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O. BERNARDI

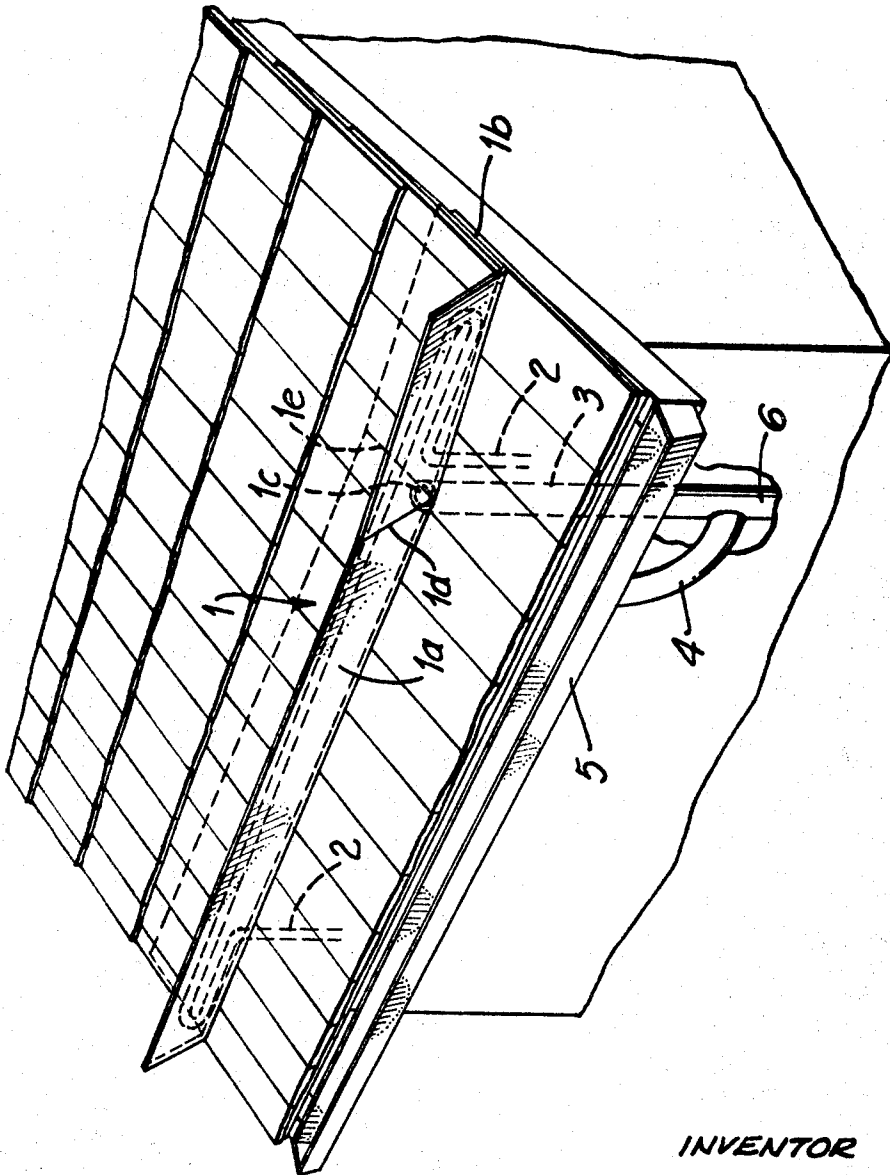
3,431,972

APPARATUS FOR REMOVING SNOW FROM PITCHED ROOFS

Filed Nov. 20, 1967

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FIG. 1.



INVENTOR  
OSCAR BERNARDI

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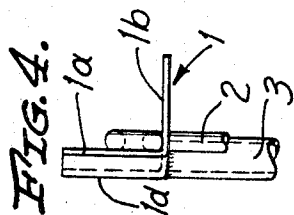
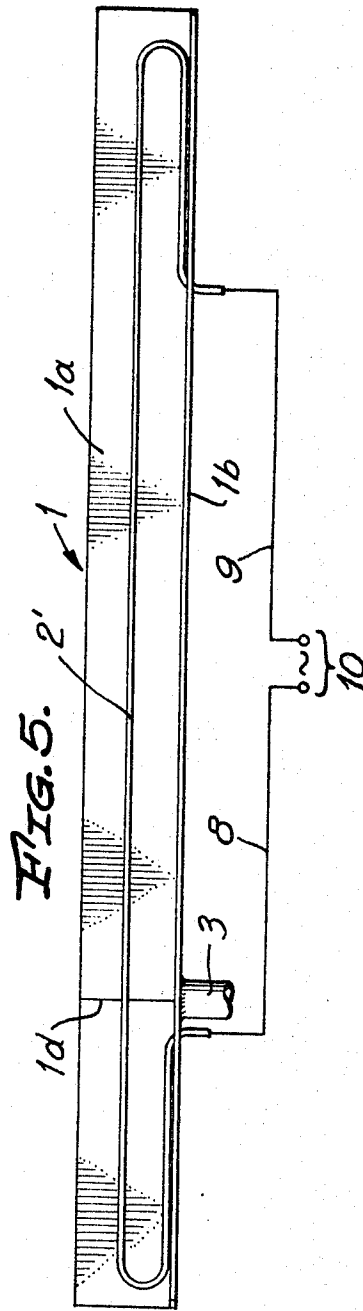
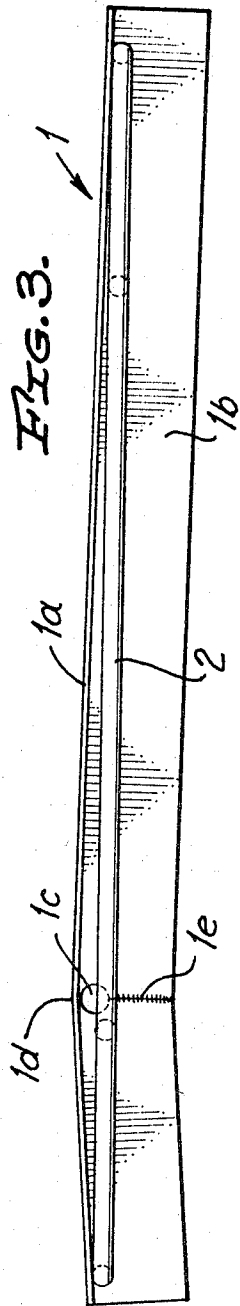
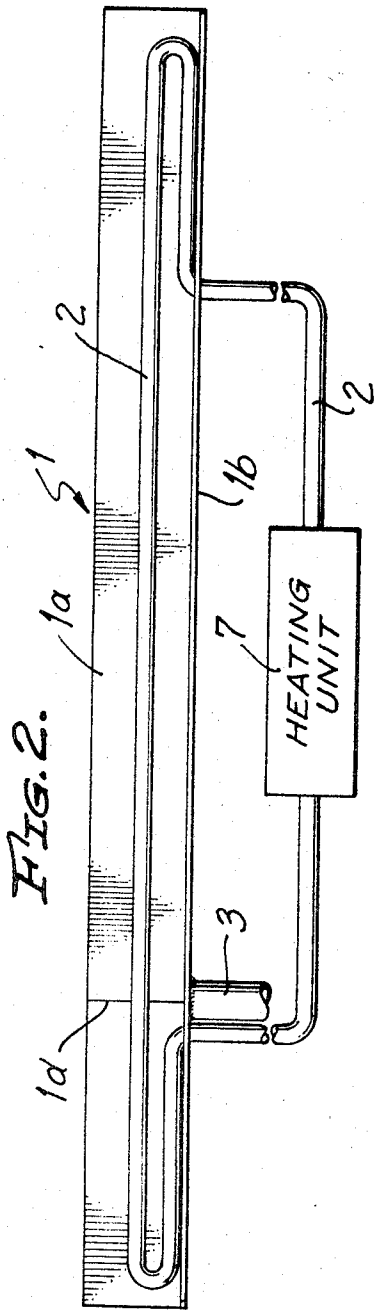
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Sheet 2 of 2



INVENTOR

OSCAR BERNARDI

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**APPARATUS FOR REMOVING SNOW FROM PITCHED ROOFS**

Oscar Bernardi, Ortisei, Bolzano, Italy, assignor to Oscar Bernardi & Co., Ortisei, Italy, an Italian company  
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Int. Cl. F24h 3/00

4 Claims

**ABSTRACT OF THE DISCLOSURE**

A generally V-shaped channel mounted on the sloping side of a pitched roof near the bottom edge and parallel thereto, with one flange flat against the roof, and the other projecting upwardly to provide a barrier which stops snow from sliding off the roof. A heating element extends lengthwise of the channel and melts the snow, which runs off through a drain pipe. As the snow in the channel is melted, the remaining snow above the channel slides down the roof until it is stopped by the barrier flange, where it can be melted by the heating element.

*Background of the invention*

This invention relates to apparatus for removing snow from pitched roofs, and one of its primary objects is to provide means for melting the accumulated snow on a roof top and draining the melted snow off without allowing it to run off the edge of the roof, so as to prevent the formation of icicles. Icicles hanging from the edge of a roof present a dangerous hazard, as they may break off and fall to the ground, causing injury to persons or damage to property.

Another important object of the invention is to provide means for stopping snow from sliding down the incline of a pitched roof and falling to the ground below.

*Summary of the invention*

The invention comprises a drain gutter, or channel, of angular profile, which is mounted on the sloping side of a pitched roof closely adjacent the bottom edge of the roof and approximately parallel thereto. The channel has a barrier flange extending upwardly from the roof's surface, and this barrier flange serves to engage the mass of accumulated snow on the roof-top and hold it against sliding down off the roof. A heater runs lengthwise of the channel, and this serves to melt the snow held back by the barrier flange. The melted snow runs off through a drain pipe. To facilitate drainage of the melted snow, the said barrier flange is inclined upwardly at a slight angle from the horizontal on opposite sides of the drain, so that melted snow tends to run down the incline to the drain pipe.

*Brief description of the drawings*

FIGURE 1 is a perspective view of a portion of a pitched roof, showing the invention mounted thereon;

FIGURE 2 is an elevational view of the invention, as seen from a point on the roof above the channel;

FIGURE 3 is a top plan view of the same;

FIGURE 4 is an end view; and

FIGURE 5 is a view similar to FIGURE 2, showing a slightly different form of the invention.

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*Description of the preferred embodiments*

As shown in FIGURE 1, the invention is designated in its entirety by the reference numeral 1, and comprises a channel of angular profile which is mounted on the sloping side of a pitched roof near the lower edge thereof and parallel thereto. The channel 1 is generally V-shaped, and has two angularly related sides, or flanges, 1a and 1b, which are joined together at a vertex. Side 1b lies flat against the inclined roof surface, and is preferably inserted up under one of the lower courses of shingles, or tiles. Side 1a projects upwardly from the roof surface, perpendicular to side 1b, forming a barrier flange extending across the full width of the roof, which engages the snow pack and prevents it from sliding downwardly.

There is an opening 1c in the side 1b to which the top end of a drain pipe 3 is joined. Drain pipe 3 is joined by another drain pipe 4 from a roof gutter 5, and collection drain pipe 6 carries rain water or melted snow from the two pipes 3 and 4 to a suitable discharge point. At the opening 1c, the side 1a of the channel is bent upwardly at an obtuse angle along bend line 1d, to provide a slight angle of inclination from either end of the channel in toward the opening 1c. This slight inclination causes the melted snow to run toward the opening 1c and down the drain 3. The bend at 1d may conveniently be formed by cutting a narrow, wedge-shaped section out of the side 1b opposite the opening 1c, and then joining the cut edges together by a welded joint 1e, as best shown in FIGURE 3.

Extending along the length of the channel 1 closely adjacent side 1a is a heating element 2, which functions to melt the snow that is held back by the barrier flange 1a. The heating element may take the form of a pipe bent to the configuration shown in FIGURE 2, in which case the ends of the pipe would be connected to a heating unit 7, such as a boiler or water heater supplying steam or hot water to the pipe. The heating unit 7 might also be a part of the central heating system of the building, if desired.

In another form of the invention, shown in FIGURE 5, the heating element is in the form of an electrical resistance element 2', which is suitably waterproofed and insulated, the ends of element 2' are connected by wires 8 and 9 to a source of electrical current 10.

Whereas, in FIGURE 1, the side 1b is shown inserted under the shingles or roofing tiles which cover the roof, it is also feasible to attach the side 1b to the outer side of the roof surface by adhesives or, in the case of sheet metal roofs, by soldering directly to the sheet metal.

What is claimed is:

1. Apparatus for removing snow from a pitched roof having a drain pipe, comprising:

means attached to the inclined surface of said pitched roof adjacent and parallel to the lower edge thereof, forming a generally horizontal channel extending substantially the width of the roof;

said means including a barrier flange projecting upwardly from the surface of the roof to engage snow standing on the roof and prevent the same from sliding down off the roof;

a heating element extending generally parallel to said barrier and closely adjacent thereto;

and drainage means for conveying melted snow from said channel to said drain pipe.

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2. Apparatus as in claim 1, wherein said first-named means comprises a channel of angular profile, having a first side lying flat against the surface of the roof and a second side projecting upwardly therefrom to form said barrier flange, the junction of said sides forming an apex;

said drainage means comprising a drain pipe connected at its upper end to said channel adjacent said vertex at a point spaced inwardly from both ends of the channel;

said second side of said channel being bent upwardly at said drain pipe to form inclined surfaces down which the melted snow flows to the drain pipe.

3. Apparatus as in claim 1, wherein said heating element is a pipe, the ends of which are connected to a heating unit supplying heated fluid.

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4. Apparatus as in claim 1, wherein said heating element is a waterproof, insulated electrical heating element connected to a source of electrical current.

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CHARLES J. MYHRE, *Primary Examiner.*

U.S. Cl. X.R.

126—343.5