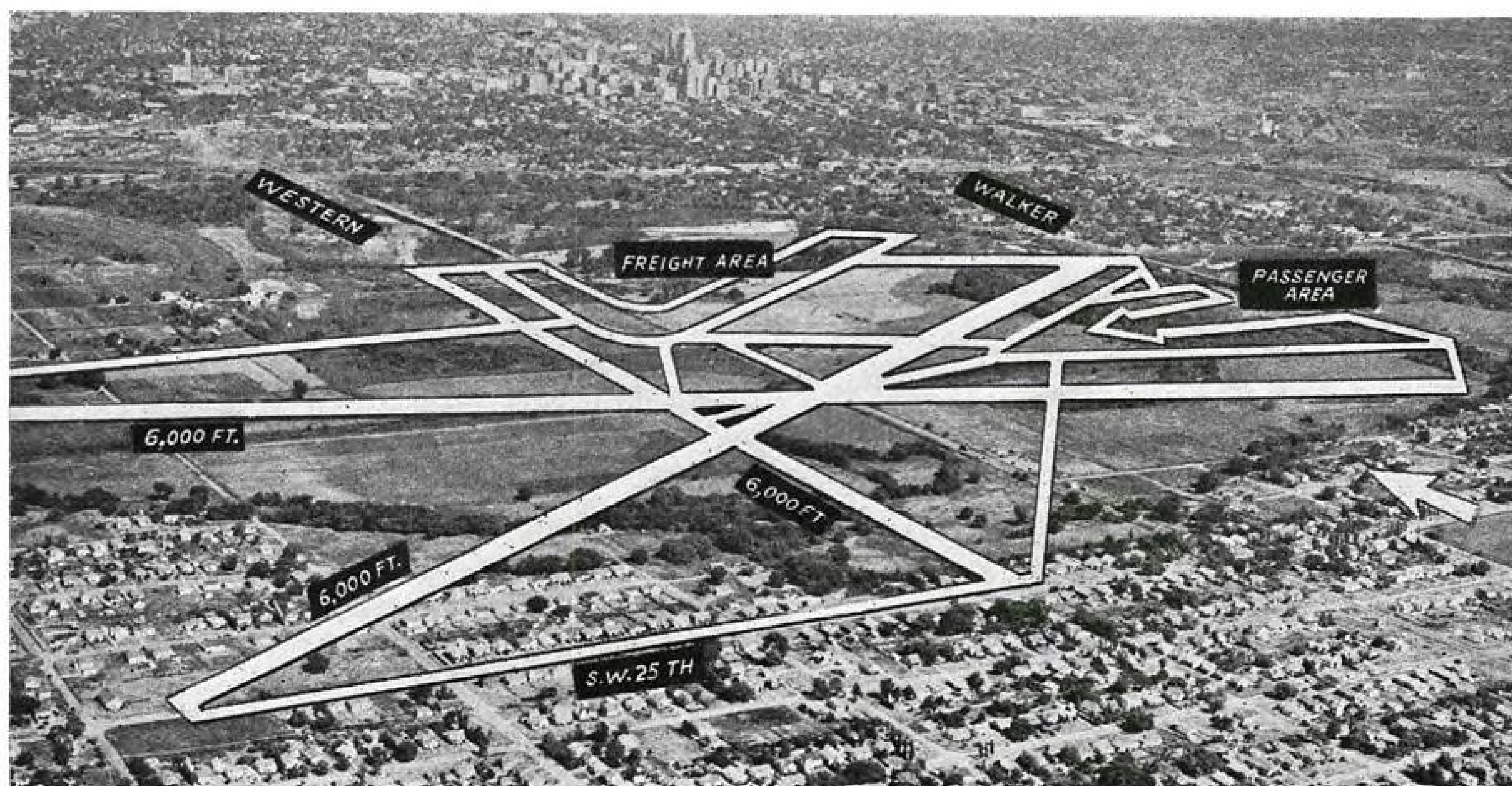
nation. Five other schools operated without fatal accidents. They are Lodwick School of Aeronautics, Inc., Lakeland, Fla.; Raymond-Richardson Aviation Co., Douglas, Ga.; Southern Airways Inc., Decatur, Ala.; 29 Palms Air Academy, 29 Palms, Calif.; and Anderson Air Activities, McBride, Mo.

► **Two Others Win Honors**—However, two other schools, each of which had one fatal accident during 1943, were winners of safety records in the Central and Western Flying Training Commands. Brayton Flying Service, of Cuero, Tex., was tops in the Central Command with one fatal accident in 135,082 hours of training operations, and Eagle Field, Dos Palos, Calif., in 156,128 hours flown.

It was the third year for Embry-Riddle without a fatal accident, a record that remained unbroken until Mar. 11 this year—11 days less than three full years of training Army personnel in flying 399,576 hours.

► **Records Improved**—Some 80 percent of the ATS schools reported 1943 safety records better than the AAF survey of last year, indicating only one fatal accident for every 43,478 hours of primary flight.

Winners in the ATS safety program will be awarded certificates of merit in ceremonies in Washington in the next few weeks. Awards will be presented by J. Wendell Coombs, president of the society.



OKLAHOMA CITY'S DOWNTOWN AIRPORT PROJECT:

After striking oil all around their original \$25,000,-000 airport site, Oklahoma City officials decided to move the airport project closer to town, one mile from the business district, in a river bottom area. The

area includes space for 6,000-foot runways, with extra room sufficient for double runways when needed. The layout would divide the airport into separate areas for freight and passenger services.

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PRODUCTION FOR VICTORY — PRODUCTS FOR PEACE

Parks Plans Course For Women Pilots

First of series of 12 weeks' study at Alabama Institute of Aeronautics, leading to private pilot's license, to open Jan. 8.

Alabama Institute of Aeronautics, at Tuscaloosa, will open a series of 12-week courses for young women, leading to a private pilot's license, on Jan. 8, it is announced by Oliver L. Parks, president, and Walter P. Thorpe, vice-president and superintendent.

Primarily designed to interest young women seeking a working knowledge of aviation for personal flight, the course includes 46½ flight hours, 165 hours of classroom work, and 60 hours of physical training. Ground school subjects include: aircraft, meteorology, flight civil air regulations, instruments, parachutes, general service of aircraft, radio, navigation and aircraft engines. Registrants must be graduates of high school or the equivalent. The students will be housed in modern dormitories and will use the 250-acre Hargrove Van de Graaff Field of the Institute.

► **Trained Air Cadets**—Prior to cancellation of the school's Army primary flight training contracts, AIA had been training AAF, RAF, and Free French cadets, CPTP and WTS flight students, for the last five years, with more than 250,000 hours of flying time at AIA field.

The resident flight school for young women is opening to satisfy an increasing demand for such a program, according to Parks, and to complement the aeronautics program offered by the AIA's affiliate, Parks Air College, East St. Louis, Ill., which has always limited its enrollment to men students, and its curriculum to the more technical aspects of aviation including aeronautical engineering, operations engineering and maintenance engineering.

Subsequent opening dates for 12-weeks courses are: Feb. 19 and Apr. 2. Prospective registrants may obtain additional information by addressing the director of admissions at AIA.

Eligible for C Cards

Civil Air Patrol pre-flight instructors are now eligible for C gasoline rations for their cars, if needed for travel to and from the place where they are giving pre-flight instruction to CAP cadets,



Parks Opens Girls' Flight School: Alabama Institute of Aeronautics at Tuscaloosa, Ala., operated by Oliver Parks, has converted from military training to become a resident flight training school for young women. Above: a group of AIA girl students get instructors' tips about an Ercole, on the flightline at Hargrove Van de Graaff field. Below: a general view of trainers and hangar at AIA.



Office of Price Administration has ruled. Application for such a gas ration must be certified by a liaison officer of the AAF, assigned to the CAP program. The ruling was made at request of the AAF to facilitate pre-flight training of 250,000 CAP cadets.

Milwaukee Airport

A proposal to restore old Maitland Field at Milwaukee to use as a downtown airpark is being urged by private flyers in that area, under leadership of Alderman James Collins.

The tract was leveled and surfaced for airport use, shortly after the famous flight of Lieuts. L. J. Maitland (native of Milwaukee) and A. F. Hegenberger, from Oakland, Calif., non-stop to Honolulu, in an Army tri-motor Fokker, "Bird of Paradise," in 1927 and named for the Army flyer. Situated on the lakeshore, not far from the downtown section, and at the foot of Wisconsin Avenue, the city's major downtown business street, the field is now the property of the harbor commission.

► **Safety**—While large city buildings in the vicinity would constitute a hazard to large planes,

it is believed there is sufficient clear area to make possible its use for private landplanes, with other possibilities for development as an air harbor for seaplanes and amphibians. Studies of its possibilities are being urged, with possible experimental flights to and from the area as a practical test.

Urges Port Program

Predicting 2,000,000 privately owned and operated aircraft and 5,000,000 people knowing how to fly within ten years after the war, Congressman Jennings Randolph, of West Virginia, called for rapid development of ground facilities. His remarks were made before the Dallas Chapter of the National Aeronautic Association.

► **3,000 New Fields Planned**—Discussing his bill, which would authorize appropriation of one billion dollars to be spent over a period of ten years, for development of 3,000 new airports and improvement of 123 existing fields, Randolph foresaw 213 new fields for Texas if his measure is enacted, and \$120,000,000 for the state to match with its own funds.

The speaker praised the Dallas master plan for aviation, which

SUPER POWER THAT HAS

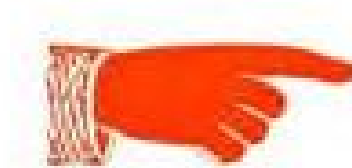

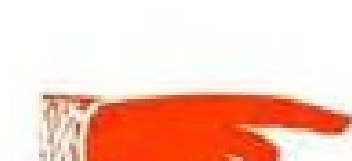

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calls for separating commercial and private flying. The Dallas Chapter of NAA was recently organized with John E. Williams, hotel man, as president.

Air Trade Schools Study Future Plans

Handicapped by wartime problems, they hope to assure future tie-up with Army and Navy, Jones says.

The nation's well-equipped aviation trade schools have fought through a chaotic cycle of mushroom growth, mass cancellation of government contracts, and drastic renegotiation. Those that still operate hope they can survive long enough to help retrain thousands of returning war veterans. They are confident that the G. I. Bill of Rights will bring them sizable returns in early post war years.

Cognizant of criticism which has always been leveled by jealous or worried public school authorities, and faced with the threat of multi-billion dollar bills by Congress to set up government-operated schools for everybody, trade school executives concede that they must clean house to eliminate any taint of racketeering.

► **Long-Range Tie-Up**—That done, they can campaign for a long-range tie-up with the Army and Navy to furnish on short notice thousands of well-trained young men for any national emergency. They have an excellent training record in this war but have not been utilized efficiently or sufficiently by the services from a standpoint of the schools' ability and capacity.

One of the articulate and best known of the aviation trade school operators is C. S. (Casey) Jones, president of Casey Jones School of Aeronautics. Jones assayed the trade school situation before the National Aviation Clinic and is confident that the air transport industry represents the outstanding opportunity for returning G. I.'s wishing to remain in aviation who will realize their need for more training.

► **Job Problem**—There will not be enough jobs for all, but "the individual who has taken time and money necessary to prepare himself more adequately for a job is certainly going to have a better chance to get it," Casey believes. "In this personal ambition of thousands of young men who have served the armed services of war



CAA REGIONAL HEADS MEET:

Emphasis on government's part in encouraging private flying as well as facilitating commercial air transport was heard at a recent meeting of CAA regional managers with Administrator T. P. Wright, in Washington, held to coordinate post-war CAA plans. Above, left to right: seated, Oren D. Harwood, first region; Al S. Koch, assistant administrator for foreign operations; H. R. Neely, third region; L. C. Elliott, fourth region; Paul R. Morris, seventh region; William A. M. Burden, Assistant Secretary of Commerce, and Administrator Wright; standing, Howard A. Hook, sixth region; John E. Sommers, assistant administrator; Marshall C. Hoppin, eighth region; William E. Kline, fifth region; John E. Beardslee, ninth region; William M. Robertson, second region, and Charles I. Stanton, deputy administrator.

industries lies one of the great opportunities for the expansion of the aviation trade schools."

Jones told airline executives they have an important stake in the welfare of the trade school for here, ready-made, they have the training facilities which provide, at what Jones contends is the lowest cost, the personnel which the transport industry will need.

"However, to merit public confidence the trade schools, in aviation and all other fields, must fight to develop and maintain their reputation. No trade school can be permitted to function that borders on the racket which, in the past, some trade schools have been. Many states, such as New York and New Jersey, are moving in the right direction by requiring licenses, which means a strict set of qualifications, inspection by state authorities, forcing out schools which cannot meet higher standards.

► **Competition**—"Public school people often express objections to the trade school, but we in this field feel that here is a real place for some good healthy competition. The fact that the private trade school must be on its toes and offer training attractive enough to bring in students who must pay for such training affords them a leadership in equipment and methods that gives the public schools

something to keep up with." Casey praises the CAA approval system which "guarantees the level of instruction."

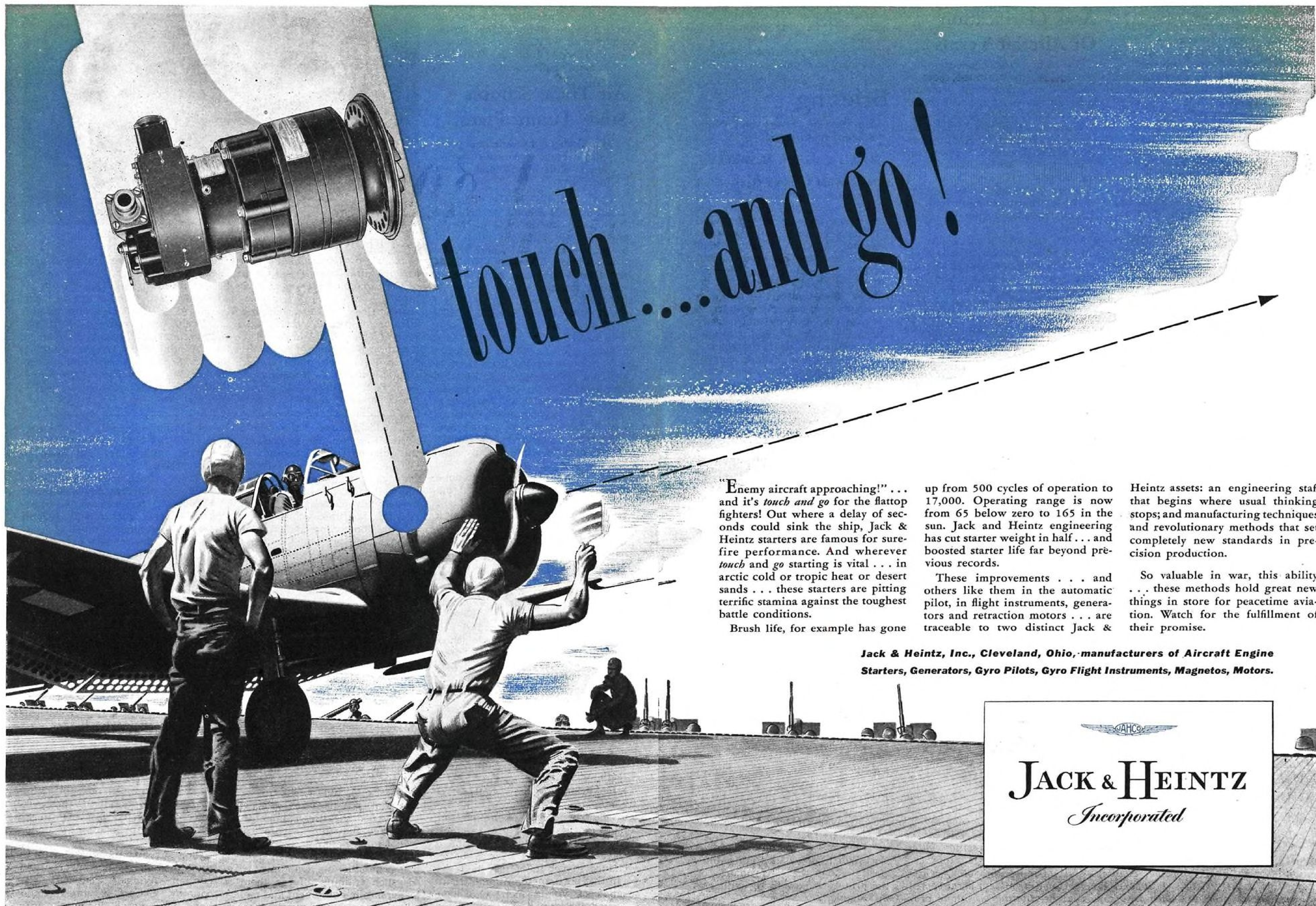
Trade schools must work for the following program, Jones believes:

- Approval to purchase, at equitable prices, government surplus training equipment, much of it already at the schools but change of ownership is complicated by complex regulations.
- Long range cooperation with the military services to avoid waste in maintaining unused facilities at wartime levels.
- Support constructive, considered legislation like the G. I. Bill of Rights but combat "bad" legislation which would set up gigantic government educational projects.

Operations of CAP In 31 States Listed

Civil Air Patrol is owning, operating or managing 215 fields in 31 states, according to a recent survey made by the 48 State Wing CAP commanders. Of these, 81 were constructed by CAP in 22 states and others are now under construction.

The survey indicated that of a total of 1,592 fields now open to civilian flying throughout the country, 403 in 40 states would have been closed during the war



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without CAP support and use, not including 81 constructed by CAP. **Major Improvements** — Besides the fields constructed, CAP has made "major improvements" on 108 other fields in 28 states and has reopened a number of fields which had been closed because of wartime restrictions on other private flying.

The survey lists fields open to civilian flying by states, as follows:

Alabama, 20; Arizona, 14; Arkansas, 28; California, 35; Colorado, 38; Connecticut, 9; Delaware, 1; Florida, 31; Georgia, 21; Idaho, 19; Illinois, 72; Indiana, 40; Iowa, 40; Kansas, 58; Kentucky, 12; Louisiana, 11; Maine, 12; Maryland, 11; Massachusetts, 28; Michigan, 145; Minnesota, 32; Mississippi, 21; Missouri, 35; and Montana, 16.

Nebraska, 36; Nevada, 11; New Hampshire, 15; New Jersey, 8; New Mexico, 23; New York, 74; North Carolina, 35; North Dakota, 9; Ohio, 74; Oklahoma, 48; Oregon, 10; Pennsylvania, 132; Rhode Island, 1; South Carolina, 21; South Dakota, 8; Tennessee, 48; Texas, 120; Utah, 16; Vermont, 12; Virginia, 48; Washington, 20; West Virginia, 16; Wisconsin, 32; Wyoming, 32.

Asks Clarification Of Aircraft Terms

The term "fixed base operation" should be discontinued because people don't know what it means; "aircraft sales and service" would be better.

This is one of six suggestions made by William R. Kent, president of Southern Air Services and a director of Aeronautical Training Society.

Other proposals made by Mr. Kent for more modern and efficient merchandising of light planes:

► **Avoid misconceptions** as to the future plane market. His own estimate is 6000 new planes sold the first year of production and possibly 100,000 annually by 1948. By 1950 he believes the country will have 6500 airports, 292,500 old and new aircraft, and 1,000,000 pilots.

► **Don't overestimate profits** to be earned. Very few operators will show a profit of 10 percent after taxes for the next six years.

► **The industry should have a used plane Blue Book** like that of the auto industry.

► **Find some answer** to the fly-

yourself problem of checking out pilots and ferrying planes back to base.

► **Get aviation exclusions** removed from insurance policies.

Briefing

For Private Flyers and Non-Scheduled Aviation.

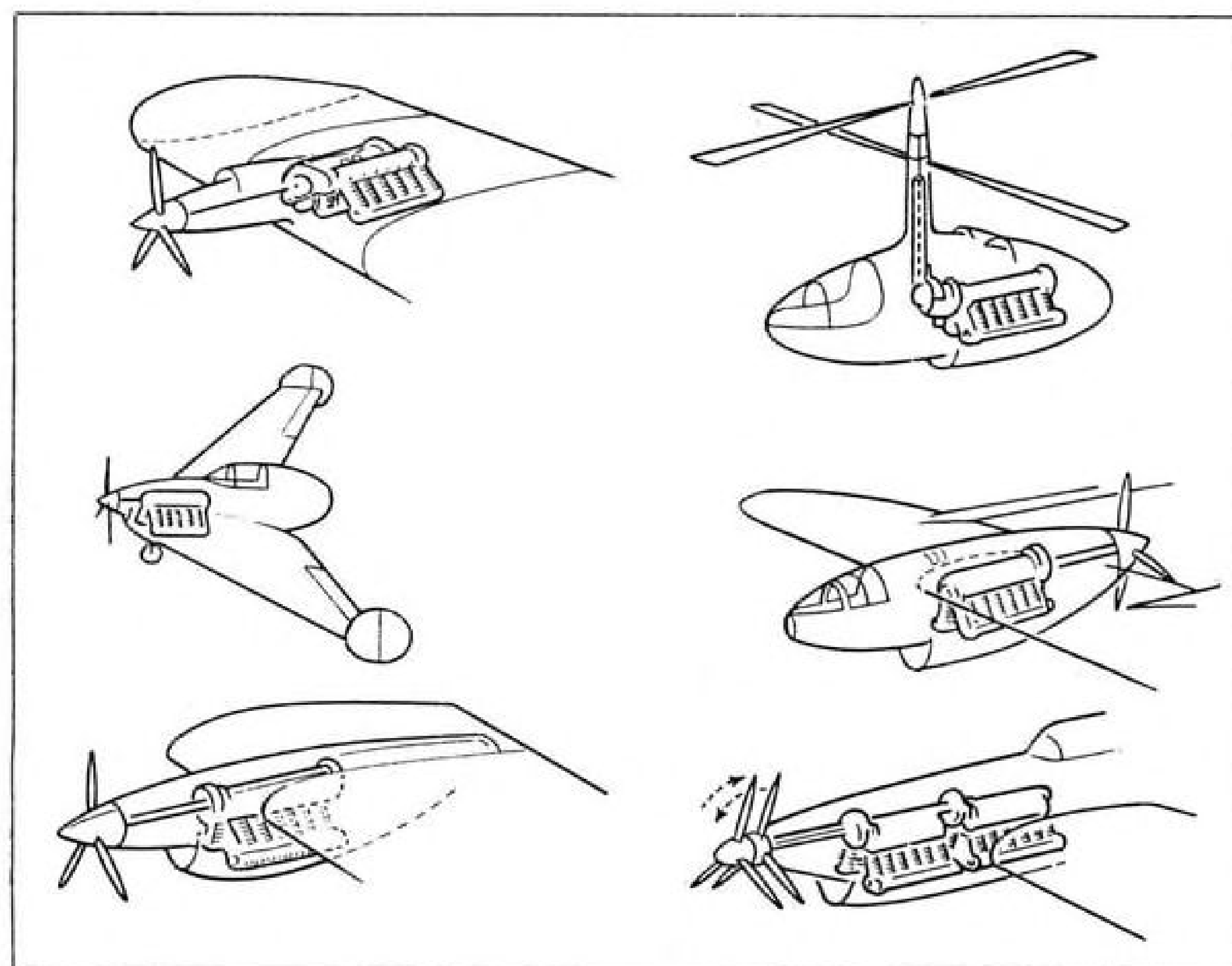
By ALEXANDER MCSURELY

► **Cross-Wind Landing Gear**—Civil Aeronautics Administrator T. P. Wright urged the necessity for developing an efficient cross-wind landing gear, as a major need of personal aircraft design, and pointed out that an experimental landing gear of this type is now being developed in England.

► **After Two-Control?**—Next step in simplifying controls so that the average man can fly more easily and safely, might be an arrangement whereby a wheel control will give as complete rudder control as rudder pedals do now. Current two control systems have only limited rudder control, which has been the reason for some objection by seasoned pilots. One competent engineer and designer says the full control may not be too far off.

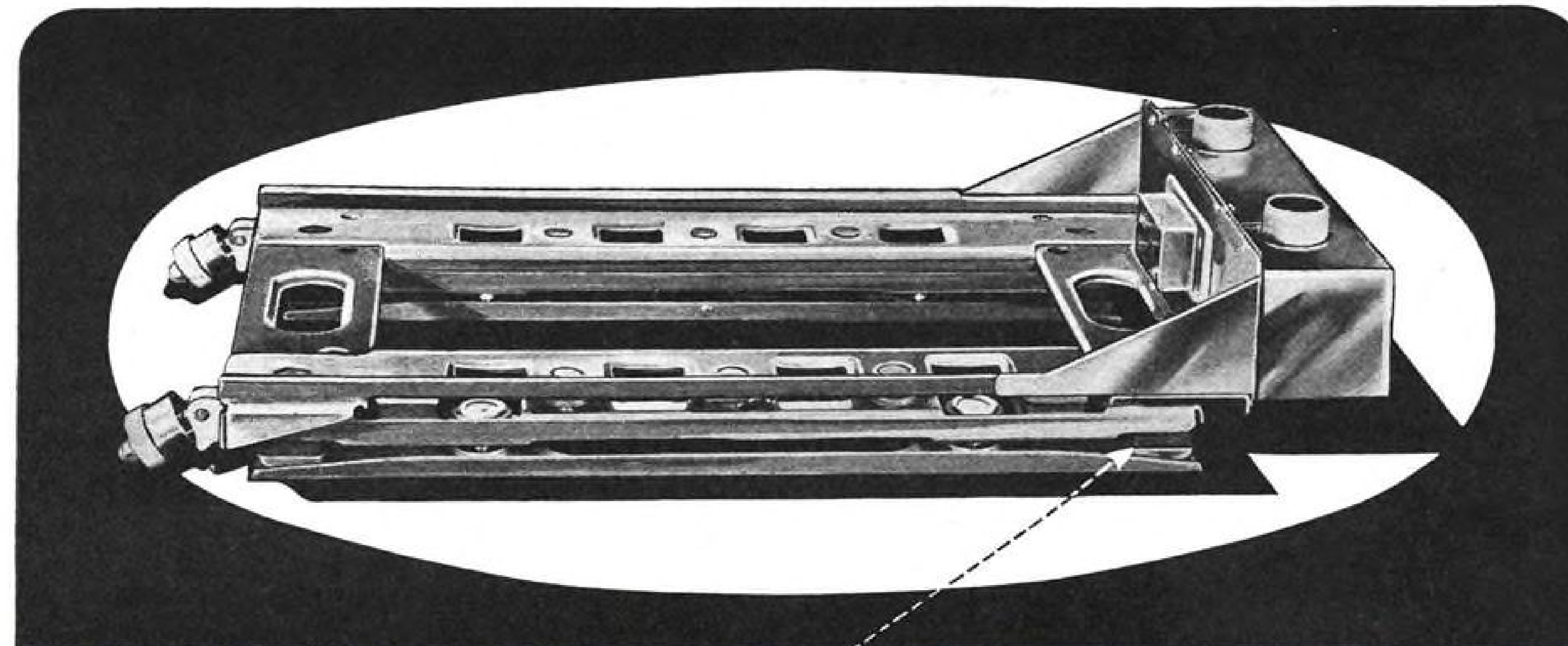
► **Guiberson Lightplane Diesel**—A personal airplane builder in the southwest recently did his utmost to get specifications from Guiberson on the lightplane Diesel which they have been studying for the last several months, and offered to design a plane around the engine, but he didn't get to first base. Reports around the area say Guiberson may have shelved the lightplane engine to concentrate on their larger aircraft Diesel, developed from their T-1400 tank engine. The tank engine turned out 400 hp, but on the basis of comparisons of smaller Guiberson tank and aircraft engines, the new engine should do about a third more. Maybe some other builder might come out with a lightplane Diesel if the Dallas organization doesn't. There are definite advantages in safety, that somebody might cash in on.

► **Rocket Flight**—R. S. Johnson, builder of the streamlined Johnson Rocket, expects his 185 hp. three-place model to fly next week, and his larger six-place twin engine plane to be ready for flight early in 1946. Airmen down around Fort Worth and Dallas are enthusiastic about the performance of the prototype now flying with 135 hp. engine.



USES FOR RANGER 700 HP. ENGINE:

Interesting arrangements possible with the new Fairchild Ranger 700 hp. 12 cylinder engine, suitable for high-powered personal or feeder-line planes, are indicated in these simplified sketches. The inverted-V inline, aircooled powerplant is adaptable for submerging within the structure of the wing or fuselage. Left, top: submerged in wing; center, used in flying wing; below, conventional wing nacelle; right, top, used with special shaft to power counter-rotating helicopter rotor; center, used as pusher, in twin-tailboom plane; below, in tandem arrangement two engines provide 1400 hp. to turn counter-rotating six-blade prop.



NEW WAY TO LICK YOUR VIBRATION PROBLEM

EIGHT SPECIAL CUSHION BLOCKS of controlled density rubber are arranged for multiple absorption of vibration impulses in all directions. Note the curvature at top and bottom of rubber blocks. This curvature disappears under load (see below). This design assures central loading and an even distribution of stress for best absorption results. The cushion is free to absorb shock and vibration from any direction.

VERTICAL DEFLECTION — The uniform distribution of loading over the entire surface of the rubber block eliminates concentrated tensile or shearing stresses. Long service life is thereby assured.

HORIZONTAL DEFLECTION — Because the blocks are free to deflect laterally, vibration and impact loads are easily absorbed. The conventional method of bonding a rubber disc to a metal ring does not provide this horizontal freedom.

Robinson Vibrashock* suspensions are radically different from conventional type shock mounts

Robinson builds a complete, fully engineered suspension guaranteed to absorb over 90% of all vibration throughout the entire operating range of the aircraft in which it is installed.

Over 75,000 Robinson Vibrashock suspensions have been built to support airborne radio and photographic equipment for the Armed Services. Other Robinson Vibrashock suspensions are being designed and constructed to support flight instruments and instrument panels.

As a result of competitive tests for use in supporting airborne equipment, the Robinson Vibrashock suspensions have proven superior to all other present methods of shock mounting.

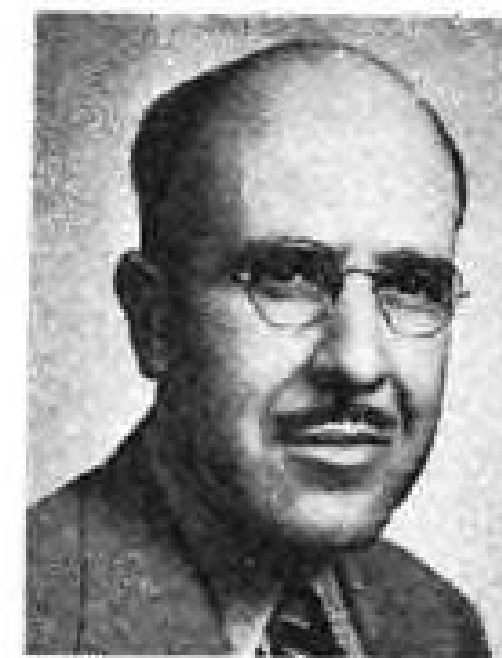
*Trade Mark

ROBINSON AVIATION, INC.

730 FIFTH AVENUE, NEW YORK 19, N. Y.
FIRST NATIONAL BUILDING, HOLLYWOOD 28, CALIF.

PERSONNEL

R. L. Ellinger (photo) has been appointed senior engineering representative on the Pacific Coast for Transcontinental and Western Air, Inc. He has been TWA's superintendent of aircraft engineering and will be replaced in that post by R. A.



Walker, previously senior engineer in charge of the power plant group. Ellinger will maintain an office at the Lockheed Aircraft Corp., in Burbank, but will spend some time in Kansas City assisting in the Boeing conversion program. He has been with TWA and its predecessor Aero Corp., of Calif., for 15 years.

C. J. Hanley, assistant superintendent of salvage at Consolidated Vultee Aircraft Corp.'s Fort Worth Division, has been appointed superintendent of salvage at the plant, succeeding C. C. Shafer, who resigned. He joined Convair at Vultee Field in 1941 and recently was transferred to Fort Worth.

At the Miami division of Consolidated Vultee Aircraft Corp., Mrs. Viola Featherstone has been appointed new chief counselor and will be



Featherstone



Zimmerman

a divisional staff member. Julius Zimmerman takes over the post of superintendent of salvage at the division. Until his transfer to Miami, Zimmerman held a similar position at Convair's Elizabeth City Division.

Ralph Howlett has been named chief accountant of TACA Airways in Central America. He was accountant for the Brazilian division of Pan American Airways from 1934 to 1944. Howlett will be stationed in TACA's Tegucigalpa, Honduras, office and is leaving the U. S. soon for Central America.

Warner H. Hord has been named chief of the rates and audits division of the economics bureau of the Civil

Aeronautics Board, replacing Roland P. Monson, who has joined Pan American Airways on the comptroller's staff. Hord was with the War Production Board staff of the procurement policy division specializing in renegotiation of war contracts. Prior to that he was an assistant professor of accounting at Tulane University and head of the department of Commerce of Central State College, Edmond, Okla. He received degrees from Oklahoma A. and M. college and Harvard Graduate School of Business Administration.

New appointments at Western Air Lines include Mason Mallory, former district traffic manager of Las Vegas, as new traffic manager for



Willis



Mallory

Rapid City and surrounding territory for Western, and Vernon Willis, former traffic and publicity representative in San Francisco, as district traffic manager of Las Vegas.

Richard W. Seaman has been named purchasing agent at the Kearney plant, Emark Division of Thomas A. Edison, Inc. Prior to his affiliation with Edison, Seaman was with Curtiss-Wright Corp.

William B. Briggs, an airline executive for 14 years, has been named assistant to the president of Northeast Airlines. Briggs, former manager of special events at New York for Eastern Air Lines, will represent Northwest in connection with the



line's newly certificated Boston-New York route. In 1930 Briggs was with Ludington Airlines and joined Eastern in 1933 where he remained until his present affiliation with Northeast.

J. Ringen Drummond, experimental engineer, has been appointed assistant factory manager of Timken



MEET AT PEARL HARBOR:

Lieut. Comdr. Joy Bright Hancock, well known in Naval aviation, met her brother, Lieut. Comdr. Cooper Bright, who has been stationed aboard an aircraft carrier, at Pearl Harbor. Commander Hancock headed the editorial research department of the Navy Bureau of Aeronautics for several years before joining the Women's Reserve.

Roller Bearing Co., Canton, O., succeeding H. M. Richey. He has been chairman of Industrial salvage for the War Production Board in the Canton-Massillon area, during the critical scrap shortage.

T. Kelly Pierce has been named general manager of the Duramold division of Fairchild Engine and Airplane Corp., specializing in bonded wood and plastic construction. Pierce, previously assistant manager of Duramold, joined the division in 1943. Processes developed by the division were used in the construction of the Fairchild gunner and recently Duramold received contracts for undisclosed USAAF materiel.



Arthur C. Smith is new cargo traffic supervisor for American Airlines in Los Angeles. After 14 years with the Union Pacific railroad, Smith joined Continental Air Lines in Denver as district traffic manager, and for the past year and a half he has served that line as traffic manager of mail, express and freight.



PIONEER AIRLINE

is still going strong



Early photo shows Western Air Lines' first pilots ("The Four Horsemen"), with Gen. Mer. C. C. Mosely, far right. Left to right, pilots Fred Kelly; Jimmie James; Al deGarmo, and Maury Graham; Mosely. Behind is Western's first plane, the Douglas A-2.

SINCE APRIL, 1926, when flight operations began, pioneering has been a habit with Western Air Lines, which serves the Pacific Southwest and Rocky Mountain territories. Among features of safety and service which this one company has had a major part in developing are two-way radio communications between planes and ground; the radio compass; passenger service over regular routes; four-engined transports.

FIRSTS —



Pioneered two-way radio communication



Carried first passenger on air mail route



Operated first 4-engined airliner



Developed long-distance weather forecasting

Western Air Lines installed the first Link Trainer in 1937, for the instruction of pilots in instrument flying. When the company established its military training division, three more Link Trainers were installed. Western Air Lines' regulations require that all co-pilots take at least four hours' Link Training every month...captains and reserve captains at least two hours' "refresher" courses monthly.

Among the four pilots with whom Western began was Jimmie James. Now Vice President in charge of Operations, Mr. James states: "No single device has contributed more to the safety standards maintained by the nation's airlines than the Link Trainer."



Link Aviation Devices, Inc.

Binghamton, New York, U. S. A.

LINK MANUFACTURING COMPANY, LTD., Gananoque, Ontario, Canada

Link Trainers, Aviation Sextants, and other products contributing to the safety of flight

NEW OHMITE ARMY-NAVY AIRCRAFT RHEOSTATS

with New Improved, Control Protection



Smooth, Close,
Dependable
Control Under
Every Service
Condition of
**HEAT COLD
HUMIDITY
ALTITUDE
SHOCK
VIBRATION**

These new Ohmite AN Rheostats are light in weight—much lighter than the allowable weight specified. Meet salt spray corrosion test. Operate satisfactorily in the temperature range from -55°C (-67°F) to $+70^{\circ}\text{C}$ ($+158^{\circ}\text{F}$).

Here are the new approved Ohmite Power Rheostats for aircraft, made in accordance with the latest Army-Navy Aeronautical Specifications. These units have the advantage of many time-proved Ohmite rheostat features *plus* new, improved control protection. They are rugged in design and construction to provide uniform electrical and mechanical control . . . and assure utmost dependability . . . under all operating conditions.

Two sizes: Model "J" 50-watt and Model "H" 25-watt. Linear or Taper wire-wound, in various resistances, with "off" position, as required. Totally enclosed in a compact, corrosion-resisting metal container. Complete with knob as shown. Write, wire or phone for further information.

OHMITE MANUFACTURING CO.
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Be Right with **OHMITE**
RHEOSTATS • RESISTORS • TAP SWITCHES

PRODUCTION

Boeing Converts Seattle Plant From B-17 to B-29 Production

Project, already past half-way mark and expected to be completed early next year, will bring total of units devoted to vast Superfortress program to five.

By SCOTT HERSHEY

Necessity for increased production of Boeing's B-29 Superfortress is pointed up by the Tokyo attack and the disclosure of the activation of a second bomber command under the 20th Global Air Force.

Striking power of the command is emphasized by the fact that more than 100 Superfortresses took part in the first attack on Tokyo direct since Gen. Jimmy Doolittle led his men off a carrier in a spectacular raid on the Jap capital.

► **Attacks to Increase**—The recent demand by Lieut. Gen. Williams S. Knudsen that B-29 production be doubled within the next three months has taken on added significance in view of these developments. It means that both the 20th Bomber Command and the new 21st must have ever-ready replacements and also that the force and fury of future attacks on the Jap homeland will increase. The objective of the new air offensive which struck Tokyo for the first time in real force is the destruction of Japanese industry.

And as the air force begins this destruction, the aircraft manufacturing industry here at home is intensifying its output of the B-29. The task of converting Boeing's No. 2 plant at Seattle, birthplace of thousands of B-17 Flying Fortresses to B-29 production has passed the half way mark and will be finished early next year.

► **Five Plants Included**—With the completion of the conversion, five plants—three Boeing, one Martin and one Bell—will be completely devoted to this nation-wide production program, perhaps the greatest ever put behind a single implement of war.

Under the cooperative industry arrangement which has existed since May, 1941, production of Boeing B-17's will continue at the Douglas and Lockheed plants in California.

The scope and complexity of the conversion job in Seattle from B-17's to B-29's is almost without parallel in industrial history. While it is being accomplished, B-17 Flying Fortresses are continuing to come off the lines at a high production rate until the conversion is complete.

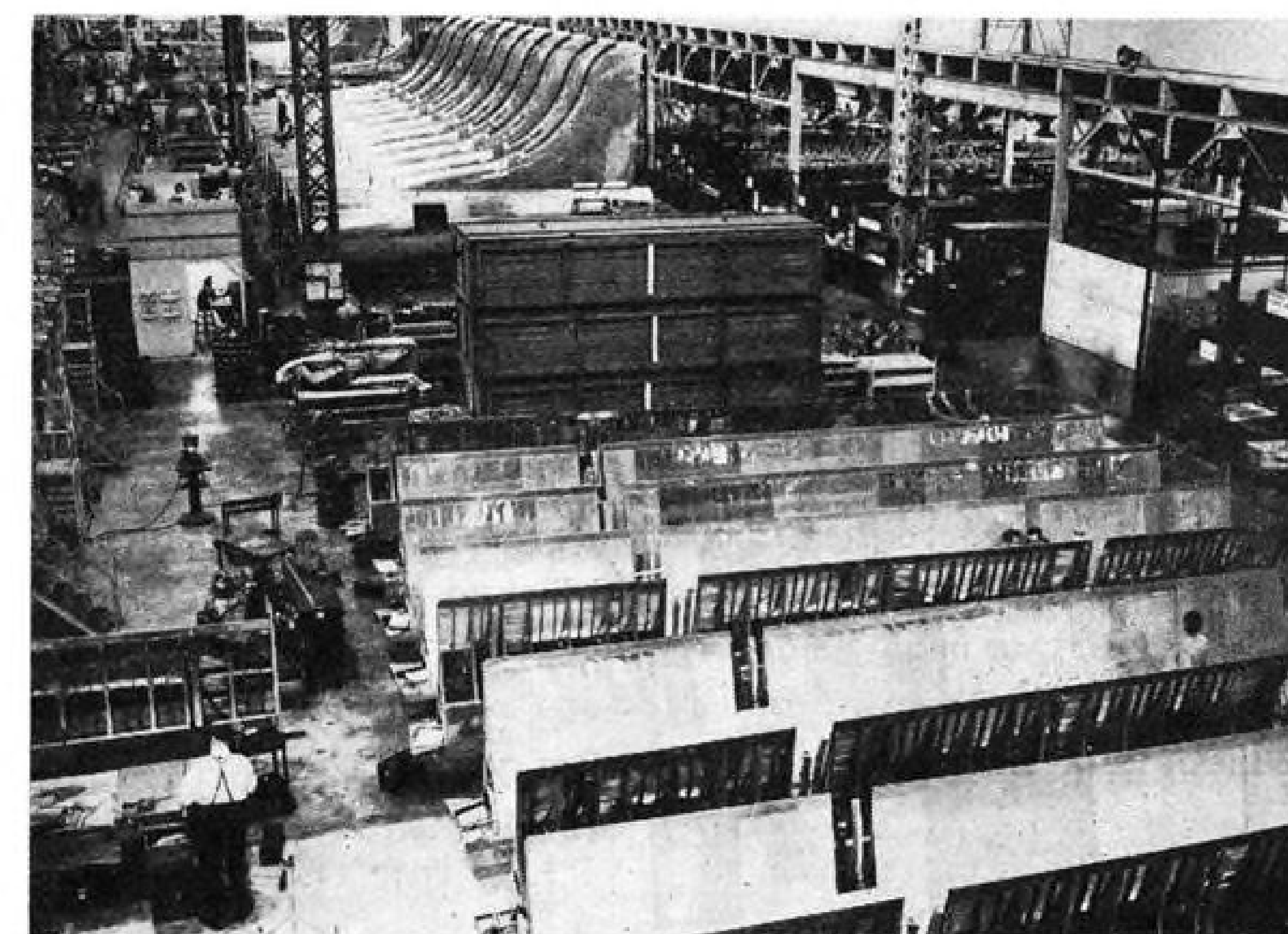
► **Subassemblies**—The big Seattle plant will be integrated with a second Boeing plant at nearby Renton. It will be devoted exclusively to output of B-29 major subassembly parts, such as wings, nose sections and gunners' compartments. These parts will be trucked to the Renton plant, where all final assembly work will be done. Boeing officials say that the two plants thus, operating as a team, will be capable of producing twice as many Superfortresses as

would be the case if completed planes were to be built at each plant.

Because of the necessity of keeping up production during the change-over, the conversion has been a gradual process, starting last April and scheduled to be completed next March. Inasmuch as all available floor space was devoted to B-17 production, the conversion had to begin by squeezing in a B-29 jig here and there between B-17 jigs and assembly lines. The Flying Fortress work gradually was compressed into smaller areas while B-29 work expanded. Deft juggling was necessary in personnel as well as in factory space since B-29 workers had to be trained gradually for their new jobs, inasmuch as only a few at a time could be removed from B-17 work.

► **Assembly Lines Reduced**—The plant's three B-17 assembly lines were reduced to two, and then to one as conversion progressed and space was needed for B-29 jigs. Some assembly shops had to be moved to temporary locations, and production crews had to be broken up, some remaining on B-17 work and others transferring to the Superfortress line.

The entire B-29 program dwarfs anything previously attempted in aviation. It embraces hundreds of subcontractors, vendors and suppliers as well as the five huge



Boeing Bomber Conversion: Production of B-17 Flying Fortress and B-29 Superfortress parts is going on side by side at Boeing's No. 2 plant in Seattle which is undergoing conversion from B-17 to B-29 work, a project which started last April and will be finished next March. In this new picture, B-29 wing flaps are shown in the foreground while beyond can be seen what remains of the long line of B-17 tail sections which formerly occupied this area.

WHAT HAS THIS TO DO WITH BROACHING?



TODAY, countless ships plow fog-shrouded seas, hurrying vital supplies to our fighting men. Swarms of 'planes hum a dirge over the axis homeland. Arid lands are made fertile and productive. Mighty rivers are harnessed to provide power for distant war industries. Propellers — pumps — turbines . . . modern necessities and conveniences without number . . . stem from the unknown genius in whose brain was conceived the principle of the screw. The mists of years obscure his name, yet from Galileo to Gutenberg to Millennium, developments of this basic idea have, and will continue to, profoundly influence our civilization.

IN the same manner that so many complex machines, essential to Man's progress, developed from the fundamental principle of the screw, so too, has broaching developed from crude tools capable of limited uses, to mighty machines capable of performing metal removing operations with speed and precision, in an almost endless variety of shapes and sizes . . . and making them quicker, cheaper and BETTER!

The first broaching machines were invariably arbor presses, and were generally used to cut keyways in pulleys and gears.



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

THE WORLD'S OLDEST AND LARGEST MANUFACTURERS OF BROACHES AND BROACHING MACHINES

plants where the planes actually are built.

In addition to the Boeing plants at Seattle and Renton, there is a third Boeing plant at Wichita, major production unit of the B-29, the Glenn L. Martin plant at Omaha and the Bell plant in Marietta.

Convair Develops Knock-Down Hangar

Development of a prefabricated hangar designed to facilitate servicing of aircraft in remote areas is reported by Consolidated Vultee.

All parts are prefabricated in San Diego and numbered in accordance with locations eliminating reference to blueprints in assembly operations. Consolidated says that, with minimum equipment and a crew of eight men, one of the structures can be erected in three days. It will withstand an 80-mile gust or a steady 70 mph. wind.

► **Designed for "Liberator"**—Except for the front, which is a water and fire-proof curtain, the hangar is of metal. Although it was designed specifically to accommodate *Liberator* bombers, it can be used in servicing smaller aircraft.

Facilities of the hangar include

all work benches and tools normally required for serving and repairing aircraft. Also, the hangar could serve as a barracks building for ground crews in areas where conventional housing is not available.

Breech "Welcomes" Bendix Name Suit

Ernest R. Breech, president of Bendix Aviation Corp., has stated that Bendix Home Appliances, Inc., which has filed suit against his company, has only a limited right to the use of the name "Bendix" in the home appliance field.

Bendix Home Appliances has filed suit against Bendix Aviation in the New York Supreme Court seeking an injunction restraining the aviation concern from using the name Bendix in connection with sale of radio sets for home use.

► **Ruling Asked on Name**—The complaint, alleging that Bendix Aviation proposes to market "Bendix home radios" asks damages and requests that the court decide that Bendix Home Appliances has the right to use the name Bendix in connection with sale of home appliances of its manufacture.

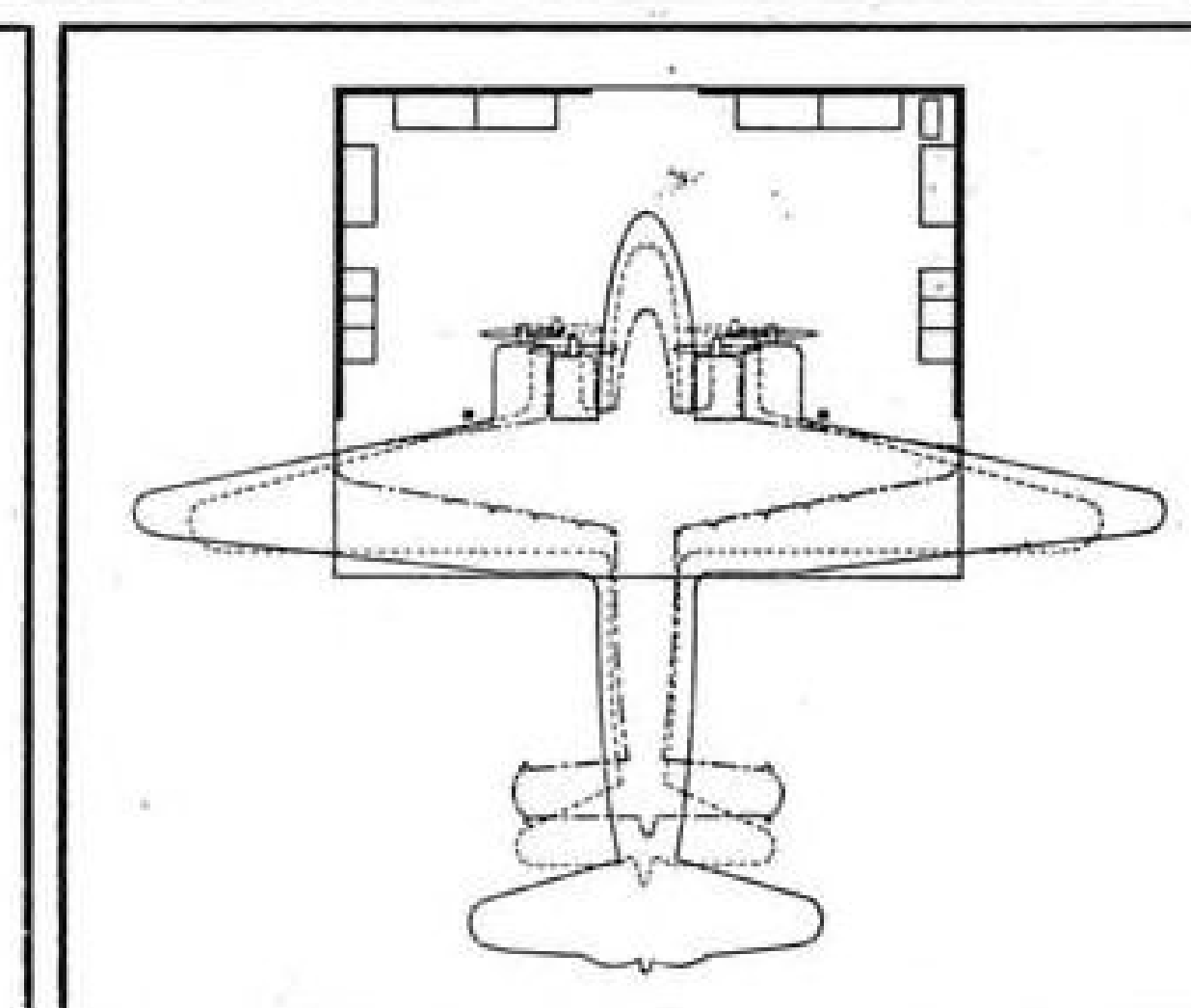
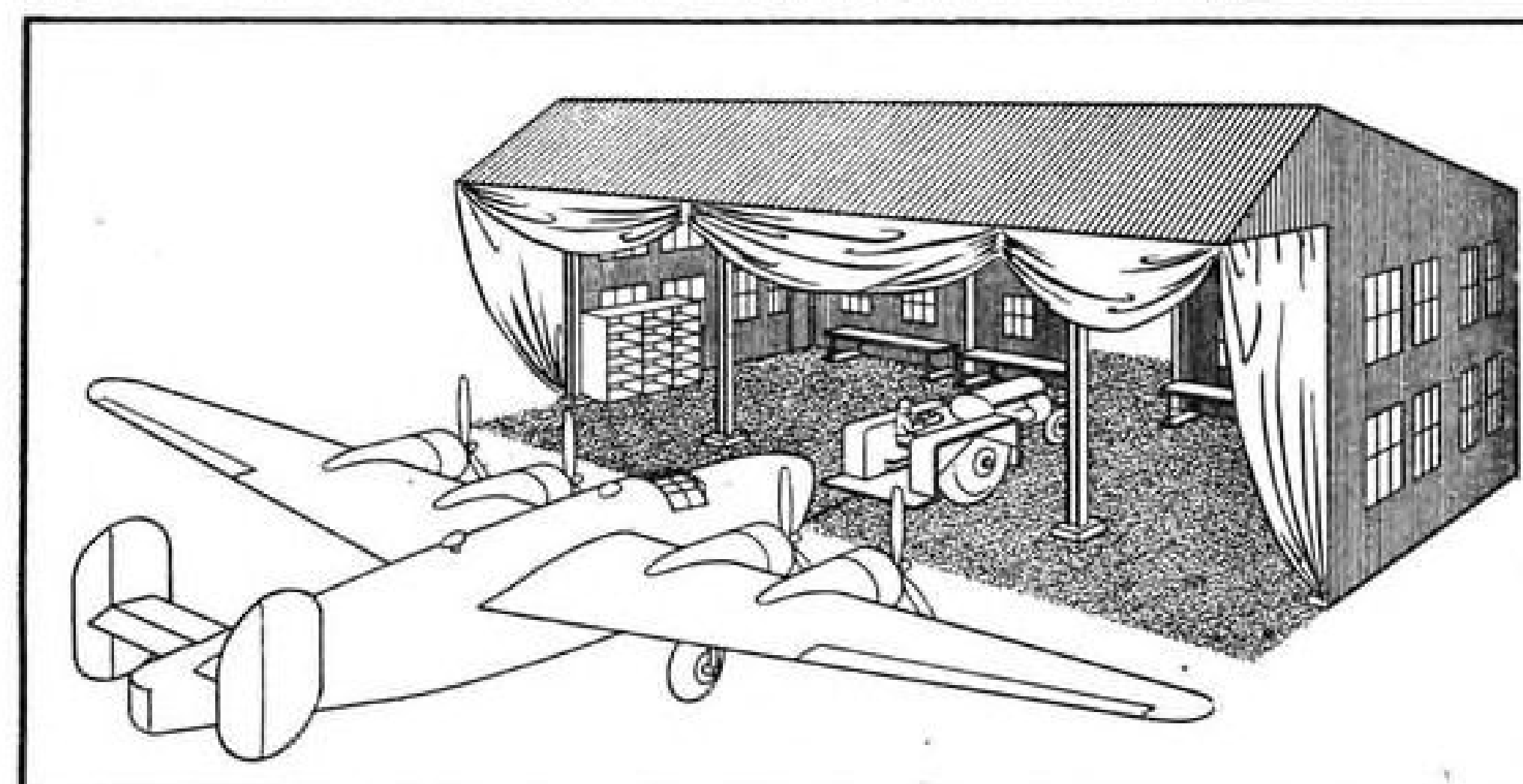
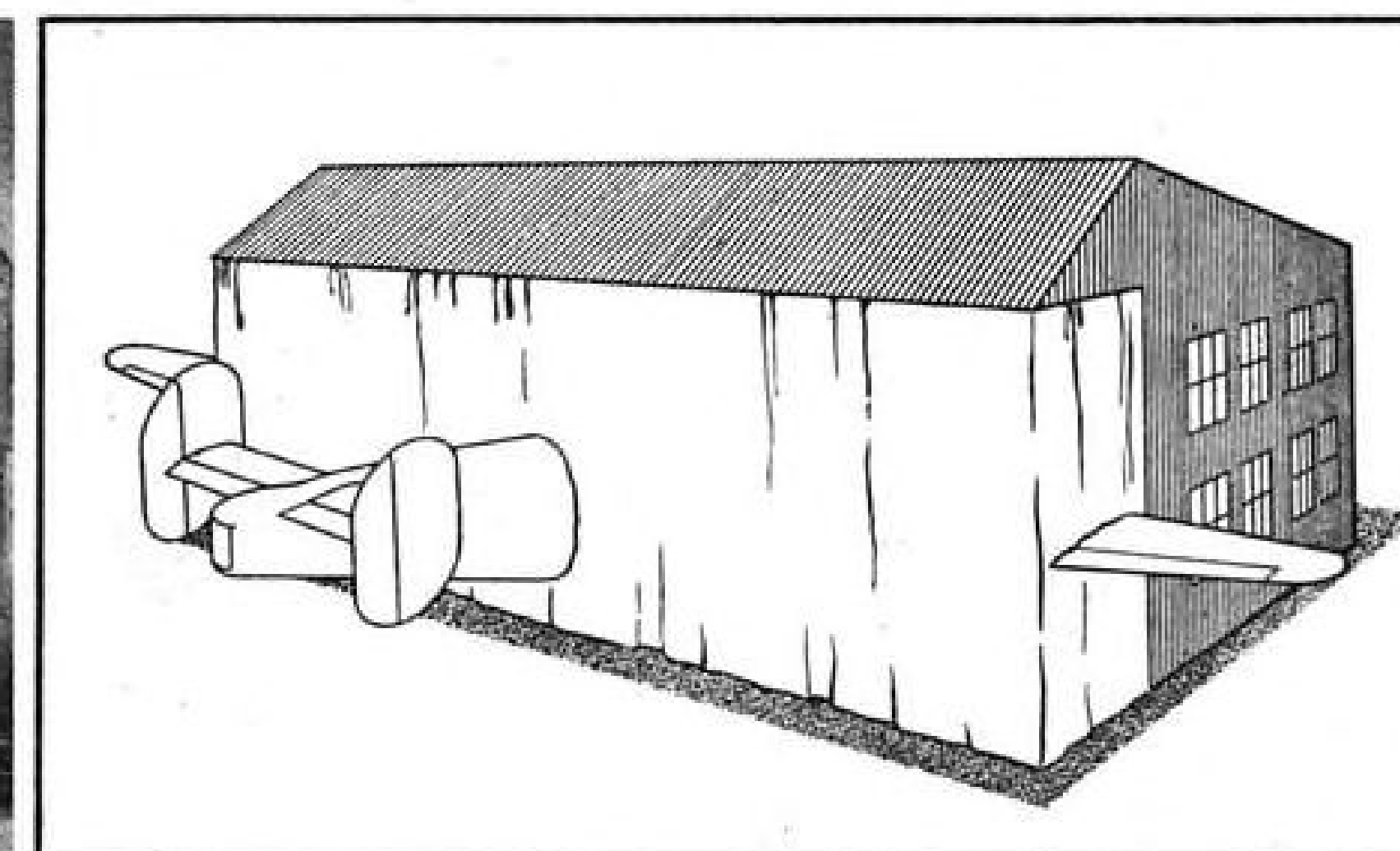
Breech said that since his company and its predecessors had used the name Bendix continuously since 1910 on a variety of products of its manufacture, including radio equipment, he welcomed the opportunity to obtain in the courts clarification of the right to use the name Bendix on manufactured products.

Martin Production

Glenn L. Martin, president of the aviation company, told stockholders that the firm is ahead of its revised production schedules.

He said that before the German armies stiffened there was a premature conviction on the part of many of his employees that the war was about over and the company lost many people who left war work for expected peacetime employment. The manpower situation has improved however, and Martin reported that it now seems well understood that they will need many more employees—not fewer—after Germany falls.

► **Dividend**—A semi-annual dividend of \$1.50 on the common stock was declared, payable on Dec. 22, 1944, to stockholders of record Dec. 12.



Consolidated's New Prefabricated Hangar: Developed by Consolidated to service aircraft in remote areas, this prefabricated metal hangar with water and fire-

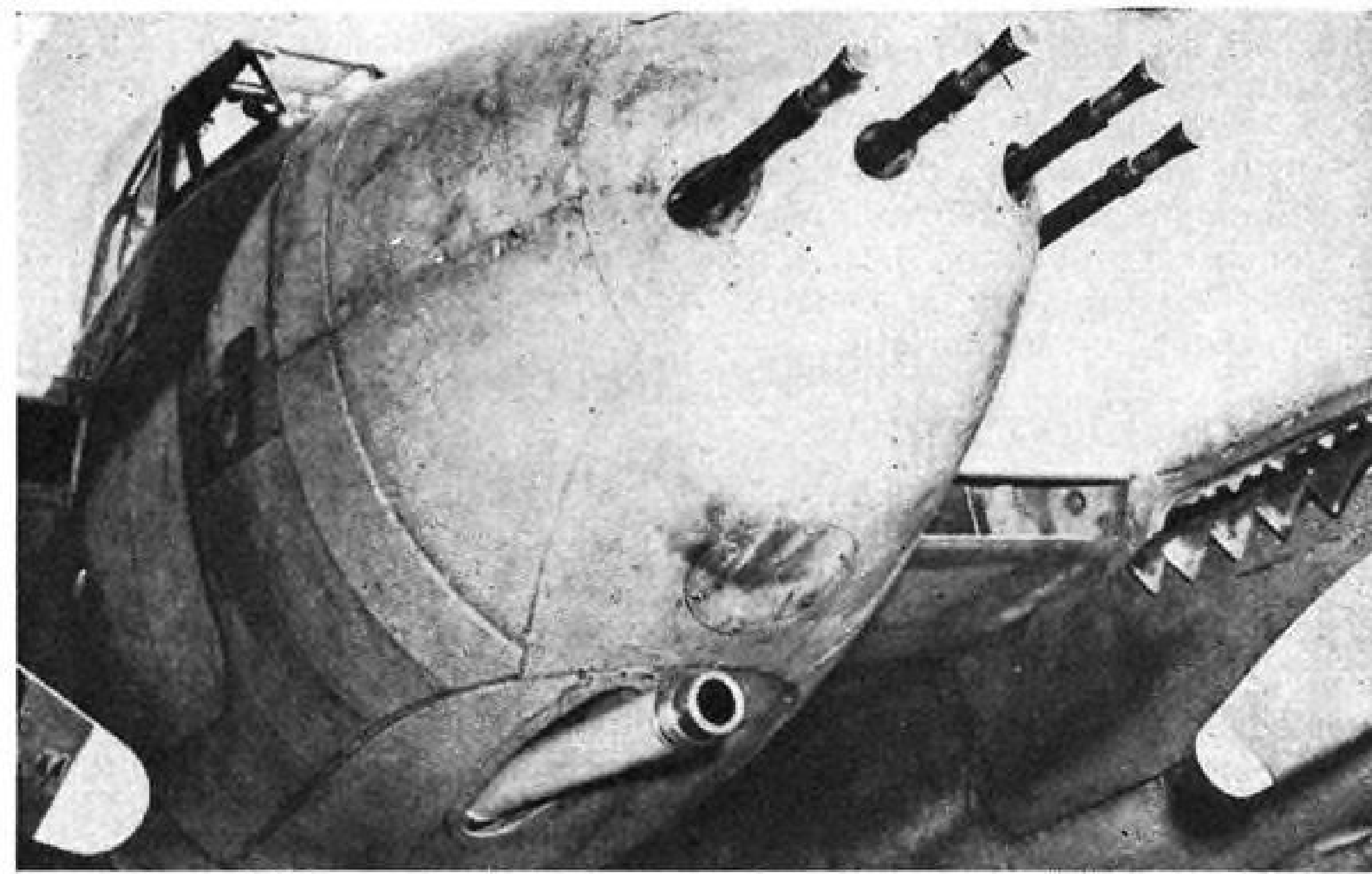
proof front curtain can accommodate planes other than the *Liberator* for which it was specifically designed. Photo and drawings show details.

Mosquito Equipped With Small Cannon

The British have disclosed that *Mosquito* bombers have been equipped with a six-pounder gun similar to the 75 mm. gun mounted on North American B-25 *Mitchell* mediums.

The British gun is mounted under the fuselage just to the right of the centerline, and has been in operational use for a year. Its chief use has been against Nazi shipping, particularly submarines. Attacks on submarines have been carried out even in heavily-defended harbors, and use of the cannon-firing *Mosquitos* has forced the Germans to defend subs with flak ships and escort vessels where they ordinarily would operate on the surface with impunity.

►“*Mitchell*”—The AAF and the Marine air arm have been using the *Mitchell* largely in Pacific operations against Japanese shipping and installations. It mounts, in addition to the 75 mm. gun mounted under the left seat of the pilots' compartment, 10 forward-firing .50 caliber machine guns. It is the most heavily gunned airplane in existence, with the machine guns furnishing a heavy barrage of covering fire during shelling runs. The faster, lighter *Mosquito* mounts four machine guns



Six-Pounder Mounted on “Mosquito”: This British photo shows nose detail of the speedy *Mosquito* bomber equipped with four machine guns and the cannon comparable to the 75 mm. mounted on the North American B-25 *Mitchell*.

for the same operation and for normal protective fire against fighters.

Neither the American nor the British cannon has much reaction affecting the aircraft, utilizing special mountings that absorb much of the recoil.

Normal ranges of the American 75 mm. cannon are restricted but the British Information Services mention the destruction of a *Junkers 88* in mid-air by cannon fire at the range of a mile.

New Engine Mount

A new type of engine mount, designed by Douglas Aircraft and used on the company's recently announced A-26 *Invader*, is now being made at the Mansfield Works of the Westinghouse Electric and Manufacturing Co.

The new mount is reported to reduce the time required for the changing of an engine from 18 hours to four hours. It weighs 100 pounds and carries the 3,000 pounds of the 2,000 hp. engine. The unit fits into the nacelle section on the wing of the plane. It is attached to the engine and wing at six points, six on the nacelle ring at the rear for the wing and six on the aluminum forward ring for the engine.

►Facilitates Repairs—In addition to the fast change feature of the new mount, it is designed to permit a mechanic to crawl inside through a special doorway to make repairs and adjustments to the backside of the engine.

Vote on New Name

Stockholders of Aircraft Accessories Corp. will vote on a proposal to change the name of the company to Aireon Manufacturing Corp. at their meeting Dec. 15. Some company officials believe the present name erroneously implies that the company's business is restricted to manufacture of accessories to the aircraft industry only. They point out that the firm also supplies radio, electronics, hydraulics, railroad and other transportation industries.

How a Famous Manufacturer Protects Engines During the

THREE MOST CRITICAL MINUTES OF THEIR LIVES



Engines made by Minneapolis-Moline Power Implement Company are powering the famous heavy-duty MM Jeeps and the many MM farm implements working for us and our Allies.

So every minute of an MM engine's years-long life is important. But most critical are the first three minutes of the initial run, when 70% of engine wear occurs.

Minneapolis-Moline protects its engines during the test run with a Bowser Oil Circulating System that serves all test blocks.

Periodic losses from scored pistons and bearings have been completely eliminated. There's an important saving in oil, too. Previously, from 7 to 9 quarts were used in testing each engine. Now the oil loss is only about 60 gallons for each 300 engines.

Another phase of Bowser Exact Liquid Control—Airport Fueling Systems—is giving

equally outstanding service to the aviation industry around the world. Here is why Bowser, the pioneer in this field, is the recognized leader:

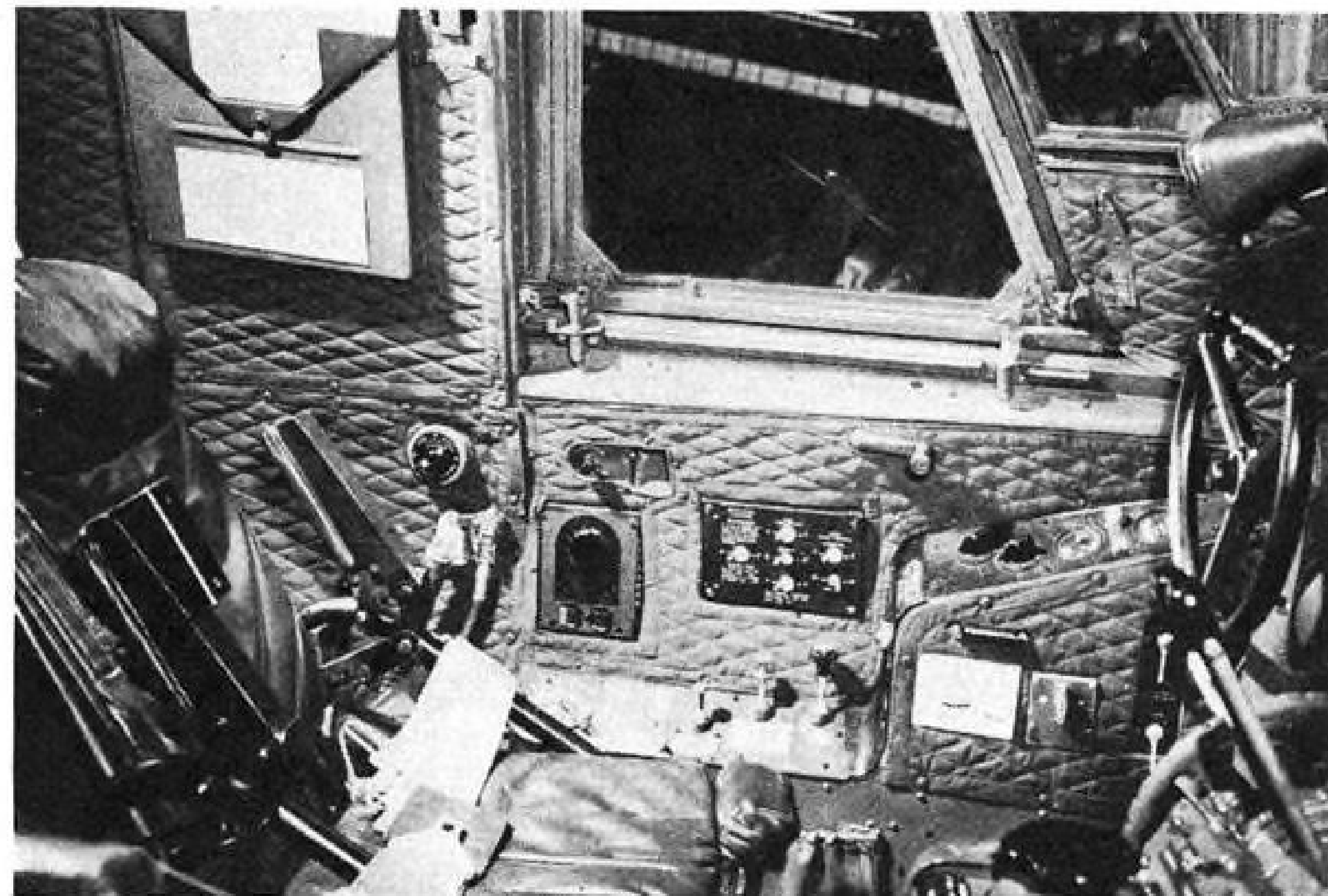
Complete Range of Equipment—Above-ground and under-ground systems up to 4,000 g. p. m. capacity. Marine, mobile, portable and centralized types for virtually every possible need. When necessary, we will engineer and build the special installation you may require.

Accurate Measurement—Bowser's famous

Nacto Meter measures and records every drop of fuel before it is dispensed.

Clean, Dry, Safe Fuel—Impurities and free moisture are removed while the fuel is being dispensed—conclusive assurance of clean, dry, safe fuel.

Serv-A-Plane—For medium and smaller airports, or for fueling smaller planes, Bowser's compact, durable, easily installed Serv-A-Plane is a complete airport service station, entirely self-contained. AVIATION DIVISION, BOWSER, INC., Fort Wayne 2, Indiana.



REMOVABLE FIBERGLAS INSULATION:

Inch-thick Fiberglas insulation held in position by snap fasteners and straps is the latest thing for Curtiss C-46 Commando transports. The insulation is some 200 pounds lighter per installation than kapok, and can be removed with relative ease when necessary. The diamond-quilted trim cloth is used where needed for mounting insulation around instruments, such as here in the pilot's compartment. The finish in the main cabin is smooth cloth, complete even to roll-down curtains.

BUY WAR BONDS



Not only has Bowser's war production earned the Army-Navy E... Bowser equipment has helped earn it for scores of other companies.



The Name That Means Exact Control of Liquids



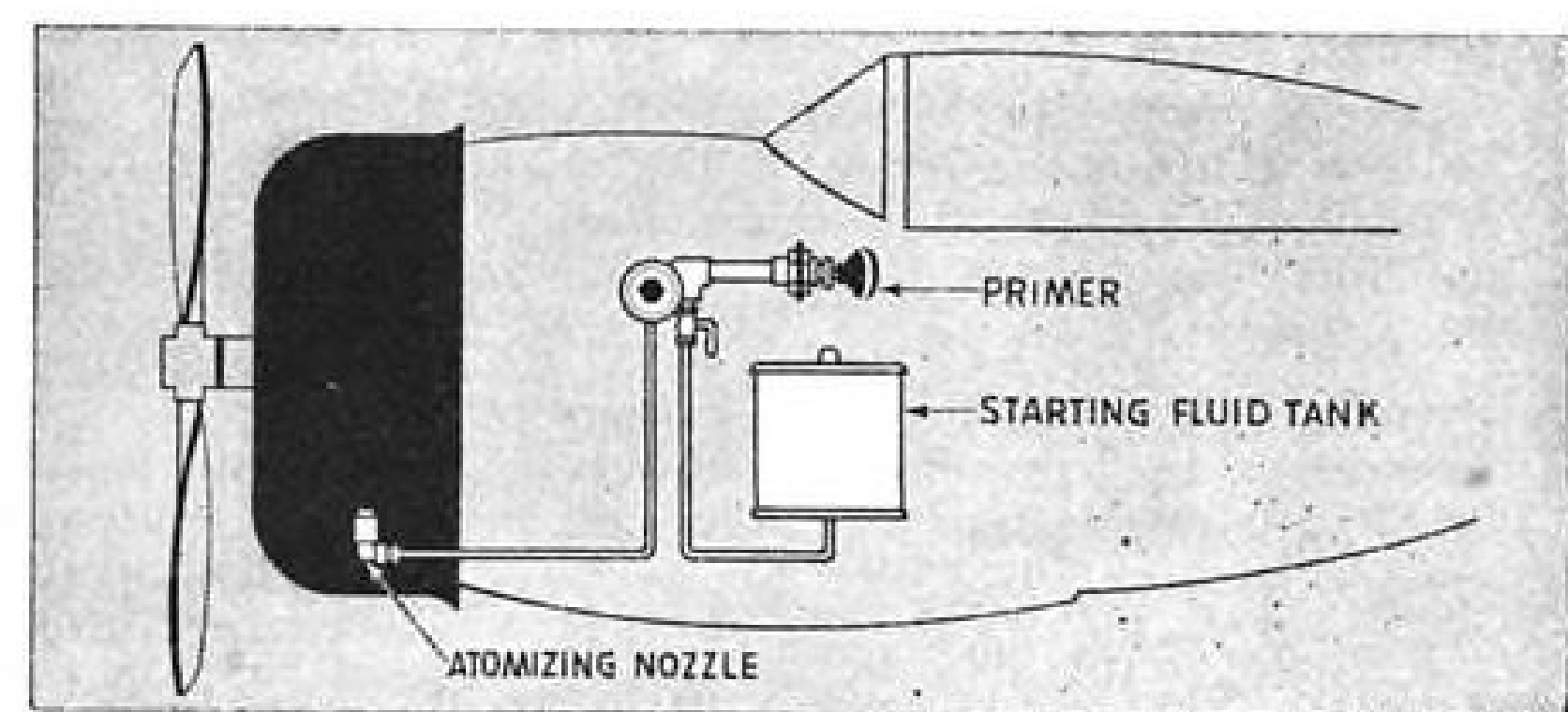
For a hot pilot...frozen by a williwaw

In Alaska, every man who kicks a rudder is a hot pilot—he's got to be. But frost-bound motors keep even the most resourceful flyers grounded—because to start engines when the mercury plummets below zero often takes hours of hard work.

But now, from the laboratories of California Research Corporation, a Standard of California subsidiary, comes revolutionary new Standard Starting Fluid—to kick the coldest engine into life instantly.

Standard Starting Fluid* ignites readily at lowest temperatures—on compression alone, if need be. It is safe for engines, easy to use, sure-fire. The ounce or two needed for each start can be injected through a simple priming system.

The Standard Starting Fluid that helps get air-



craft off the ground is another typical example of the kind of creative research which has made Standard Aviation Gasoline and Lubricants supreme in the sky.

**Until after the war, Standard Starting Fluid will be obtainable only in Alaska.*



STANDARD OF CALIFORNIA

FINANCIAL

Airline Securities Helpful Key In Evaluating Industry's Position

Increase of more than 400 percent in market valuation in last six years indicative of great progress air transport industry has made since 1938.

Market quotations, properly applied, afford a helpful key in evaluating the relative position of the air transport industry as a whole along with that of the separate carriers.

Along in 1938, shortly before the passage of the Civil Aeronautics Act of 1938, it would have been possible theoretically to purchase all the equity securities of the entire domestic air transport industry for less than \$50,000,000. (Based on the market prices of the listed securities of the major companies with the relation of business applied to the rest of the industry.) Today, it would take about \$210,000,000 to accomplish the same purpose. United or American, taken separately, now commands a higher market price than that of the entire domestic group back in 1938.

► **Six Years' Progress**—This four-fold increase is a manifestation of the long way forward the airlines have traveled in less than six years. This gain can be attributed to infusion of new capital, "ploughing" back of earnings and "hope" in the future.

Despite its tremendous growth, the airline industry is picayune compared with standard American enterprises. For instance, any one Class L railroad can dwarf all the domestic airlines combined in terms of capitalization. There are hundreds of industrial corporations, taken separately, which can do the same.

► **Market Above Book Valuation**—For the major airlines, market prices have outdistanced book valuations. This is opposite to the trend shown for the aircrafts where, as a rule, book valuations are customarily higher than market quotations. Usually, new or "growth" industries enjoy premiums in the price of their securities by virtue of the hope for greater profits which may be held forth. The aircraft group, at the

outset, commanded market prices well in excess of book valuations and then rapidly proceeded to discount the future as apprehension of a post-war deflation began to appear.

To best depict the relationship of airline market prices to book valuations, the accompanying table has been prepared covering the domestic airlines whose securities are listed on the New York Stock Exchange.

► **Capitalization**—For instance, both Braniff and PCA have the same market quotation—about \$19 per share. This does not mean that the two companies have the same valuations. Far from it: when applied to the respective capitalizations, Braniff is priced marketwise at around \$19,000,000 compared to about \$9,000,000 for PCA. It is, therefore, essential to know the share capitalization of each company before accepting a bare quotation as a criterion.

It is essential to observe all dilution possibilities. United and American, for example, have convertible preferred stock issues. It would be a mistake to ignore these issues and merely adjust for their retirement at the call price. American will soon call its 50,000 shares of preferred at \$106 per share. Actually, however, these preferred shares will become 71,429 shares of common to be added to the present series. The conversion into common is attractive. The same applies to United; although in this instance the pre-

ferred is not being called but a premium obtains because of the common selling in excess of the conversion parity. All such conversions dilute the common stock but inherently strengthen the companies concerned as a senior equity is eliminated and the prior call on dividends removed.

American sells around \$79 per common share at present, compared with \$33 for United. Yet, United's total market valuation exceeds that for American. It also is interesting to note that United also has the largest book valuation of any of the domestic lines.

► **Eastern and TWA**—It is noteworthy that while Eastern and TWA have almost the same market valuations, there is a decided difference in the book values. Eastern has the lowest ratio of market to book prices in the entire list. This is probably due to the line's extreme conservatism in retaining all earnings and not declaring any dividends. Then too, the market premium on Eastern has tended to narrow as the company began to lose its monopoly on the prize Atlantic coast route.

These market ratios afford an interesting medium to determine how far out of line market prices may become in relation to actual book values. The most optimistic is Braniff, which now enjoys a ratio of 2.7. The lowest is Eastern with 1.2. The rest of the group appear to be very much in line with one another, striking an average of about 2.0. With a record third quarter and sustained profits during the current months, book values have been greatly augmented over the figures shown.

It is not at all uncommon for securities to sell well in excess of actual book values. The important market influence remains: earnings. As long as the air transport operators can generate satisfactory profits and entertain prospects for even greater gains, security prices will remain focused on that trend and will give but a passing glance to actual book values.

MARKET AND BOOK VALUATION RATIOS
MAJOR DOMESTIC AIR CARRIERS

Company	Approx. Mkt. Price*	Common Shares Outstand.	Total Market Valuation	Book Value July 31, 44	Ratio: Mkt. to Book Value
American.....	79	646,277 [†]	\$50,055,833 [†]	\$24,664,618	2.0
Braniff.....	19	1,000,000	19,000,000	7,089,347	2.7
Eastern.....	37	590,194	21,837,178	17,570,187	1.2
Northwest.....	26	356,380	9,265,880	4,922,862**	1.9
PCA.....	19	474,460	9,014,740	4,025,297	2.2
TWA.....	24	965,173	23,164,152	14,843,217	1.6
United.....	33	1,850,523 [†]	61,067,259 [†]	34,197,895	1.8

Notes:

*As of Nov. 24, 1944

**As of June 30, 1944

[†]Assuming complete conversion of preferred stock

TRANSPORT

House Group Hits CAB Stand Against Air Rights for Ship Firms

Merchant Marine Committee criticizes Board's interpretation of law; bill recommended authorizes Commission to make "final and conclusive" findings as to right of steamship operators to use aircraft.

A new and bitter chapter in the fight by surface carriers to get into the air was written last week by the House Merchant Marine and Fisheries Committee, whose strongly-phrased report urging a place for steamship lines in aviation pointedly criticized the Civil Aeronautics Board's interpretation of the law that has been the obstacle to such participation.

Unofficial comment from high Board sources waved the report aside as advocating a dilution of air traffic that would result in a terrific blow to the national treasury in the form of subsidies. One spokesman said the committee had taken a "partisan, narrow and unjudicious" view.

► **Proposed Bill Studied**—More interest attended the Committee's decision to recommend passage of a bill (H. R. 5387) authorizing the Maritime Commission to make "final and conclusive" findings, regardless of the Civil Aeronautics Act, as to the right of a steamship operator to use aircraft "either in connection with or in lieu of vessels."

At the Board it is felt that this would break the back of the Civil Aeronautics Act, since the finality of the Commission's decision on air operation by steamship companies, if the proposed measure becomes law, would deprive the Board of its jurisdiction in such cases.

Rep. Alfred Bulwinkle, chairman of the aviation subcommittee of the House Interstate and Foreign Commerce Committee, feels that the bill, introduced in September by Chairman Bland of the Merchant Marine Committee, would lead to an undesirable division of control over American flag participation in international aviation.

► **Lea Opposes Measure**—Chairman Lea, of the influential House Interstate group, is opposed to the meas-

ure, a circumstance believed sufficient to prevent its reaching the floor of the House before the present session ends. In the unlikely event it should be pushed through the House, moreover, a Senate already up to its neck in controversial legislation and with one eye on an early adjournment would hardly be in the mood to plunge into a new major issue. Lea commented briefly on the Merchant

Marine Committee's action that "I don't think anything will come of it at this time."

The long-awaited interim report by the Merchant Marine Committee on the merchant marine in overseas aviation amounted to a compendium of arguments already advanced by steamship interests in their fight for air rights. There were some contradictions. In its conclusions, for example, the committee said CAB has ample authority under the act to grant air certificates to steamship companies, but elsewhere the Committee said representations to it that the law would have such authority, made when the 1938 Civil Aeronautics Act was before the House, have since "turned out to be a snare and a delusion."

► **CAB Criticized**—The Committee believes, the report said, "that the Civil Aeronautics Board has unwittingly fallen into the grievous error of regarding itself as the godfather of the air lines rather than the impartial judge between all classes of applicants for certifi-

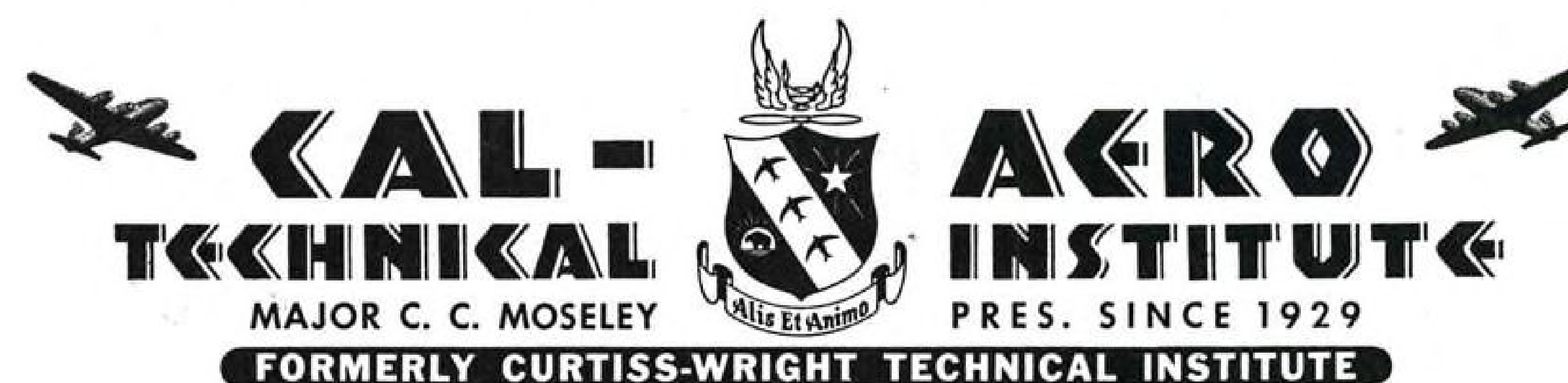


BRANIFF STARTS INTERNATIONAL CARGO SERVICE:

Braniff Airways started an international air cargo service between points on its domestic routes and Mexico Dec. 1, through the Laredo, Texas, gateway. Carriage in Mexico is being handled by Compania Mexicana de Aviacion (CMA), Pan American Airways affiliate. Cargo will clear U. S. customs at Laredo, and Mexican at Nuevo Laredo.

NOTICE

A DISTINGUISHED NEW NAME for A DISTINGUISHED OLD SCHOOL,
A NAME THAT, IN THE SUPREME TEST OF WAR HAS COME TO
SIGNIFY A NEW HIGH STANDARD IN AVIATION TRAINING



When Major C. C. Moseley, president of Cal-Aero Technical Institute, was selected by the Army Air Forces as one of nine civilian school operators to conduct the radical experiment of training Army Air Force pilots in civil schools, the name "CAL-AERO" came into existence. So successful did the plan prove that the Army went entirely out of the business of giving primary training, and ultimately 64 such schools, the majority of them patterned after "CAL-AERO," sprang up throughout the nation. At the same time and under the same personal supervision of Major C. C. Moseley, the great school which had trained thousands of civilians as mechanics and engineers since 1929, and that hereafter will be known as CAL-AERO TECHNICAL INSTITUTE was training 7,500 Army Air Force ground crew members. It was the first school—and for a long time the only school—in the west, to be selected by the Army to do this training.

With an unmatched and unparalleled record of efficiency and safety in training more than 20,000 Army Air Force pilots; more than 1200 having been decorated for valor; together with this school's record of training Army Air Force technicians, all under the personal supervision of Major C. C. Moseley since 1929; it was but natural in planning for the post-war period that these schools come under the distinguished name of "CAL-AERO."

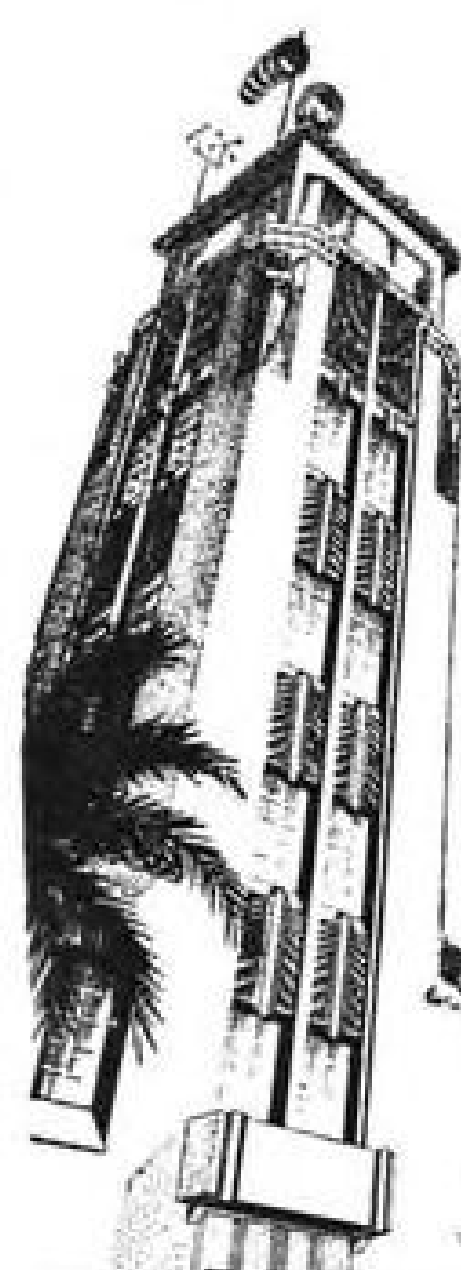
Honored by citations for distinguished service in training these men for the Army Air Forces, together with continuous service in training civilians for the production front, CAL-AERO TECHNICAL INSTITUTE emerges larger, stronger and finer than ever before, on its own airport, Grand Central Air Terminal, in the heart of Southern California's giant aircraft industry.

So, to you men who look forward to a career in AVIATION, you will find the best to be had in the way of specialized training in Aeronautical Engineering and Master Aviation Mechanics, at "CAL-AERO" Technical Institute.

Today, as in the past, civilian students continue to pour into this school from many states and foreign countries, despite the difficulties of war time travel. In one recent week, two students from far south India and three from far north Iceland arrived simultaneously. Latin America and China both are heavily represented. Returning service men, anxious to fit themselves for an outstanding place in the golden age of Aviation, which is certain to follow the war, likewise are enrolling upon discharge.

What this school has done for its graduates, it can do for you. Write or mail coupon today for full information about the possibilities of a post-war aviation career.

Flight training is restricted to Army Air Force Cadets for the duration.



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ELECTRICAL SYSTEM UNITS—Mfgd. by Eclipse, Bendix, Kiddie, Grimes, Thomas & Betts, Westinghouse, etc., Comprising: SWITCH BOXES (Antenna) TOGGLE SWITCHES, MICROMETER SWITCHES, TRANSMITTING CONTROL UNITS, INTERPHONE AMPLIFIERS, SPOT LIGHTS—PANEL LIGHTS DOUBLE CONTACT, ACTUATORS—BONDING JUMPERS, LUGS, WIRE (all gauges), GENERATORS, STARTERS, SIGNAL HORNS, VOLT-AMMETERS, SOLENOIDS, RELAYS, RHEOSTATS AND KNOBS, TERMINAL BLOCKS.

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CLEVIS BOLTS: Sizes from 5/16" to ½" Diameter by 1" to 7" long.

CASTLE HEAD NUTS: Sizes from ⅜" to 1¼".

PLAIN NUTS: Sizes from 1/64" to 1¼".

CHECK NUTS: Sizes from ¼" to 1".

SHEAR NUTS: Sizes from ¼" to ¾".

HEXAGON NUTS: Sizes from ¼" to 1".

ELASTIC STOP NUTS: Thin, 5/16" to 7/16".

High Tensile, 7/16" to 1-7/16".

ANCHOR NUTS: Sizes 3/16" to ¾".

COUNTERSINK ANCHOR NUTS: Sizes from 3/16" to 5/16".

INSTRUMENTS—Mfgd. by: Sperry, Westinghouse, U. S., Bendix, Kollsman, Lewis, etc., Comprising: ALTITUDE METERS, OPTICAL GUN-SIGHTS, TURN AND BANK INDICATORS, OIL GAUGE TEMPERATURE INDICATORS, AIRSPEED INDICATORS, AIR GAUGE TEMPERATURE INDICATORS, LIQUID METERS, GYROSCOPES (horizontal and directional), CLIMB INDICATORS, PIONEER, COMPASS, DIAL HANDLE ASSEMBLIES, Etc., Etc.

RUBBER—STRIPPING, TUBING, HOSE AND SHEETS (Sponge and Neoprene).

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13—Walker and Atlas Bench Drills—A.C. motor drive.
7—Allen, Canedy-Otto, Buffalo, Edlund & Henry & Wright Single Spindle H.S. Drill Presses—12" to 14" overhang—A.C. motor drive.
1—2 Sp. Edlund H.S. Drill Press—12" overhang—A.C. motor drive.
1—26" Walker Turner Radial Drill—18"x26" Table—A.C. motor drive.
4—Foote Burt Hammond Post Drills—A.C. motor drive.
1—No. 2 Aveymatic Drill Press—12" overhang—power feed—A.C. motor drive.
1—10" Foote Burt Heavy Duty Drill Press—power fed—A.C. motor drive.

Miscellaneous

9—Porter Cable & Delta 6", 10" & 12" Disc and Vertical Belt Sanders—M.D.
10" Delta Cut-Off Saw—motor drive with 5 HP A.C. motor.
Oliver Single Spindle Shaper—table 42"x48", 5 HP A.C. motor drive.
Arbor & Foot Presses; Bench Filing Machines; Profile Grinders, 42" Pexto and Brake; Butt Welder; Riveters; Hand Shear; Polishing Lathe; No. 2 Bakewell Hydr. Precision Tapper; Magnaflex Inspection Machine.
350 Bench Vises; 250—30"x12" Work Benches with steel legs and drawers; Steel Shelving; Clamps, Drill Vises; Abrasive Cloth; Extension Lights; Factory Stools; Fire Extinguishers; Costers; Machine Parts Office Furniture, etc., and hundreds of miscellaneous items too numerous to mention.

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cates of convenience and necessity."

The report took a definite stand against Justice Department interventions in steamship applications before CAB. Quoting a Board statement that surface carriers are not precluded from participation in air transportation, the Committee observed that "the presumptuous utterances to the contrary by the Anti-trust Division is an effort by an interloper to arrogate the duties and responsibilities of the Attorney General in rendering an opinion on the broad question of steamship participation in aviation."

B-29 Scouted Japan

The aerial reconnaissance which preceded the bombing of Japan proper was carried out by Boeing B-29 Superfortresses modified as photographic planes by Continental Air Lines' Denver Modification Center, Robert F. Six, president of the airline has disclosed. For the spotting work, the planes are equipped with more camera equipment than ever before installed in an aircraft, Six said.

In addition to both "spotting"

and "mapping" cameras, the big planes carry the same armament as do combat versions. The photo-reconnaissance type B-29 was jointly developed by the 20th Air Force, the Air Technical Service Command, Boeing Aircraft Co., and Continental's Modification Center.

Seek Smaller Planes For Short Hauls

Some airlines showing interest in craft like *Mercury*, *Saturn* and *Beechcraft* for thin traffic areas.

Some of the nation's airlines may operate feeder-type planes for shorter runs and thin-traffic territories, and several are expressing interest in planes like the Martin *Mercury*, the Lockheed *Saturn*, and Beechcrafts in contrast to the popular trend toward four-engine and big two-engine operations.

Executives of some of these companies are working on the theory that smaller planes with greater frequency of schedules will be better on some routes than big, expensive ships operating only one or two schedules a day.

► **Smaller Conversions**—Although heretofore airlines have been concentrating on obtaining return of DC-3's, some are now expressing interest in smaller commercial conversions, and some suspended routes might be re-opened next year if airlines can get surplus or new small transports.

Several Washington hurdles confront any reactivation of routes. But logical argument as to desirability can be presented, both to the Civil Aeronautics Board, which must approve re-opening of runs, and Surplus Property's Aviation Division and the Army, which must provide the planes.

The routes that were suspended were selected because they were the least essential, and many could be operated with profit to the war effort. Modified service would give an experience picture on feeder-type operations and would furnish a training system for flight and ground crews in preparation for heavy post-war traffic on main routes.

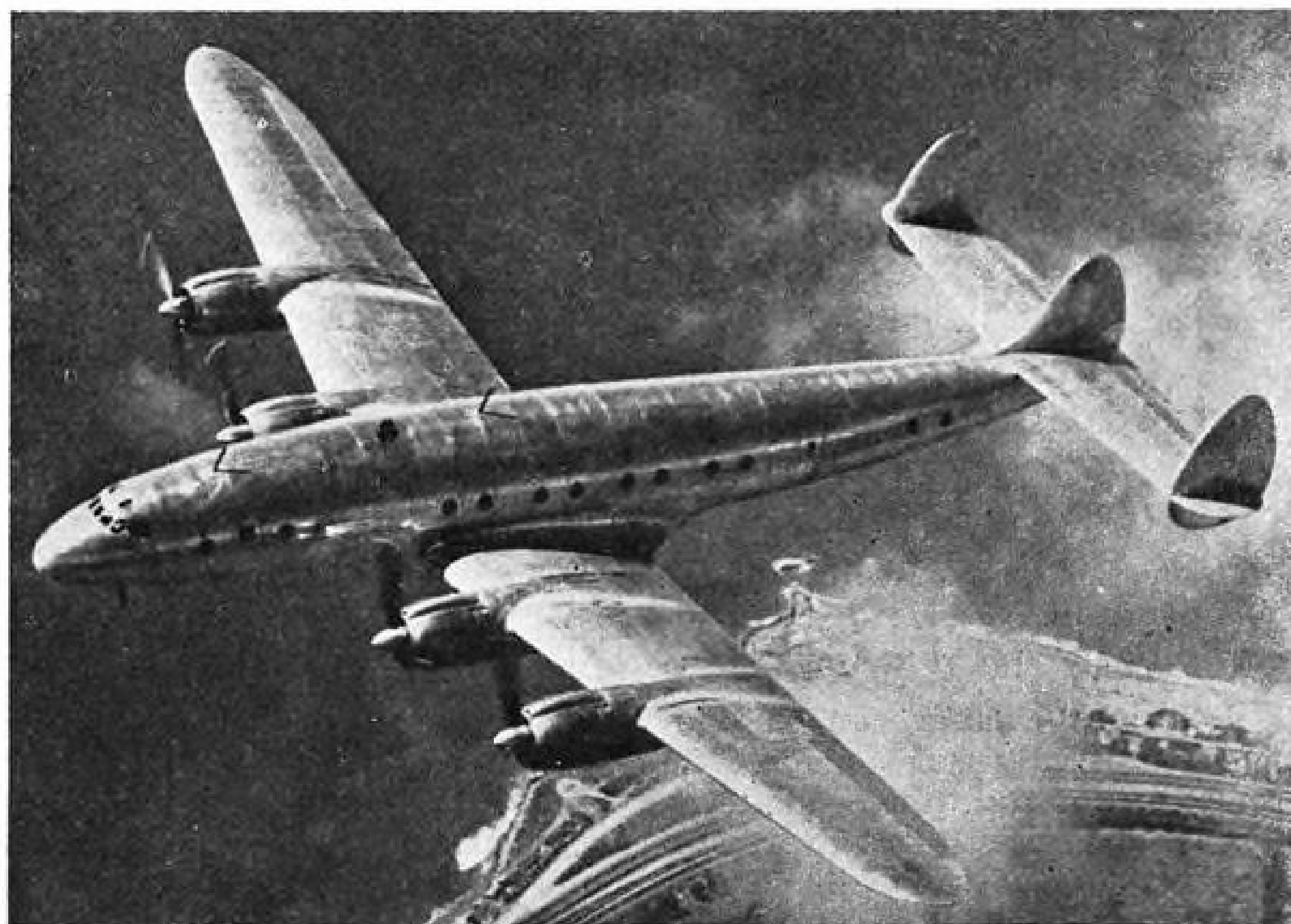
► **May Provide Vets Jobs**—There is actually little field for veterans of the Army Air Forces and the Navy and Marine air arms in commercial aviation today, and ex-



KEY MEN IN CAA'S AIRPORTS PROGRAM:

To meet growing emphasis on airports, officials of the Civil Aeronautics Administration's Airports Division in the photograph above will serve as advisers and consultants with state and local officials on all phases of airport construction, location, expansion and maintenance. Included are Supervisors of Airports of CAA's seven U. S. regions. Seated (l. to r.) are George Burgess, assistant to the Assistant Secretary of Commerce; Phillips Moore, chief, Engineering and Construction Division, Airport Service, CAA; Charles B. Donaldson, director of airports; R. W. F. Schmidt, supervisor of airports, sixth region, Santa Monica, Calif.; Lane W. Wilcox, supervisor of airports, seventh region, Seattle. Standing are J. B. Bayard, Jr., chief, Planning and Survey Division, Airport Service; H. Harvie Perkins, supervisor of airports, second re-

gion, Atlanta; John M. Hunter, Jr., chief Contracts and Legislation Unit, Airport Service; Edgtr Smith, urban planning consultant, Airport Service; S. E. Travis, Jr., supervisor of airports, fourth region, Fort Worth; Herbert H. Howell, supervisor of airports, fifth region, Kansas City; A. H. Wessel, supervisor of airports, first region, New York; Leslie C. Vipond, assistant chief, Airport Lighting Unit, Airport Service; Harold E. Horner, supervisor of airports, third region, Chicago; Paul Stafford, senior airport engineer, Airport Service; Joseph Yarrow, turf engineer, Airport Service; C. Raymond Seybold, chief, Airport Lighting Unit, Airport Service; Kenneth S. Perry, chief, Project Review Unit, Airport Service; and George R. Bosari, Airport Liaison Officer, Airport Service.



Eastern and National Buy "Constellations": Purchase of a total of eighteen Lockheed Constellation transports was announced last week by National Airlines and Eastern Air Lines. The Eastern contract covers 14 of the huge planes with National accounting for the remaining four. Photo shows the ship in flight along a shoreline.

panded operations of all kinds will supply an outlet for their employment. Operation of some of the suspended routes would furnish such an outlet and at the same time would permit airlines and the government to determine how much re-schooling and reorientation is going to be necessary in absorbing these wartime pilots and crews.

If the service is started early next year it almost certainly can be done only if surplus small transports are made available. Reports that Beech might be permitted to turn out 100 C-45's by diversion from Army orders are termed impossible by AAF sources. Martin will not produce the *Mercury* unless substantial production orders are obtained, and no surplus facilities or labor are available there for early production. The same is believed true for Lockheed. However, the end of the European war might quickly change the Beechcraft picture.

► Air Transport Association's Committee on Aircraft Requirements has formulated a "Method for Presentation of Data" designed to indicate to aircraft manufacturers the information desired by airline engineers in consideration of new plane types. The brochure is designed to facilitate standardized evaluation of planes for airline purposes. The Committee suggests that performance data be prepared in graph or chart form whenever possible.

EAL, NAL Order 18 Constellations

Placing of contracts for high speed transports indicates keener competition in Southeast area.

Sharper competition between National Airlines and Eastern Air Lines was in prospect last week as the two companies simultaneously announced they had placed contracts with Lockheed for a total of eighteen *Constellations*—14 for Eastern and four for National. Delivery of the huge transports will probably intensify the efforts of the two lines for commercial supremacy in the Southeast by paring down some of the time advantage on the New York-Florida run now enjoyed by National through its use of speedy Lockheed *Lodestars*.

Contract price for four planes as disclosed by National, is in the neighborhood of \$750,000 each. Selling price to Eastern was not announced though it may be somewhat lower because of the quantity order.

► **\$25,000,000 Set Aside**—Eastern's previously announced expansion program set aside \$25,000,000 for the purchase of an undisclosed number of *Constellations* and Curtiss-Wright CW-20 *Commando's*. The 14 *Constellations* contracted for by Eastern, if computed at \$750,000 each, would leave rough-

ly a \$14,000,000 balance for the acquisition of CW-20's.

The ships ordered by both lines will be equipped with convertible accommodations for 48 day passengers and 34 berths at night. Eastern also is considering the 64-passenger version.

Should National's applications for international air routes be approved, the line proposes a *Constellation* equipped with a lounge and bar.

With the use of the planes, the lines expect to be able to offer the following schedules:

National:		
New York-Miami	3 hours 40 minutes	
Miami-New Orleans	2 hours 15 minutes	
Eastern:		
New York-New Orleans	Less than 5 hours	
Chicago-Miami	5 hours	
New York-Washington	1 hour	

If successful in its Latin American route applications, Eastern proposes the following approximate schedules:

New York-Havana	6 hours
New York-Mexico City	9½ hours
New York-Panama	10½ hours
New Orleans-Havana	Less than 3 hours

According to Eastern, the *Constellation* shows possibilities of operating between New York and Chicago—724 miles—with 64 passengers and 6,000 pounds of cargo in four hours, or between New York and Los Angeles non-stop—2,440 miles—with 34 sleeper passengers and 7,000 pounds of cargo in 8 hours 25 minutes.

OK Unit Facilities At Pittsburgh Port

Airline men and Allegheny County officials approve system of separate terminal buildings for each company using field.

Airline representatives and Allegheny County officials tentatively have approved airport terminal facilities designed on the "unit plan" for Pittsburgh's partly completed \$12,000,000 Greater Pittsburgh Airport. The unit plan calls for separate terminal buildings with complete facilities for each airline using the field.

J. Twing Brooks, Allegheny County airport director, said the plan is different from any now used in the U. S., and is under study by several other cities.

► **Services 20 Airliners**—In addition to individual trunk line terminal facilities, a central terminal building would serve feeder lines and provide space for administrative offices. The tentative plan will permit servicing 20 commercial airliners 150 feet apart.

Post-war commercial passenger

operations will use the new field, with the present county airport reserved to commercial cargo and private planes. Allegheny County plans to operate both fields.

The Air Transport Command unit at the present airport will move to the new field early in January, but commercial operations will be conducted as at present until priority restrictions are lifted to permit construction of terminal buildings at the Greater Pittsburgh port.

Fla. Case Boils Down To NAL-EAL Rivalry

C & S appears as strong contender for New Orleans-Miami traffic.

Traditional rivalry between National Airlines and Eastern Air Lines was the pivot on which the Civil Aeronautics Board's Florida case hearings turned last week with a third carrier—Chicago and Southern—appearing as a strong contender for the New Orleans-Miami traffic. The hearing developed along the lines of two distinct cases—one in which long-haul applicants were particularly interested, and another concerned with purely feeder systems.

By hearing time the number of applicants had narrowed to five, including Southern Airways and Thomas E. Gordon, doing business as Orlando Airlines and the operating carrier applicants. The Florida case followed the pattern of other CAB regional proceedings in the high mortality rate of would-be airline operators, several of whom withdrew their applications as hearing time approached.

► **Challenged By Eastern**—Chicago and Southern's application for an extension of its Chicago-New Orleans route to Miami via Tampa drew sharp cross-questioning from Eastern's attorneys, who developed the point that a through Chicago-Miami service could be operated if the route were certificated to C&S. The latter's witnesses asserted that the route was economically justified in itself, and the additional advantage of being an important link in C&S's New Orleans-San Juan application heard in the Latin American case.

Capt. Eddie Rickenbacker, Eastern Air Lines president, testified that his line's application to provide direct New Orleans-Miami service should be approved in preference to the proposals of both National and C&S on the ground



Glen D. Woodmansee

that it would have less diversionary effect on other carriers. In addition, he said, it would provide one-carrier service to points on Eastern's system west of New Orleans which the other applicants do not serve.

► **Tampa-New Orleans**—National pressed applications for a direct Tampa-New Orleans link as well as an extensive network of feeder routes in Florida.

Thomas E. Gordon, doing business as Orlando Airlines, presented a proposal for a 900-mile feeder system in Florida. He set up a projected plan of operations in two phases—one for opening service as soon as equipment can be secured and another for additional schedules and other refinements when more suitable feeder planes become available. Gordon operates a taxi company in Orlando, Fla.

Southern Airways, an applicant for an extensive system of feeder routes in Louisiana, Alabama, Mississippi, Georgia and Florida, presented its case late in the week.

The hearing was conducted by CAB examiners William F. Cusick and Richard A. Walsh, and was expected to be concluded late last week.

Among the interveners was the Department of Justice, whose attorneys, however, failed to enter an appearance.

Woodmansee to CAA

Glen D. Woodmansee has been appointed acting general counsel of the Civil Aeronautics Administration to replace Webb Shadle, who resigned as general counsel Nov. 25 to resume private law practice in California. Woodmansee was formerly chief of the enforcement section of the old Civil Aeronautics Authority, becoming chief of the enforcement and liti-

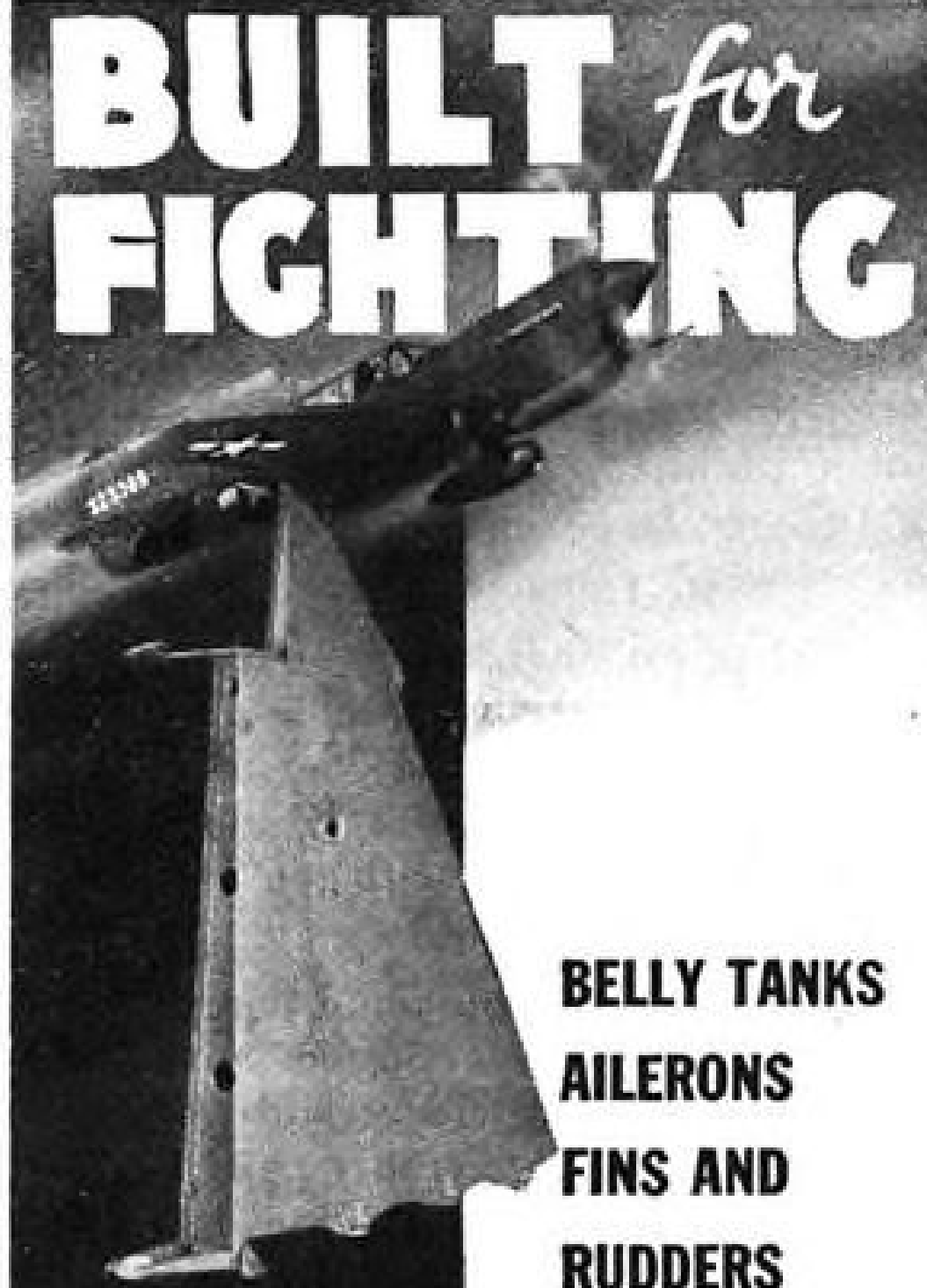
gation section when CAA was reorganized. He was named assistant general counsel last year.

Shadle, who had been general counsel since January, 1943, formerly held posts with the California state government. At CAA he worked to ease restrictions on private flying and sought a sharper definition of conflicting state and federal jurisdiction over aeronautical questions.

CAB SCHEDULE

- Dec. 4. Preliminary briefs due in Latin-American proceeding. (Docket 525 et al.).
- Dec. 4. Hearing in the New England feeder case (Docket 390 et al.) Boston, Mass.
- Dec. 12. Exhibits due in South Atlantic case. (Docket 1171 et al.). Postponed from Dec. 10.
- Dec. 18. Briefs in the North Atlantic proceeding due (Docket 855 et al.).
- Dec. 18—Oral argument in the Washington-Ottawa-Montreal case. (Docket 609 et al.)
- Jan. 8, 1945. Tentative hearing date Texas-Oklahoma case (Docket 337 et al.).
- Jan. 10. Hearing date for South Atlantic case. Postponed from Nov. 1. (Docket 1171 et al.).
- Jan. 12. Deadline for exhibits in the Pacific route proceeding. (Docket 547 et al.). Postponed from Dec. 23.
- Jan. 15. Briefs in West Coast case due. (Docket 250 et al.).
- Jan. 22. Prehearing conference on applications within the general area of Virginia, North Carolina, South Carolina, Georgia, Alabama, and Tennessee.
- Jan. 26. Rebuttal exhibits in Pacific case due. (Docket 547 et al.).
- Feb. 1. Hearing in the Pacific cases before Examiner Ross I. Newmann. (Docket 547 et al.).
- Feb. 6. Tentative hearing date for North Central case (Docket 415 et al.).
- Feb. 12. Tentative hearing date for investigation of non-scheduled air services. (Docket 1501.)

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Faultless workmanship and efficient production are the rewards of twenty-five years devoted to manufacture of aircraft.



Airlines To Get More Surplus Planes

About 20 expected to be released in first batch turned over to SPB following raising of 300-plane limit by Roosevelt.

A score of more Douglas C-53's and Lockheed Lodestars will become available in the first releases of Army transport planes to the Surplus Property Board following lifting by the President of the 300-plane limitation on airline planes. The Army is expected to act quickly in making the planes available.

The planes will be allocated to domestic and foreign airlines by the Aviation Division of the SPB on recommendations of the working committee. Representatives of the State, War, Navy and Commerce Departments, Civil Aeronautics Board, the Reconstruction Finance Corp., and the Foreign Economic Administration sit on the working committee.

► **Score in First Batch**—First returns are not expected to exceed 20, although there are indications that the number will mount quickly as the military needs in Europe

AVIATION SERVICE ENGINEER

Man with imagination and initiative who can delve into, plan, and advise relative to equipment design and other problems of sales and service at airports, large and small, is wanted by national petroleum organization.

Mechanical Engineer or equivalent in some engineering field requisite. Good appearance and personality needed for proper representation of company in contacts with top executives.

Knowledge of piping and pumping operations and refueling of planes by truck plus experience with Aviation Industry, preferably Airlines, Training Schools, or similar operations from port facilities standpoint, including design and installation desired. Civil Aviation or Military Ground Crew experience of value. Good future. Headquarters New York City.

In reply advise detail of experience, education, age, marital status, and salary expected. Include small snapshot (not returnable). Replies strictly confidential. Statement of availability required.

P-124, AVIATION NEWS
330 W. 42nd St., New York 18, N. Y.

decrease. Virtually 20,000 transports of all types will have been built in the period from July, 1940, through December of this year, with production this year of more than 10,000. A heavy proportion of these are DC-3 type transports. Emphasis in the Pacific is necessarily on four-engine types and long-range twin engine planes, which will make available numbers of the DC-3 types for allocation in this country and abroad.

The C-53's were the first planes turned out after the start of the war, and are more desirable than the C-47 for airline conversion. They are virtually the same as the airline DC-3, with small door and without the reinforced flooring, canted loading deck and large doors of the C-47.

While the lifting of the limit will permit building up of the commercial fleet, several factors will operate against purchase or lease of more than possibly 150 to 200 in addition to the present fleet of 300 by domestic airlines. Industry sources believe 450 planes will be the top limit under war conditions. Shortage of pilots with airline captains' qualifications will be one major bottleneck. Another is the difficulty of reconversion under existing conditions, with some airlines unable to place in service planes returned more than a month ago.

► **Priorities**—While there has been some feeling that priorities might be removed generally on domestic routes as soon as additional equipment is available, qualified sources say the priority system will be retained for some time to come. The net gain of additional equipment will be in seats for non-priority passengers, and in mail and cargo capacity. Some conjectured, however, that priorities may be dropped progressively, starting with the least congested route segments, although even this is believed to be some time in the future.

The priority situation west of the Mississippi will probably remain serious through the Pacific war, and that reason alone is believed to prevent any removal of restrictions.

The procedure under which the transports will be allocated to domestic and foreign airlines is: domestic companies will apply to Defense Plant Corp., foreign companies to Foreign Economic Administration. These agencies will transmit the application to the director of the Aviation Division of SPB, Lieut. Col. William B. Hard-

ing. After consultation with the working committee, the Aviation Division will allocate the planes to airlines on the basis of priority needs.

The President's action removing the limit was taken on recommendation of the Army Air Forces. It has been urged by the CAB and the Post Office Department. The AAF has warned, however, that any or all of the aircraft may be commandeered for emergency military missions as long as the war lasts, and that limits may be reimposed if it appears that operation of additional planes will affect service manpower, materials or gasoline requirements.

Pogue Urges Slash In Airline Expenses

Expresses concern over passenger situation for post-war; economies in operation called essential.

Estimates that airlines will be flying six billion passenger miles by 1946 and that within 10 years air cargo revenue will exceed that from passengers have been tempered by Chairman L. Welch Pogue of the Civil Aeronautics Board with sharp advice to carriers to get their costs down.

In recent speeches he expressed confidence that all first class mail will go by air after the war. But he is concerned about the passenger situation, because he feels that six billion annual passenger miles actually is not very much and wonders where more can be obtained.

► **Rail Competition**—Pullman travel the airlines may be able to tap, Pogue calculates, is about 8 billion passenger miles. He sees only one way "for air transportation to take away from the railroads the traffic which would prefer the speed and comfort of flight. That . . . is to concentrate on economies in operating costs . . . and go vigorously after traffic."

The chairman recalls that last year he told a Montreal audience that passenger rates would certainly drop from the present 5 cents a mile to 4, and likely to 2½ cents eventually. He still feels that the aircraft manufacturing industry can produce planes which will make such a fare economically possible "in the decade following the war."

► **Economics**—In addition, "there are many things the airlines can do to cut costs." Here he suggests

elimination of unnecessary weight, consideration of "street-carlike frequency" on heavily-traveled routes, with stewardesses reserved for de luxe flights, passengers carrying their own baggage. "The carriers," Pogue says, "can dispense with much advertising and solicitation, letting the attractiveness and utility of the service speak for themselves."

This last was a slightly different view from that expressed earlier on cargo, where Pogue asserted that even when new equipment permitting lower rates is received, the airlines must furnish the will to develop the air cargo business to the maximum. Air cargo advantages must be sold. "The new rates and service cannot simply be announced with an attitude of 'well, here it is at last.'"

► **Air Express**—Pogue expressed concern over air express rates, which for nearly 10 years have been at a level five or six times higher than "those of its nearest competitor and without due regard either to the cost of the service or the larger volume possibilities of a lower rate."

"Until only a few weeks ago there had been only one small, reluctant reduction. No cargo-carrying industry can be built at the luxury rates of air express."

The chairman was unable to deliver either speech because of his

Australia Takes Lines

Nationalization of Australia's domestic airlines has been announced in the Australian House of Representatives by Acting Prime Minister Francis Forde, who stated that the government intended to establish statutory authority and begin operating the carriers by July 1, 1945. The step, according to Australian Air Minister Arthur S. Drakeford, who is representing the Commonwealth at the Chicago conference, is in conformity with the Labor Government's policy for government control of transportation.

An enabling act, expected to pass both Houses of the Parliament will be introduced early next year. An estimated \$6,400,000 to \$9,600,000 will be paid the ten operating carriers for equipment and good will as "fair compensation."

The ten Australian airlines operate a total of 21,723 route miles. Major carrier is Australian National Airways with a route mileage of 6,555.

duties as a member of the U. S. delegation at the International Civil Aviation Conference in Chicago. They were read for him before the Academy of Political Science in New York and the National Aviation Clinic in Oklahoma City.

Air Cargo Problems Discussed by SAE

Papers prepared for Chicago meeting this week reveal divergent views on rates, costs and equipment.

Divergent views on the problems of rates, costs and equipment highlight the planned discussions before the National Air Cargo Meeting of the Society of Automotive Engineers in Chicago, Dec. 4 to 6. Pleas for aircraft designed especially for cargo mingle with opinions that present aircraft are suitable for the commodity-hauling job.

A paper prepared for delivery by J. A. Wooten, cargo traffic manager of American Airlines, puts the matter of equipment squarely up to the engineers, declaring that present day equipment limits cargo-carrying to new commodities, in new packages. Merchandise in general, Wooten states, exceeds a specific density when packed for shipment of 20 pounds per cubic foot. He sees little possibility of air transport invading the field with equipment designed for a density of four pounds per cubic foot.

► **New Type of Merchandising**—Given proper equipment, Wooten visualizes air transportation of cargo creating a new type of merchandising with the retailer being supplied directly from the manufacturer and replenishing his stock daily by air. But that will mean equipment capable of being operated at a lower cost and designed for specific densities of approximately 20 pounds per cubic foot.

Present aircraft are termed adequate for the job ahead in a paper prepared by Marvin J. Parks of the airplane division of Curtiss-Wright. "The types known today," he says, "were designed for efficiency. . . . I contend that our airplanes today have had the bene-

Large Reputable Eastern Manufacturer of heavy machinery requires Technical Manual Writer for aeronautical power unit. Must have experience with standard manuals. Clearance through United States Employment Service required. Address reply to P-125, AVIATION NEWS, 330 West 42nd St., New York 18, N. Y., stating educational background, experience, and salary desired.

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How are you at Chopping Trees?



No, this is no joke. Many businessmen have volunteered to aid the paper shortage by spending vacations from their companies in the timber country, helping out on the man-power problem in the paper pulp industry.

Not that you have the time to do this. Nor that tree-chopping is exactly in your line. But, until the man-power shortage in this vital industry is over, until our armed forces no longer are spread all over the world where food, ammunition and medical supplies must be shipped them in paper protection

wrappers, there is a chopping job you must do. You must chop the use of paper in your business.

Sure, you've done plenty of this in the past months. But right now the need for paper is greater than ever. So the government asks you again to examine paper usage in your firm, see if you can't make even further savings.

And don't forget that baling wastepaper and sending it to a reprocessing plant is a most important part of the paper conservation job.

Remember—
**PAPER IS
WAR POWER**



USE LESS PAPER — SAVE ALL WASTEPAPER

This advertisement contributed by this publication and prepared by the War Advertising Council in cooperation with the War Production Board and the Office of War Information.

fit of thorough design to meet low-cost operations."

Parks expressed the view that engineers and cargo experts should not be in too much of a hurry to turn out strictly cargo planes. "Even though we all have had a good deal of cargo experience during the war, none of us is in a position to dictate commercial cargo designs at this stage of the game."

► **Puts Job Up to Engineers**—A. W. French, director of cargo sales of TWA, pitches the rate structure back into the laps of the engineers: "We salesmen haven't a thing in the world to sell unless we get a vehicle that has been engineered to death and to the fine points of reliability and lowest possible costs of operation." Although his paper was prepared on the subject of specialties in air cargo, he conveys the impression specialties are transitory at best. At one time, he declared, airlines thought news magazines were a great potential for air shipment. Now, however, the ingenuity of the publishers has swept away that possibility by decentralizing printing operations.

The types of planes offering the greatest hopes for air cargo and feeder operations are dealt with in papers prepared by Herb Rawdon, assistant chief engineer, Beech Aircraft Corp., and Dr. Robert J. Nebesar, vice-president and chief engineer of the Universal Moulded Products Corp. Rawdon emphasizes the importance of low wing loading to cut down the size of airport required, and increasing importance of wheel brakes for the same reason. Like Rawdon, Dr. Nebesar states cargo planes should be high wing types. He also advocates twin boom, twin engine aircraft with a wing loading of between 20 and 26 pounds.

Gallo Joins TACA

Charles L. Gallo, Transcontinental & Western Air traffic official, has been named general manager of TACA's Central American Division with headquarters at Tegucigalpa, Honduras. He will be in charge of the line's operations in Central America, Mexico, Cuba, and the charter service from Central America to Miami.

E. Lee Talman, TWA executive vice president, says Gallo will be on loan to TACA, in which TWA holds a considerable stock interest. Gallo has had ten years' experience with TWA in various traffic and new route activities.



Charles L. Gallo

SHORTLINES

► Nevada-Pacific Airlines, Inc., intrastate airline, has been granted an additional 45 days from Nov. 15 to start passenger and express service over a line between Reno and Las Vegas. The time extension was approved by the Nevada Public Service Commission, who issue franchises for intrastate operators. Nevada-Pacific presented a case for interstate routes to CAB at the recent West Coast hearings.

► National Airlines, in a letter to the Railway Express Agency, has urged reductions in air express rates, according to H. S. Parker, Jr., NAL vice-president. Such a decrease would be certain to encourage traffic, Parker declared. If National's Caribbean applications are granted, the line hopes to extend cargo service at lowered rates over those routes.

► New schedules added by PCA, Dec. 1, include an early morning direct Washington-Detroit flight with one stop at Pittsburgh; an evening Norfolk-Buffalo flight via Washington and Pittsburgh; another daily flight from Birmingham to Buffalo via Huntsville, Chattanooga, Knoxville, Tri-Cities and Pittsburgh, and two new daily non-stop trips between Pittsburgh and Detroit, with an elapsed time of 90 minutes.

► Air Express Division of Railway Express Agency announces that air express shipments in combined air-rail service increased 11.6 percent during the first three-quarters of 1944 over the 1943 period. During the first nine months of 1944, 327,013 individual shipments were handled, compared with 292,802 for the previous period.

CAB ACTION

As hearing date for the New England case (Docket 399 et al.) approached, numerous parties asked the Board to dismiss their applications. Among dismissals approved by the Board last week were applications of White Circle Line, Inc.; Marian K. Pajer, doing busi-

ness as The Blue Line; Trailways of New England, Inc.; Interstate Busses Corp.; B & W Lines, Inc.; and New England Airways Inc. The approach of hearing dates in the Board's regional proceedings commonly brings several requests for dismissal by applicants unfamiliar with the cost and complexities of prosecuting a case before CAB.

► Civil Aeronautics Board's Chief Examiner C. Edward Leasure announced last week that the Board would hear oral argument in the Washington-Ottawa-Montreal case (Docket 609 et al.) Dec. 13. City of Reading, Pa., received CAB permission to intervene.

► The Board dismissed an application of Pioneer Airlines at the applicants request. Pioneer had applied for permission to operate helicopter service over routes in Pennsylvania, Maryland, Delaware, New York, and New Jersey. The application had not been consolidated with any proceeding.

► An application of Norseman Air Transport for routes in New York and New England has been consolidated with the New England case (Docket 399 et al.) for hearing.

► The Board consolidated for hearing an application of Northeast Airlines to consolidate the domestic segments of AM 27, AM 65 and the Mayflower route and a request for air mail authorization on the Mayflower route. Designation of an examiner and a date for hearing have not been announced.

► The Board authorized Pan American Airways to operate non-stop over FAM 5 between Guatemala, Guatemala, and Tegucigalpa, Honduras, and between San Salvador, El Salvador, and Managua, Nicaragua.

► TWA and Braniff received CAB permission to start service to Topeka, Kan., the former on AM 2 and the latter on AM 9. Both carriers received authorization to utilize Topeka Municipal Airport. Service was scheduled to begin Dec. 1.

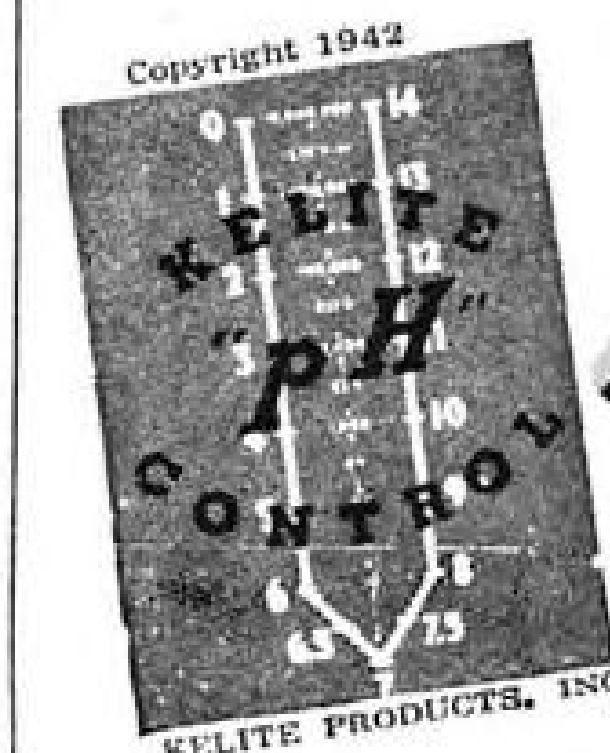
► State of Louisiana was granted CAB permission to intervene in the Florida case (Docket 489 et al.) which was heard last week.

► Magnolia Airways petitioned CAB for permission to withdraw the line's route application which had been consolidated in the Texas-Oklahoma case. The Department of Justice was permitted to intervene in the same proceeding.

► City of Providence, R. I., asked CAB permission to intervene in the New England case, scheduled to begin Dec. 4.

► City of Philadelphia and the Maritime Commission were authorized to intervene in the South Atlantic case (Docket 1171 et al.)

► The Board authorized Pan American Airways to serve Kingston, Jamaica, through the use of Palisades Field, a U. S. Army installation.



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More Airliners

THE THREE YEAR shortage of twin-engined airliners is about over. The action of the President in removing limitations on the number of transports the airlines may operate is recognition of rapidly changing war conditions, such as the new emphasis on the Pacific front, where heavy four-engined and Curtiss transports are needed.

Almost overnight the airlines are confronted with a new impetus to lay a solid foundation for post-war expansion and service. Within a few months there will be an abundance of DC-3 type models, although in need of costly rehabilitation. The Army expects a shortage of longer-range transports for some time, however, which appears to preclude domestic commercial use of heavier aircraft for months.

The airlines will welcome the decision of government authorities to delegate to CAB the scheduling of airline needs. These allotments will compete, however, with applications from U. S. individuals and foreign interests.

Applications are channeled through DPC and the FEA to the Aviation Division of Surplus Property Board. A working committee comprising representatives of State, War, Navy, Commerce, CAB, RFC, and FEA then recommends allocations on the basis of CAB's priority list for domestic airlines and the applications of all others.

Washington administrators hold that the rigid requirements for obtaining surplus aircraft were drawn up to insure fair allocation, in contrast to handling some other types of war surplus materials. It seems likely, however, that simplification and elimination of red tape will be necessary, based on several months of experience. Anyone who has ever seen any action which depends on half a dozen Federal agencies has no illusions about speedy operation.

Airline operators are not enthusiastic about loading up with second hand, war-weary, obsolescent aircraft which require a fortune to recondition. They would prefer to get Army approval to earmark a certain number of new transports while they are on the line. At this time Army officers say there is little likelihood of this.

Government officials contend that even though the surplus release machine operates slowly, it will not be long before the lines have more planes than they can put through their overhaul shops anyhow, so the lines actually will be subject to little delay. Final action on a project to recondition surplus planes by the manufacturers still has not been taken, however.

The slow rate at which the lines can rebuild surplus aircraft they receive is also cited by government officials as another reason why foreign applicants can be supplied equipment without injury to U. S. lines. After the long starvation period, there will be industry feeling that domestic

operations should be built up before foreign lines get equipment, even though such equipment will help materially in the war effort.

From an economic standpoint, the airlines should have new planes if the Army and Navy can spare them. If not, the surplus machinery must not be permitted to lag behind the airlines' capacity to convert, and the pricing system must be simple and fair, and the cost identical to both foreign and domestic purchasers.

Inspectors and Public Relations

AVIATION NEWS' editorial plea Nov. 20 for sensible enforcement by CAA's General Inspection Division has brought mail from operators and private flyers from all parts of the country. Despite antiquated regulations, and during the period in which they are being rewritten, it is the NEWS' contention that the taxpaying fixed base operator and private flyer should be given better service from their government enforcement agency than they have been receiving from some inspectors. Mere courtesy and common sense by inspectors would solve many problems.

One of the major problems of the private flying public is the unintelligent lack of uniformity among inspectors in their requirements for aircraft, pilots and mechanics certification and inspectors' refusal to accept any departure from their own strict demands.

"Many inspectors," one typical air service operator says, "will require some maneuvers in checking a student pilot that others do not require. Some will require that a maneuver be done a different way than other inspectors. Quite frequently an inspector makes an appointment with a student to go up for a flight test and then makes him wait for long periods of time, and a great many inspectors have appointments with students and cancel them on short notice. This has a very bad psychological effect on the student and in many instances they do a very poor job on their check."

"I think that General Inspection would do well to have at their standardization center a course in public relations. Most CAA inspectors are not very adept at meeting the public. I think they are too blunt and in a great many cases not as cooperative as they should be. We are getting an entirely different class of people in aviation now, important people, business and professional men and women who demand courtesy."

Courtesy and common sense by inspectors in dealing with the public will do more for personal flying now than any proposed plans for the indefinite future. There is no need to await a starting date. Several CAA regions have cooperative, up-and-coming inspection staffs. Washington CAA officials should see that the attitude in other areas is changed, and quickly.

ROBERT H. WOOD



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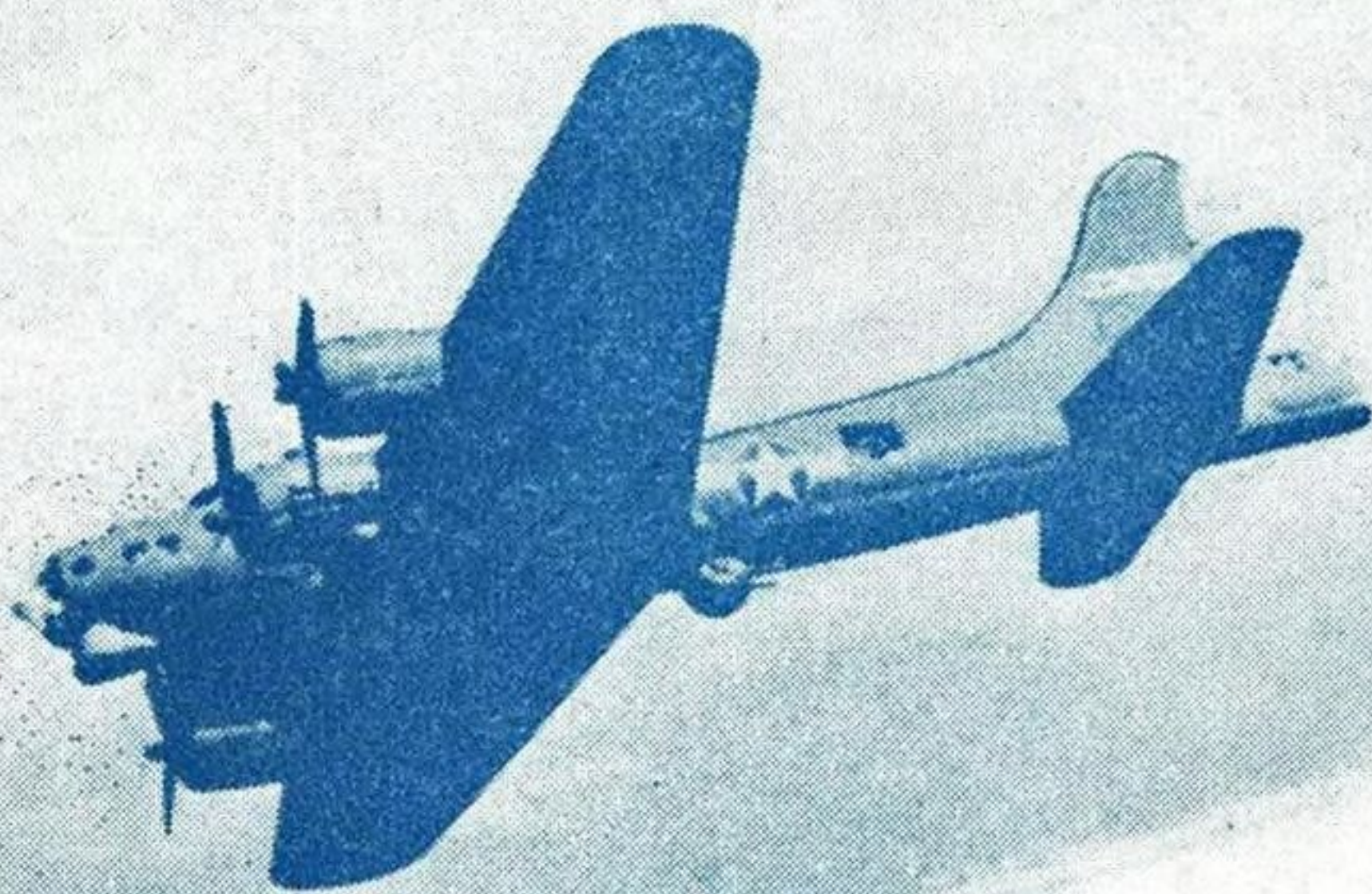


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