Oct. 21, 1952 R. C. GROSS 2,614,512

ROOF TRUSS STRUCTURE

Filed June 7, 1950 2 SHEETS—SHEET 1

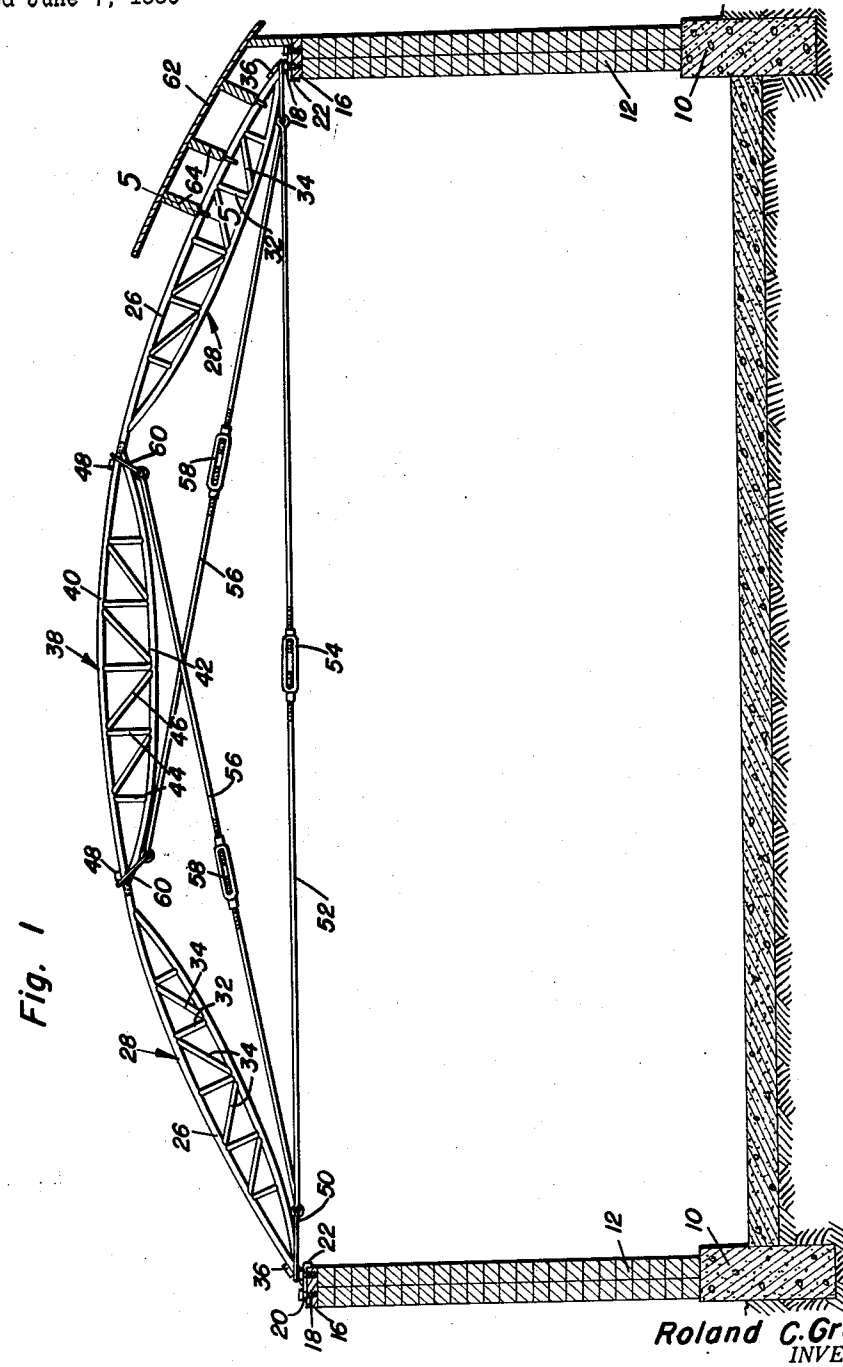


Fig. 1

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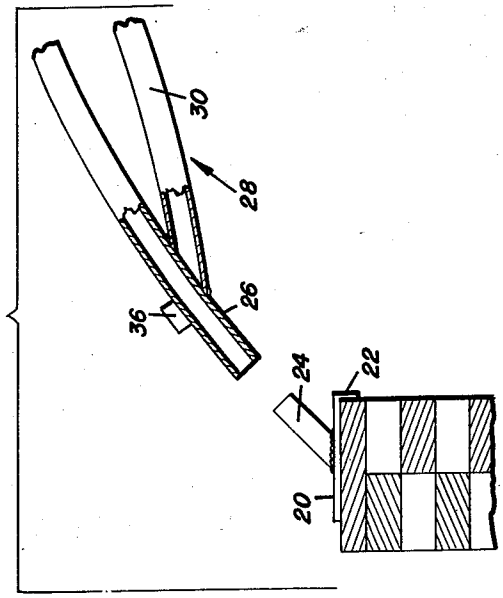


Fig. 3

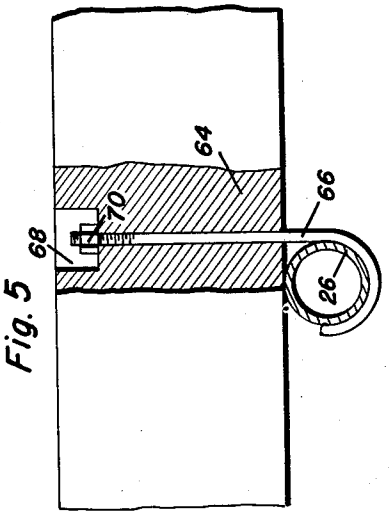


Fig. 5

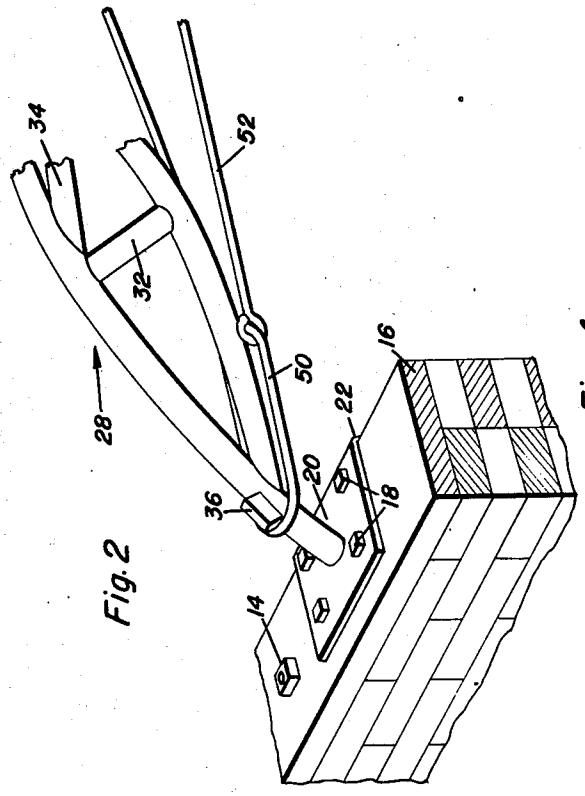


Fig. 2

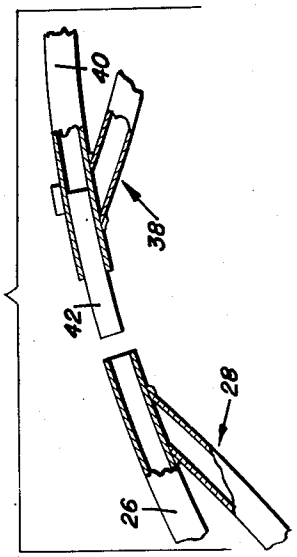


Fig. 4

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UNITED STATES PATENT OFFICE

2,614,512

ROOF TRUSS STRUCTURE

Roland C. Gross, Greenfield, Iowa

Application June 7, 1950, Serial No. 166,575

3 Claims. (Cl. 108—23)

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This invention relates to a building structure and more particularly to a roof truss structure of the type as shown in the patent to Gilbert O. Gross, 2,239,817 patented April 29, 1941.

An object of this invention is to provide a roof truss structure that will readily support the weight of the roof thereon, and in which truss structure is formed in a plurality of sections for ease in manufacture and assembly.

A further object of this invention is to provide a novel combination of topping plates and truss structure which are mutually engaged by telescoping or concentric means so as to provide means for easier assembly without decreasing the strength of the structure.

Still further objects of the invention reside in the provision of a roof truss structure that is strong, durable, capable of being formed from readily available material, and which roof truss structure may be used for a variety of purposes such as armories, hangars, barns, or the like.

These, together with various ancillary objects of the invention which will become apparent as the following description proceeds, are attained by this roof truss structure, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example, wherein:

Figure 1 is a front elevational view of the roof truss structure shown in operative emplacement on the walls of a building structure which are shown in cross section, the roof of the building being partially shown in section;

Figure 2 is a perspective detail showing the manner in which the end units of the roof truss structure are secured to the walls of the building structure;

Figure 3 is a sectional detail showing the connection between the various elements of the invention as shown in Figure 2;

Figure 4 is a vertical sectional view showing the manner in which the central truss units are secured to the end truss units; and

Figure 5 is a vertical sectional detail as taken along line 5—5 in Figure 1.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral 10 generally designates the foundations or footings on which the brick or block walls 12 are constructed. Secured on top of the walls 12 by any convenient means such as anchor bolts 14 is a nailing strip 16 which may be formed of wood or any other suitable material.

By means of lag screws 18 a capping plate 20 having a flange 22 thereon for engagement with

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the side of the nailing strip 16 is secured to the nailing strip. Upwardly and angularly extending from the capping plate 20 and secured thereto is a projecting member 24 which is formed from a cylindrical bar or rod or metal. This projecting member 24 is adapted to be slidingly and encompassingly engaged by a hollow arcuate tubular member 26 of each of the end truss units which are generally designated by the reference numeral 28. A lower arcuate tubular element 30 is welded to the tubular member 26 and suitable brace members 32 extend between the tubular members 26 and 30. Other diagonal members 34 are provided for rigidifying the entire structure. Furthermore, there is attached to a projecting member receiving end of the end units 28 lugs 36, the purpose for which will be henceforth explained.

The central truss unit as indicated generally at 38 includes an upper arcuate tubular member 40 which has positioned therein pins 42 for sliding or telescoping engagement with the arcuate tubular members 26 of the end truss units. The lower tubular member is welded to the ends of the upper tubular member 40 and extends therebetween as indicated at 42. Braces 44 extend between the upper and lower tubular members 40 and 42 and diagonal reinforcing braces 46 are also provided which diagonal reinforcing members extend between the upper and lower tubular members and also between adjacent brace members 44. Adjacent each end of the upper tubular member 40 there are welded lugs or stops 48.

Secured about the end truss units 28 and engaging the stops or lugs 36 are eyes 50 for engagement by a tension member 52 which includes a turnbuckle 54 for determining the tension thereon. Additionally, tension members 56 having turnbuckles 58 are terminally attached to the eye 50 and to other eyes 60 engaging the stops 48. Hence, there is constantly applied a tension on the truss structures which urges them upwardly to counteract the weight of the roof 62 which is secured to the upper edge of cross beam 64 which are attached by means of hooks 66 to the tubular members 26 and 48. The upper ends of the hook members may be countersunk in recesses 68 formed in the cross beam 64 and may be held in position by means of nuts 70. Otherwise, the upper end of the hooks 66 may extend above the beam 64.

Since from the foregoing the construction and advantages of this roof truss structure are readily apparent, other description is believed to be unnecessary.

However, since numerous modifications will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not intended to limit the invention to the precise embodiment shown and described, but all suitable modifications and equivalents may be readily resorted to which fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A truss structure for supporting a roof and adapted to be supported by spaced substantially parallel wall structures comprising capping plates having angularly extending projecting members, means securing said capping plates to said wall structures, tubular arcuate end truss units slidingly received over said projecting members, and a central tubular arcuate truss unit terminally slidingly engaging said end truss units, tension means connecting the outer terminals of said end truss units, and tension means connecting each terminal of the central truss unit to the outer terminal of one of the end truss units.

2. A truss structure according to claim 1, wherein each of said tensioning means comprises rods with end rings encircling said terminals, and lugs on said terminals engaged by said rings and opposing the tension exerted by said rods and rings.

3. A truss structure according to claim 1, wherein said truss units comprise, respectively, oppositely curved cross connected tubular sides.

ROLAND C. GROSS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,210,460	Mackintosh	Aug. 6, 1940
2,239,817	Gross	Apr. 29, 1941

FOREIGN PATENTS

Number	Country	Date
539,250	Great Britain	1941