July 24, 1923. 1,462,989

L. LE R. SPELSHOUSE

KNOCKDOWN MOLD FOR CEMENT GARAGES

Filed April 7, 1923 4 Sheets-Sheet 1

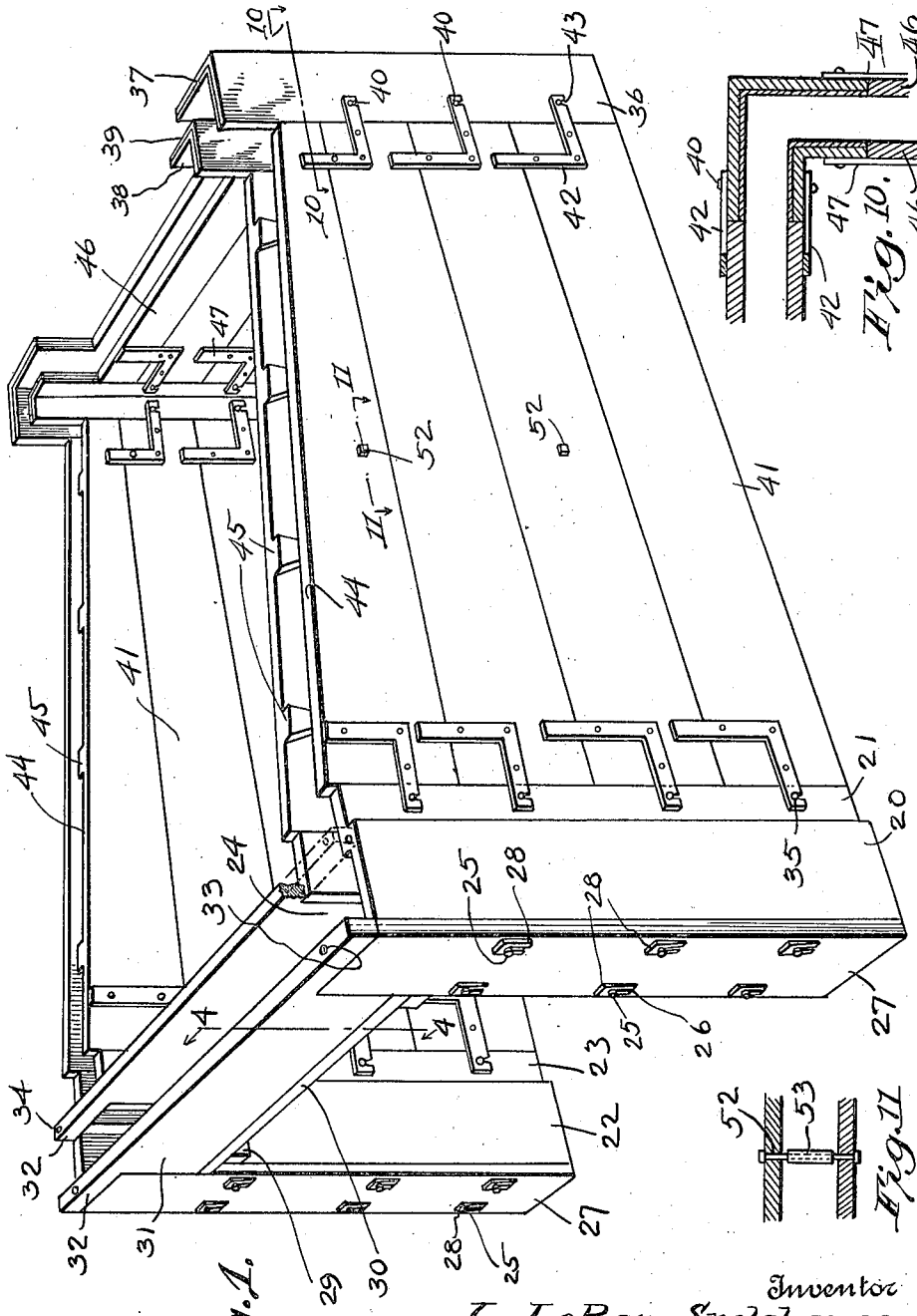


Fig. 1.

Fig. 10.

Fig. 11.

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Fig. 2.

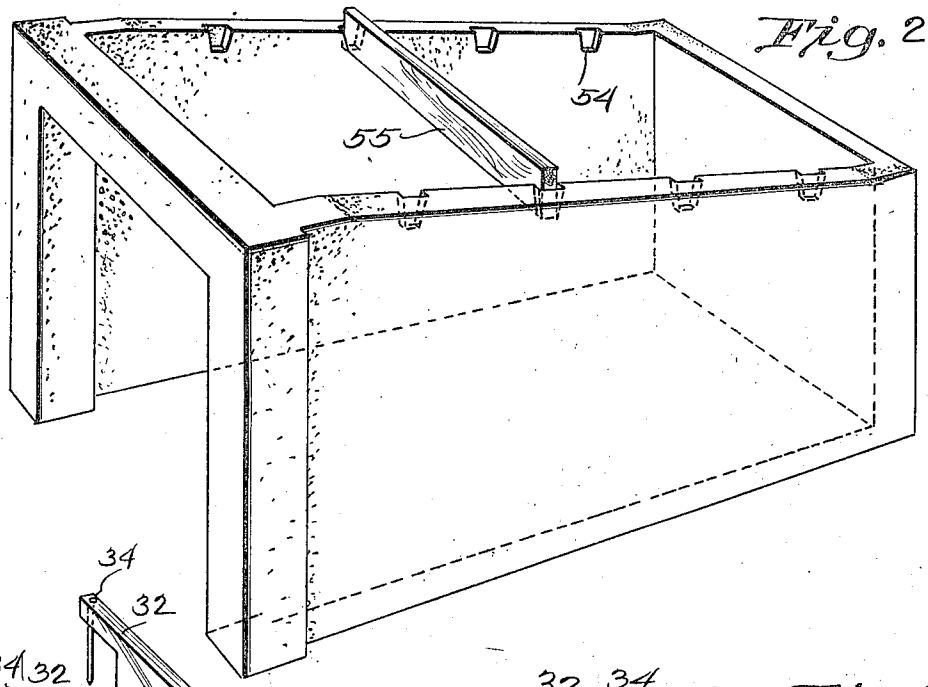


Fig. 3.

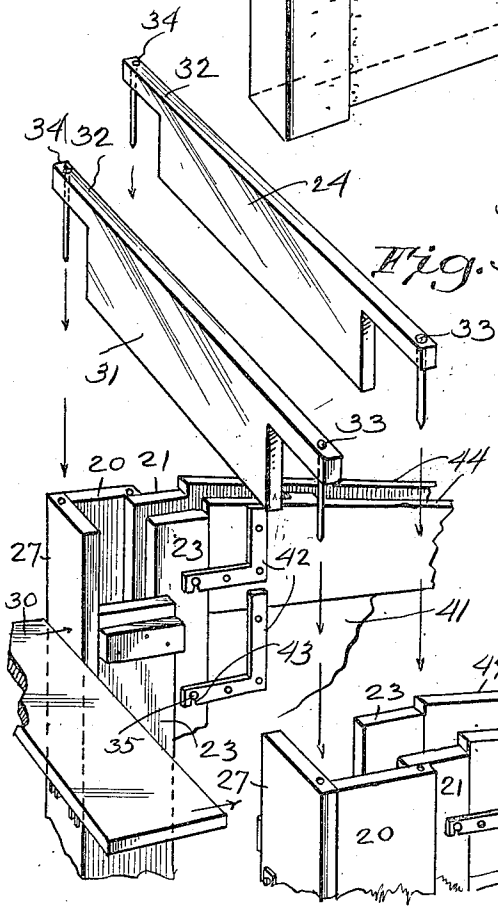
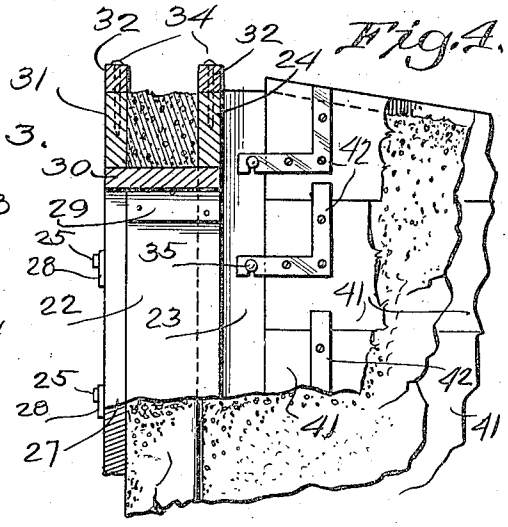


Fig. 4.



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Fig. 5.

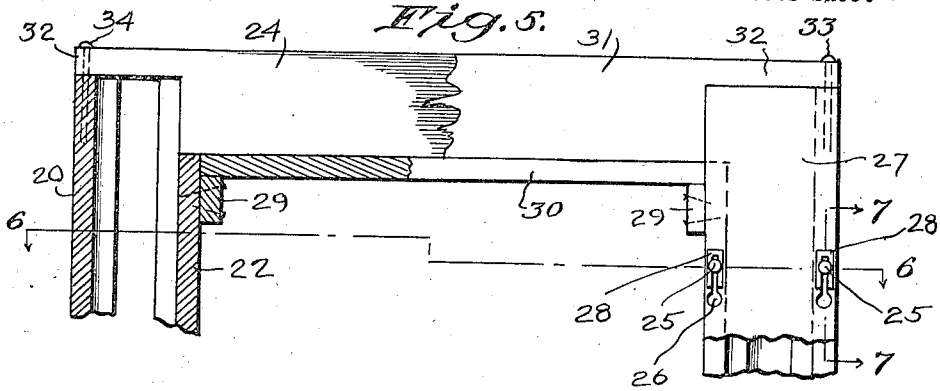


Fig. 6.

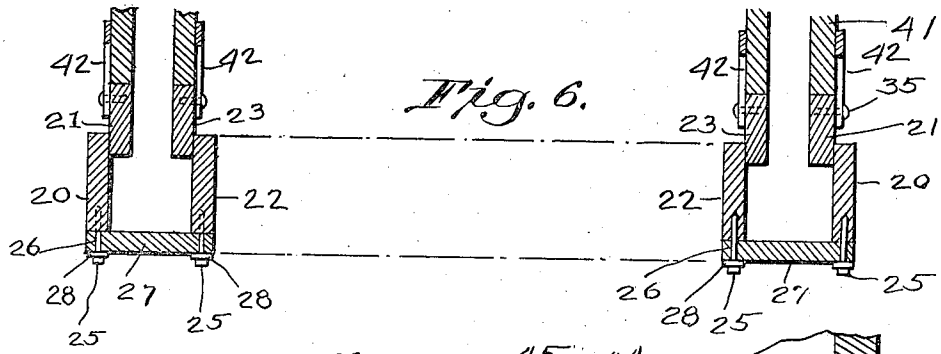
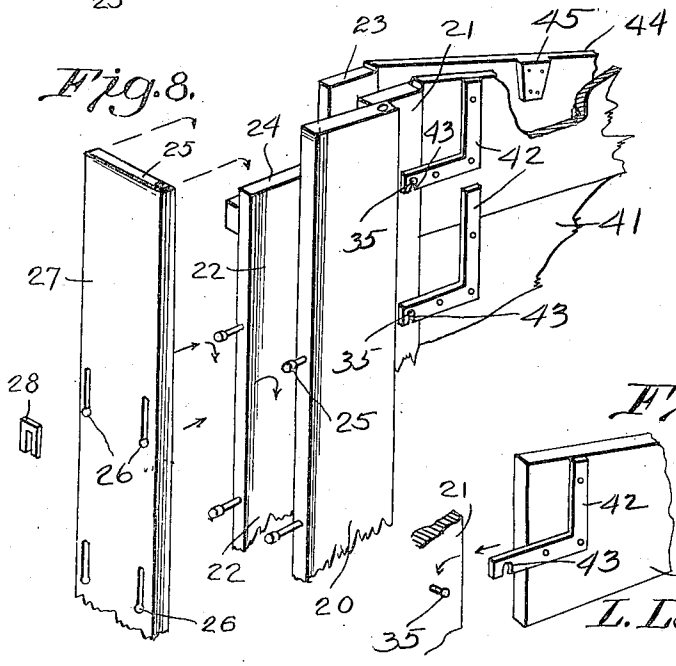


Fig. 8.



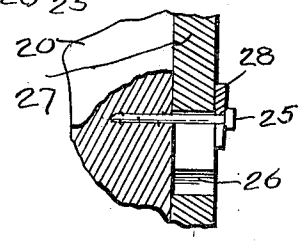


Fig. 7.

Fig. 9.

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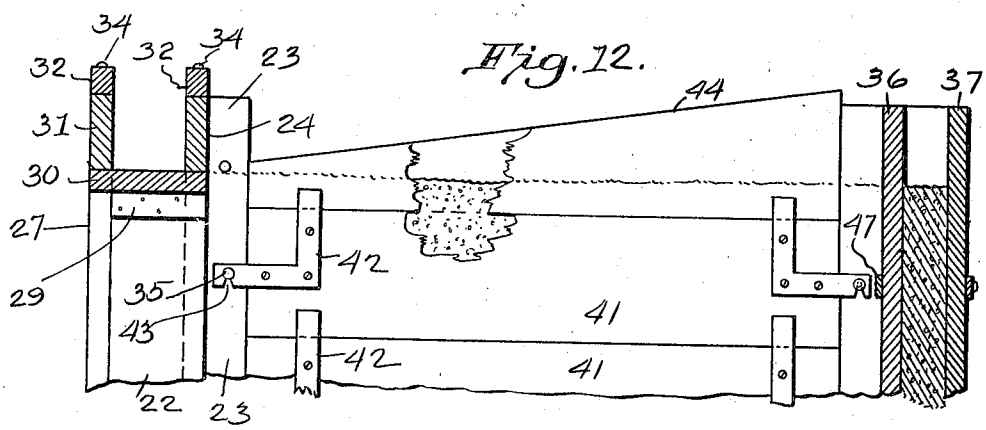
July 24, 1923. **1,462,989**

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KNOCKDOWN MOLD FOR CEMENT GARAGES

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Fig. 12.



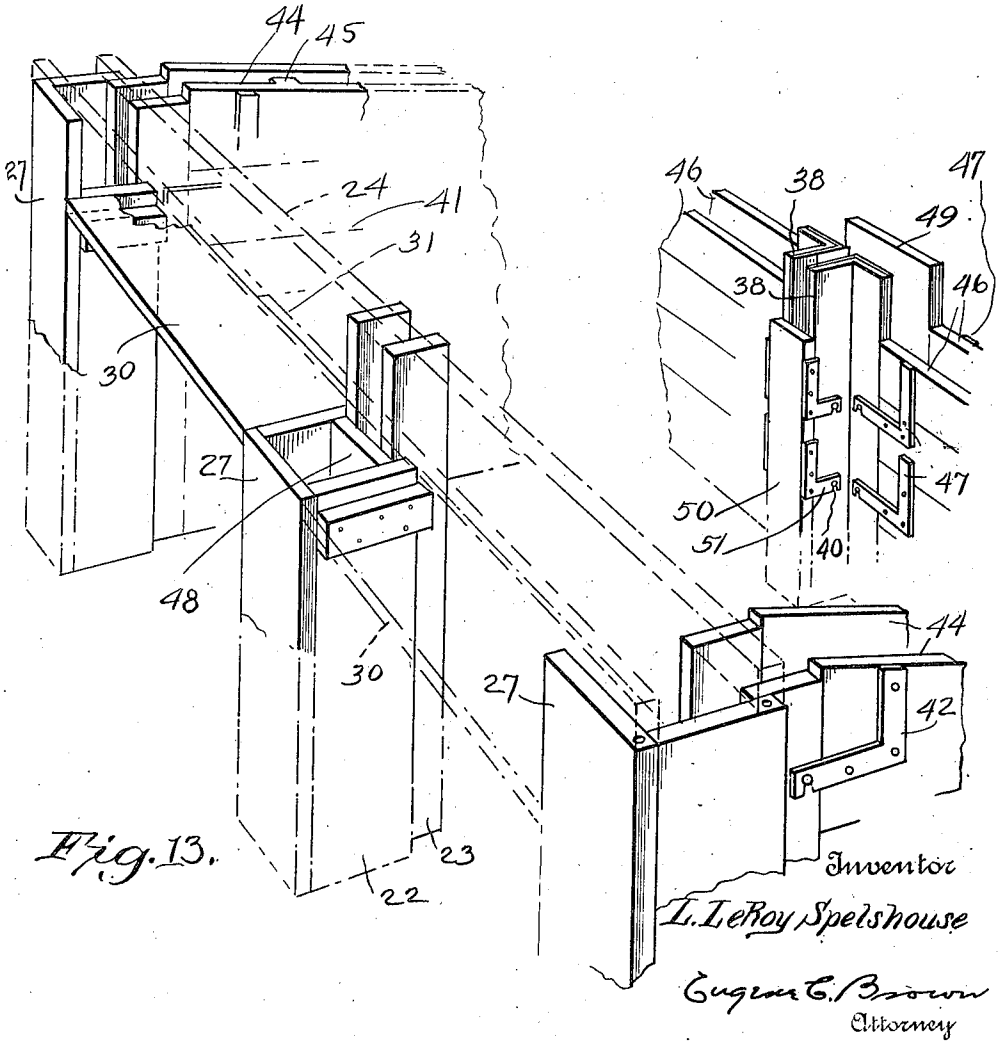


Fig. 13.

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UNITED STATES PATENT OFFICE.

LOUIS LE ROY SPELSHOUSE, OF BALTIMORE, MARYLAND.

KNOCKDOWN MOLD FOR CEMENT GARAGES.

Application filed April 7, 1923. Serial No. 630,467.

To all whom it may concern:

Be it known that I, LOUIS LE ROY SPELSHOUSE, a citizen of the United States, residing at Baltimore, in the county of Baltimore City and State of Maryland, have invented certain new and useful Improvements in Knockdown Molds for Cement Garages, of which the following is a specification.

This invention relates to the construction of concrete structures, and has special reference to a mold for such structures.

More particularly, the invention relates to a mold for monolithic buildings, such as garages and the like, wherein the mold for the entire building may be assembled before starting any of the pouring of the concrete.

The principal and most important object of this invention is to provide an improved and novel mold especially adapted for the molding of monolithic garages wherein the walls, columns, and other parts are all formed from a single block of concrete, the mold being of such character that the different parts thereof are capable of quick and easy assembling to form either a single or double garage with the roof inclined in one way or another as desired, and wherein the assembling of the mold may be readily removed from the formed structure without injury to any of its parts, so that it may be used repeatedly for different structures of like character; the mold parts being also so arranged as to be connected by novel and improved means.

I will now proceed to specifically describe one particular embodiment or form of the invention, and to this end will refer to certain drawings accompanying this specification by reference characters alike in the several views, and I will then proceed to particularly point out the invention in the appended claims.

In the drawings—

Fig. 1 is a perspective view of a complete mold set up ready for the pouring operation.

Fig. 2 is a perspective view of the concrete walls and columns as constructed by pouring in the mold illustrated in Fig. 1.

Fig. 3 is an exploded view of the front portion of the mold showing the manner in which the several parts thereof are assembled.

Fig. 4 is a detail section, with the concrete in place, on the line 4—4 of Fig. 1.

Fig. 5 is a detail view partly in section showing the upper part of the front of the mold.

Fig. 6 is a section on the line 6—6 of Fig. 5.

Fig. 7 is a section on the line 7—7 of Fig. 5.

Fig. 8 is an exploded view showing one of the front corners of the mold partly assembled with the column front plate about to be placed in position.

Fig. 9 is an exploded view showing the manner of assembling the side boards.

Fig. 10 is a detail section on the line 10—10 of Fig. 1.

Fig. 11 is a detail section on the line 11—11 of Fig. 1.

Fig. 12 is a detail section taken longitudinally through the center of the mold with the parts so arranged that the roof slopes from the back to the front, no lintel being employed at the front over the front opening or door opening.

Fig. 13 is a perspective view partly broken away showing the manner of assembling the parts for a double garage.

In these drawings, it will be observed that at each of the front corners of the device, there is provided a vertically extending side mold member 20 having an inwardly off-set portion 21 on the outside of the corner. On the inside of each corner is a vertically extending side mold member 22 having off-set portion 23, and the main part of the member 22 is cut away at the top as indicated at 24 to provide for a front beam or lintel connection, as will be hereinafter set forth.

Projecting from the front edge of each of the members 20 and 22 are vertically spaced headed pins 25 which are properly positioned to pass through keyhole slots 26 formed adjacent the lateral edges of a vertically extending front column mold member 27, U-shaped wedges 28 being employed to fit between the heads of the pins 25 and the face of the member 27. It will be observed that the member 27 is substantially the same height as the member 20. Located in spaced relation below the top edge of each member 22 is a bearing strip 29, and at 30 is a bottom lintel mold member which rests on these bearing strips to form the bottom of the lintel. The sides of the lintel mold are formed by transversely extending mold members 31 which are set with their

lower edges on the member 30 and which, at their upper corners, have laterally projecting extensions 32. The front side member 31 has these laterally projecting extensions resting on top of the front post or column members 27, and is secured thereto by means of pins 33. Similarly the back or inside lintel side mold member is secured by pins 34 to the members 20 and the extensions 32 crossing over and bridging the space between the members 20 and the members 22.

On the outer face of the respective extensions or offset portions 31 and 33, there is provided a plurality of laterally extending headed pins 35 for purposes hereinafter to be described. The rear corner of the building is formed by an outer rear corner member 36, which consists of a pair of planks secured to an angle iron 37, the planks being rabbeted at their inner sides to receive this angle iron so as to leave the inside of the mold smooth. Opposed to this member 36 is a similar member 38 likewise consisting of planks secured to an angle iron 39, the angle iron in this instance being rabbeted in to the outer sides of these planks. Each of the members 36 and 38 is provided with headed pins 40, corresponding in height to the position of the pins 35. The side walls of the mold are built up of inner and outer longitudinally extending side wall members 41, which engage between the edges of the off-set portions 21 and 23 of the front column members and the vertical edges of the members 36 and 38 which face toward the front.

Each of these side members 41 has secured thereto an angle bracket 42 which has a vertical leg projecting above the top edge of the respective member 41, and a horizontal leg projecting longitudinally beyond the end edge of the member 41, this horizontal leg being provided with a notch 43 on its underside to engage the respective pins 35 and 40. These side mold members are all alike except the top side mold member, which in each instance has an inclined upper edge 44 so as to allow for the slope of the roof, and it will here be observed that these top side members may be positioned, either as shown in Fig. 1 for forming a roof sloping downward toward the back of the building, or as shown in Fig. 12 for forming a roof sloping toward the front of the building.

Moreover, the inner member at the top is provided on the face confronting the outer member with a series of wedge-shaped blocks 45 corresponding to the well known core prints in ordinary metal molding. The rear wall of the building is formed by means of longitudinally extending mold members 46, which are provided with securing brackets 47, similar in all respects to the brackets 42. It will be observed, at this point, that while angle brackets have been here shown, these being well adapted for the purpose, other bracket forms may be employed.

It will be observed that in the construction shown in Fig. 12, no lintel will be necessarily employed, and in such event, an angle iron or I-beam may be extended across on top of the member 30, and have its ends bent down to be received into the concrete of the front column or corner posts.

In the form shown in Fig. 13, a double garage is illustrated, and in this form, it will be seen that there is provided a center post which is made up of two of the members 22, a back post mold 48 being inserted to rest against the front edges of the offsets 23. Naturally, under these conditions, there will be two of the bottom members 30 employed. Also at the rear of the building, there is employed a straight outer vertical member 49, and two of the members 38 are utilized with their angles adjacent the space, as shown clearly in the figure. These two members have the space between their forwardly extending flanges closed by a vertical mold member 50, provided with brackets 51 for engaging the pins 40. Thus, in this construction, a center post is provided at the rear of the garage, this post consisting substantially in a portion of the rear wall strengthened by a forwardly extending rib or buttress.

In assembling the mold for casting a building, the side column members are first placed in position, after which the fronts of the front columns are slipped on their pins, and the wedges inserted and tapped down. Then the bottom lintel member is placed in position, and the lintel side members assembled thereon. Next the lower cores of longitudinal side mold members are hooked in position beginning at the bottom, and the same thing is done at the back. Finally, the top side members are arranged in position with the slope of the roof as desired, it being understood that the lintel sides are omitted when the slope of the roof is downward toward the front. In this connection, it should be noted that tie bolts 52 may be extended through the side mold members having sleeves 53 thereon, which are shorter than the distance between such side mold members, so that the bolts may be readily removed and the holes at the ends of the sleeves occupied by the bolts filled with a suitable grouting. The proper cement mixture is then poured, and after a sufficient time has elapsed, the mold is removed which will leave a structure similar to that shown in Fig. 2 having pockets 54 on its insides at the bottom to receive the roof beams 55, these pockets being formed by the blocks 45.

It will be obvious to engineers and others skilled in the art that constructional changes

may be made to suit different sizes and classes of buildings without in any way departing from the inventive principles involved. It will therefore be noted that the embodiment herein illustrated and described is to be taken simply as one embodiment of the invention, and that many such embodiments may be made lying wholly within the scope claimed.

I claim:

1. In a form of molding concrete structures, spaced vertically extending members, horizontally extending members for forming a side of the mold and adapted to be assembled in superposed relation, vertically spaced connecting elements on the vertical members, cooperating connecting elements on the ends of the horizontal members, and brace elements carried by the horizontal members and projecting vertically therefrom to engage an adjacent horizontal member.

2. In a form for molding concrete structures, spaced vertically extending members, horizontally extending members for forming a side of the mold and adapted to rest in superposed relation with the longitudinal edges in contact, locking elements on the vertical members in vertically spaced relation and other locking elements fixed at the ends of the horizontal members each having one portion engaging a respective first mentioned locking element, and a second portion extending up beside the next longitudinal member above to brace the same.

3. In a form for molding concrete structures, sets of vertically extending members each arranged to form a column mold open at one side, means to hold said members detachably together, sets of other vertically extending angle members positioned to form a structure corner and arranged in spaced relation to each other and to the first members, wall mold members extending longitudinally in superposed relation between the open sides of the column members and the corner members, and between the sets of corner members, and means for connecting the column and corner members detachably to the wall mold members.

4. In a form for molding concrete structures, sets of vertically extending members each arranged to form a column mold open at one side, means to hold said members detachably together, sets of other vertically extending angle members positioned to form a structure corner and arranged in spaced relation to each other and to the first members, wall mold members extending longitudinally in superposed relation between the open sides of the column members and the corner members, and between the sets of corner members, means for connecting the column and corner members detachably to the wall mold members, and braces carried by the wall mold members to engage the superposed members.

5. In a form for molding concrete structures, sets of vertically extending members each arranged to form a column mold open at one side, means to hold said members detachably together, sets of other vertically extending angle members positioned to form a structure corner and arranged in spaced relation to each other and to the first members, wall mold members extending longitudinally in superposed relation between the open sides of the column members and the corner members, and between the sets of corner members, means for connecting the column and corner members detachably to the wall mold members, ledges on confronting column members, a bottom lintel member having its ends resting on said ledges, and lintel side mold members extending longitudinally along the longitudinal edges of the bottom lintel member, and detachable connections between the side lintel members and the column members.

6. A column mold for knock down molding devices consisting of a pair of side members each having pins projecting from one longitudinal edge in spaced relation, and a front member having keyhole slots adjacent its longitudinal edges to engage said pins.

7. A column mold for knock down molding devices consisting of a pair of side members each having pins projecting from one longitudinal edge in spaced relation, a front member having keyhole slots adjacent its longitudinal edges to engage said pins, and wedge plates fitting beneath the heads of the pins against the front member.

8. In a knock down building mold, spaced corner molds, and side wall molds each consisting of spaced inner and outer superposed horizontally extending members, the upper of said members each having an inclined top edge and being reversible horizontally to incline in either direction, and means to connect the upper members detachably with the corner molds in each position.

In testimony whereof I affix my signature.

LOUIS LE ROY SPELSHOUSE.