Oct. 9, 1923. 1,470,054

W. C. BROUGHTON

ROOF STRUCTURE

Filed March 22, 1922 2 Sheets-Sheet 1

FIG. 1.

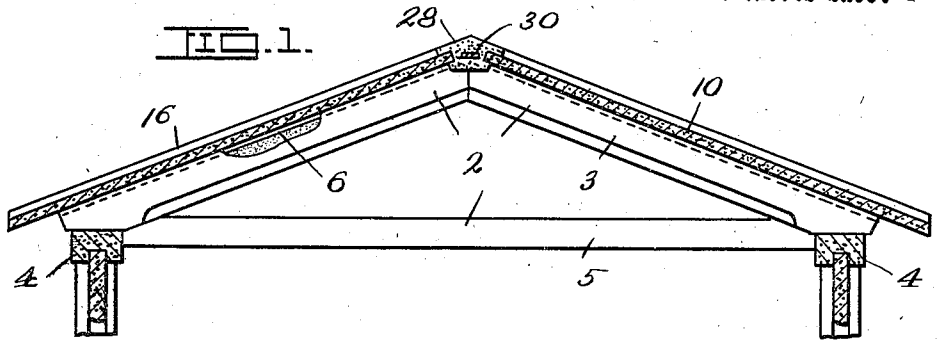


FIG. 2.

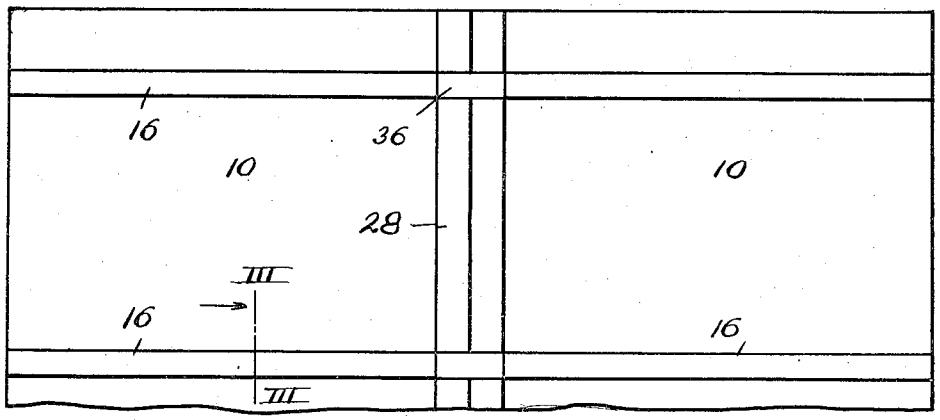


FIG. 3.

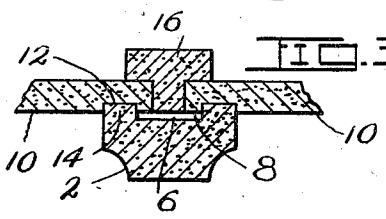
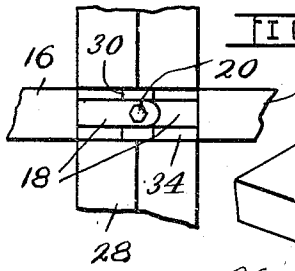


FIG. 4.



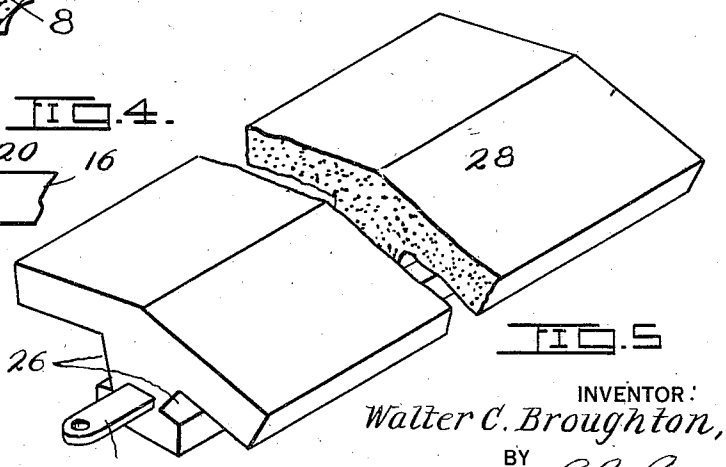


FIG. 5.

Witness:
Fred C. Fischer.

INVENTOR:
Walter C. Broughton,
BY
F. G. Fischer,
ATTORNEY.

Oct. 9, 1923. 1,470,054

W. C. BROUGHTON

ROOF STRUCTURE

Filed March 22, 1922 2 Sheets-Sheet 2

FIG. 6.

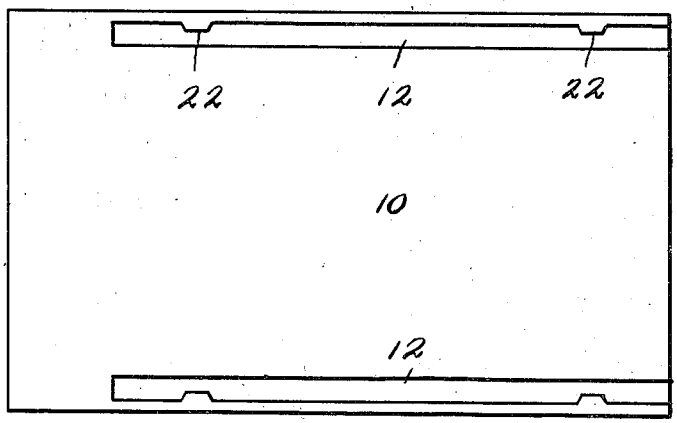


FIG. 7.

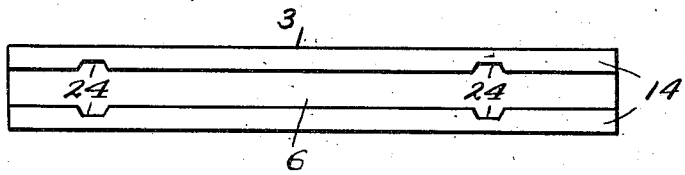


FIG. 8.

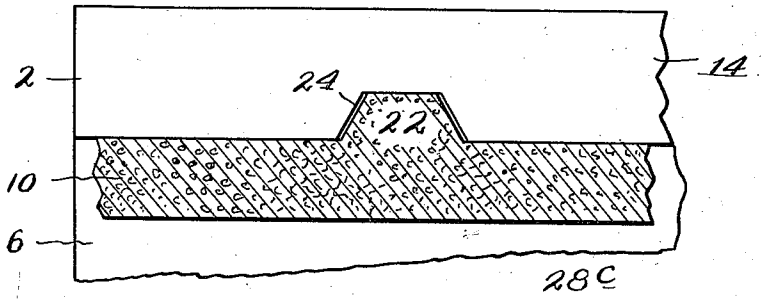


FIG. 9.

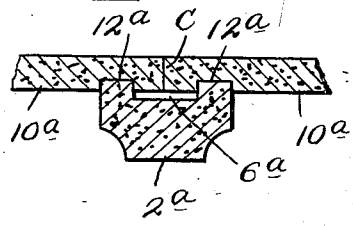
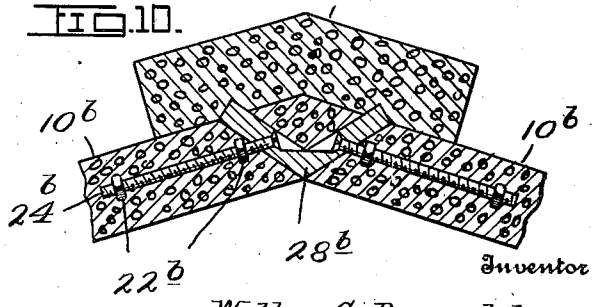


FIG. 10.



Inventor:

Walter C. Broughton,

By F. G. Fischer,

Attorney.

Witness:

Fred C. Fischer.

Patented Oct. 9, 1923. 1,470,054

UNITED STATES PATENT OFFICE.

WALTER C. BROUGHTON, OF KANSAS CITY, MISSOURI.

ROOF STRUCTURE.

Application filed March 22, 1922. Serial No. 545,714.

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 Roof Structures, of which the following is a specification.

My invention relates to portable roof structures for garages and other buildings, and one object is to form the roof in sections which may be manufactured at a central point, transported to the place of use, and quickly set up in place by unskilled labor and without the use of special tools.

Another object of the invention is to construct the roof sections in such manner as to have overlapping joints for the exclusion of rain.

Other objects of the invention will hereinafter appear and in order that said invention may be fully understood, reference will now be had to the accompanying drawings, in which:

Fig. 1 is a broken cross section of the upper portion of the garage equipped with the roof.

Fig. 2 is a broken plan view of a portion of the roof.

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

Fig. 4 is a broken plan view of two ridge members and two cap pieces forming a portion of the roof.

Fig. 5 is an enlarged broken detail perspective view of one of the ridge members.

Fig. 6 is an inverted plan view of one of the roof slabs.

Fig. 7 is a plan view of a rafter constituting a part of one of the trusses.

Fig. 8 is an enlarged fragmentary plan view, partly in section, showing an interlocking feature of the trusses and the roof slabs.

Fig. 9 is a cross section of a modified form similar to Fig. 3, but omitting the cap piece between the longitudinal margins of the roof slabs.

Fig. 10 is a fragmentary cross section of a modified form of means for holding the roof slabs in position on the roof and a modified form of ridge piece.

Referring now to the roof structure disclosed by Figs. 1 to 8, inclusive, which is made in sections so that it can be readily placed in position upon the walls of a building, 2 designates the trusses which rest upon the side walls 4 of the building. Each truss consists of two rafters 3 and a chord 5. The upper sides of the trusses 2 have longitudinal gutters 6 to carry off rain and also to receive the downturned flanges 8 at the longitudinal margins of the roof slabs 10, which cover the trusses 2 and the spaces between the same.

The slabs 10 are provided at their undersides near their longitudinal margins with grooves 12, Figs. 3 and 6, to fit over the upturned margins 14 of the gutters 6, which coact with the sides of the grooves 12 in holding the slabs 10 from shifting laterally. Spaces are left between the longitudinal margins of the slabs 10 to receive cap pieces 16, which are T-shaped in cross section to overlap the adjacent top portions of the slabs 10 and exclude rain from between said slabs. The cap pieces 16 extend, substantially, the full length of the slabs 10 and are reinforced by longitudinal wires or bars 18, which are connected by suitable means such as a pin 20 to prevent them from sliding downward out of position on the roof. The roof slabs 10 are prevented from sliding downwardly out of position on the roof by lugs 22 thereon which fit into corresponding recesses 24 in the upturned margins 14 of the gutters 6.

The upper ends of the roof slabs 10 fit into grooves 26 in the longitudinal margins of the ridge members 28, which abut the sides of the rafters 3. The ridge members 28 are reinforced with longitudinal bars 30, the ends of which overlap and are connected by the pins 20, Fig. 4. The rectangular pockets 34 left at the juncture of the cap pieces 16 and the ridge members 28 are filled with plastic cement as indicated at 36, to exclude rain and cover the exposed portions of the bars 18 and 30.

In the modified form disclosed by Fig. 9, the cap piece 16 is dispensed with, the roof slabs 10^a being made slightly wider to abut each other as shown. Any rain which may leak through the joint C between the margins of the roof slabs 10^a will be carried off by the gutter 6^a instead of entering the building. In other respects the construction is somewhat similar to that shown by Fig. 3, as indicated by corresponding reference numbers with exponents "a."

In the modified form disclosed by Fig. 10, the interlocking lugs 22 and recesses 24 of

the trusses 2 and the roof slabs 10 are dispensed with and nuts 22^b, embedded in the roof slaps 10^b, and bolts 24^b extending through a ridge angle iron 28^b and threaded into said nuts 22^b hold the roof slabs 10^b from slipping downwardly out of position on the roof. The angle iron 28^b is protected from the weather by a ridge piece 28^c of concrete or other suitable material and extends, preferably, the full length of the roof.

From the foregoing description it is apparent that I have produced a roof structure employing the advantages above pointed out, and while I have shown the preferred and several modified forms of such roof structure, I reserve the right to such other forms as properly fall within the spirit and scope of the appended claims.

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

1. A roof structure consisting of trusses the upper members of which have gutters formed therein, roof slabs supported by the trusses and provided with marginal flanges extending into the gutters, ridge members supported by the trusses and provided with longitudinal grooves to receive the upper margins of the roof slabs, and means for reinforcing and connecting said ridge members together.

2. A roof structure consisting of trusses the upper members of which have gutters formed therein, roof slabs supported by the trusses, ridge members also supported by the trusses, means for reinforcing and connecting said ridge members together, and T-shaped cap members interposed between the longitudinal margins of the roof slabs and abutting the sides of the ridge member.

3. A roof structure consisting of trusses the upper members of which have gutters formed therein, roof slabs supported by the trusses and provided with marginal flanges extending into the gutters, ridge members supported by the trusses and provided with longitudinal grooves to receive the upper margins of the roof slabs, means for reinforcing and connecting said ridge members together, T-shaped cap members interposed between the longitudinal margins of the roof slabs and abutting the sides of the ridge member, and means for reinforcing said cap members and connecting their upper ends together.

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

WALTER C. BROUGHTON.

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