(No Model.)

C. H. GILMAN.

SNOW GUARD.

No. 557,797. Patented Apr. 7, 1896.

Fig. 1.

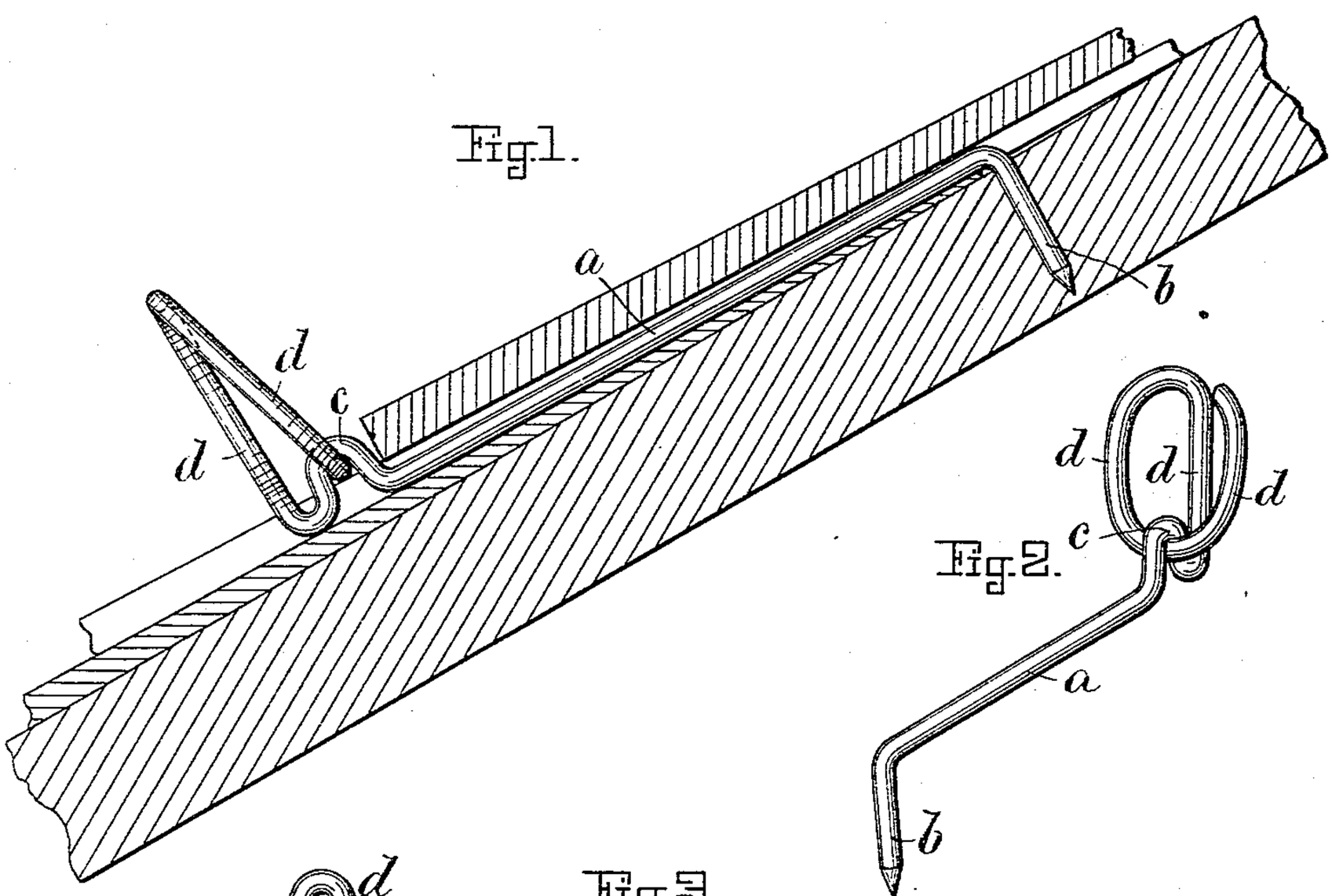


Fig. 2.

Fig. 3.

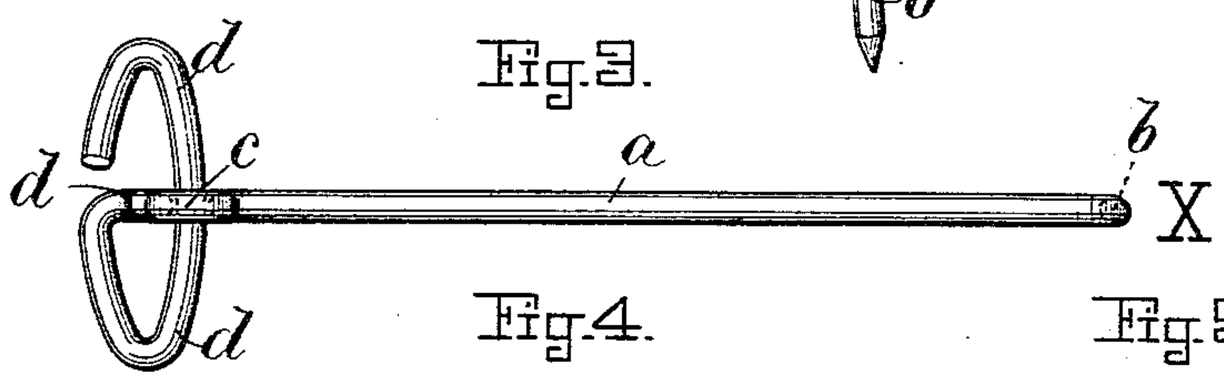


Fig. 4.

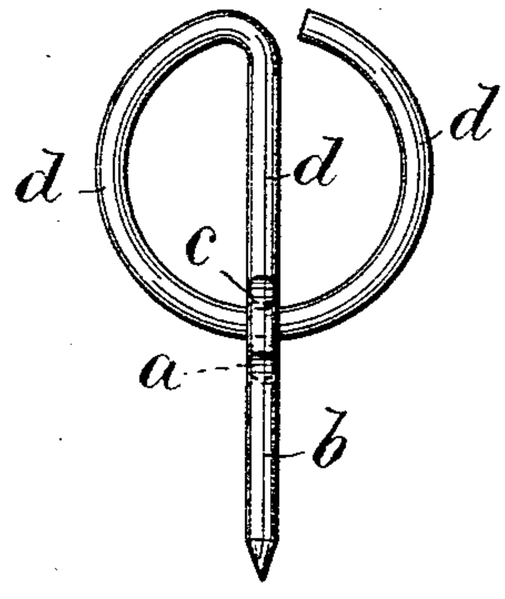
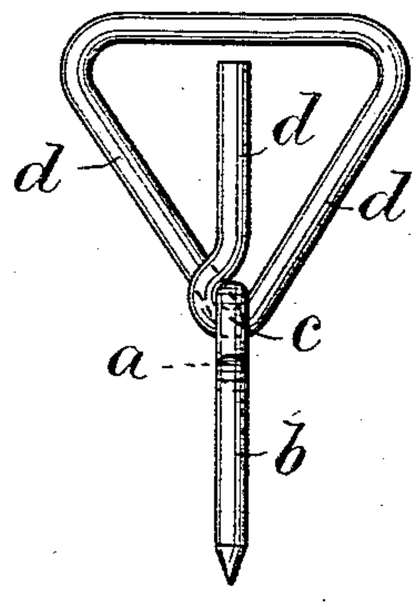


Fig. 5.



Witnesses

Charles H. Jones

Laura De Loiza

Inventor

Charles H. Gilman

by Henry Chadbourn

his Atty.

ANDREW B. GRAHAM, PHOTO-LITHO. WASHINGTON, D.C.

UNITED STATES PATENT OFFICE.

CHARLES H. GILMAN, OF MELROSE, MASSACHUSETTS.

SNOW-GUARD.

SPECIFICATION forming part of Letters Patent No. 557,797, dated April 7, 1896.

Application filed December 11, 1895. Serial No. 571,814. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. GILMAN, of Melrose, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Snow-Guards, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in wire snow-guards used on the roofs of buildings to prevent snow-slides, and it relates more especially to improvements in the snow-guards for which Letters Patent of the United States, numbered 549,779 and dated November 12, 1895, were issued to me. In the guard shown and described in said Letters Patent the end of the wire forming the snow-stop is returned in the direction of the shank portion of the guard and engages the loop formed in the shank portion by either passing through the loop or on top of the shank portion above said loop, or the snow-stop proper is bent downward and engages the upper side of said loop, and in either case it has been found that the snow-stop is very liable to become disengaged from the loop in the shank portion when a sidewise or upward pressure is brought to bear upon the stop, thus rendering said loop useless as a means of adding strength to the snow-stop, and consequently defeating the object intended by the use of such a loop.

The object of my present invention is to so form the snow-stop that the snow-stop itself will pass through the loop in the shank portion and under the shank, having enough of said stop on both sides of the loop to lock the snow-stop within the loop, making it impossible to disengage said parts except with great difficulty, and, further, to simplify the construction, to reduce the cost of manufacture, and to increase the strength of the guard.

Heretofore snow-guards have been made of wire in various ways, one of these having been made with the snow-stop bent into the desired form at the lower end of the shank portion and having such snow-stop supported against being turned downward upon the roof by a single bend in the wire only; but such guards have been found to become useless in a short time on account of their weakness, they having been easily bent downward against the roof when any extra strain was brought to bear upon them. To obviate this defect and to increase the strength of the guard, different devices and forms of snow-stops have been designed—as, for instance, the wire forming the snow-stop has been extended downward below such stop, forming a brace resting upon the slates or shingles on the roof; but such a construction, although it has strengthened the snow-stop, has been found to be faulty, as the sharp end of the wire forming the brace digs into the slates or shingles, and when slates are used this form of guard has been found to so dig into the slates as to cause them in many cases to split and break off, thereby causing the roof to leak.

Another form which has been used is that shown and described in my above-named Letters Patent. This latter form of guard has overcome the defects in the other guards by returning the wire in the line of the shank portion after forming the snow-stop and securing such return by engagement with a loop in the shank portion, thereby doubling the strength of the guard and causing curved surfaces only to bear against the slate; but this guard has been found to be difficult to manufacture and required complicated machinery to make the necessary bends in order to return the wire and to cause it to engage the loop in the shank portion.

My present invention consists in so forming the snow-stop that the snow-stop itself will pass under the shank portion of the guard, and preferably in providing the shank portion with a loop substantially as shown in my above-mentioned Letters Patent and causing the wire during the formation of the stop to engage the loop in the shank portion by passing through and under said loop, as will be readily understood by further description of the invention.

The invention is carried out substantially as illustrated on the accompanying drawings, which form an essential part of this specification; but non-essential changes in the shape of a snow-stop are understood to be included herein.

On the drawings, Figure 1 represents a sectional view of a portion of the roof of a building, showing a side elevation of my improved guard in position on the roof. Fig. 2 represents a perspective view of the guard.

Fig. 3 represents a plan view of the guard. Fig. 4 represents an end view of the same as seen from X in Fig. 3. Fig. 5 represents an end view, similar to that shown in Fig. 4, of still another modified form of the guard.

Similar characters of reference refer to similar parts wherever they occur on the different parts of the drawings.

The guard is formed of a single piece of wire bent in the proper shape to accomplish the objects desired. It has the shank portion *a*, adapted to rest within the joint between two shingles or slates, and is provided with means to attach the guard to the roof, which means preferably consists of a portion *b* of the wire bent at right angles to the shank portion, pointed, and when in use driven into the roof, as shown in Fig. 1, similar to guards now in common use; but any suitable means may be employed to attach the guard to the roof, if so desired. The shank portion is also provided near the lower end thereof with a loop *c*, which projects upward from the roof when the guard is in position.

Immediately below the loop *c* the wire is bent into the form of the snow-stop *d*, which may be made circular, square, triangular, or any other form desired. During the formation of the snow-stop the wire is brought into engagement with the loop *c* by passing through and under it, as shown in Fig. 1.

The wire of the snow-stop may engage the loop *c* and pass under the shank portion of the guard at any part of the formation of the snow-stop, but preferably when about one-half or two-thirds of the snow-stop has been formed, as shown on the drawings, thus locking the snow-stop within the loop in the shank portion and making it practically impossible to disengage the snow-stop from the loop when the guard is in position on the roof.

The preferred form of my improved guard is constructed as follows and substantially as illustrated in Figs. 1 to 4, inclusive, on the drawings: After forming the shank portion *a* with the drive end *b* and loop *c* the wire is bent into a circle, or substantially a circle, having a diametral portion, as shown, the plane of the circular portion being substantially at right angles to the plane of the roof and parallel to the lower ends of the slates or shingles when the guard is in position on the roof. The diametral portion is made first, and the circular portion extends downward through the loop *c* from the top of the diametral portion, and then upward from the loop nearly, if not quite, to the top of the diametral portion, as shown.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

1. In a snow-guard made of wire, a shank portion, a loop in the shank portion, a snow-stop, made by a loop in the wire from which the guard is formed, said stop itself passing under the shank portion through the loop therein and extending on both sides of the shank portion, whereby the snow-stop is strengthened and locked to the shank portion, and means for attaching the guard to the roof, for the purpose set forth.

2. In a snow-guard made of wire, a shank portion, a loop in the shank portion, a drive end at the upper end of the shank portion, and a snow-stop at the lower end of the shank portion, said stop having a diametral portion and a circular portion, the circular portion extending through the loop in the shank portion and on both sides of the same, whereby the snow-stop is strengthened and locked to the shank portion, for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 9th day of December, A. D. 1895.

CHARLES H. GILMAN.

Witnesses:
HENRY CHADBOURN,
CHARLES W. JONES.