Nov. 23, 1965 R. E. BOWERMAN 3,218,738

SNOW SCOOP

Filed March 28, 1963

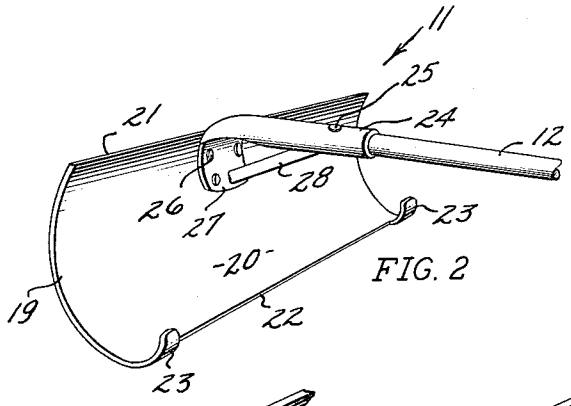

FIG. 2

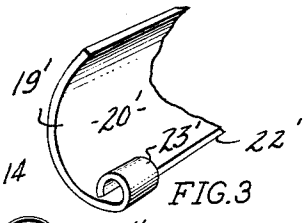

FIG. 3

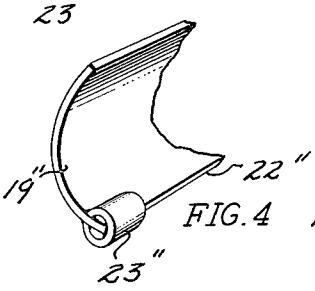

FIG. 4

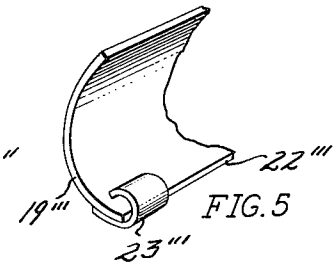

FIG. 5

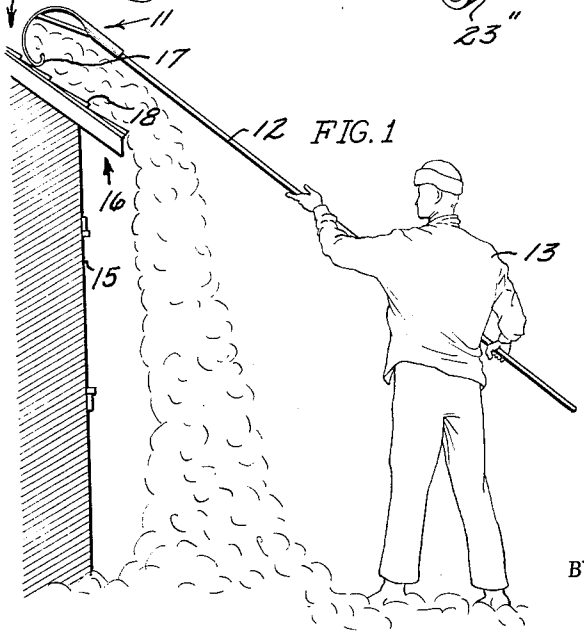

FIG. 1

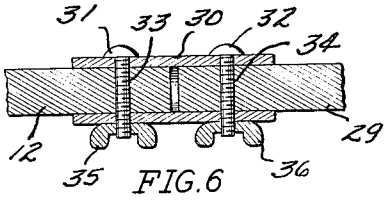

FIG. 6

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SNOW SCOOP

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The present invention is directed to a snow scoop and more particularly to a concave work faced structure useful for removal of ice and snow from the eave areas of house roofs without damage to shingles or roofing. Still more particularly, the invention is directed to a lightweight scoop having an elongate handle permitting the householder to remove snow burden from the eave areas of his roof without the necessity for using ladders, scaffolding, or the like during the winter months of snowfall, and wherein skids, extending from the scoop provide an avoidance of damage to roofing materials.

In northern climates, particularly, homeowners are aware of the damage to roofs brought about by the heavy snow burden at the unsupported overhang of the roof at the eaves. The damage is not restricted to the strain imposed by loading. The damage is also related to the building up of ice and snow so that, as the ice and snow melts and alternately freezes on the roof, it is forced upward and under the shingles, through the underlayment and sheathing and ultimately results in leaks and damp walls where the water is forced inside and upward by the alternate freezing and thawing condition. Homeowners have found that this condition is avoided if the eave area can be kept free of accumulated snow and ice. No tools for this purpose have been devised. As a result, shovels, and even garden rakes, have been put to use at great danger to the users and to the roofs since such implements occasionally rip or pierce the roofing material.

The present invention has, therefore, been devised to allow the homeowner to strip roof edge accumulations of ice and snow without damage to the roof and without ever leaving the ground.

Newer homes tend to have relatively shallow rather than steep roofs. This makes it more and more necessary to provide some simple means of snow removal.

Accordingly, the principal object of the present invention is to provide a unique concave faced snow and ice scoop for roofs.

Another object is to provide such a roof scoop wherein a handle extension is provided.

Still another object is to provide skid-like appendages to the working edge of such scoops so as to avoid damage to roofs and roofing material.

Other objects including rugged service construction will be more completely appreciated by those skilled in the art as the description proceeds.

General description

In general, the invention comprises a blade element which is elongate and concave in curved planar form between the upper and lower edges. A socket is secured to the blade and extends from midway between the ends of the blade outwardly in the direction faced by the concave surface. The lowermost working edge of the blade is provided with skid-like projections which continue the concave surface but curve upwardly toward the concave surface of the blade thus spacing the working edge from surface contact where, for example, the scoop is drawn across a plane surface. The skid-like projections provide a spacing interval and their plane curvature allows the movement of the scoop over a roof surface without allowing corners or edges of the structure to dig into the roofing material.

The handle structure is of light weight and is selectively extendable as by the addition of handle sections using a sleeve connector. This allows the homeowner to reach upward in accord with variant roof heights and the like and in avoidance of using ladders and the like.

In operation, the blade is extended upward by the operator and is then lowered into skid engagement with the roof. Then the blade is pulled by means of the operator in a downward motion toward the edge of the roof. The concave surface is thus moved toward the roof edge and entrapped snow and ice is thus scraped from the roof. The lower working edge of the blade is maintained in a parallel spaced relation above the roof plane surface by reason of the skid extensions and the skid extensions ride over the shingles or lapped roofing without gouging or damage. The homeowner then moves over and removes another strip of snow and ice from the roof edge.

In the drawings:

FIGURE 1 is a side elevation view of a house showing a homeowner using the scoop of the present invention for removal of ice and snow burden from the roof area adjacent the eaves.

FIGURE 2 is a perspective view of a scoop in accord with the present invention as seen by a user.

FIGURE 3 is a perspective partial view of a blade modified from the blade of FIGURE 2 wherein a complete curl characterizes the skid element.

FIGURE 4 is a perspective partial view of a blade in accord with the present invention and employing a split tube as a skid element.

FIGURE 5 is a perspective partial view of blade in accord with the present invention wherein a non-integral element is secured to the blade to provide the skid element.

FIGURE 6 is a full section elevation view of a tubular sleeve element as employed for attachment of handle extensions.

Specific description

Referring to the drawing and in particular reference to FIGURE 1, a scoop **11** attached to the handle **12** is shown extended upwardly by a homeowner or user **13** and onto the roof **14** of house **15** in the area of the eaves **16**. It will be seen that as the scoop **11** is drawn downwardly along the plane of the roof **14**, the skids **17** provide a guide so that the blade of the scoop **11** can at no time gouge the shingles **18** or roof **14**. The skids **17** ride over the irregularities and maintain a smooth glide by reason of the curl and positioning of the skids **17**. This action removes the snow and ice debris from a critical area adjacent the eaves **16** and prevents icing and water damage to the roof **14** and house **15**.

In FIGURE 2 the preferred embodiment of the scoop **11** is shown. This comprises a blade **19** which is a generally rectangular piece of metal formed to provide a concave face **20** between an upper edge **21** and a lower working edge **22**. A pair of skid-like projections **23** extend from the blade **19** in a generally tangential manner and then curve arcuately upwardly and rearwardly toward the concave face **20**. The skid-like projections **23** are positioned at each end of the blade **19** and become the curved plane skids **17** seen in the schematic representation in FIGURE 1. A handle **12** is secured to the blade **19** so that the blade **19** is pulled toward the user **13** and snow and ice debris is scraped up by the working edge **22** and is gathered by the concave face **20**.

The handle **12** is a lightweight elongate wood or metal tubular element which is insertable and secured in a socket **24** and is secured in place as by through fastener **25** or other suitable means such as by means of internal mating threads, rivets or the like as well known in the art of attaching handles in sockets. As will be seen later, the handle **12** is extendable in sectional increments to adjust for desired length.

The socket **24** is tubular to receive the handle **12** and is secured to blade **19** at the upper edge **21** thereof and midway between the ends of the blade **19**. This attachment of socket **24** to the concave face **20** of the blade **19** is accomplished by welding, brazing, or by rivet fasteners **26**, as shown. It will also be understood that the socket **24** may under certain circumstances be made integral with the blade **19** without departure from the spirit of the invention. The socket tongue portion **27** stiffens the blade **19** so that relatively thin light weight stock may be employed; the socket **24** is also provided with strap brace **28** diagonally in the plane of handle **12** and socket **24** which strengthens the connection of socket **24** to blade **20** in elimination of fatigue between socket **24** and blade **20**. This ideally adapts the scoop **11** to the contemplated pulling action on the handle **12**.

In FIGURE 3 a modified blade **19'** is shown in which a recurled skid **23'** is employed. The recurled skid **23'** is made integral with the blade **19'** and extends tangentially therefrom at the ends of the working face **22'** and then spirals outward and upward to substantially close on the concave surface **20'**. The tangential extension is sufficient to space the working face **22'** from contact with a plane surface over which the blade **19'** is drawn.

FIGURE 4 represents another modification of skid to blade. The skid **23''** on blade **19''** comprises a split tube slipped over the blade **19''** at the ends of the working face **22''** and secured thereto as by welding or brazing. The wall thickness of the tubular skid **23''** provides the desired spacing interval in use between the surface worked on and the working edge **22''**. Where spacing is desired to be greater than the wall thickness of the tubular skid **23''**, then attachment of the tubular skid **23''** to the blade **19''** is selected to provide the desired offset from the working edge **22''**. The selection of diameter for the tubular skid **23''** is made in accord with the skid action desired and approximates the action obtained by the skids **23** and **23'**. The advantage is a matter of cost since less scrap is involved with the non-integral skid **23''**.

In FIGURE 5 still another modification of the invention is shown wherein a non-integral skid **23'''** is secured to the blade **19'''** at each end of the working edge **22'''** as by welding, brazing or riveting to the blade **19'''**. The form of the curl is either as in FIGURE 1 or FIGURE 3 and again some cost advantage is obtainable by reason of a stock saving unobtainable if the skid were formed integrally with the blade. Substantially equal performance is achieved using the skid **23'''** and the working edge of the blade **22'''** is seen to be more rigid in the FIGURE 5 form of structure.

In FIGURE 6 the handle **12** is shown extended by addition of extension handle increment **29** as secured together by coupler **30**. The handle extension **29** is made from wood or tubular metal stock. The coupler **30** comprises a tubular section of an internal diameter to provide a slip fit over the diameter of handle **12** and increment **29**. The coupler **30** is pierced diametrally to accommodate screws **31** and **32** which pass through openings **33** and **34** in register with the pierced openings in the coupler **30**. Wing nuts **35** and **36** respectively serve to threadably engage the screws **31** and **32** to secure the handle **12** and handle increment **29** in parallel axial alignment and against the pulling action imparted through the handle and to the scoop **11**.

Operation

In operation, the scoop of the present invention is assembled to suitable length by adding selected handle increments. This allows the scoop to be extended from the ground and onto the roof adjacent the eaves. By pulling the scoop toward the eaves the snow and ice debris is scooped off of the roof edge. During this action, the skid members ride over roof irregularities and space the lower working edge of the scoop blade from damaging contact with the roof or roofing materials. Seasonal usage of the scoop of the present invention has resulted in avoidance of roof damage at the eaves which is so prevalent in newer homes with shallow roof overhang.

Having thus described my invention, additional changes, modifications, and improvements will be appreciated by those skilled in the art and such changes, modifications and improvements are intended to be included as they fall within the scope and spirit of the hereinafter appended claims.

I claim:

1. An ice and snow scoop for manual pulling without endangering surfaces over which said scoop moves comprising:
   (a) a concave blade having a lower working edge;
   (b) a handle secured to said blade at the upper edge thereof and extending outwardly from the concave surface of said blade; and
   (c) a pair of skid means in spaced apart relation depending from said lower working edge and arcuately rolled back toward said concave surface of said blade spacing said working edge upward in avoidance of engagement with a plane surface over which said blade is pulled.

2. An ice and snow scoop for manual pulling without endangering surfaces over which said scoop moves comprising:
   (a) a concave blade, the concave side of which is the working surface and including an upper edge and a lower working edge, said edges being in parallel spaced apart relation;
   (b) a socket extending from and secured to said upper edge of said blade and extending outwardly from said concave working surface;
   (c) a sectional handle secured in said socket and extending transversely from said concave surface of said blade; and
   (d) a pair of skid means in spaced apart relationship depending from said lower working edge and arcuately rolled back toward said concave surface of said blade spacing said lower working edge upwardly in avoidance of engagement with a plane surface over which said blade is drawn.

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