Aug. 4, 1931. D. GREENWALD 1,817,619

ROOF

Filed Nov. 21, 1928

Fig. 2

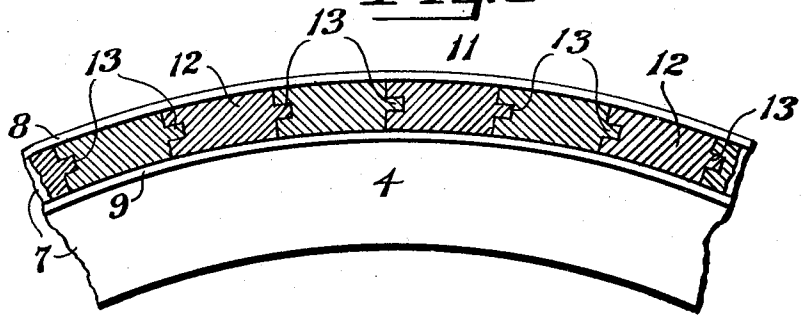


Fig. 1

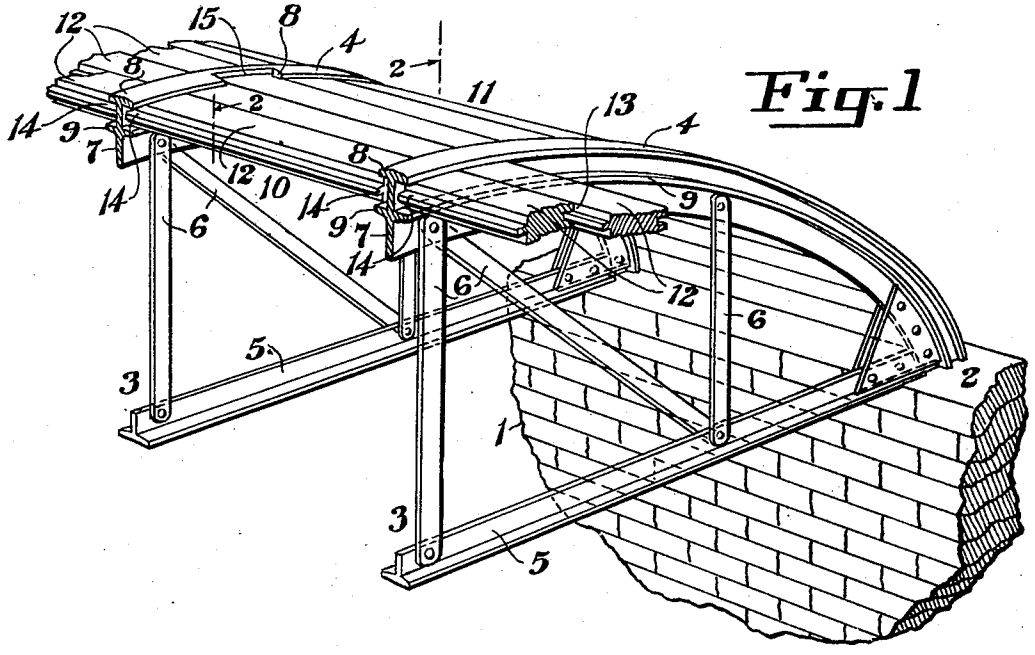
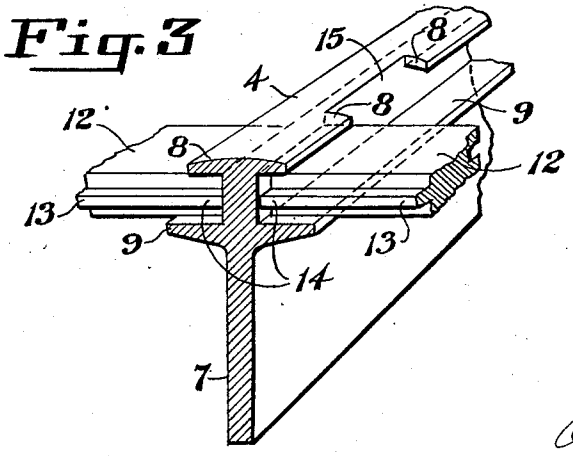


Fig. 3



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UNITED STATES PATENT OFFICE

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ROOF

Application filed November 21, 1928. Serial No. 320,768.

This invention relates to roofs, and particularly to roofs for such buildings as large public garages, halls, etc., wherein the elimination of supporting posts is necessary and trusses have to be resorted to for sustaining the roof.

The principal object of my invention is to provide a strong, durable, simplified, and efficient roof for the above type of buildings, which roof may be conveniently and economically produced, and, conveniently, rapidly, and economically erected.

Other objects and advantages will hereinafter appear.

In the accompanying drawings,—

Fig. 1 is a perspective view showing a portion of the roof constituting this invention.

Fig. 2 shows a cross-sectional elevation of a fragment of the roof.

Fig. 3 is a perspective view, in an enlarged scale, showing one of the central portions of the roof.

Upon the walls 1 are anchored at 2 a series of the sustaining arched trusses 3, each of which consists of an upper member 4, a chord 5, and upright posts 6. Each of the members 4 is arched as shown, and in cross-sectional configuration comprises a vertical web 7, 7*a*, and a pair of horizontal webs 8, 9 extending from each side of the web 7, the web portion 7*a* projecting beyond and below the horizontal webs 9 to strengthen the arched member 4 and the entire truss without necessitating addition of substantial material and weight thereto. The space 10 between each adjoining pair of trusses 3 is built over to form the covering or roof 11 proper by means of a plurality of planks 12 which are rabbeted together, as shown at 13, Fig. 2, and extend from the walls 1 upwardly to the longitudinal centre line of the roof, with the terminals 14 of the planks telescoping into and between the space formed by the webs 7, 8, 9, whereby the planks 12 constitute an arched body acting as the roof proper. At the longitudinal centre line of the roof there is located a notch 15 in one of the webs 8 of each of the beams 4, which serves for the proper assemblage of the planks 12 in place, by means of inserting one terminal 14 of the plank between the webs 8, 9 of the opposite beam 4, then permitting the other terminal to drop onto the web 9 of the immediate beam 4 through the notch 15, and then shifting the inserted plank laterally toward the wall 1 or against the lastly inserted plank, the webs 8, 9 in this instance acting as tracks for the shifting plank. In this manner the planks 12 are built up to form the arch, from the walls 2 to the longitudinal centre line of the roof, whereat the lastly inserted plank at the notch 15 serves as a keystone of the arched roof, this plank being planed off along its sides and fitted in position properly as may be necessary.

It will be evident that the planks 12 thus constitute together with each other and a self sustaining arched structure making up the roof, which has inherent strength independently of the sustaining trusses 3, and in which those trusses, by means of their specially configurated beams 4, serve to retain the planks 12 longitudinally and against upward or downward displacement. As a result of the mentioned principles and the circumstance that the trusses may consequently be made substantially lighter, the roof produced possesses a maximum of strength, durability, and efficiency, with a minimum of material, labor, and expense. Advantages of economy and labor for this structure are further secured through the utilization of the planks 12, which may be cut to identical lengths from regular stock, and assembled in place by mere insertion into the beams 4 in the manner described.

Variations may be resorted to within the scope of the invention.

Having thus described my invention, I claim:—

A roof having the combination of a series of arched trusses, the upper arched member of each of said trusses being integral in cross-sectional configuration, said upper member having a vertical web and a pair of horizontal webs projecting laterally from each side of said vertical web, said vertical web projecting below the lower of said hor-

izontal webs for securing thereto the posts of said truss, a plurality of covering members extending transversely of said trusses having their terminals projecting between said horizontal webs, and said covering members being close to each other and constituting together with each other independently of said trusses a self sustaining arched structure making up the roof with said trusses acting to prevent dislocation of said covering members.

Signed at New York, in the county of New York, and State of New York, this 15th day of November, A. D. 1928.

DAVID GREENWALD.