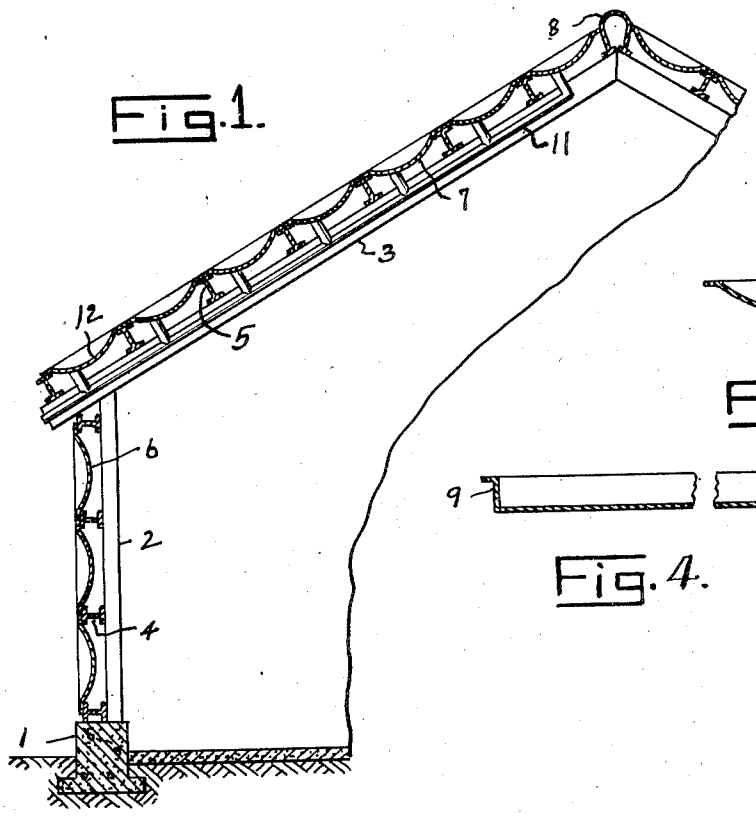
Jan. 18, 1949. A. CIBULKA 2,459,415

ROOF AND WALL STRUCTURE

Filed April 13, 1945

Fig. 1.



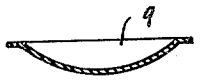


Fig. 2.

Fig. 4. Fig. 3.

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ROOF AND WALL STRUCTURE

Alois Cibulka, Highlands, Tex.

Application April 13, 1945, Serial No. 588,137

2 Claims. (Cl. 108—13)

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This invention relates to a roof and wall structure.

An object of the invention is to provide a novel type of structure for the roofs and sides of buildings and which includes plates of suitable material of concavo-convex contour approximately from end to end with the concaved sides outwardly so that the wall and roof plates will be under tension when the load is applied on the concaved sides.

Another object of the invention is to provide a structure of the character described which comprises a framework having spaced parallel supporting beams, or studding, with sheet-like plates of metal or other suitable material between the supports and whose margins are fastened to the supports said sheets being concavo-convex approximately from end to end with the concaved sides outwardly so as to take the load of the wind or water.

The roofs or walls of the structure, thus being under tension rather than under compression can be made thinner and lighter and the weight and cost of the building thus reduced without sacrificing the strength of the structure.

With the above and other objects in view the invention has particular relation to certain novel features of construction, arrangement of parts and use, examples of which are given in this specification and illustrated in the accompanying drawings, wherein:

Figure 1 shows a fragmentary, transverse, vertical, sectional view wherein the wall and roof plates are arranged horizontal.

Figure 2 shows an enlarged, transverse, sectional view of one of the plates.

Figure 3 shows a fragmentary, longitudinal, sectional view of a plate; and

Figure 4 shows a fragmentary, longitudinal, sectional view of another embodiment of the plate.

In the drawings the numeral 1 designates the foundation upstanding from which there is the wall studding 2 arranged vertically and which supports the roof rafters 3.

Secured to the studding 2, as illustrated in Figure 1, are the horizontal plate supports 4 which are spaced apart from top to bottom and on the rafters 3 are the horizontal roof supports 5 which are spaced apart from end to end of the rafters.

Between the supports 4 are the horizontal siding plates 6 and between the supports 5 are the horizontal roof plates 7. The plates 6 and 7 are curved transversely approximately from end to end, that is they are concavo-convex. The margins of the siding plates 6 are secured in any preferred manner to the supports 4, preferably by welding and the margins of the roof plates

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7 are similarly secured to the roof supports 5.

On the roof there is a ridgeroll 8 to which the adjacent margins of the roof plates are welded on each side.

The roof plates are provided with the transverse ends as 9, or 10, so as to confine the water and the water is drained off through the drain pipe 11 which is connected into the troughs by branch pipes as 12.

It is obvious that in the construction shown the load to which the structure may be subjected will place the wall plates under tension rather than under compression so that they may be made of thinner and lighter material and yet possess adequate strength.

The drawings and description are illustrative merely while the broad principle of the invention will be defined by the appended claims.

What I claim is:

1. In building construction, an inclined roof framework having spaced supports whose longitudinal axes are horizontal, a series of sheet metal plates arranged in adjacent relationship between the supports and whose margins are secured to the adjacent supports whose longitudinal axes are in parallel relationship with the supports, said plates having end flanges and being concavo-convex from end to end between said flanges with the concave sides upwardly forming troughs.

2. In building construction, an inclined roof framework having spaced supports whose longitudinal axes are horizontal, a series of sheet metal plates arranged in adjacent relationship between the supports whose longitudinal axes are in parallel relationship with the supports and whose margins are secured to the adjacent supports, said plates being concavo-convex between the ends thereof with the concave sides upwardly forming troughs whose ends are closed, and a drain chute connected into the troughs of the series.

ALOIS CIBULKA.

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