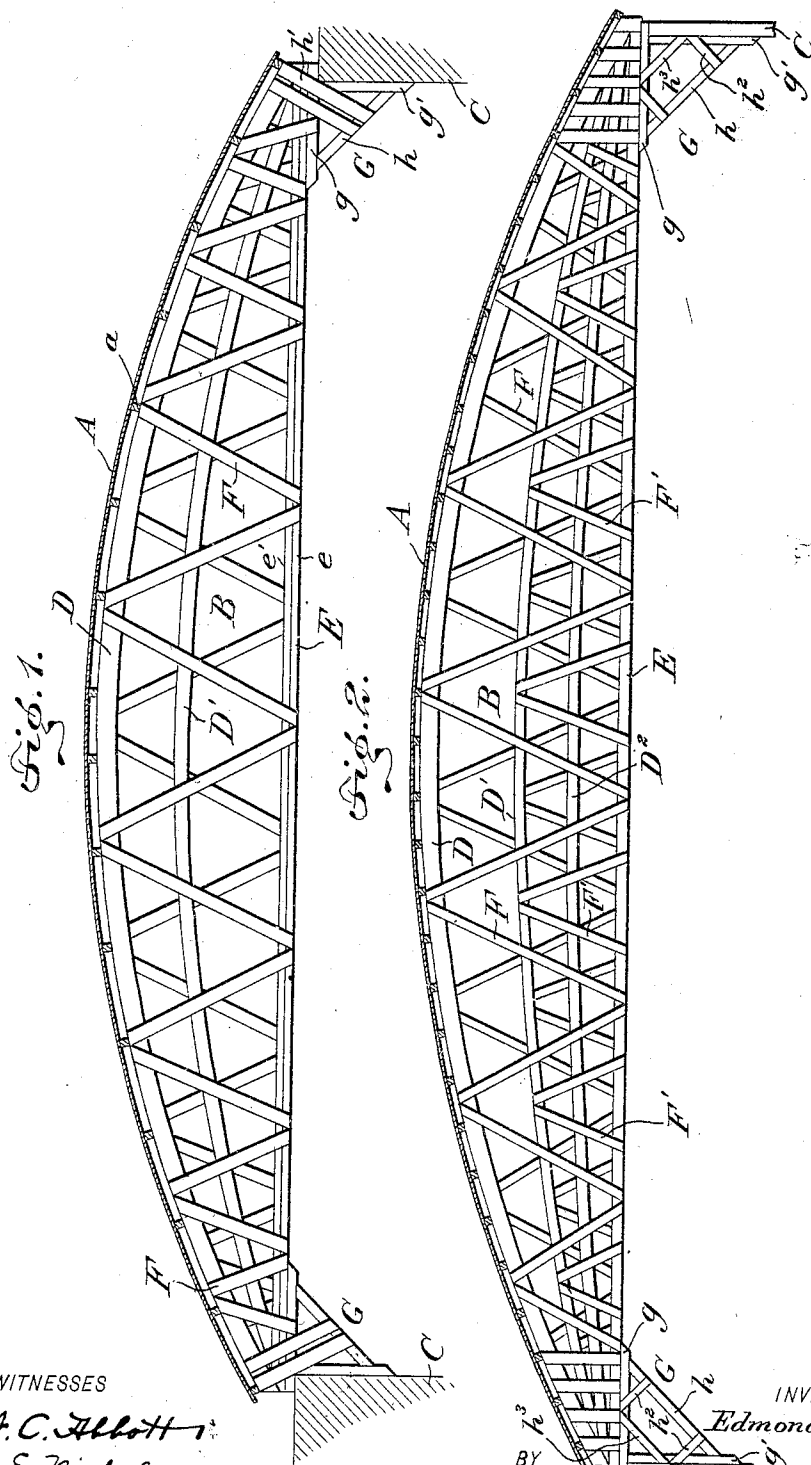


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PATENTED OCT. 22, 1907.

E. MOLLOY.
TIMBER ROOF STRUCTURE.
APPLICATION FILED SEPT. 7, 1906.



WITNESSES

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EDMOND MOLLOY, OF PHILADELPHIA, PENNSYLVANIA.

TIMBER-ROOF STRUCTURE.

No. 868,879.

Specification of Letters Patent.

Patented Oct. 22, 1907.

Application filed September 7, 1906. Serial No. 333,605.

To all whom it may concern:

Be it known that I, EDMOND MOLLOY, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Timber-Roof Structure, of which the following is a specification.

This invention is a timber roof structure, the same being an improvement upon the structure disclosed in United States Patent No. 460,981, granted to me on October 13, 1891.

The object of the invention is to increase the strength and stability of the structure, whereby it may be employed to span walls placed a great distance apart; and, furthermore, to distribute the weight of the structure upon the supporting walls, thus securing increased strength to the structure at the lines where it engages with said walls.

To the accomplishment of these ends, the present invention contemplates a truss having a plurality of arched or bowed members disposed one below the other, each member extending from side to side of the roof structure, a stringer at the base of the arch and composed of a plurality of pieces, in contact with each other, or substantially so, each piece of the stringer likewise extending entirely across the structure, and struts disposed diagonally or vertically, or both, uniting the aforesaid bowed members and the stringer.

The invention further consists of bracing saddles at or between the end portions of the roof truss and the supporting walls upon which the roof structure rests. Each saddle occupies the angle or corner between the underside of the truss and the vertical face of the wall, and said saddle comprises members at an angle to each other, and appropriate diagonal struts. Said members of the saddle engage respectively with the bottom face of the truss stringer and the vertical face of the wall, and the aforesaid members are united by diagonal struts and by cross braces. Each saddle is arranged to distribute a part of the weight of the roof truss on the wall, and it contributes materially to the strength of the roof structure.

Practical embodiments of the present invention are shown by the accompanying drawings, wherein,

Figure 1 is a vertical cross-section, with parts in elevation, of my new timber roof structure; and Fig. 2 is a similar view illustrating a modified construction.

The timber roof structure of the present invention consists of an outer cover A, and a plurality of trusses B, one of said trusses being represented by Fig. 1 of the drawings. Said trusses are spaced at suitable intervals, and they are arranged across the outer cover A, for supporting the same on the walls C, C, or their equivalents, such as columns, posts, or a framework around an inclosure which is designed to be roofed by the structure of this invention.

In the embodiment of the invention shown by Fig. 1

of the drawings, the truss B consists of a plurality of bowed or arched members D, D', a stringer E, and a proper number of diagonal struts or braces F. The arched or bowed member D is of less radius than the bowed or arched member D', but both arched members extend the full width of the structure, from side to side thereof. Each arched member may consist of a single piece or number of pieces built up to produce the complete member. The member D' is arranged about midway between the member D, and the stringer E, the end portions of said member D' extending to the points where the member D, and the stringer E, join or meet one another. The stringer E extends in a straight line across the roof structure, at the base line thereof. Said stringer consists essentially of a plurality of pieces e, e', which extend the full width of the structure, said pieces e, e', being in contact or engagement one with the other throughout the width of the arch. The struts F extend in diagonal lines, and from the arched member D, to the stringer E, the struts crossing the arched member D', and said struts being fastened rigidly to the parts of the truss in any suitable or appropriate way.

For the purpose of affording substantial strength to the truss at the points where it is supported by the walls or columns C, I employ saddles G, which occupy the angles or corners formed by the supporting walls and the truss of the roof structure. Each saddle consists of members g, g', and struts h, h'. The members g, g', are arranged at an angle to each other, and said members are united by the diagonal strut h, extending between the members, so as to join the member g, near the inner end thereof and the member g' near the lower end thereof.

The saddle is mounted or arranged for the member g to engage with the underside of the stringer E, forming a part of the truss, while the upright member g' of said saddle engages with the inner vertical face of one wall or column C. In practice, I prefer to make the horizontal member g of the saddle long enough to rest upon the wall or column, so that the truss will rest directly on said saddle, as shown. The saddle is strengthened by the struts h', which extend at an angle to the diagonal strut h, and it is, also, preferred to extend these struts h' across the stringer E, and one or more bowed members D, D', of the truss. By employing a stringer E, composed of a plurality of members which extend the full width of the truss, and by using one or more arched members D', which, also, extend the full width of the truss, I am able to materially strengthen the truss, and construct it of such dimensions that the roof structure will span wide spaces between the walls or columns C.

The saddles G are important elements of the new roof structure, and they serve to distribute the weight of the truss, and the roof structure, on the walls or

columns C, besides adding materially to the strength of the structure at the places where the truss meets or rests on said walls or columns.

The roof cover A may be of any suitable construction laid directly on the uppermost arched member D, or suitable spacing strips *a*, may be placed between said cover and the arched member D.

In the embodiment of the invention shown by Fig. 2 of the drawings, the truss B is substantially the same in construction as the truss shown in Fig. 1, and I, also, employ the saddles G, in the angles or corners between the truss, and the supporting walls or columns C. The truss shown by Fig. 2, however, consists of three arched members D, D', D², the member D' being of greater radius than the member D, and the member D² being of greater radius than the member D'. The stringer E may consist of one or a number of pieces, and on the member D is secured the outer cover A. The stringer and the several members of the truss are united by the diagonal struts F, which extend the full height of the truss, and the members D', D², are additionally strengthened or reinforced by the shorter struts F'. Each saddle G, consists of the members *g*, *g'*, and the diagonal strut *h*, but I prefer to strengthen this saddle in the extremely wide arch shown by Fig. 2 by employing the additional braces *h²*, *h³*. The saddle, shown by Fig. 2, operates to distribute the weight of the load of the roof structure on the walls or columns C in the same manner as the saddles in the construction of Fig. 1.

The construction of the truss in Fig. 2, however, permits the roof structure to span extremely wide spaces between the walls or columns C.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a timber roof structure, a supporting wall, a roof truss, a saddle coöperating with the wall and the truss for distributing the weight of the latter on the wall, and diagonal struts coöperating with said truss and said saddle.

2. In a timber roof structure, a device of the class described, a roof truss, a supporting wall, a weight distributing saddle in the corner formed by the truss and the wall, and diagonal struts overlapping the truss and said saddle.

3. In a device of the class described, a roof truss, a supporting wall, a weight-distributing saddle having members engaging respectively with said wall and the truss, and means extending across the union between the truss and the saddle and coöperating with both said truss and said saddle for bracing the same.

4. In a device of the class described, a roof truss, a wall, and a saddle having members at an angle to one another, and diagonal struts connecting said members.

5. In a device of the class described, a roof truss, a wall, a saddle in the angle or corner formed by the wall and the truss, and struts overlapping the truss and said saddle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDMOND MOLLOY.

Witnesses:

PHILIP DONOHUE,
ELLEN DONOHUE,
MARGARET O'ROURKE.