July 22, 1952 E. G. FISCHER 2,603,892

SNOW REMOVAL DEVICE

Filed Aug. 11, 1948

Fig. 1.

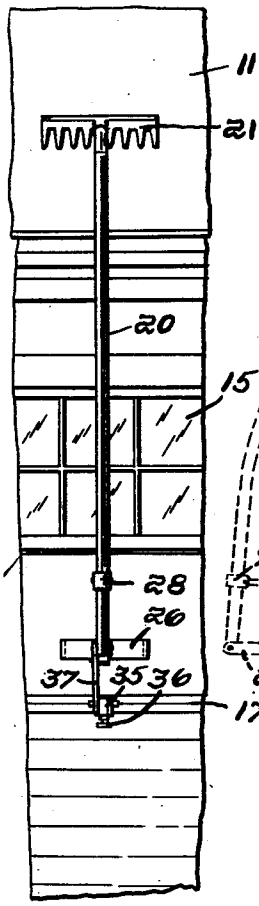


Fig. 2.

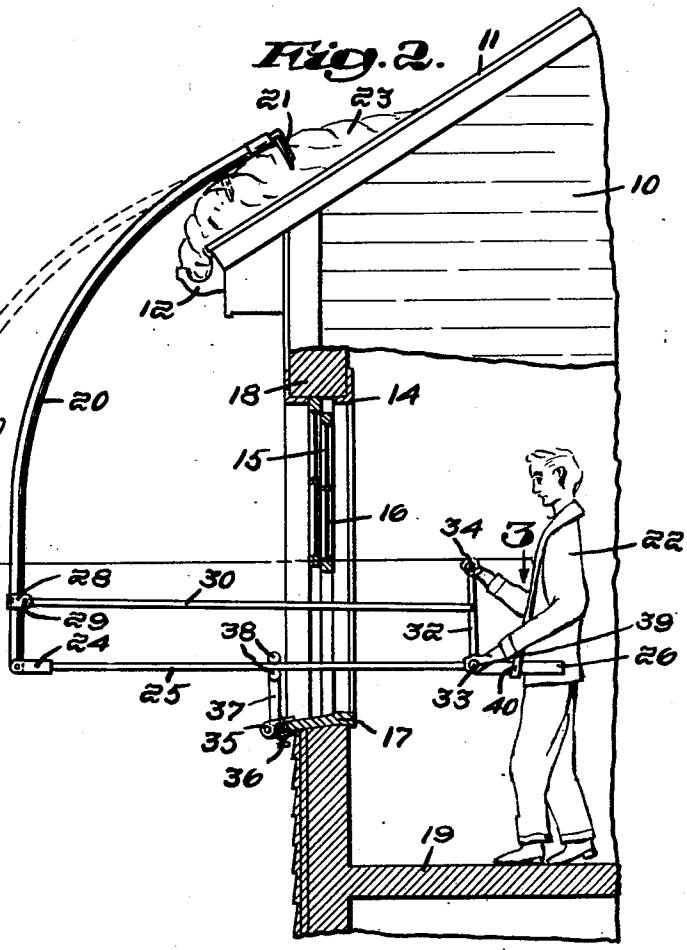
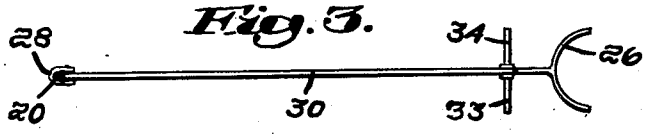


Fig. 3.



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SNOW REMOVAL DEVICE

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1 Claim. (Cl. 37—16)

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My present invention relates generally to snow removal apparatus, and more particularly to a novel device which may be employed effectively to clear snow, sleet, and ice from the lower section of roofs and from gutters by an individual standing within a building.

In all climates where snowfalls occur, a serious condition now arises whenever large amounts of snow accumulate upon the roofs and in the gutters of buildings, particularly dwelling houses having sloping roofs. As a result of alternate thawing and freezing weather aided by the warmth of the roof itself, the snow gradually changes to water which trickles down toward the colder snow on the eaves or gutters which tends to soak it up and freeze into a solid dam of ice. This causes such water thereafter to back up under the slates or shingles and to leak down into the building, thus damaging walls and ceilings.

This is most annoying and often a very costly condition, and as far as I am aware there have never been any mechanical means devised which will overcome this difficulty other than the tedious and dangerous undertaking of climbing up a ladder and removing the snow from the outside.

By my novel construction, a person can readily free his roofs from snow after each storm without any appreciable effort and without going out in the cold to effect the same. By standing on the floor below the roof, opening the window, and adjusting my apparatus into operative position, he may scrape off the snow by merely manipulating a convenient hand lever.

A main object of my invention, therefore, is to provide a foldable unit which may be projected thru an open window, manipulated into roof-engaging position and operated by a person standing inside a building, and which includes provision for removing snow, slush, ice, or the like.

Another prime object of my invention pertains to the arrangements of parts whereby my apparatus may be utilized with the standard window construction, employing either the windowsill, the tops of both windowsashes, or a separate support as a fulcrum means.

A further important object of my invention resides in the versatile characteristics of my invention whereby the same may comprise a complete interconnected unit, or may be adapted to utilize a standard rake, hoe, or the like tool in attached association therewith.

Still further objects of my invention relate

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to the simplicity of its construction, its adaptability, and its inexpensive cost.

Referring now to the drawings wherein I show preferred embodiments of my invention:

Fig. 1 is a front elevational view of my device installed in operative position with a building shown in fragmentary form;

Fig. 2 is a side elevational view of the same showing the building partly broken away to illustrate the operator's position;

Fig. 3 is a cross-sectional view on the line 3—3 of Fig. 2.

In the drawings wherein like figures represent like parts, the numeral 10 designates generally a building having the usual standard construction including a roof 11, gutter 12, windowframe 14, upper and lower window-sashes 15 and 16 respectively, windowsill 17, side wall 18, and flooring 19.

Referring specifically to Figs. 1, 2, and 3 which illustrate the preferred form of my invention, I show my snow removal device as comprising one complete foldable unit in combination with a separate support therefor and present a clear picture of the same in operative position.

In this particular form, I provide a suitable snow-removing element, preferably a rake-like member, as shown, comprising a shaft portion 20 and a rake portion 21, said shaft portion 20 being appropriately curved or bent and of sufficient length to be projected above the roof 11 by an operator 22 so that the rake portion 21 will properly contact the snow deposit 23, and be in desired snow-removing position. The bottom of said shaft 20 is pivotally secured to a socket member 24, into which is threaded or otherwise attached one end of a lower supporting rod 25, the other end of which rod is formed in the shape of a body brace 26, preferably curved, as shown, to fit conveniently against the thigh of the operator 22. Adjustably secured about the shaft 20 above the member 24 is a collar 28, the open part of which encloses one end of an upper operating rod 30 and is pivotally connected therewith by a suitable adjusting pin 29.

The opposite end of said rod 30 is pivotally fastened to a cross-lever 32, said lever, in turn, being formed with hand grips 33 and 34 on each end thereof, the lower grip 33 being pivotally connected with said rod 25, as clearly shown.

If desired, I may rest the lower rod 25 on the inner part of the window sill 17, using the same as a fulcrum, or I may provide a convenient support such as shown in Fig. 2, comprising a

clamp 35 which may readily be attached to the outer part of the sill 17 by the locking screw 36, the top of said clamp supporting an upstanding post 37, which is capped with a pair of rollers 38—38 appropriately spaced so that the rod 25 may be easily snapped therebetween.

As a convenient aid toward maintaining my unit in proper balance during the snow-removing operation, I provide a suitable strap 39 which is adapted to fit over the shoulder of the operator 22 and which is attached to the rod 25 adjacent the body brace 26 by any appropriate means such as a rivet or pin 40.

When utilizing my novel apparatus to clear accumulation of snow 23 from the lower section of a roof 11 adjacent the gutter 12, I initially raise the lower sash 16 and, if desired, secure the clamp 35 to the sill 17. I then project my unit thru the thus open window while yet in folded assembly with the shaft portion 20, supporting rod 25, operating rod 30, and operating lever 32 in substantially parallel relation, positioning the rod 25 between the rollers 38—38 on the post 37, or resting the same on the window sill 17. Thus arranged, I operate the lever 32 into vertical position by means of the handles 33 and 34, thereby automatically elevating the shaft 20 sufficiently so that by slight manipulation I may maneuver the rake portion 21 into contact with the snow 23, as desired.

Now, fitting the strap 22 over my shoulder and adjusting the brace 26 against my thigh, I am prepared to commence the snow-removal operation. Of course, such snow clearance may be effected in many ways but I find a practical method is to grasp each grip 33 and 34, and with the lever 32 in vertical position, holding such grips rigidly while advancing a few steps toward the open window until the rake portion 21 carries the snow 23 beyond the roof 11 and gutter 12. The rake 21 is then remaneuvered into snow-removing location on the roof 11, and the process repeated.

It will further be apparent that a person operating my invention need have no skill to manipulate the same but may easily maneuver the rake, hoe, or similar scraping tool into desired snow-removing position on the roof. In fact, with my device, an operator may whip the rake or hoe with sufficient force to penetrate crusty snow or ice, which is often a most desirable consideration.

I claim:

As a new article of manufacture, snow-removal apparatus of the kind described for use on building roofs and operable thru a window from within the building, comprising in foldable association a horizontal window-sill contacting member, a roof-engaging snow-removing member pivoted thereto and extending upwardly therefrom, a hand lever having one end pivoted to the inner end of said horizontal member, and a connecting rod substantially parallel to said horizontal member and having one end pivoted to said hand lever at a point spaced from the horizontal member pivot, and the opposite end adjustably and pivotally clamped to said snow-removing member, at a point spaced from its lowermost end, whereby relative rocking movement of the hand lever on its pivot at the inner end of the horizontal member will actuate the snow-removing member.

EDWARD G. FISCHER.

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