

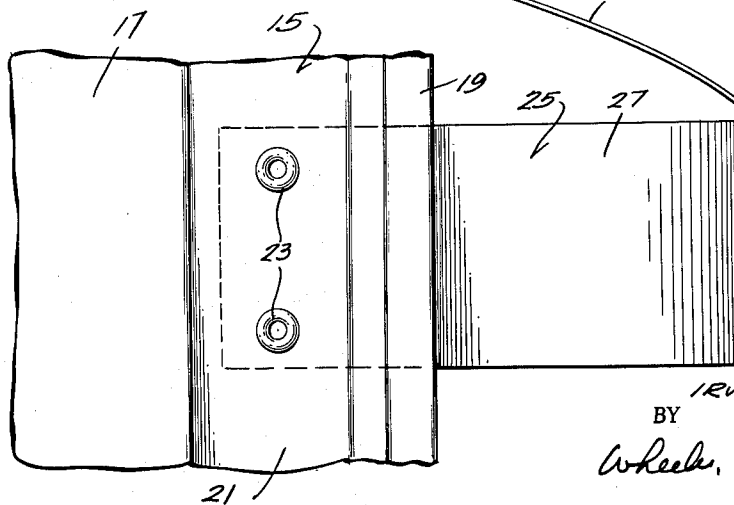
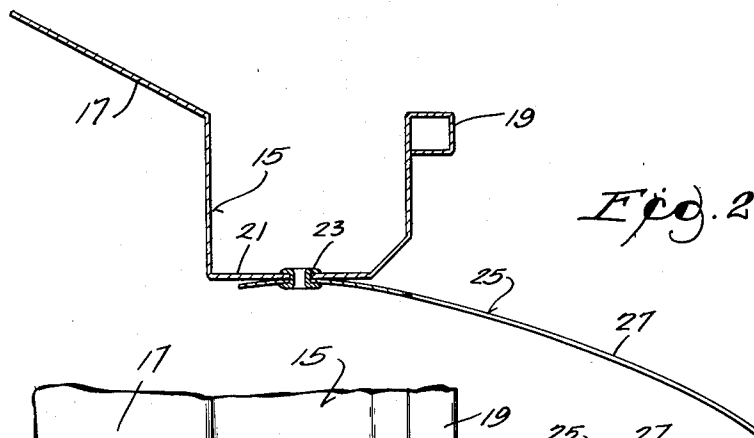
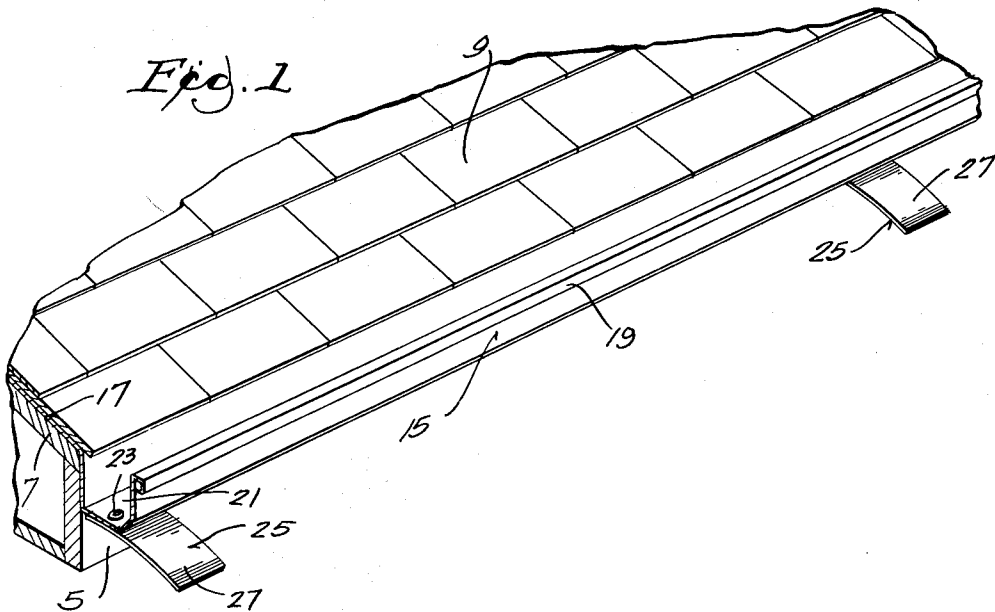
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I. J. WINTERFELDT

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EAVES TROUGH WITH RADIATION ABSORBING ATTACHMENT

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INVENTOR.

IRVING J. WINTERFELDT

BY

Wheeler, Wheeler & Wheeler
ATTORNEYS

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EAVES TROUGH WITH RADIATION ABSORBING ATTACHMENT

Irving J. Winterfeldt, 1537 Shemer Road, Northbrook, Ill.
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This invention relates to an eaves trough with radiation absorbing attachment.

In many areas, accumulations of ice in eaves troughs results in corrosion and other damage. Not only is the eaves trough subjected to excessive weight but water is backed up and may cause the adjacent eaves or roof to rot. In aggravated situations, the water may even enter the building to which the eaves trough is affixed.

I have discovered that relatively small tabs of metal of heat absorbing and conducting characteristics can be attached to an eaves trough at intervals of several feet in a projecting position to receive radiation from the sun or sky, the resulting heating of the trough being sufficient to melt ice and slush and promote the flow and discharge of water from the eaves trough. It is even practicable to use tubular rivets to fasten the heat absorbing tab to the eaves trough so that any localized melting of ice will cause immediate discharge of the resulting water, thus keeping open that portion of the trough nearest to the tab to receive drainage from progressively more remote areas.

In the drawings:

FIG. 1 is a fragmentary view in perspective of a portion of the eaves of a building and a length of eaves trough equipped with radiation absorbing tabs in accordance with the present invention.

FIG. 2 is an enlarged detail view in transverse section through the eaves trough and one of the rivets and a portion of one of the tabs, the remainder of the tab being shown in side elevation.

FIG. 3 is a plan view of the structure shown in FIG. 2.

I have shown in FIG. 1 and FIG. 3 a fragment of a typical eaves trough installation, the eaves being shown at 5, the roof boards at 7 and the shingles at 9.

The eaves trough 15 may be of any desired form in cross section. As shown, the trough has an integral flashing extension at 17 and a bead 19 in rectangular cross section by way of trim of its outer margin.

The bottom 21 of the trough has secured to it as by tubular rivets 23 or otherwise a plurality of radiation absorbing tabs 25 which are usually spaced along the trough as indicated in FIG. 1. In practice, these tabs are usually curved downwardly to a certain extent to expose upwardly and outwardly the relatively broad and generally flat face 27 which absorbs heat.

It is preferred that the metal used to make the tabs 25 should not be shiny. A dull surface of dark color is better for absorbing heat than a shiny surface of any color. However, even a tab of weathered aluminum absorbs a great deal of heat and conducts the heat to the bottom of the trough. Sufficient heat for the purposes of this invention is communicated to a trough on the north side of a building, as well as to a trough in an area which is exposed directly to the sun.

Many people assume that as snow melts in an eaves trough the resulting water will immediately be discharged through the down spout. However, it more often happens that as snow melts in an eaves trough the water is held in suspension in the remaining snow to form slush, with progressive buildup of ice as increments of slush freeze during the night. The snow may act as a wick to pick up water from the bottom of the trough and prevent it from draining off despite the fact that the trough is not fully obstructed by the snow.

With tabs applied to an eaves trough in accordance with

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the present invention, and at any appropriate distance such as 10 or 15 feet apart, sufficient increase in the temperature of the trough is created so that the snow in the trough near the tab is fully melted and the water is drained off through the tubular rivet or otherwise, thus creating an open space which progressively enlarges until the trough is clear.

Leaves which accumulate in eaves troughs tend to float past the small holes provided by the tubular rivets. Consequently, leaves do not seem to obstruct drainage through these rivets.

There is nothing critical about the spacing nor the dimensions of the tabs. Small tabs as shown are very inconspicuous. They need not be bare metal. The surfaces 27 can be painted to match the trim of the eaves or adjacent portions of the house. A layer of paint may increase rather than decrease heat absorption by the tab.

It will also be understood that while I have found the tubular rivets to be desirable, they are by no means an essential feature of the invention. In fact, the tabs may be made as integral parts of the trough or may have soldered or other connection thereto. However, it is desirable that the tabs be applied to the bottom rather than any other part of the trough and I have found the tubular rivet to be superior to any other form of connection because of the ancillary drainage it provides. I have found that ordinary rain water will normally run along the bottom of the trough without overflowing through the rivet but if an obstruction tends to cause water accumulation to any substantial depth, the excess over the height of the rivet will escape through the port which the rivet provides.

I claim:

1. The combination with an eaves trough, of a radiation collecting tab attached in heat conductive relation thereto and projecting outwardly in a generally horizontal direction for a sufficient distance from its attachment to the trough to have a substantial exposure upwardly and having a broad heat absorbing surface exposed toward the sky, whereby said tab is adapted to deliver heat to the trough to melt ice and snow therein.

2. The combination with an eaves trough, of a radiation absorbing tab in heat conductive connection with the bottom of the trough and projecting outwardly in a generally horizontal direction from the trough with a heat absorbing surface sufficiently remote from said connection with the bottom of the trough to be unshaded thereby, said surface facing upwardly, whereby said tab is adapted to deliver heat to the bottom of the trough to melt ice and slush therein.

3. The combination set forth in claim 2 in which said heat absorbing surface is a non-shiny surface curving somewhat downwardly as well as horizontally outwardly from the trough.

4. The combination with an eaves trough, of a radiation absorbing tab in heat conductive connection with the bottom of the trough and projecting outwardly in a generally horizontal direction from the trough with a heat absorbing surface sufficiently remote from said connection with the bottom of the trough to be unshaded thereby, said surface facing upwardly, whereby said tab is adapted to deliver heat to the bottom of the trough to melt ice and slush therein, a tubular rivet providing said connection of the tab to the bottom of the trough and providing a drain outlet from the trough.

5. The combination with an elongated eaves trough having a bottom, of a plurality of tabs spaced at intervals longitudinally of the trough and extending beneath the bottom thereof, each such tab having at least one tubular rivet extending through the bottom of the trough and connecting the tab with the trough while providing an auxiliary outlet from the trough through the rivet, the

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several tabs projecting outwardly from the trough having exposed surfaces adapted to absorb heat radiation and being of conductive material adapted to deliver heat to the bottom of the trough for the melting of ice and slush therein.

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CHARLES SUKALO, *Primary Examiner*.