A PROPOSED AMERICAN TRANSPORT AEROPLANE*

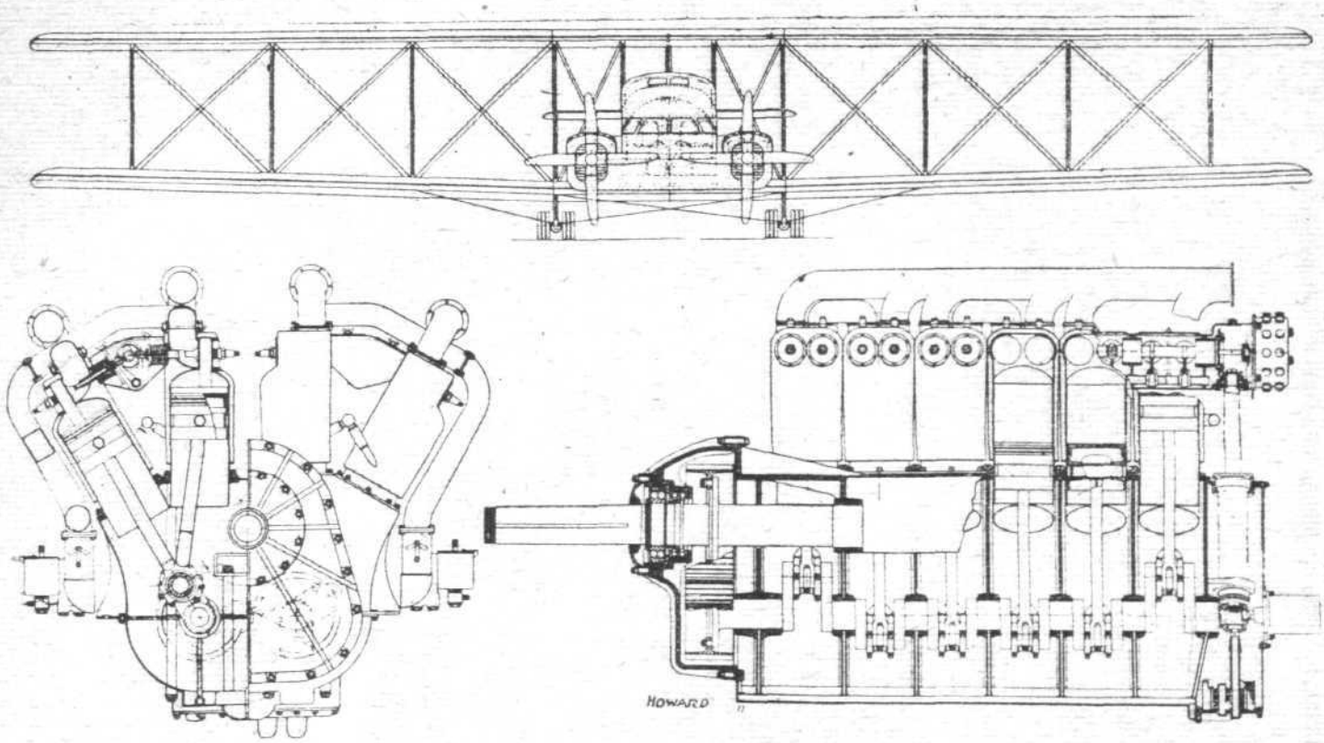
EVERY aviation prophet has predicted the coming of large transport machines in the near future, but designers, in this country (U.S.A.), at least, have not taken them up seriously. The machine illustrated and briefly described herewith not only is designed by Raymond M. Howard, consulting aeronautical engineer, Detroit, Mich., to carry forty passengers with all their baggage, but contains several interesting constructional features that are not as radical as they may seem at first sight. The use of metal construction, variable pitch propellers and supercharging are admitted to be the next steps in development.

The problem of supplying sufficient power to drive a large aeroplane has brought out several different solutions. Owing to the limited power available in one unit, the majority of the giant aeroplanes built have been powered by a multiplicity of engines; in several machines as many as six have been used successfully. The two general types of construction are, a central power group and a distribution between the wings. The solution proposed here is the employment of very large power units placed very close together but driving the propellers directly.

This new transport machine is a biplane, and is planned to carry forty passengers, a crew of four and about 2,400 lb. of freight. It is constructed of steel and aluminium, thus reducing fire risk. It is equipped with two 1,200 h.p. dual V-engines, designed especially for the purpose, driving 12-foot, four-bladed, variable pitch propellers which are patented by the designer.

The principal dimensions are as follows:—

Span	125 ft.
Chord	16.5 ft.
Gap	14 ft.
Height overall	19 ft.
Length overall	75 ft.
Total area	3,864 sq. ft.
Petrol tank capacity	1,200 gal.
Endurance	12 hr. at 100 m.p.h.
Maximum speed	130 m.p.h.
Power loading	15.4 lb. per h.p.
Wing loading	9.6 lb. per sq. ft.
Total weight	18.5 tons



THE HOWARD TRANSPORT AEROPLANE AND ENGINE: A front elevation of the machine is shown at the top, and, below, sectional views of the "Twin-engine units," as proposed by Raymond M. Howard

The engines are described as twin-twelves. The general construction can be seen from the assembly views. The cylinders are 6 by 8 ins., and the total displacement is 5,428 cubic inches. The weight is expected to be very low for the power. The arrangement of the valve gear is noteworthy. The starter is electric, and the ignition is supplied by one generator.

* From *Aviation*, U.S.A.

Aircraft and Squadron Manœuvres

DURING the exercises at sea of the Atlantic Fleet, starting from Portland this week, part of the practical work to be tried out on the way down Channel was to be attacks delivered by latest type submarines and seaplanes, possibly with the idea of helping to a solution of the Sir Percy Scott query as to the battleship being "any damned use at all."

U.S. also Testing Aircraft with their Squadrons

FROM New York particulars of some test flying by a squadron of naval seaplanes operating in connection with the Atlantic and Pacific Fleets, are to hand. Twelve of these craft, leaving two to follow, arrived at Panama on January 16, having flown in company from San Diego, Cal., a distance of 3,200 miles, to meet the two fleets for combined manœuvres, the journey occupying 17 flying days. The longest stage was from Salina Cruz to Fonseca Bay, 500 miles, which was flown without a stop.

Dentists and the R.A.F.

A ROYAL Warrant has been issued to authorise the formation of a corps to be entitled "The Army Dental Corps." The corps will be administered by the Director-General, Army Medical Service, and will be a joint service for the Army and Royal Air Force. *Personnel* will be required to serve under either force, and will be interchangeable.

Commissions as lieutenants may be given to persons duly qualified under regulations approved by the Army Council; an officer will be eligible for promotion to the rank of captain on completion of 3½ years' service in the corps; while promotion to the rank of major and lieutenant-colonel to fill establishment will be made by selection of the Army Council. On the formation of the corps, certain appointments will be made in the rank of lieutenant-colonel and major to fill the establishment. The remainder of the appointments will be in the rank of lieutenant, except in cases where service of 3½ years or more has been given as a temporary dental officer, when the rank of captain will be given. Service as a temporary dental officer will count towards the 3½ years for promotion to captain.

A Batch of Seaplanes Lost

OWING to the French cargo boat *Evangeline* from Cherbourg, being wrecked at Port Lorient, a number of seaplanes which she was carrying are reported as lost.