

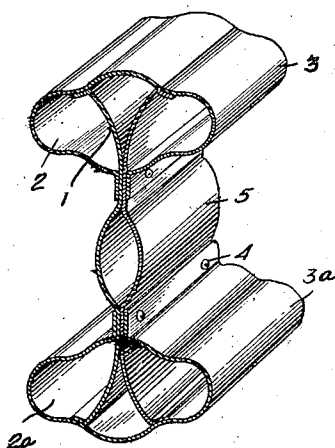
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E. E. BROWN ET AL

1,485,246

METAL CONSTRUCTION FOR AIRCRAFT

Filed Aug. 24, 1921



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD EUGENE BROWN AND DERMOT JOSEPH MOONEY, OF WESTMINSTER, ENGLAND.

METAL CONSTRUCTION FOR AIRCRAFT.

Application filed August 24, 1921. Serial No. 494,996.

To all whom it may concern:

Be it known that we, EDWARD EUGENE BROWN and DERMOT JOSEPH MOONEY, citizens of England, and residents of Westminster, England, have invented a new and Improved Metal Construction for Aircraft, of which the following is a full, clear, and exact description.

This invention of improvements in metal construction for aircraft has relation to the construction of the spars, girders, longerons, struts, stays and the like (hereinafter referred to as spars) employed in the building up of the wings, fuselage and other parts of aircraft.

The present invention has for its object to provide further improvements in or modifications of the invention described and claimed in the specification of Letters Patent No. 1,351,615 granted to us August 31, 1920.

The present invention relates particularly to spars composed of a web member having top and bottom flanges of a shape presenting diverging legs having flanges at the outer edges of said legs and tubular sections embracing the diverging legs and formed with flanges secured to the sides of the web.

According to the present invention, in a spar of the kind referred to, the flanges at the top and bottom of the web each constitute a unitary body, and the web divides said body internally into triangular or substantially triangular spaces.

Referring now to the accompanying

drawing which shows in perspective a spar 35 embodying our invention:

The spar is composed of a web designated generally by the numeral 1, said web being formed of two plates. The central portions of the plates are given a concavo-convex 40 formation to give a tubular form to the web along the central portion thereof as indicated by the numeral 5. At the top and bottom the plates of the web 1 are formed into diverging legs. Over the diverging 45 legs of the web at the top and bottom of the spar are secured longitudinal tubular elements presenting side flanges 2, 3 and 2^a, 3^a, respectively. The outer edges of the legs of the web are flanged affording a firm 50 bearing for the web against the inner faces of the flanges.

Having thus described our invention, we claim:

As a new article of manufacture, a spar 55 of the class described comprising a vertical web formed of separate plates, the central portions of said plates being given concavo-convex form to impart a tubular formation to the web at the central portion, the upper 60 and lower portions of the plates of the web being formed into diverging legs having flanges at their edges, and tubular elements closing the diverging legs and secured to the web adjacent the legs.

EDWARD EUGENE BROWN.
DERMOT JOSEPH MOONEY.