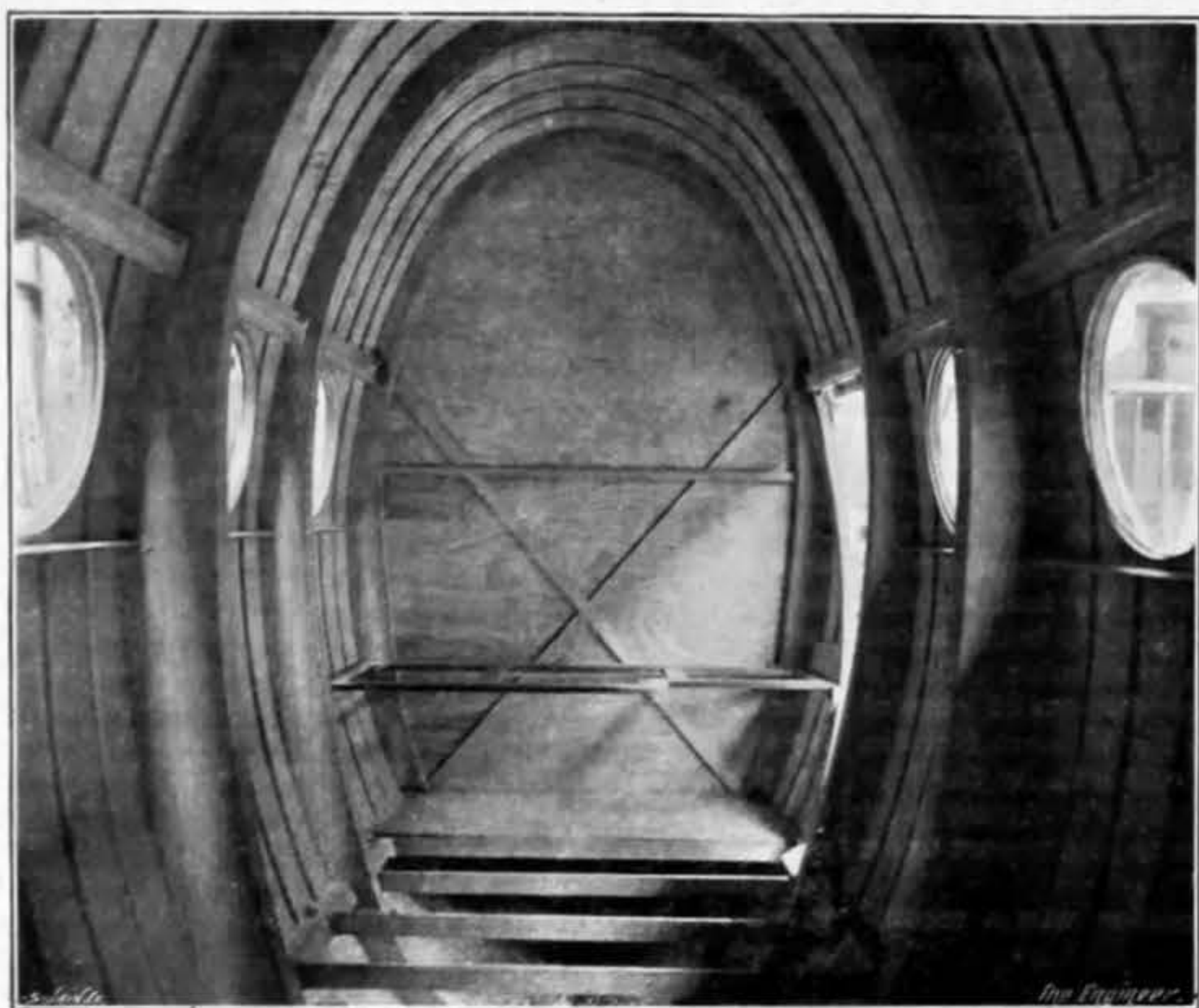


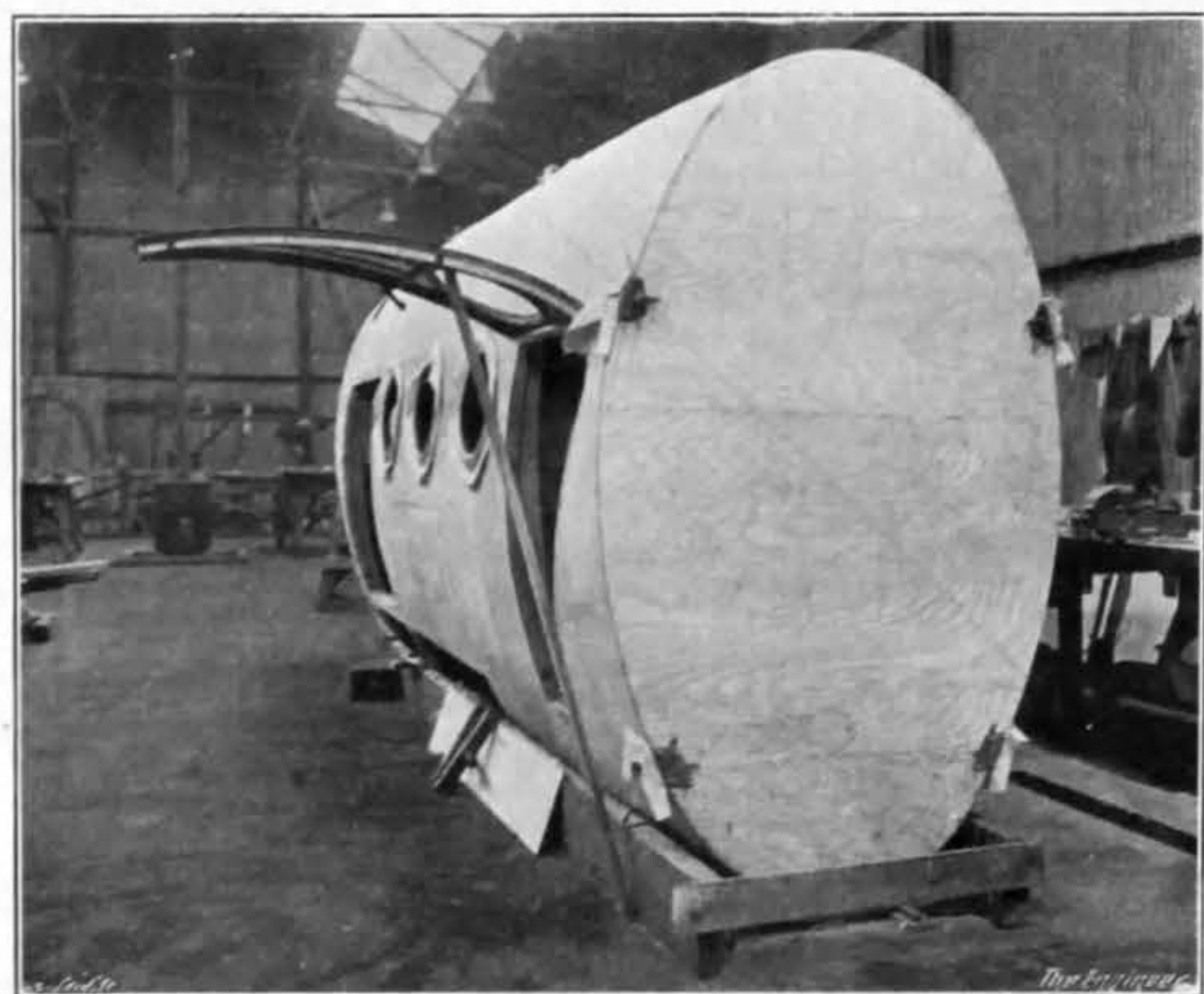
CABIN OF THE VICKERS-VIMY COMMERCIAL AEROPLANE



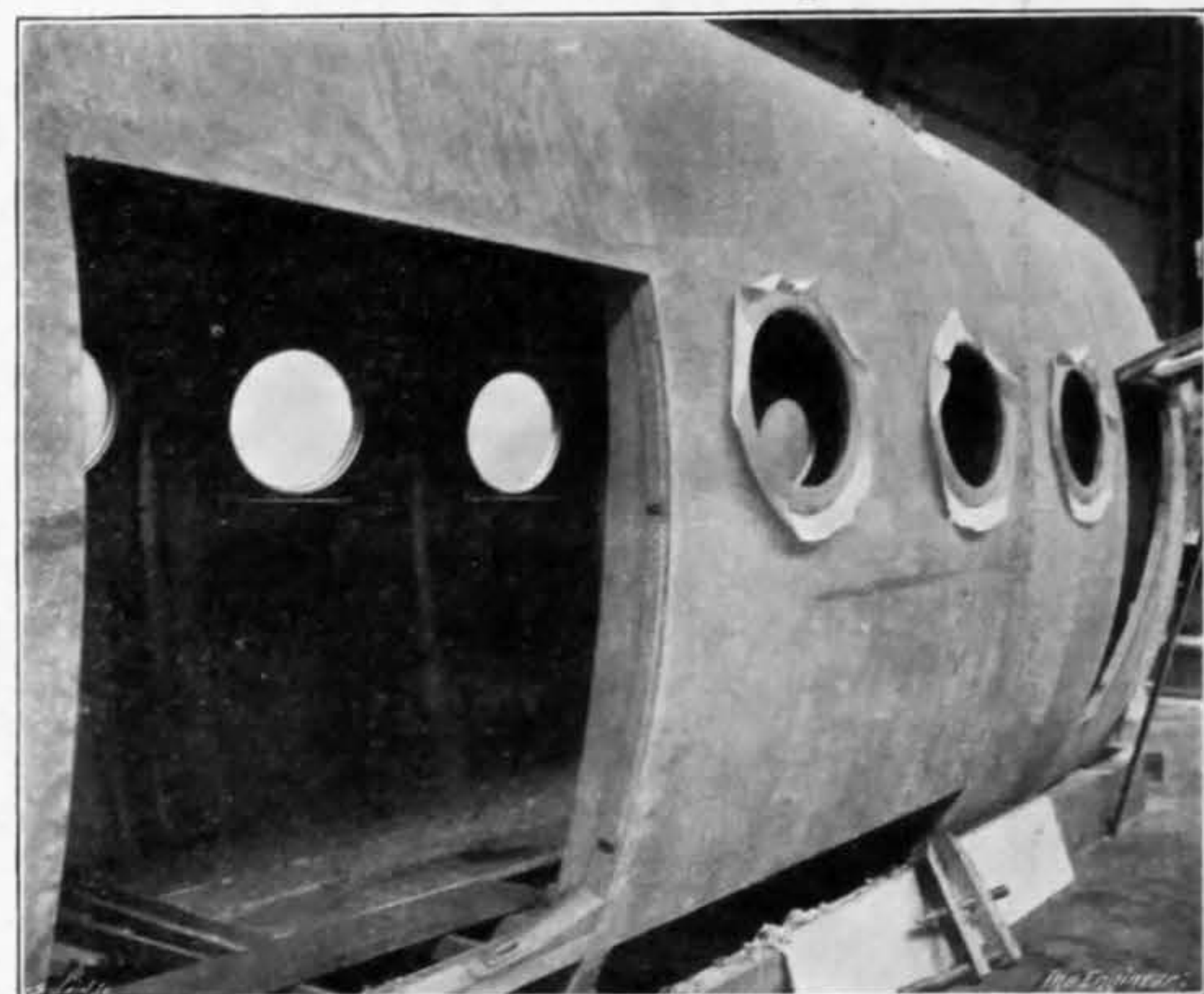
INTERIOR VIEW, LOOKING AFT



INTERIOR VIEW, LOOKING FORWARD



VIEW FROM AFTER END



VIEW FROM PORT SIDE

The "Vickers-Vimy" Transatlantic and Commercial Aeroplanes.

THE construction of the Transatlantic "Vickers-Vimy-Rolls" aeroplane has recently been completed at the Weybridge aeroplane works of Vickers Limited. This aeroplane is practically similar in every respect to the standard "Vimy" bombing machine, as supplied to his Majesty's Government, and is illustrated in two of the views on page 560. It is equipped with two standard 350 horse-power Rolls-Royce engines. The capacity of the petrol tanks has been increased to 865 gallons, and that of the lubricating oil tanks to 50 gallons. With these quantities of fuel and oil, the aeroplane has a range of 2440 miles. The maximum speed is over 100 miles per hour, but during the flight across the Atlantic the engines, it is intended, will be throttled down to give an average cruising speed of 90 miles per hour. The span of the machine is 67ft., and its overall length 42ft. 8in. The chord of the planes is 10ft. 6in. A wireless telegraphy set capable of sending and receiving messages over a distance of 250 miles will be carried, and the pilot and navigator will wear electrically heated clothing.

The "Vickers-Vimy" commercial aeroplane for passengers, mails or freight is also illustrated on page 560. This machine is a modification of the bomber, and it is of interest to note that the different fuselages constitute the sole difference between the "Vimy" bomber, the "Vimy" commercial and the "Vimy-Rolls" Transatlantic aeroplanes.

The fuselage of the commercial machine, as will be gathered from the four views on this page, is constructed on the "monocoque" principle, the "shell" of the cabin being attached to oval wooden rings of box section, built up of three-ply wood. The "shell" or cover of the cabin is made of "Consuta," a material superseding three-ply, manu-

factured by S. E. Saunders, Limited, of Cowes, a company allied with Messrs. Vickers. This material is constructed of thin layers of selected wood, with the grain placed diagonally, the layers being glued and sewn together. The rows of stitching run in parallel lines about 1½in. apart. The material is claimed to be very strong and to give a high factor of safety to the whole construction of the cabin. Its use entirely dispenses with all cross-bracing wires, the absence of which must add materially to the comfort of the passengers. The doors are watertight, and the machine, it is stated, will float in a normal position on water. Two pilots are carried side by side, the cockpit being placed high up in the "nose," so as to give them a wide range of vision. Dual controls are provided throughout. The remainder of the machine, such as the main planes, tail planes and undercarriage, are designed in accordance with the latest practice.

The dimensions of the "Vimy" commercial machine are as follows:—

Overall length .. .. .	42ft. 8in.
Overall height .. .. .	15ft. 3in.
Span .. .. .	67ft.
Gap .. .. .	10ft.
Chord .. .. .	10ft. 6in.
Engines .. .. .	Two 375 H.P. Roll-Royce "Eagle," Mark VIII.
Speeds—Maximum .. .. .	110 miles per hour
Cruising .. .. .	90 miles per hour
One engine .. .. .	70 miles per hour
Landing .. .. .	45 miles per hour
Normal endurance .. .. .	5 hours
Factor of safety .. .. .	5

The cabin is totally enclosed, and has seating capacity for ten passengers, each in a separate armchair. A gangway runs down the centre of the car, and there is ample space between the chairs, the passengers being in no way crowded. Cupboards are provided at the end of the cabin for the storage of light hand luggage. A separate window is placed at the side

of each person, and both height and speed indicators are fitted for those who are interested in the new conditions of travelling. In addition, telephonic conversation can be carried on between the pilot and the passengers. The ventilation and heating of the cabin can be adjusted as desired to suit any conditions. Noise, it is claimed, has been reduced to a minimum, and vibration entirely eliminated.

The seats in the cabin can be detached in a few minutes, giving a floor area of 53 square feet and a volumetric capacity of 300 cubic feet for freight. Such freight can, if necessary, be kept dry and at an even temperature. The maximum weight which can be carried is 2500 lb. When carrying mails, sorting boxes will be fitted, so that the process of sorting may be carried out in a manner similar to that now in operation on mail trains. The mail bags can be attached to parachutes, and dropped where necessary between terminal stations, thus reducing the time and cost of a journey. The machine has, we are informed, passed its flying tests with full passenger loads, and took part in last Saturday's aeronautical demonstration at Hendon.

APPOINTED by the Department of Scientific and Industrial Research, a sub-committee of the Food Investigation Board has issued an interim report on railway refrigerator wagons. Among the members of the committee was Mr. H. N. Gresley. Four wagons chosen indiscriminately from different railways were selected for inspection, and it was found that all had serious defects. Doors were not, for various reasons, airtight, whilst numerous bolts and iron fittings passing through the insulation allowed of considerable conduction of heat. The main general conclusions are: (1) The insulation is not so effective as is desirable; improvements could be made in the present and in future wagons; (2) deficiency in airtightness is a serious matter, especially as regards the fittings of the doors; (3) the existing ice tanks are large enough, but the practice of icing them is altogether inefficient.