March 24, 1942. C. L. OSBORN 2,277,528

WINDSHIELD ICE SCRAPER

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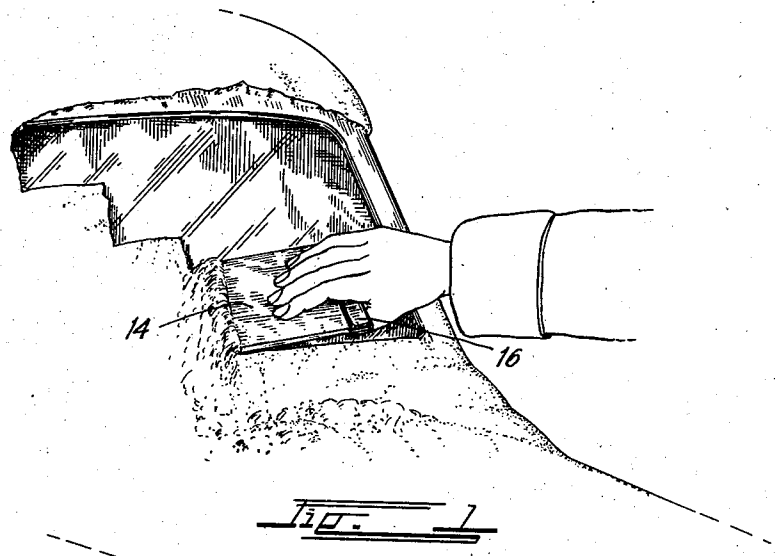


Fig. 1

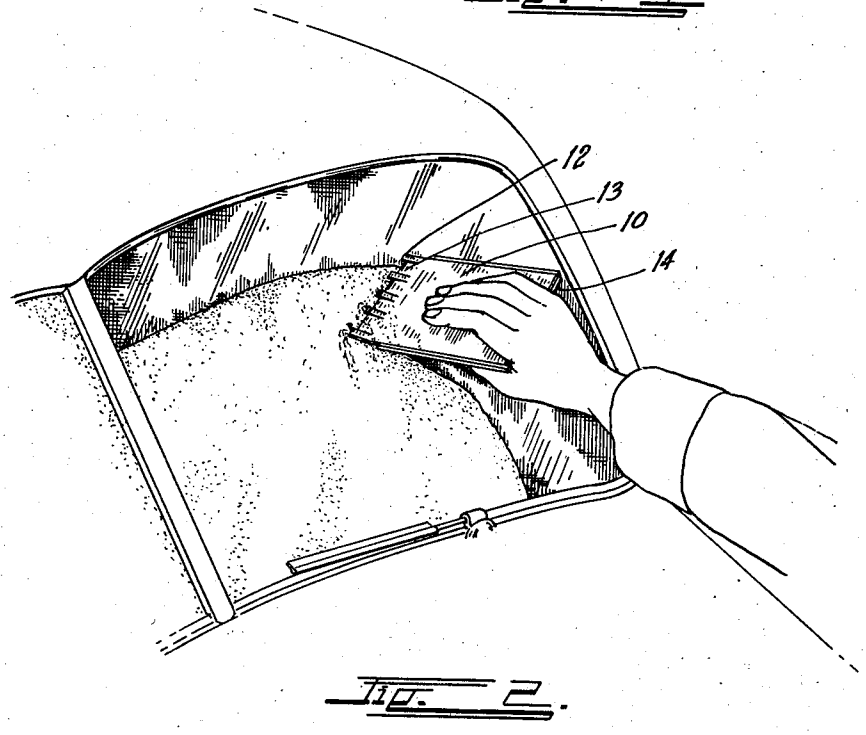


Fig. 2.

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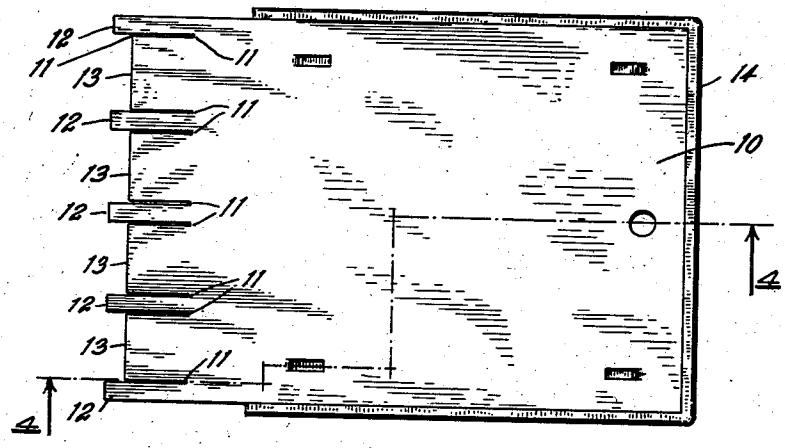


Fig. 3.

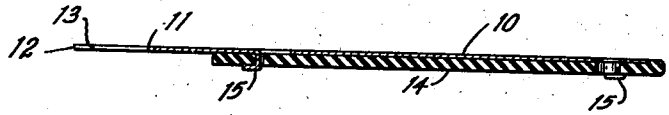


Fig. 4.

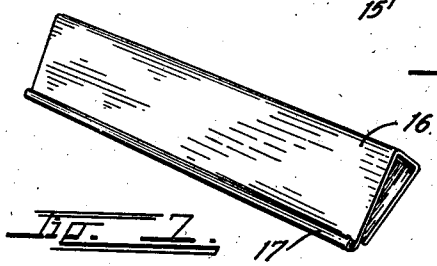


Fig. 7.

Fig. 5.

Fig. 6.

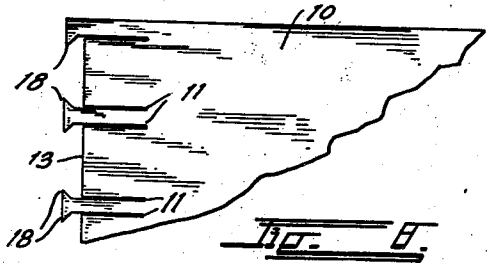


Fig. 8.

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WINDSHIELD ICE SCRAPER

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Application December 21, 1940, Serial No. 371,158

5 Claims. (Cl. 15—236)

This invention relates to a scraper and is more particularly designed for removing ice and snow from the windshields of automobiles, aircraft, etc. The principal object of the invention is the provision of a device which will effectively break up and remove hardened frost and ice from the windshield.

Another object is to combine with the ice breaking feature a squeegee which can be used to remove snow and water from the windshield.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawings which form a part hereof. Like numerals refer to like parts in all views of the drawings and throughout the description.

In the drawings:

Fig. 1 is a perspective view illustrating the device in use for removing snow from a windshield;

Fig. 2 is a similar view illustrating the device in use for removing ice or frost;

Fig. 3 is a face view of the improved scraper;

Fig. 4 is a longitudinal section therethrough, taken on the line 4—4, Fig. 3;

Fig. 5 is a detail side view illustrating the ice scraping position;

Fig. 6 is a similar view illustrating it in the "squeegee" position.

Fig. 7 is a detail view of a blade protector for use on the sharpened edge of the scraper; and

Fig. 8 is a fragmentary view of an alternate form of scraping edge.

The invention consists of a flat metallic plate 10, preferably of stainless steel or similar edge-holding, corrosion-resisting material.

A plurality of pairs of spaced-apart slots 11 extend into one extremity of the plate 10 to form relatively narrow ice breaking blades 12. Intermediate the ice breaking blades 12, the edge of the plate is inset to form a plurality of wide scraping edges 13. Both the blades 12 and the edges 13 are preferably sharpened. If the blade is of sufficiently thin material, however, this sharpening may be omitted.

A relatively thick rubber pad 14 is secured to one face of the plate 10 and projects beyond the two sides and one extremity thereof. The rubber pad may be secured to the plate in any desired manner. As illustrated, metallic tongues 15 are pressed from the plate material and extend through the rubber pad to form hooks for holding the latter in place.

For removing ice, the sharp edge of the blade is pushed forwardly against the windshield, as shown in Fig. 2. The blades 12 flex ahead of the edges 13, as shown in Fig. 5, and enter beneath and loosen the ice. The edges 13 then follow to scrape the loosened ice from the windshield.

For removing water and snow, the sides or end of the rubber pad 14 are used as a squeegee such as shown in Figs. 1 and 6. To protect the hand while using the rubber portion, a guard 16 is provided. This guard is preferably formed of spring steel so that it will tightly grip the blade after the latter has been forced therein. The steel is bent back upon itself to form a closed U-shape and is preferably provided with a rounded edge 17 to facilitate the entrance of the blade.

If desired, the extremities of the breaking blades 12 may be widened, as shown at 18, in Fig. 8, to cut wider swaths during the ice breaking operation.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A scraper comprising: a flat metallic plate; a plurality of pairs of relatively close slots extending inwardly from one extremity of the plate; and a relatively narrow projecting blade between the slots of each pair, the edges of the plate intermediate the blades being relatively wide and being cut back from the extremities of the latter.

2. A scraper comprising: a flat metallic plate; a plurality of pairs of relatively close slots extending inwardly from one extremity of the plate; and a relatively narrow projecting blade between the slots of each pair, the edges of the plate intermediate the blades being relatively wide and being cut back from the extremities of the latter, said blades projecting beyond the latter edge of said plate.

3. A scraper comprising: a flat metallic plate; a plurality of pairs of slots extending inwardly from one extremity of the plate; and a relatively narrow projecting blade between the slots of each pair, the edge of the plate intermediate the blades being cut back from the extremities of the latter, said blades projecting beyond the latter

edge of said plate, the free extremities of said narrow blades being wider than the spacing between the slots of each pair of slots.

4. A windshield ice scraper comprising a flat metallic plate; a scraping edge on said plate; and a plurality of spaced-apart, relatively narrow, ice breaking blades projecting forwardly beyond said scraping edge, said blades joining said plate rearwardly of said scraping edge and lying in the same plane therewith.

5. A windshield ice scraper comprising: a flat metallic plate; a scraping edge on said plate; a plurality of spaced-apart, relatively narrow, ice breaking blades projecting forwardly beyond said scraping edge, said blades joining said plate rearwardly of said scraping edge and lying in the same plane therewith; and widened extremities on said ice breaking blades overlapping the adjacent portions of said scraping edge.

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