July 3, 1923.

1,460,941

W. C. BROUGHTON

KNOCKDOWN CONCRETE BUILDING

Filed June 20, 1921 2 Sheets-Sheet 1

FIG. 1.

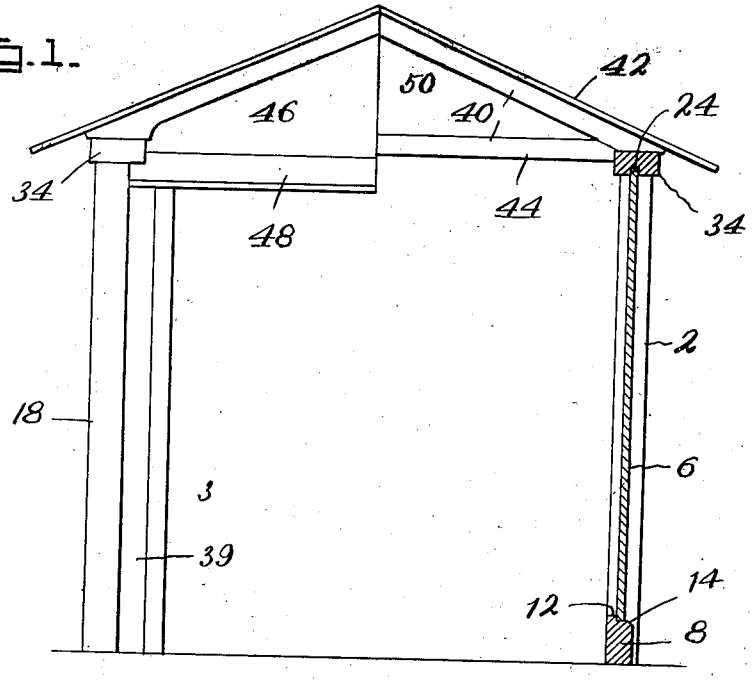


FIG. 2.

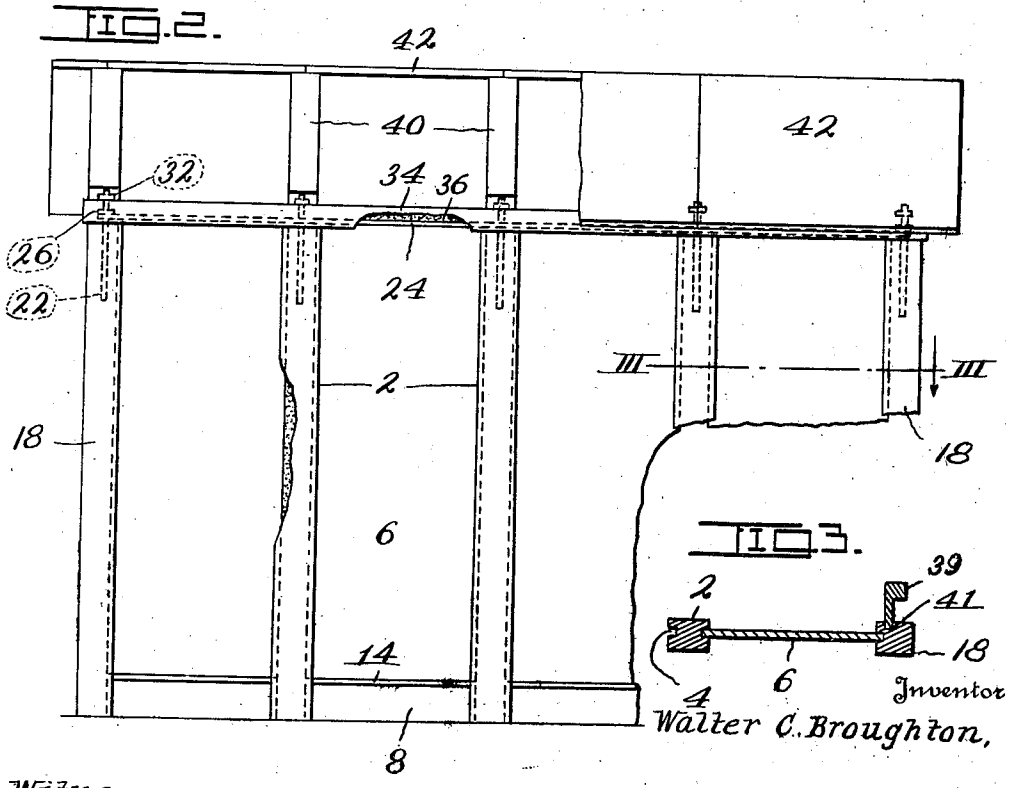


FIG. 3.

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Witnesses:
F. C. Fischer.

By F. G. Fischer,

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FIG. 4.

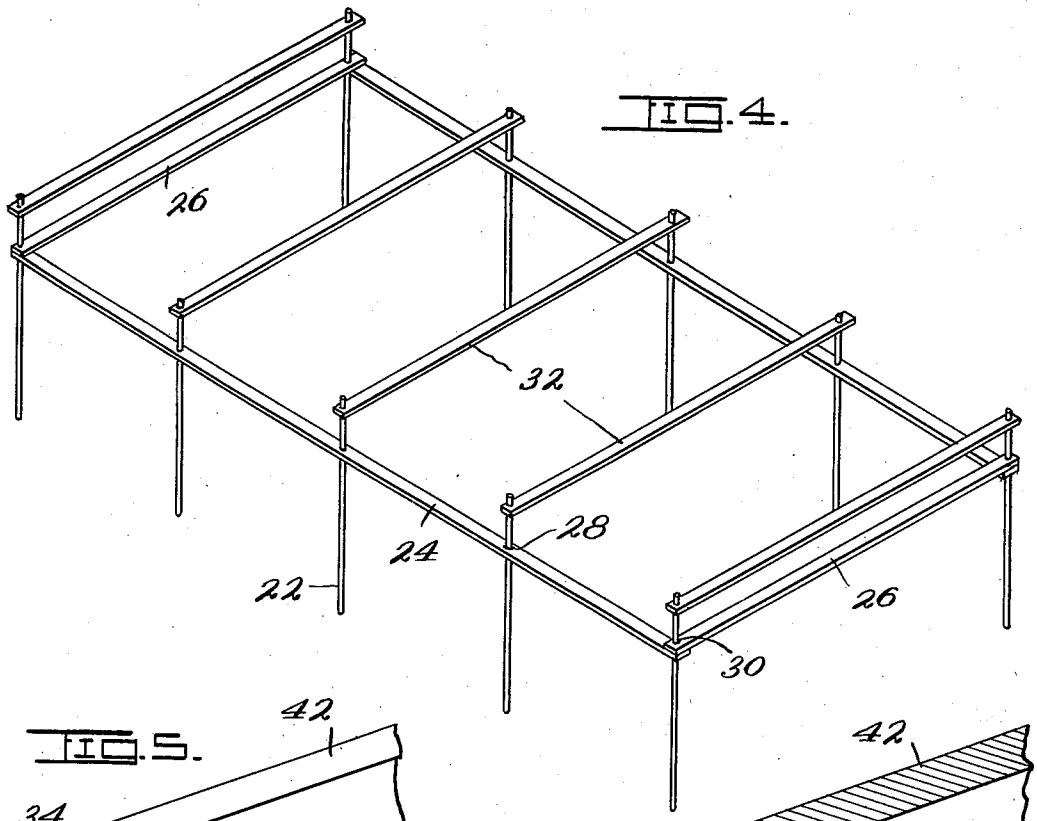


FIG. 5.

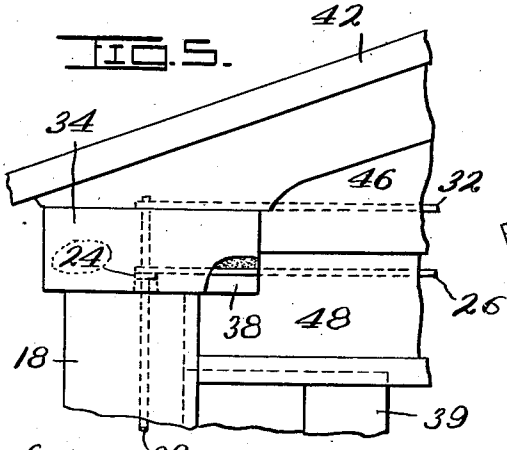
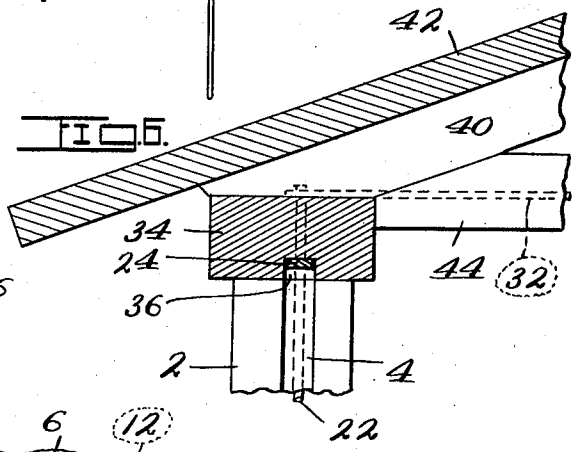


FIG. 6.



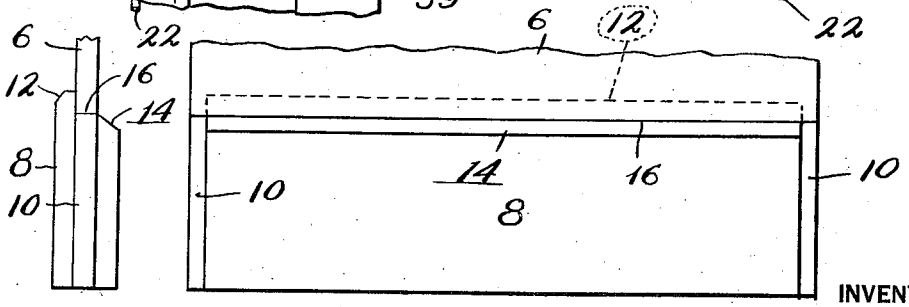


FIG. 8.

FIG. 7.

Witness:
R. C. Fischer.

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Patented July 3, 1923. 1,460,941

UNITED STATES PATENT OFFICE.

WALTER C. BROUGHTON, OF KANSAS CITY, MISSOURI.

KNOCKDOWN CONCRETE BUILDING.

Application filed June 20, 1921. Serial No. 478,901.

To all whom it may concern:

Be it known that I, WALTER C. BROUGHTON, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Knockdown Concrete Buildings, of which the following is a specification.

My invention relates to improvements in knock-down concrete buildings such as garages, etc., and one object is to provide a structure of this character which may be manufactured at a central plant and shipped to the point of use where it may be quickly erected with unskilled labor.

One important feature of the invention resides in providing the different elements which enter into the walls of the structure with grooves and tongues to assist in holding said elements together without the use of screws, or bolts and nuts.

Another feature resides in a skeleton frame made up of anchors and longitudinal and transverse bars whereby the different parts constituting the walls and roof are firmly held together, so that there will be no danger of the structure collapsing.

Other features will hereinafter appear, and in order that the invention may be fully understood reference will now be made to the accompanying drawings, in which:

Fig. 1 is a combined front elevation and cross section of the structure arranged in the form of a garage.

Fig. 2 is a broken side elevation of the structure.

Fig. 3 is a fragmentary cross section on line III—III of Fig. 2.

Fig. 4 is a detail perspective view of the metallic skeleton frame for tying the different elements of the structure together.

Fig. 5 is an enlarged fragmentary front elevation of the upper portion of the structure.

Fig. 6 is a similar view in cross section.

Fig. 7 is a side elevation of a base block and portion of a panel.

Fig. 8 is an end elevation of the parts disclosed by Fig. 7.

In carrying out the invention, I employ a plurality of intermediate columns 2, which in the garage shown, enter into the construction of the side and rear walls. Said columns 2 are placed in upright position upon a suitable foundation consisting usually of a concrete floor and each column is provided with oppositely-disposed longitudinal grooves 4 to receive the vertical margins of wall panels 6 held in position by said columns 2.

The lower margins of the panel 6 rest upon base blocks 8, which, like the columns 2, rest upon the foundation and have tongues 10 at each end to fit into the grooves 4. The base blocks 8 are provided at their upper margins with flanges 12 which abut the inner lower portions of the panels 6 as disclosed by Figs. 1, 7 and 8, and thus prevent rain from entering at the joints 16 where the panels 6 rest upon said blocks 8. The upper outer margins of the blocks 8 are beveled as indicated at 14 to readily shed rain so that it will not tend to enter the joints 16.

The corners of the building consist of corner columns 18, which have vertical grooves 20 to receive a vertical margin of each adjoining panel 6.

After the walls of the structure have been erected the columns 2 and 18, and the panels 6 are firmly united by the skeleton frame consisting of anchors 22, longitudinal bars 24, and transverse bars 26.

The anchors 22 comprise rods embedded in the upper portions of the columns 2 and 18 and project high enough to receive the bars 24 and 26 which have holes 28 and 30, respectively, so that they may be readily placed in position over said anchors 22 and when so placed the longitudinal bars 24 rest upon the upper margins of the panels 6. The anchors 22 also project high enough to receive additional transverse bars 32, which rest upon longitudinal plates 34 coacting with the bars 24 in tying the side walls together, and in addition the plates 34 constitute supports for the roof of the structure as will hereinafter appear. The plates 34 rest upon the corner columns 18 and the intermediate columns 2 of the side walls and have holes spaced apart through which the anchors 22 extend. The underside of the plates 34 have longitudinal grooves 36 to receive the respective longitudinal bars 24 and the upper ends of the panels 6. They also have transverse grooves 38 to receive the two transverse bars 26.

Two panels 39 are provided at the front of the building and each panel has one vertical margin fitted into a groove 41 in the companion corner column 18. Any suitable door, or doors (not shown) may be employed

to close the opening between the front panels 39.

The roof structure consists of trusses 40 and slabs 42. The chords 44 are, preferably, made separate from the remainder of the trusses for convenience in handling and each chord 44 has a transverse bar 32 embedded therein and projecting from the ends thereof to engage over the upper ends of the two companion anchors 22. The gable at the front end consists of a triangular hood 46 and a lintle 48, while the gable at the rear end consists of a triangular panel 50, which rests upon the rear wall and extends to the roof slabs 42.

All of the foregoing parts excepting the anchors 22 and the bars 24, 26 and 32, are preferably, of concrete or similar construction adapted to be cast at a central plant and shipped to the point of use.

By fitting the margins of the panels 6 into the grooves of the columns 2, the corner columns 18 and the plates 34, and tying the parts together with the skeleton frame disclosed by Fig. 4, it is apparent that I have provided a fire and storm proof structure which can be quickly erected or taken down; and while I have shown and described the preferred construction, combination and arrangement of parts, I reserve the right to make such changes as properly fall within the spirit and scope of the claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. In a knockdown-building of the character described, a wall structure consisting of columns spaced apart, removable panels closing the spaces between said columns, anchors projecting upwardly from the columns, and a removable bar uniting said anchors and resting on the top of the panels.

2. In a building of the character described, a wall structure consisting of columns spaced apart and having vertical grooves therein, panels having their vertical edges fitting within said grooves, anchors projecting upwardly from the columns, a bar resting upon the panels and uniting said anchors, and a plate resting on top of the columns and having a longitudinal groove in its lower portion into which said longitudinal bar and the upper edges of the panels fit.

3. A building of the character described consisting of side and rear walls, each wall consisting of columns spaced apart and having longitudinal grooves, panels having their longitudinal edges fitting within said grooves, plates resting on the columns of the side walls and having grooves in their lower portions, anchors projecting upwardly from the columns and through said plates, longitudinal bars uniting the anchors of each side wall and fitting within the grooves of the plates, and transverse bars resting upon the plates and connected to the anchors of the side walls; and a roof covering the walls.

In testimony whereof I affix my signature, in the presence of two witnesses.

WALTER C. BROUGHTON.

Witnesses:
L. J. Fischer,
F. C. Fischer.