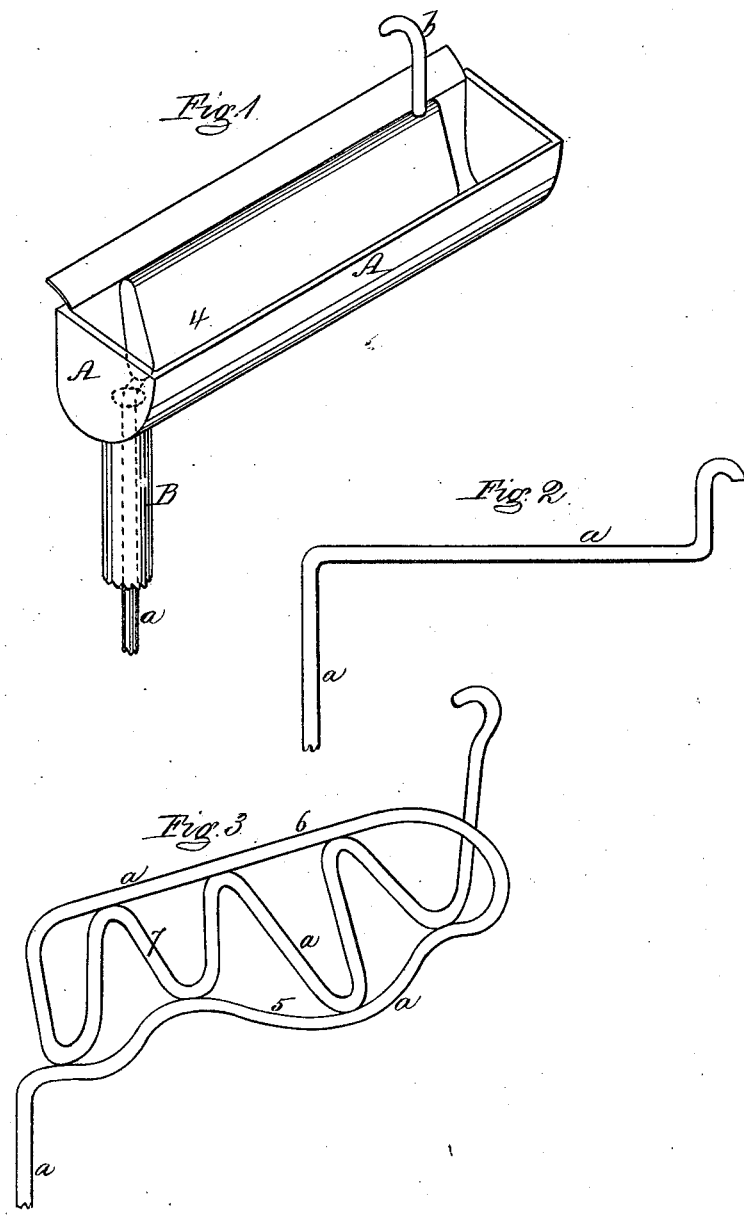


F. O. ROGERS.
Device for Melting Snow and Ice in the Gutters of
Buildings

No. 206,357.

Patented July 23, 1878.



Witnesses;
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UNITED STATES PATENT OFFICE.

FREDERICK O. ROGERS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN DEVICES FOR MELTING SNOW AND ICE IN THE GUTTERS OF BUILDINGS.

Specification forming part of Letters Patent No. **206,357**, dated July 23, 1878; application filed January 2, 1877.

To all whom it may concern:

Be it known that I, FREDERICK O. ROGERS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a Device for Melting Snow and Ice in the Gutters and Conductors of Buildings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the gutter and conductor of a building having my improvement applied thereto. Figs. 2 and 3 are modifications of my invention to be referred to.

Buildings are often damaged to a considerable extent by leakage caused by the gutters and conductors becoming obstructed with ice and snow, which force the water back under the roof.

My invention has for its object to remedy this difficulty; and consists in the introduction within the gutters and conductors of pipes to be heated by the passage through them of hot air, steam, or hot water, whereby the ice and snow are rapidly melted or prevented from accumulating, and the gutters and conductors thus kept clear for the passage of water, as required.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the metallic gutter of a building, and B the conductor leading down therefrom. *a* is a small pipe, which extends up through the conductor B, and is connected at its upper end with a long flattened tube, 4, which is closed at both ends, and is placed within the gutter A, as seen in Fig. 1, forming an enlarged extension of the pipe *a*, the upper edge of the flat tube being in close proximity with the eaves of the roof. *b* is an escape-outlet, the upper end of which is bent down to prevent the entrance of rain or snow.

The pipe *a* is intended to be supplied from any suitable source with hot air, steam, or hot water, which passes up through it and the enlarged flattened portion within the gutter and out through the escape *b*, whereby the pipe is heated, thus causing the ice or snow to be rapidly melted or prevented from accumulating; and by this means the gutters and

conductors of a building can be kept clear and free for the passage of water, and the leakage heretofore occasioned entirely prevented.

Instead of the tube *a* being provided with an enlarged flattened extension, 4, placed within the gutter, as above described, it may be of the same size throughout its length, and be bent into the form seen in Fig. 2, the horizontal portion lying within the gutter along its bottom; or the tube *a* may be bent into the form seen in Fig. 3, the lower portion, 5, (bent in a serpentine form) lying along the bottom of the gutter, where it melts a channel in the ice, the upper portion, 6, melting another channel close to the eaves, while the intermediate serpentine portion, 7, serves to melt channels to connect those formed by the portions 5 and 6, the operation of freeing the gutter from ice and snow being thus rapidly performed, on account of the extent of heating-surface and the manner in which the pipe is disposed.

The upper end of each of the pipes shown in Figs. 2 and 3 is open and bent over, forming an escape similar to that shown in Fig. 1.

I do not claim the sending of heated air or steam or hot water into a conductor and gutter for the purpose of melting ice or to prevent ice from accumulating therein. Neither do I claim the passage of heated air or steam or hot water through tubes or pipes or orifices or air-chambers outside and next to the conductor and gutter for the purpose of melting ice or preventing ice from accumulating in the conductor and gutter; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

In connection with an eaves-gutter and its conductor or leader, the air and water tight heating-pipe *a*, extending within and throughout the entire length of the conductor B and the gutter A, substantially in the manner described, and adapted to circulate hot air, steam, or hot water, as and for the purposes set forth.

Witness my hand this 29th day of December, A. D. 1876.

FREDERICK O. ROGERS.

In presence of—

P. E. TESCHEMACHER,
W. J. CAMBRIDGE.