

1,267,084.

L. L. KNOX.
BUILDING STRUCTURE.
APPLICATION FILED NOV. 4, 1913.

Patented May 21, 1918.
2 SHEETS—SHEET 1.

Fig. 1.

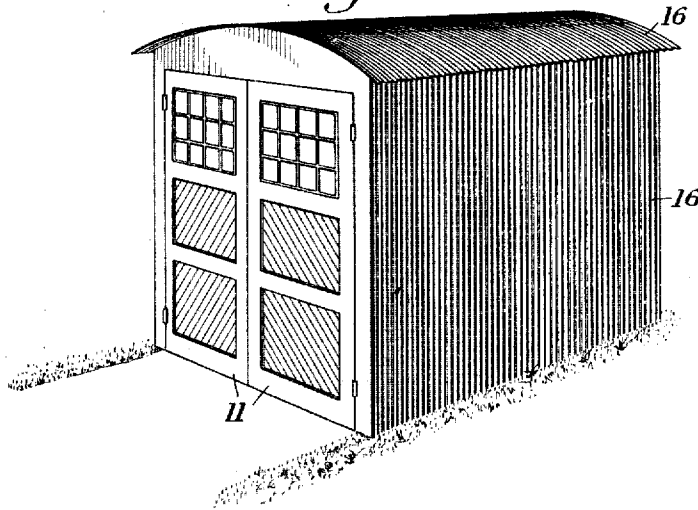


Fig. 2.

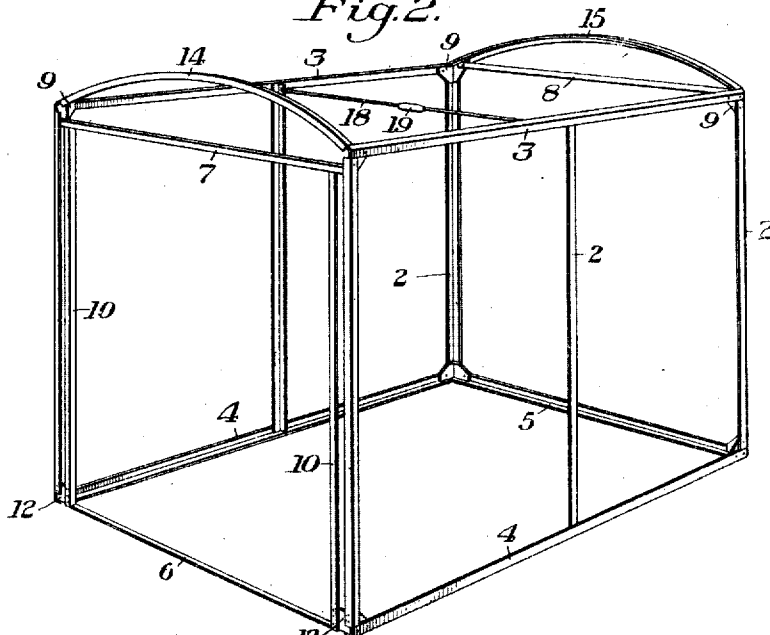
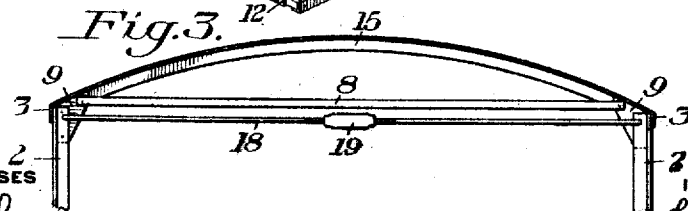


Fig. 3.



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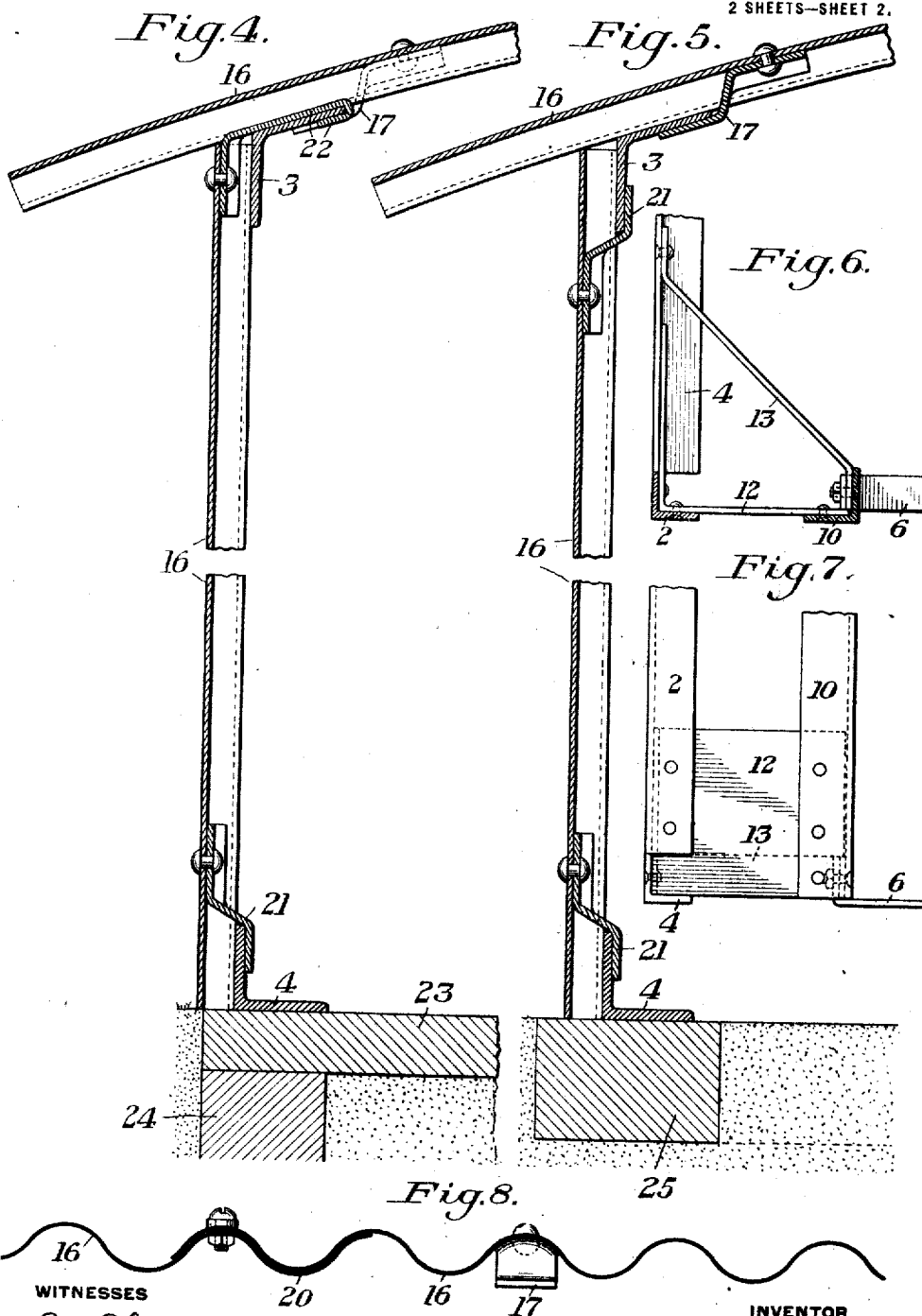
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

LUTHER L. KNOX, OF AVALON, PENNSYLVANIA, ASSIGNOR TO BLAW-KNOX COMPANY,
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BUILDING STRUCTURE

1,267,084.

Specification of Letters Patent.

Patented May 21, 1918.

Application filed November 4, 1913. Serial No. 799,138.

To all whom it may concern:

Be it known that I, LUTHER L. KNOX, a citizen of the United States, residing at Avalon, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Building Structures, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which:

Figure 1 is a perspective view of a structure embodying my invention;

Fig. 2 is a similar view of the framework of the structure;

Fig. 3 is a transverse section through a portion of the frame;

Figs. 4 and 5 are vertical sections showing two different modifications;

Fig. 6 is a sectional plan view showing the construction of one of the lower front corner portions of the frame;

Fig. 7 is a side view showing the same parts as Fig. 6; and

Fig. 8 is a transverse section through a portion of the roof covering.

My invention has relation to building structures and while especially applicable to garages, may also be applied to other relatively small buildings. The object of my invention is to provide a building structure which can be constructed, sold and erected at a relatively small cost, and in which the parts can be fitted and prepared for erection in the shop and shipped to the erector in such form that they can be assembled by him cheaply and without the necessity for skilled labor.

The nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that the structure shown and described is capable of various modifications in its details without departing from the spirit and scope of the appended claim.

The main framework of the structure comprises a series of vertical posts or studs 2, which are connected at the top and bottom by the longitudinal members 3 and 4, respectively, and by the transverse members 5, 6, 7 and 8. This frame may be conveniently and cheaply formed from standard rolled steel angles and bars, the connections between the members being made by directly riveting or bolting the parts together or

through the medium of gusset plates, such as indicated at 9. The front end of the structure is provided with additional vertical posts 10, to which the doors 11 are hinged. These posts are braced by the top connections 7 and also by the connection 6. The lower front corners may be further reinforced by means of the angular gusset plates 12, and braces 13. The frame is also provided with the arched roof-supporting members 14 and 15.

The roof and side covering of the structure preferably consist of corrugated iron sheets, such as indicated at 16, the corrugations running vertically in the side sheathing and transversely in the roof. The roof sheets are bent to conform to the curvature of the supports 14 and 15 and are suitably overhung to form eaves. I preferably secure the roof in place by means of offset clips, such as shown at 17, these clips being shaped and spaced so as to engage the edges of the longitudinal top angle members 3. In putting these roof sheets in place, they are sprung into somewhat greater arch form than that which they normally have and the clips are engaged with these angle members. As the roof plates tend to flatten out, the clips will be firmly engaged with the angle members. Inasmuch as this will tend to cause a spring of the said members, I preferably provide the latter with a centrally arranged cross tie 18, consisting of a two-part rod with hooked ends and united by a turn buckle 19. The turn buckle can be tightened after the roof plates have been applied so as to bring the frame back to its normal position. The adjacent roof plates are preferably overlapped, as indicated at 20, in Fig. 8.

The plates which form the side and end sheathing may be secured in substantially the same manner as the roof plates by providing them with the offset clips 21, as shown in Fig. 5. These clips are arranged to engage the vertical arms of the top and bottom angles, the sheets being slightly sprung in making this engagement in a manner similar to the roof plates or sheets. I may also employ the construction shown in Fig. 4, in which instead of clips 21, at the upper portion of the sheets, I provide them with the bendable extensions 22, whose free edge portions may be bent around the edges of the top longitudinal angles and in

locking engagement therewith, as shown in this figure.

The structure may be erected on any suitable base. In Fig. 4, I have shown it as provided with a wood floor 23, supported on sleepers 24, the bottom angles being preferably spiked or bolted to the floor. In Fig. 5, I have shown the structure as having a dirt or concrete floor, the bottom angles being supported on the blocks or sills 25.

The frame members may be shipped in partially assembled form, the parts being provided with the necessary bolt or rivet holes, to enable the erector to complete the assembling.

My invention provides a structure which can be manufactured, sold and erected at a very small expense, and which will answer all purposes required of a small garage or similar structure. The frame being formed of standard rolled shapes, the parts can be quickly and cheaply cut to proper lengths and punched ready for assembling. By using a roof of curved form, I avoid the necessity for providing the frame with roof trusses. The curved end supports 14 and 15 are not necessary for the support of the roof, but are provided to form means for securing the end sheathing.

I claim:

A knock-down building structure of the

character described, comprising a skeleton frame having top and bottom longitudinal members, each top member having a downwardly projecting flange and an inwardly projecting flange, each of the bottom members having an upwardly extending flange, a roof formed of metal sheets bent or sprung into arch form which extend over both of the top longitudinal members, said sheets having clips on their inner surfaces which are sprung into engagement with the inwardly projecting flanges of the top members and are held in position against said flanges by the spring of the sheets, and a sheet metal sheathing having upwardly and downwardly extending clips attached to the inner side, the upper clips engaging the downwardly projecting flanges of the upper members, while the lower clips engage the upwardly extending flanges of the lower members, the arrangement being such that the sheathing and the roof sheets are held in position by the longitudinal members and the clips, substantially as described.

In testimony whereof I have hereunto set my hand.

LUTHER L. KNOX.

Witnesses:

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H. M. CORWIN.