# P. A. DUGAN.

## SNOW-GUARDS FOR ROOFS.

No. 188,287. Patented March 13, 1877.

FIG. 2.

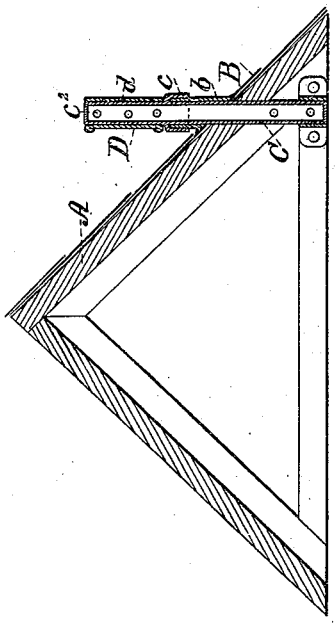



FIG. 6.

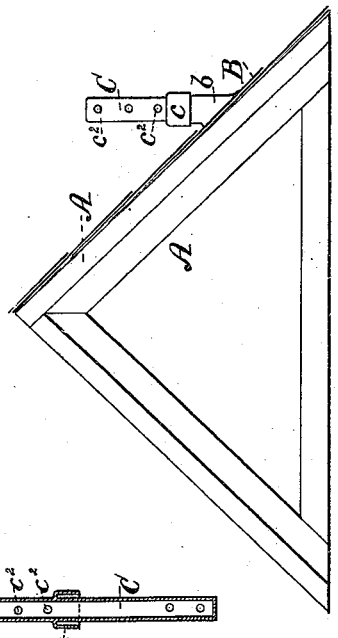



FIG. 4.

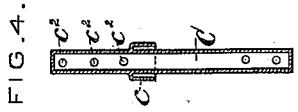



FIG. 1.

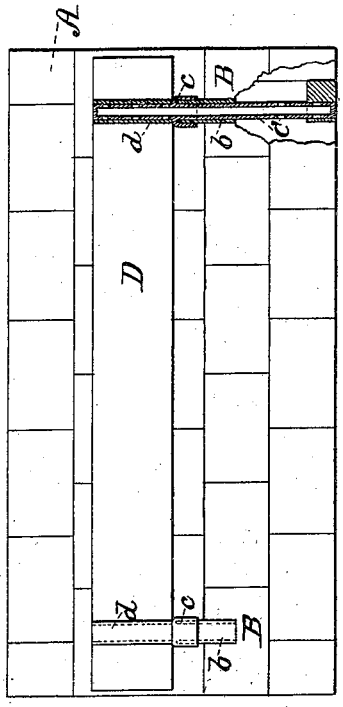



FIG. 3.

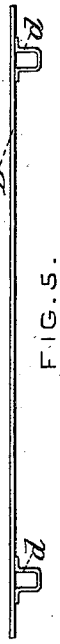
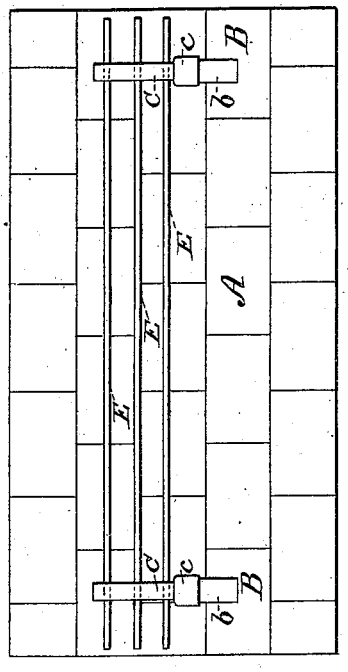



FIG. 5.




WITNESSES

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# UNITED STATES PATENT OFFICE.

PHILIP A. DUGAN, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN SNOW-GUARDS FOR ROOFS.

Specification forming part of Letters Patent No. **188,287**, dated March 13, 1877; application filed February 22, 1877.

*To all whom it may concern:*

Be it known that I, PHILIP A. DUGAN, of Brooklyn, Kings county, New York, have invedted, made, and applied to use Improvements in Snow-Guards for the Roofs of Houses, of which the following is a specification, reference being had to the accompanying drawing, making part of the same, and the letters of reference marked thereon, in which—

Figure 1 is a front view of my improvement in snow-guards, a portion of the roof to which the same has been applied being broken away to show the lower portion of the bar for supporting the board used. Fig. 2 is a transverse sectional view of a roof to which my invention has been applied; Fig. 3, a top view of the snow-board used; Fig. 4, a view of the bar employed to support the same: Fig. 5, a front view of a roof to which my invention has been applied when the snow-guard consists of a series of rails instead of the board. Fig. 6 is an end view of a roof to which my invention has been applied.

In the drawing like parts of the invention are pointed out by the same letters of reference.

The nature of the present invention consists in improvements, as more fully hereinafter set forth, in the construction of snow-guards for houses or buildings provided with peaked or slanting roofs, the object of the invention being to prevent the fall of snow or ice in large bodies from the roof upon which it has lodged, which is of frequent occurrence where snow-guards are not employed, endangering life, and destroying property to a certain extent.

To enable those skilled in the art to make and use my invention I will describe the construction and operation of the same.

A shows the peaked or slanting roof of a house or building to which my invention has been applied. B shows what I term the slate or shingle, composed of iron or any suitable material, for receiving the support C for the snow-guard. This iron slate or shingle B is secured to the roof A, forming one of the course of slate or shingles, and is provided with a socket or support, *b*, welded to it, so that a water-tight joint is formed at its base, which socket or support *b* is placed, when in position, directly over an opening in the roof A, and projects a short distance above the face or upper surface of the iron slate or shingle B. Within the sockets or supports *b* are inserted the lower portions of the bars or supports C for the snow-guard. These bars or supports C may be made from any material sufficiently strong for the purpose for which they are intended, are made smaller in area than the sockets *b*, so they can be entered within the same, and are provided with the cap-pieces *c*, secured upon them in such a position that when the bars or supports C are entered in the sockets or supports *b*, these sockets shall fit snugly upon and cover the sockets *b*. When placed in position the bars or supports C are passed through the sockets *b*, and through the openings in the roof A, until the cap-pieces *c* rest upon and cover the sockets *b* with the bars or supports C. Thus positioned, their lower ends are bolted or secured in any convenient manner to the beams under the roof A. The upper portions of the bars or supports C are provided with a series of openings, $c^2$, through which may be passed a series of rods, E, as shown in Fig. 5, which form the snow-guard and prevent the fall of snow or ice in large bodies from the roof A; or the snow-guard may be composed of a board or plate of metal, D, as shown in Figs. 1 and 3, to which, upon one side, are attached the loops *d*, which are passed over the upper portions of the bars or supports C, and the bases of which loops *d* rest upon the upper portions of the cap-pieces *c*, so that a small space is left between the bars of the board D and the covering of the roof, for the snow, as it is melted, to run into the gutter or leave the roof A; or the board D may be screwed onto the bars or supports C instead of being provided with the loops *d*, as stated.

The number of sockets or supports and lengths of board or rods required will depend entirely upon the length of roof to be protected, the sockets or supports being placed about six feet apart.

It will be seen that by the use of a snow-guard thus constructed the object of the invention is fully accomplished, and that by the employment of the iron slate or shingle with the socket or support, as described, all leakage around or in the vicinity of the supports for the snow-guard is avoided. The guard also

is easily applied to a roof; its cost is not very great, and it can be easily removed when not required.

I am fully aware that snow-guards have been constructed of a series of rails or rods placed one above the other, and supported by bars or supports attached to a roof; also, that a snow-guard formed of a board attached to supports has been used; but I am not aware that the supports for the rails or board have been constructed as mine are, or that they present what I consider the advantages resulting from my mode of construction.

Having now set forth my invention, what I claim as new is—

The combination of the iron slates or shingles B, provided with the sockets *b*, the bars or supports C, provided with the cap-pieces *c*, and the snow-guard, formed of a series of rods, E, constructed and operating substantially as and for the purposes set forth.

PHILIP A. DUGAN.

In presence of—
A. SIDNEY DOANE,
W. V. H. HICKS.