July 19, 1966 O. C. NELSON ETAL 3,261,095

ICE SCRAPER FOR WINDSHIELDS AND THE LIKE

Filed May 18, 1964

FIG. 1

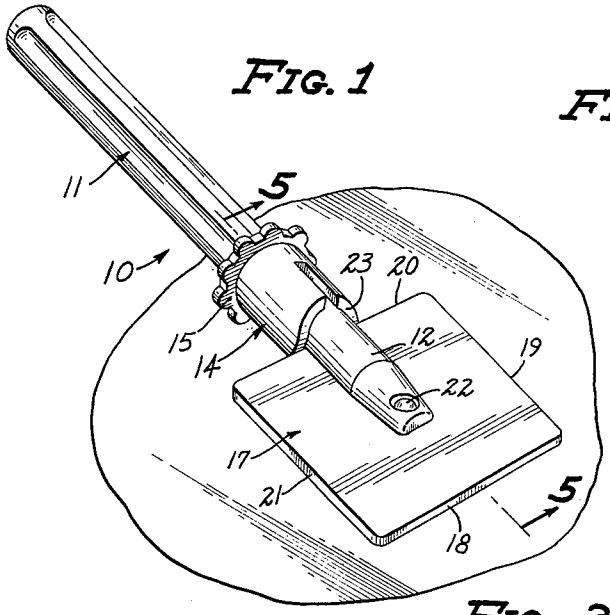


FIG. 2

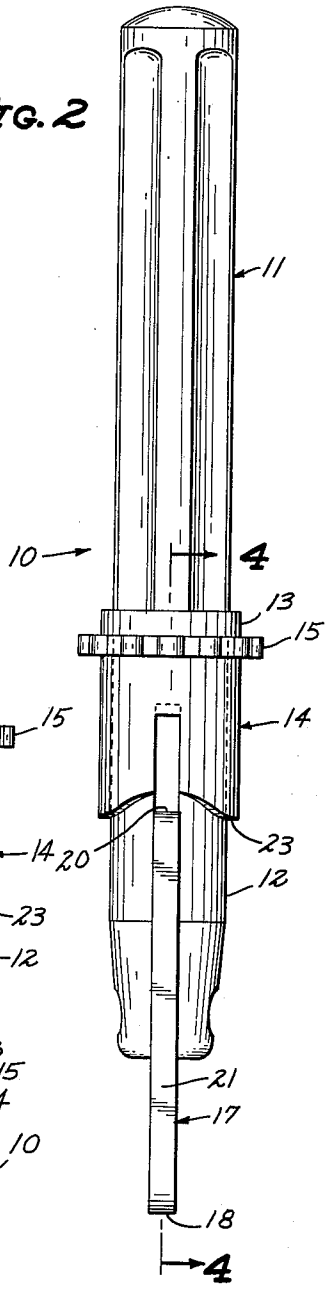


FIG. 4

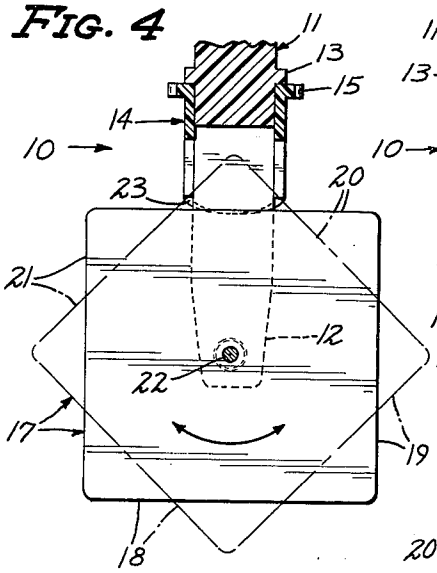


FIG. 3

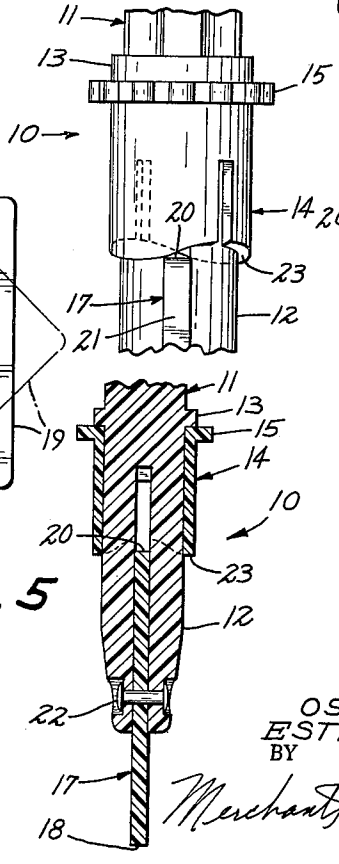


FIG. 5

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ICE SCRAPER FOR WINDSHIELDS AND THE LIKE

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1 Claim. (Cl. 30—169)

This invention pertains to improvements in ice scrapers and more particularly to an ice scraper having a rotatable blade.

There are numerous manually operated ice scrapers commercially available at the present time, a great many of these devices being manufactured from inexpensive material such as plastic or the like.

One of the main disadvantages of these prior art ice scrapers is that they become dull after repeated use and must be discarded. The present invention, on the other hand, provides an ice scraper having a rotatable multisided blade so that if one side of the blade becomes dull, a new side can be rotated into place thereby providing greatly increased scraper life.

Basically, the present invention pertains to an ice scraper comprising a handle having a multisided blade rotatably mounted at one end thereof on an axis transverse to the handle. Locking means are provided to prevent rotation of the blade relative to the handle. When one side of the blade becomes dull or damaged, the blade is unlocked and a new, or unused, side of the blade is rotated into operable position.

It is one object of this invention, therefore, to provide an improved ice scraper.

Another object of this invention is to provide an ice scraper having a multisided rotatable blade portion.

These and other objects of the present invention will become apparent to those skilled in the art upon consideration of the accompanying specification, claims, and drawings.

Referring to the drawings, wherein like characters indicate like parts throughout the several views:

FIG. 1 is a view in perspective;

FIG. 2 is an enlarged view in side elevation of the structure of FIG. 1, the locking sleeve thereof being shown in a blade releasing position;

FIG. 3 is a fragmentary view in side elevation of a portion of FIG. 2, the locking sleeve being shown in a blade locking position;

FIG. 4 is a view in axial section as seen from a line 4—4 of FIG. 2; and

FIG. 5 is a view in axial section as seen from the line 5—5 of FIG. 1, the locking sleeve being shown in a blade releasing position.

Referring to the drawings, there is shown an embodiment of the ice scraper invention indicated generally by the numeral 10. Ice scraper 10 has a handle 11 having a bifurcated end portion 12. Handle 11 further has a raised stop flange portion 13 interposed between its ends.

A bifurcated sleeve member 14 is concentrically mounted over the bifurcated end 12 of handle 11. One end of sleeve member 14 has a raised flange portion 15 which rests against the stop flange 13 of handle 11. The edge of the raised flange portion 15 is knurled or serrated to provide a firm gripping surface for rotating sleeve member 14 relative to the handle 11.

A multisided blade 17, shown as a square blade having sides 18, 19, 20, and 21, is positioned between the tines of bifurcated end 12 of handle 11 and is rotatably mounted on a shaft 22 extending through the bifurcated end 12 transverse to the axis of handle 11.

An end of sleeve member 14 defines a camming surface 23 which cams against one side of blade 17 when the sleeve member 14 is rotated, thereby holding blade 17 in a nonrotatable position. For example, as shown in FIG. 1, the camming surface 23 of sleeve 14 is cammed against side 20 of blade 17 thereby preventing blade 17 from rotating. In this position, the two edges of side 18 of blade 17 would be used as the scraping surface to remove ice from any desired surface, such as an automobile windshield.

When the edges of side 18 of blade 17 become dull or damaged, the sleeve 14 is rotated to an unlocked position wherein the bifurcated end of sleeve 14 is aligned with the bifurcated end of handle 11, as shown in FIG. 2, and the blade 17 is rotated until a new side of blade 17 is in the ice scraping position. For example, if blade 17, of FIG. 1, were rotated one-quarter turn clockwise, side 19 of blade 17 would be facing in the forward, or ice scraping, position, and the camming surface 23 of sleeve 14 would cam against side 21 of blade 17. It is obvious from the description that the spacing between the bifurcated end of sleeve 23 must be greater than the thickness of blade 17 so that blade 17 is free to rotate to a new position when one side of the blade becomes dull or damaged.

It is to be understood that while we have shown a specific embodiment of our invention, that this is for the purpose of illustration only, and that our invention is to be limited solely by the scope of the appended claim.

We claim as our invention:

An ice scraper comprising:

(a) an elongated handle having a bifurcated end;

(b) a circumferentially extending stop flange on said handle;

(c) a bifurcated sleeve member concentrically mounted on said handle, one end of said sleeve member resting against said stop flange, the bifurcated end of said sleeve member defining a camming surface, said sleeve member being rotatable relative to said handle; and

(d) a multiedged blade rotatably mounted between the tines of said bifurcated end of said handle on an axis transverse to said handle, the camming surface of said sleeve member camming against one edge of said blade to lock said blade in a nonrotatable position, said blade being rotatable when the bifurcated sleeve and the bifurcated end of said handle are aligned.

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