C. D. PRUDEN.

SHEET METAL HOUSE.

APPLICATION FILED MAR. 26, 1920.

1,406,757.

Patented Feb. 14, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

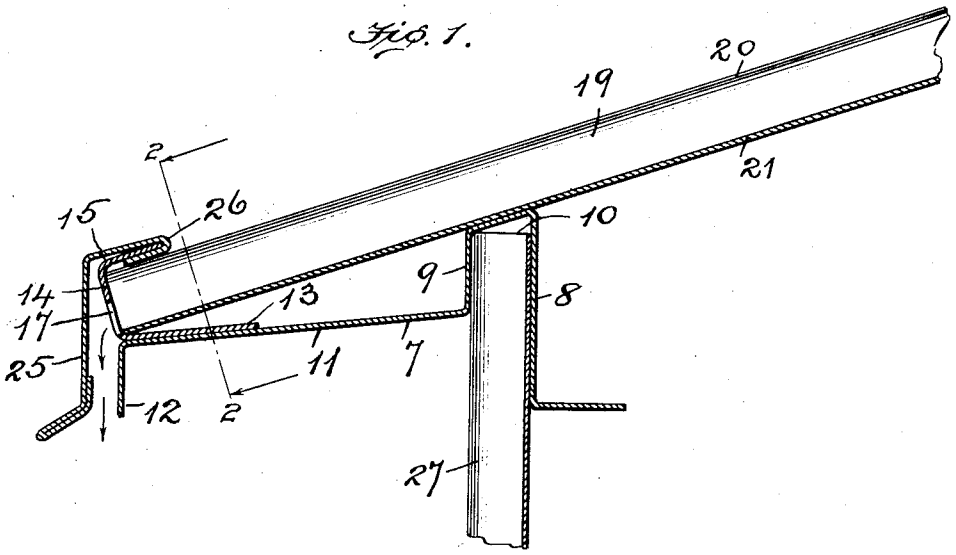


Fig. 2.

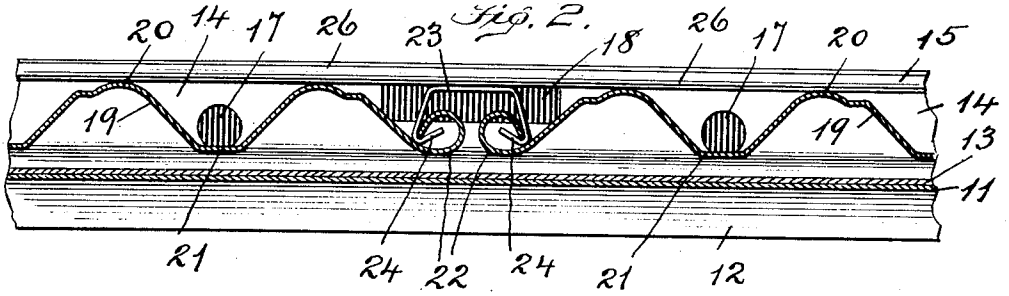


Fig. 4.

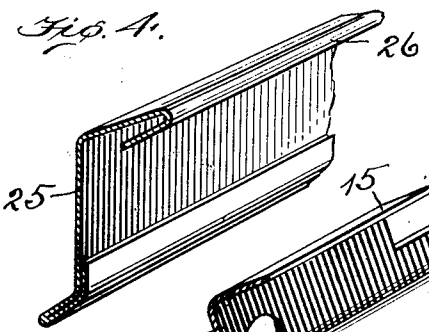


Fig. 3.

Witness.

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2 SHEETS—SHEET 2.

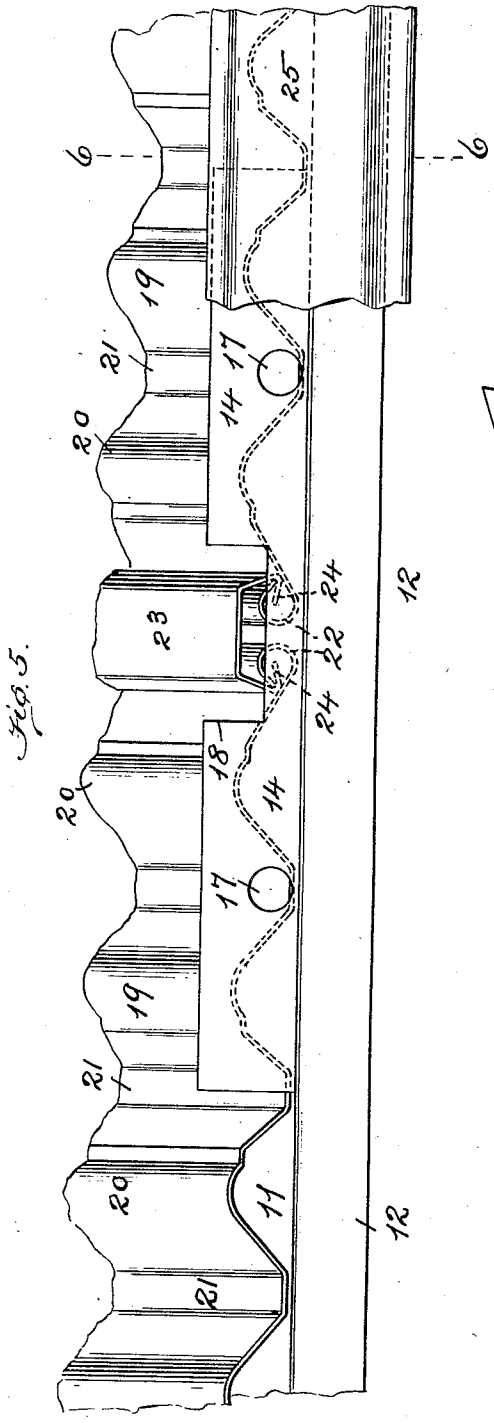


Fig. 5.

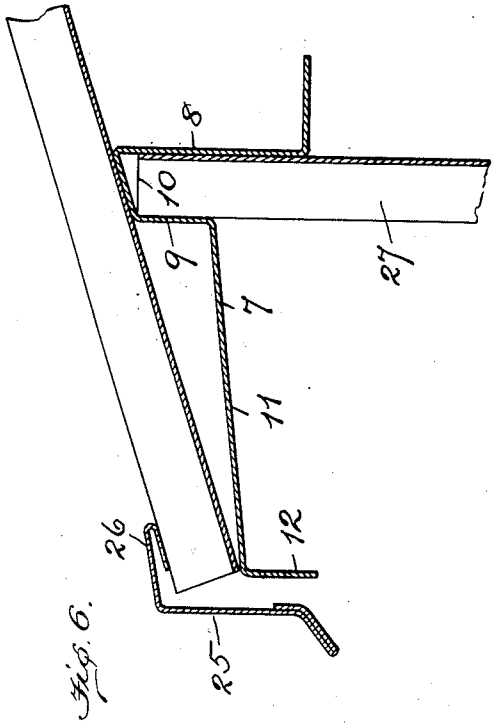


Fig. 6.

Witness

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UNITED STATES PATENT OFFICE.

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SHEET-METAL HOUSE.

1,406,757. Specification of Letters Patent. Patented Feb. 14, 1922.

Application filed March 26, 1920. Serial No. 368,834.

To all whom it may concern:

Be it known that CLARENCE D. PRUDEN, a citizen of the United States, residing at Baltimore, in the State of Maryland, has invented certain new and useful Improvements in Sheet-Metal Houses, of which the following is a specification.

This invention relates to improvements in sheet metal houses and has particular reference to an improved means for connecting at intervals the upper end of the vertical wall with the eave of the roof, and in providing a depending deflector to direct the water from the roof and cause it to drop at the side of the wall.

This invention is illustrated in the accompanying drawing in which,—

Fig. 1 shows a vertical sectional detail through the upper end of the wall and the adjacent end of the roof and the connecting parts.

Fig. 2 illustrates a sectional detail through the roof and its supporting devices,—the section being taken on the line 2—2 of Fig. 1, and looking toward the roof-edge.

Fig. 3 shows in perspective, a portion of the detached eave channel.

Fig. 4 illustrates, also in perspective, the detached deflector plate.

Fig. 5 shows a portion of the roof in side elevation and looking toward the edge thereof and shows one of the eave-channel sections in place at the joint between the roof-sheets and further illustrates in side elevation a portion of the deflector plate, and

Fig. 6 illustrates a sectional detail of the structure as the same would appear if cut on the line 6—6 of Fig. 5.

Referring to the several views of the drawing, the numeral 27, designates the upper end of the vertically corrugated wall-sheets which are suitably united at their vertical edges and are held in a vertical position by an approved means,—it being immaterial to the present invention what means is employed to unite or hold these wall-sheets.

At the upper edge of the wall I provide an eave channel 7, which has its metal bent to form two spaced-apart down-turned flanges 8 and 9 so that the channel may be slipped down over the upper horizontal edge 10, of the wall with the flange 8, at the inner side, and the flange 9, at the outer side of the wall-sheets, thus effectively closing the vertical corrugations in said wall-sheets. This eave-channel has an inclined plate portion 11, which extends laterally from the outer vertical side of the wall-sheets and the outer edge of this portion 11, is turned down to form a depending flange 12.

On the upper side of the inclined channel plate 11, I secure at predetermined intervals stop-plates 13, each of which latter has an up-turned stop-flange 14, and a back-turned edge-flange 15. These stop-plates are permanently and rigidly secured to the channel plate 11, by any suitable means, but in this instance, by rivets 16, as shown in Figure 3 of the drawing.

Each stop-flange 14, is provided with spaced-apart perforations 17, and is further provided, between the perforations, with notches 18, which latter are cut entirely through the edge-flange 15, and extend partly down into the stop-flange 14, for a purpose that will presently be explained.

The roof-sheets 19, are of the corrugated form in that each has the elevations 20 and the depressions 21, producing the corrugations as best illustrated in Figs. 2 and 5 of the drawings. These roof-sheets are provided along their longitudinal or side edges with coils 22, as shown in Figs. 2 and 5, which coils have positions side-by-side. These coils are not directly connected, but are indirectly coupled by a coupling-bar 23, which latter has hook-flanges 24, along its opposite edges which hook under the coils and lock the adjacent roof-sheets against lateral displacement.

The lower or eave-ends of the roof-sheets 19 extend over the eave channel 7 and project beyond the side wall 2, and the stop plates 13, are secured to the eave-channel 7 so as to lap the joint between adjacent roof-sheets 19 and to extend for a short distance at each side of the coupling-bar 23, which unites one roof-sheet with another, as illustrated in Fig. 5 of the drawing.

It will therefore be understood that at and for a short distance on each side of each coupling-bar 23, I locate a stop-plate 13 and that the overhanging lower edge of said coupling bar and a portion of the lower edge of the two roof-sheets which that bar couples, project under the back-turned edge-flange 15 of the stop-plate 13, and butt against the stop-flange 14, of that plate so that at each roof-joint the stop-plate holds

the joint-parts down against upward wind pressures.

It will also be noted that the plate 11, of the eave channel extends completely under the overhanging edge of the roof-sheets and completely shuts off the entrance of wind to the interior of the building from the under side of the projecting roof-sheet ends.

It will further be noted that the perforations 17, in the stop-flange 14, of each stop-plate register with the upper side of the depressions 21, in the roof-sheets so as to provide a direct escape for water through those perforations.

The notch 18, in the stop-flange 14, registers with the coupling-bar 23, and permits access to the joint between the adjacent roof-sheets and enables the coupling bar to be slid longitudinally in place and at the same time permits water to overflow from the roof.

Another feature of novelty lies in the provision of a water deflector plate 25, illustrated in Figs. 1—3—5 and 6 of the drawings.

This deflector plate extends along the entire eave-edge of the roof and along its top has a back-turned hook 26, that hooks at intervals under the flanges 15, on the spaced stop-plates, and between the latter and the high portions 20, of the roof-sheet corrugations. This deflector-plate, by depending in a spaced position from the flanges 14 and 12, of the stop-plates and in front of the perforations 17, and notches 18, in said plates, and also extending in front of the corrugated eave-edges of the roof-plates that are exposed between the spaced stop-plates forms a vertical passage for the direct downfall of water from the roof and prevents such water from being thrown laterally and projected at a distance, perhaps onto the property of a neighbor when the building is located on a city lot.

By means therefore of my present improvements I provide a rigid securing means for the lower edges of the joints between the roof-sheets; I close the ends of the roof-sheet corrugations but allow the water to run off; direct the water down at the side of the building and I employ a construction that enables the coupling-bars 23 to be readily slid into position and quickly assembled.

Having described my invention, I claim,—

1. The combination with a wall, of a roof having coupled-together sheets, a channel-plate supported on top of the wall and extending outwardly therefrom and having a continuous down-turned flange, and spaced-apart up-turned flange means carried by the channel-plate at the lower ends of the joint between the roof-sheets whereby said lower end of the roof-sheets at their joint may be seated against one of the said flange means.

2. The combination with a wall, of corrugated roof-sheets; a coupling for engaging one roof-sheet to another; an eave-channel plate carried by the wall and extending outwardly therefrom; flange means carried at intervals by the channel-plate and extending around the eave-edge of the coupling and said flange-means being provided with openings for the escape of water from the roof-sheets.

3. The combination with a wall, of a roof, an eave channel plate supported on the wall and extending outward and engaging the eave-edge of the roof, and a deflector plate sustained from the channel plate in a spaced position beyond the lower edge of the roof and the outer edge of the channel-plate.

4. The combination with a wall, of an eave channel-plate supported on the wall and extending outwardly therefrom and carrying an up-turned stop flange; a deflector plate carried by but sustained in a spaced position beyond the said stop flange, and a roof having its lower edge seated against said stop flange and behind the deflector plate.

5. The combination with a wall, of an eave channel-plate projecting from the wall and having an up-turned perforated stop-flange; corrugated roof-sheets having their lower edges seated against the said up-turned stop-flange, and a deflector-plate having an edge in hooked engagement with the stop flange and said deflector-plate depending in front of the stop flange and the lower edges of the roof-sheets.

6. The combination with a wall, of an eave channel-plate supported by and extending outwardly from the wall; roof-sheets; a coupling-bar between and coupling adjacent edges of the roof-sheets stop-plates secured at spaced-apart intervals to the eave channel-plate and bridging the joint between a coupling-bar and the roofing-sheets it couples, and means on each stop-plate for projecting over the coupling-bar to hold the latter down.

In testimony whereof I affix my signature.

CLARENCE D. PRUDEN.