Feb. 22, 1938. R. E. SADTLER 2,109,447

ROOF STRUCTURE

Filed Sept. 24, 1937

Fig. 1.

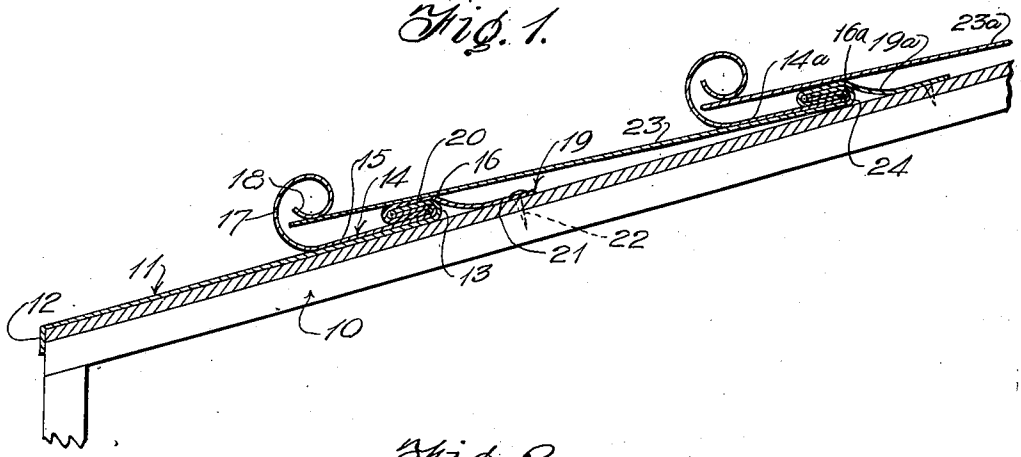


Fig. 2.

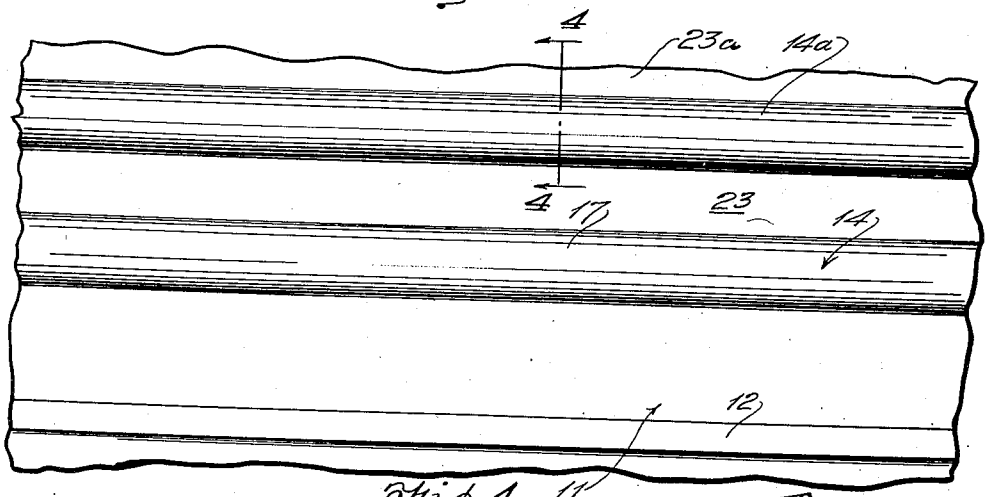


Fig. 3.

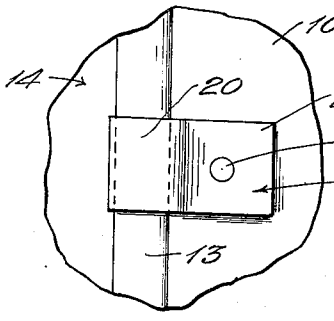
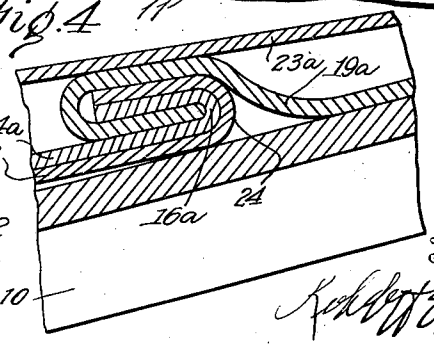


Fig. 4



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2,109,447

ROOF STRUCTURE

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8 Claims. (Cl. 108—17)

This invention relates to roof coverings and has special reference to an interlocking sheet metal construction of roof covering.

One important object of the invention is to provide a novel sheet metal roof construction, the elements of which may be preformed in a shop or factory and which may be interlocked upon the roof to be covered by simple manipulations and without the use of tools.

A second important object of the invention is to provide a novel device of this character wherein the parts are held in position on the roof without the necessity of forming nail holes or other securing openings in the roof covering.

A third important object of the invention is to provide a novel roof covering of interlocking preformed sheets and novel securing clips therefor provided with means to engage interlocked portions of said roof covering, said clips being nailed to the roof with the nail heads beneath certain of the roof covering sheets.

A fourth important object of the invention is to provide a roof covering of the kind described and having novel combined snow guard and drainage means.

With the above and other objects in view, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawing, and particularly pointed out in the appended claims.

In the accompanying drawing like characters of reference indicate like parts in the several views, and:—

Figure 1 is a transverse section of the eaves portion of a roof showing the improved roof covering as applied thereto.

Figure 2 is a front elevation of the construction shown in Figure 1.

Figure 3 is a fragmentary broken plan view of a portion of the novel roof covering and disclosing one of the clips used for securing the covering to the roof structure proper.

Figure 4 is an enlarged detail section on the line 4—4 of Figure 2.

In the embodiment of the invention herein disclosed there is shown in the drawing an inclined or sloping roof structure 10. On this structure is shown the roof covering and securing means forming the subject of this invention. The roof covering includes an eave plate 11 consisting of a metal sheet having its lower edge bent down to form a depending flange 12 engaging the edge of the roof structure and extending along the upper edge of the plate 11 is a rebent portion 13 extending downwardly over the adjacent portion of the sheet to form a downwardly opening channel on the upper side of the eave plate at its upper edge.

At 14 is a combined snow guard and drainage plate. This plate extends longitudinally of the roof and has a flat body portion 15 preferably of less than half the width of the plate 11. The plate 14 has a rebent upper edge portion 16 overlying the body 15 so as to form a downwardly open channel on the upper side of the snow guard plate and at the upper edge thereof. The lower edge portion of the plate 14 is curled upwardly in spiral formation as at 17 to form substantially more than one convolution whereby to provide an upwardly inclined terminal portion 18.

At 19 is disclosed one of the clips used herewith. This clip comprises a relatively narrow sheet metal strip having a body portion 20 having its lower end rebent downwardly as at 21 to form an upwardly extending flange fitting in the channel of the plate 14 which, in turn fits in the channel of the plate 11. The clip 19 has a downwardly offset upper end 21 which rests on the roof structure 10 and is there secured by a nail 22. Thus the clip 19 secures the interlocked channel portions of plates 11 and 12 together and holds the upper edges of both plates to the roof structure.

At 23 is a main roof covering sheet having a plane body portion fitting at its lower edge beneath the terminal portion 18 of the spiral 17 and extending upwardly of the roof in engagement at its upper edge with the rebent portion 16a of plate 14a and near its lower edge on the body of the clip 19.

At its upper edge this plate 23 is provided with a channel portion 24 corresponding in construction and function with the channel at the upper edge of plate 11. Thus the plate 23 covers the clip and its securing nail.

A snow guard and drainage element or plate 14a is fitted to plate 23 in the same manner as that in which plates 14 and 11 are interlocked. A clip 19a is applied to the interlocked parts of plates 23 and 14a and secured as before. Over the clip 19a extends a plate 23a of the same dimensions and form as plate 23. This arrangement is continued throughout the whole roof.

It will now be seen that but four differently shaped elements are employed. These elements are the eave sheet or plate 11, combined snow guards and drainage sheets such as 14, the clips and the main covering sheets or plates such as 23.

It will be noted that when the parts are as-

sembled the spiral portions 17 act to prevent snow accumulated on the roof from sliding off and that these spiral portions also serve to collect water from melting snow or rain water and cause it to be conducted laterally of the roof. Also there is no possibility of rain water being driven up beneath the roof by wind as often happens with shingle and slate roofs.

There has been provided a simple and efficient roof covering of the kind described and for the purpose specified.

It is obvious that changes may be made in the form and construction of this roof covering without departing from the material principles of the invention. It is not therefore desired to confine the invention to the exact form herein shown and described, but it is desired to include all forms which come within the scope of the appended claims.

What is claimed, is:—

1. A roof covering for inclined roofs including a cover sheet extending longitudinally of the roof, a snow guard member having a flat portion resting on the upper part of said sheet, interlocking means formed on said sheet and snow guard at the upper edges thereof, a securing clip engaging said interlocking means and extending up the roof therefrom to have its upper end nailed to the roof, and a second cover sheet having its lower edge engagingly fitted under a portion of said snow guard and extending up the roof over said interlocking means and clip.

2. A roof covering for inclined roofs including a cover sheet extending longitudinally of the roof, a snow guard member having a flat portion resting on the upper part of said sheet, interlocking means formed on said sheet and snow guard at the upper edges thereof, a securing clip engaging said interlocking means and extending up the roof therefrom to have its upper end nailed to the roof, and a second cover sheet having its lower edge engagingly fitted under a portion of said snow guard and extending up the roof over said interlocking means and clip, the interlocking means on the sheet and snow guard comprising rebent upper edge portions forming downwardly opening channels of the upper sides of the sheet and snow guard with the snow guard channel fitting in the sheet channel, said clip having a rebent portion beneath its lower end engaging in the snow guard channel.

3. A roof covering for inclined roofs including a cover sheet extending longitudinally of the roof, a snow guard member having a flat portion resting on the upper part of said sheet, interlocking means formed on said sheet and snow guard at the upper edges thereof, a securing clip engaging said interlocking means and extending up the roof therefrom to have its upper end nailed to the roof, and a second cover sheet having its lower edge engagingly fitted under a portion of said snow guard and extending up the roof over said interlocking means and clip, said snow guard having its lower edge curved upwardly to form at least one spiral convolution.

4. A roof covering for inclined roofs including a cover sheet extending longitudinally of the roof, a snow guard member having a flat portion resting on the upper part of said sheet, interlocking means formed on said sheet and snow guard at the upper edges thereof, a securing clip engaging said interlocking means and extending up the roof therefrom to have its upper end nailed to the roof, and a second cover sheet having its lower edge engagingly fitted under a portion of said snow guard and extending up the roof over said interlocking means and clip, the interlocking means on the sheet and snow guard comprising rebent upper edge portions forming downwardly opening channels of the upper sides of the sheet and snow guard with the snow guard channel fitting in the sheet channel, said clip having a rebent portion beneath its lower end engaging in the snow guard channel, said snow guard having its lower edge curved upwardly to form at least one spiral convolution.

5. A roof covering for inclined roofs including a cover sheet extending longitudinally of the roof, a snow guard member having a flat portion resting on the upper part of said sheet, interlocking means formed on said sheet and snow guard at the upper edges thereof, a securing clip engaging said interlocking means and extending up the roof therefrom to have its upper end nailed to the roof, and a second cover sheet having its lower edge engagingly fitted under a portion of said snow guard and extending up the roof over said interlocking means and clip, said first mentioned cover sheet having a downwardly bent roof edge protecting flange extending along its lower edge.

6. A roof covering for inclined roofs including a cover sheet extending longitudinally of the roof, a snow guard member having a flat portion resting on the upper part of said sheet, interlocking means formed on said sheet and snow guard at the upper edges thereof, a securing clip engaging said interlocking means and extending up the roof therefrom to have its upper end nailed to the roof, and a second cover sheet having its lower edge engagingly fitted under a portion of said snow guard and extending up the roof over said interlocking means and clip, the interlocking means on the sheet and snow guard comprising rebent upper edge portions forming downwardly opening channels of the upper sides of the sheet and snow guard with the snow guard channel fitting in the sheet channel, said clip having a rebent portion beneath its lower end engaging in the snow guard channel, said first mentioned cover sheet having a downwardly bent roof edge protecting flange extending along its lower edge.

7. A roof covering for inclined roofs including a cover sheet extending longitudinally of the roof, a snow guard member having a flat portion resting on the upper part of said sheet, interlocking means formed on said sheet and snow guard at the upper edges thereof, a securing clip engaging said interlocking means and extending up the roof therefrom to have its upper end nailed to the roof, and a second cover sheet having its lower edge engagingly fitted under a portion of said snow guard and extending up the roof over said interlocking means and clip, said snow guard having its lower edge curved upwardly to form at least one spiral convolution, said first mentioned cover sheet having a downwardly bent roof edge protecting flange extending along its lower edge.

8. A roof covering for inclined roofs including a cover sheet extending longitudinally of the roof, a snow guard member having a flat portion resting on the upper part of said sheet, interlocking means formed on said sheet and snow guard at the upper edges thereof, a securing clip engaging said interlocking means and extending up the roof therefrom to have its upper end nailed to the roof, and a second cover sheet having its lower edge engagingly fitted under a por-

tion of said snow guard and extending up the roof over said interlocking means and clip, the interlocking means on the sheet and snow guard comprising rebent upper edge portions forming downwardly opening channels of the upper sides of the sheet and snow guard with the snow guard channel fitting in the sheet channel, said clip having a rebent portion beneath its lower end engaging in the snow guard channel, said snow guard having its lower edge curved upwardly to form at least one spiral convolution, said first mentioned cover sheet having a downwardly bent roof edge protecting flange extending along its lower edge.

ROBERT EDWARD SADTLER.