

AERONAUTICS

Big Cargo Planes Coming

Freighters of the air, carrying 38 tons of material in weather-proof packages, are predicted for the post-war world; may result in elimination of costly warehouses.

➤ **HUGE CARGO** planes that will each carry 38 tons of perishable and valuable freight in weather-proof packages around the globe were predicted for the post-war world by J. H. Macleod of Hinde & Dauch Paper Co., speaking before the air cargo meeting of the Society of Automotive Engineers in Chicago.

The biggest benefit for the manufacturer would be the partial or entire elimination of costly warehouses, Mr. Macleod declared.

Reduction in air cargo freight rates, development of global skyway shipping routes and methods, and the availability of packages protecting every type of merchandise, will bring about tremendous post-war changes in business methods, Mr. Macleod predicted. Package engineers, he added, have developed not only corrugated boxes, thereby solving a majority of air cargo shipping problems, but have assured tailor-made packaging by means of special corrugated boards, coating materials, and adhesives with tough, flexible corrugated material used simultaneously to wrap and to pack.

Air-freighting of Lend-Lease and war material has resulted, he stated, in the production of new bag packing or overwrapping materials of laminated papers and cellophane bags which control temperature and humidity, prevent corrosion, mold formation, and insect infestation. With air cargo on a global basis after the war these methods will be utilized to transport fruits, vegetables and all types of machinery to every corner of the world, Mr. Macleod declared.

Science News Letter, November 13, 1943

Air Freighters in Arctic

➤ **FLEETS** of air freighters spanning the isolated Arctic regions and making possible a vast development of valuable natural resources hitherto unscratched was predicted for the post-war world by W. L. Brintnell, Canadian aircraft executive, speaking before the air cargo meeting of the Society of Automotive Engineers in Chicago.

"The aviation industry as a whole," Mr. Brintnell said, "is thinking entirely of large passenger aircraft for global air routes. Few realize the tremendous importance of the development of an air freighter to operate from developed combination airports into the hinterlands of the world."

In these wildernesses of the far North, he said, lie vast, untouched natural resources, such as rich radium and gold mines.

Military planes converted to commercial use after the war, Mr. Brintnell declared, will not be practical for such air cargo work as the cost of operating them will be prohibitive. The type of air freighter needed for Arctic operations must be a reasonably fast, cheap, adaptable plane with a long cruising range and a large payload, requiring a minimum of maintenance and operating with a high degree of reliability in temperatures from 120 above zero to 70 below.

A new type of engine, one burning fuel oil, was suggested as a more economical power plant than the present-day gasoline-type engine.

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PLASTIC MANIKIN — Airplanes, clothing and other equipment for the fighting forces will in future be designed around models such as the one shown above in order to increase the comfort and efficiency of our soldiers and sailors of the sky. The manikins, with joints engineered to reproduce the action of the flyer's body, were molded to millimeter tolerances for accuracy from measurements taken from several thousand AAF cadets. The molding was done by a process developed by G. W. Borkland (right), sculptor, designer and president of the General Plastics Corporation, with the cooperation of Col. O. O. Benson and his staff of the Aero Medical Section, U. S. Army.

ENGINEERING

Ailerons With Hinges On Plane Wings Eliminated

➤ **MEANS** for fairing ailerons into the wings of a plane, instead of mounting them separately as is done at present, is the basis for patent No. 2,333,482, granted to Zeno Littman of New York. The skin of the wings fits snugly though slidably over the aileron base, eliminating the drag-creating gap inherent in the conventional hinged arrangement. Furthermore, the structure of Mr. Littman's aileron is flexible, so that when it is pulled into the depressed position the camber or curve of the trailing edge of the wing at that point is actually increased. This is reminiscent of the warping wing-tip of the first Wright planes.

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