Sept. 12, 1933. G. L. KELLY 1,926,202

TRUSS STRUCTURE

Filed Nov. 29, 1929

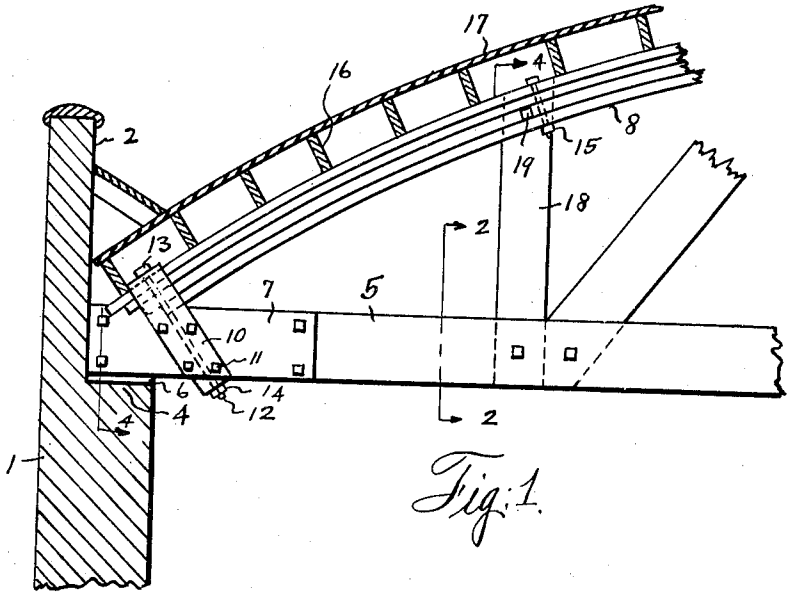


Fig. 1.

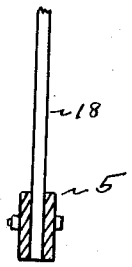


Fig. 2.

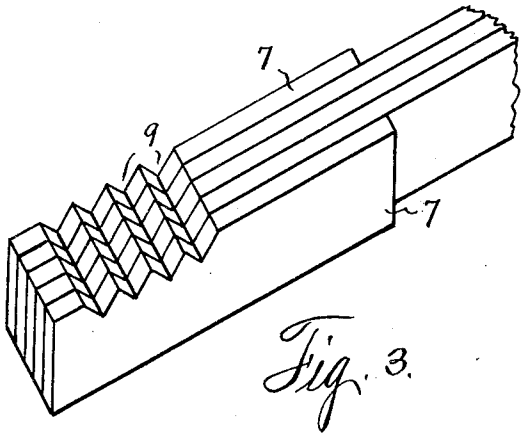


Fig. 3.

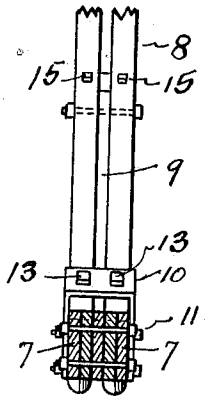


Fig. 4.

George L. Kelly Inventor

By Hardway & Cather

Attorneys

Patented Sept. 12, 1933 1,926,202

UNITED STATES PATENT OFFICE

1,926,202

TRUSS STRUCTURE

George L. Kelly, Houston, Tex.

Application November 29, 1929
Serial No. 410,355

4 Claims. (Cl. 108—23)

This invention relates to new and useful improvements in a truss structure.

One object is to provide a structure of the character described specially designed for supporting roofs of buildings and for similar purposes.

Another object of the invention resides in the provision of a truss structure having the ends of the top chord of the truss secured to the bottom chord thereof in such novel manner that the lateral stress of the load sustained by said top chord will be sustained entirely by the bottom chord, and not by the walls of the building, to the end that there will be no liability of spreading of the structure, or the walls thereof by the weight of the roof.

Another object of the invention is to provide a structure of the character described that is very strong and which at the same time may be cheaply and easily erected.

With the above and other objects in view this invention has particular relation to certain novel features of construction, arrangement of parts and use an example of which is given in this specification and illustrated in the accompanying drawing, wherein:—

Figure 1 shows a fragmentary vertical sectional view of the truss structure embodying the invention.

Figure 2 shows a fragmentary cross sectional view taken on the line 2—2 of Figure 1.

Figure 3 shows a fragmentary, perspective view of the bottom chord of the truss, and

Figure 4 shows a sectional view taken on the line 4—4 of Figure 1.

Referring now more particularly to the drawing wherein like numerals of reference designate similar parts in each of the figures the numeral 1 designates a side wall of the building which is inwardly off set at its upper end forming the fire wall 2, around the roof, and the bearing or shoulder 4 to support the ends of the bottom chord 5 of the truss structure. Resting on the shoulder 4 there is the bearing plate 6 on which the ends of the corresponding bottom chords directly rest. The bottom chord may be formed of a single beam, or may be laminated as shown in Figure 3. At the ends the bottom chords are preferably reinforced by the side plates 7, 7 which are secured thereto in any approved manner. The top chord of the truss structure is curved or arched as shown in Figure 1 and is laminated. At the ends of the upper chord each lamination projects out slightly further than the end beneath, and the corresponding ends of the lower chords are provided with notches as 9, one to receive snugly the end of each lamination of the top chord. Each top chord 8 is composed of a pair of assembled laminations spaced apart as shown in Figure 4 providing the space 9 between them. Each end of the top chord 8 is secured to the corresponding end of the bottom chord by means of a metal stirrup 10 which passes around the end of the top chord and whose side arms embrace the bottom chord diagonally and are secured thereto in any suitable manner as by bolts 11. Additionally securing the ends of the top and bottom chords together are the diagonally disposed bolts 12, 12 which pass through the cross bar of the stirrup 10 and through said chords said bolts having the heads 13 at one end and the nuts 14 screwed unto their other ends. The laminations of the top chord may be secured together by suitable transverse bolts 15.

Mounted on and extending transversely of the top chords are the roof joists 16 which support the roof sheeting 17. The top chord 8 may be additionally supported by the corresponding bottom chord by means of upright braces 18 whose lower ends are anchored to the bottom chord and whose upper ends fit into the space 9 and are secured to said top chord by the transverse bolts as 19.

From the foregoing it will be observed that the load of the roof, as well as the lateral stress of said load, will be sustained by the corresponding bottom chords rather than by the wall of the building.

The drawing and description disclose what is now considered to be a preferred form of the invention by way of illustration only, while the broad principle of the invention will be defined by the appended claims.

What I claim is:—

1. A roof support including a substantially horizontal bottom chord, reinforcing side plates at the ends of said chord, said ends and reinforcing plates being bolted together and being provided with a series of transverse notches, an arched, transversely laminated, top chord, the ends of said top chord being transversely notched and intermeshing with the notches of the bottom chord at each end, and a stirrup around the adjacent ends of said chords and bolted to the bottom chord and securing said adjacent ends in intermeshing relation.

2. A roof support including a substantially horizontal bottom chord, reinforcing side plates at the ends of said chord, said ends and reinforcing plates being bolted together and being

provided with a series of transverse notches, an arched, transversely laminated top chord, the ends of said top chord being transversely notched and intermeshing with the notches of the bottom chord at each end, a metal stirrup which passes entirely around the top chord and whose side arms embrace the bottom chord diagonally, means securing said stirrup to the bottom chord and diagonally disposed bolts which pass through the cross bar of the stirrup and through both ends of said chords, said bolts having heads at one end and nuts at the other end and forming additional securing means for securing said chords, and the laminations of the top chord, together.

3. A roof support including a substantially horizontal, laminated, bottom chord, reinforcing side plates at the ends of said chord, said ends and reinforcing plates being provided with a series of transverse notches, an arched top chord which is transversely laminated, the ends of said top chord being transversely notched and intermeshing with the notches of the bottom chord at each end, a U-shaped stirrup around the adjacent ends of said chords and secured to one of the chords and securing said ends, and the chord laminations, together, roof joists on and extending transversely of the top chord, and spaced apart and sheeting on said joists.

4. A roof support including a substantially horizontal, laminated bottom chord, reinforcing side plates at the ends of the chord one on each side bolted to said chord, said reinforced ends having transverse notches across the upper side thereof, an arched laminated top chord whose lamina extend transversely and fit closely together, the ends of the top chord being transversely notched and intermeshing with the notches of the bottom chord at each end, a stirrup around adjacent ends of said chords and bolted to the bottom chord and securing said notched ends in intermeshing relation and diagonally disposed bolts which pass through the cross bar of the stirrup and through both chords, each bolt having a head on one end and a nut on the other end, said bolts forming additional securing means for securing said chords, and the laminations of the top chord together.

GEORGE L. KELLY.