This invention relates to guards for scrapers and has for one of its principal objects the provision of a retractable guard on a hand scraper to protect objects from accidental contact with the blade of the scraper when the blade is not in use.

Scrapers using extremely sharp blades, such as razor blades, are utilized in industrial establishments and elsewhere for numerous purposes, such as removing accidentally applied spots of paint from the windows of automobile bodies, and continual use of such sharp edged tools leads to carelessness in their handling, resulting in those using the scrapers occasionally cutting themselves more or less seriously. One of the purposes of the present invention is to provide a means for preventing such accidents, the means consisting of a guard which automatically projects out beyond the blade whenever it is not deliberately retracted.

Another object of the present invention is to provide a scraper blade guard which is held in retracted position by the pressure applied to press the scraper against the surface being worked on, so that substantially no additional effort on the part of the worker is needed to use a scraper with a blade guard.

Other objects of this invention will appear in the following description and appended claims.

Reference being had to the accompanying drawing forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

Fig. 1 is a perspective view of a scraper embodying the present invention, the guard being shown in extended position.

Fig. 2 is a plan view of the scraper shown in Fig. 1 with the guard retracted.

Fig. 3 is a sectional view on the line 3—3 of Fig. 2, taken in the direction of the arrows, with the position of the parts when the guard is in extended position being shown in dotted lines.

Fig. 4 is a sectional view on the line 4—4 of Fig. 2, taken in the direction of the arrows.

Before explaining in detail the present invention it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawing, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation, and it is not intended to limit the invention claimed herein beyond the requirements of the prior art.

In the embodiment of the invention shown in the drawing the body 10 of the device is preferably made of flat metal stock shaped to provide an elongated shank 10a and a transverse head 10b. Wooden hand grip pieces 11, 12 are riveted on the two sides of the shank 10a to form a smooth comfortable handle and to make the tool more rigid.

A standard double-edged razor blade 13 is secured to one side of the head 10b by means of a clamping plate 14, a screw 15 extending through a hole in the plate and through the central hole in the razor blade to hold the three members tightly together and a pair of lugs 14a projecting integrally from the rear edge of the plate extending through short slots 18 in the head to keep the clamping plate 14 and the razor blade 13 square with the head 10b.

The guard 17 comprises a metal plate slideable on the opposite face of the head 10b from the clamping plate 14 and having its forward edge 17a turned down so as to lie almost in the plane of the blade 13. Thus, when the guard 17 is slid out and extends beyond the blade 13, it effectively shields the cutting edge, and it will slide back past the edge when it is retracted.

The ends of the guard 17 are bent down to form flanges 17b extending along the side of the head 10b and the clamping plate 14 to guide the guard 17 in its sliding movement. Lugs 17c on the edges of the flanges 17b are bent under the head 10b and the clamping plate 14 to hold the guard 17 onto the head 10b. The center of the guard 17 is provided with a slot 18 through which the screw 15 holding the clamping plate 14 to the head 10b projects. The slot 18 is of suitable length so as to be engaged at its ends by the screw to limit the normal travel of the guard in opposite directions.

At each side of the central slot 18 in the guard lugs 17c are struck up from the metal thereof, these lugs providing means for connecting the mechanism for moving the guard 17 in and out. This mechanism comprises a spring-wire ball 19 whose ends 19a are pivoted in holes in the lugs 17c and whose central portion 19b is pivoted in a lever 20 mounted on the shank 10a. The lever 20 is formed of sheet metal with depending flanges 20a through which pass the ball 19, a pivot pin 21 forming the fulcrum. The fulcrum or pivot pin 21 is carried by the arms 22a of a U-shaped bracket which projects up through holes in the shank and lies between the flanges 20a on the sides of the lever 20, the central por-
tion 22b of the bracket 22 lying below a slightly raised portion of the stock 10 and being spot welded thereto. A small coil spring 23 encircles the pivot 21 and acts on the lever 20 to lift it and normally hold the guard 17 forward to cover the blade 12.

When the tool is in use, the workman grasps the handle with his fingers and places his thumb on the lever 20, pressing it down to retract the guard 17 and pressing the blade 13 against the surface to be scraped, the same pressure serving the two purposes. As soon as the tool is removed from the work, the workman unconsciously or automatically releases the pressure on the lever 20, and the guard 17 springs back into place.

It will thus be seen that I have provided a guard which is practically automatic in its operation and which does not depend upon anyone's memory for its efficacy.

I claim:

1. A scraping device comprising a flat stock, a clamping plate on one face of the stock, and a handle, a guard slidingly mounted on the other face of the stock and having a hole therein, means for maintaining said guard normally in the guard 17 projecting beyond the guard, a manually operable lever to move the guard into its projected position, the end of the screw projecting into the hole in the guard to limit the movement of the guard, the hole being large enough to allow the guard to slide between its operative and inoperative positions.

3. A scraping device comprising a flat stock, a clamping plate on one face of the stock, a blade between the clamping plate and the stock, a flat guard slidably mounted on the other face of the stock and having a hole therein, spring means for maintaining said guard normally in projected position to shield the forward edge of the blade, manually controlled means for retracting said guard to uncover the forward edge of said blade, and a clamping screw passing through the clamping plate and the blade and threaded through the stock to clamp the blade in place, the end of the screw projecting into the hole in the guard to limit the movement of the guard, the hole being large enough to allow the guard to slide between its operative and inoperative positions.

4. A scraping device comprising a flat stock, a clamping plate on one face of the stock, a blade removably supported between the clamping plate and the stock, a flat guard slidably mounted on the other face of the stock and having a hole therein, spring means for maintaining said guard normally in projected position to shield the forward edge of the blade, and manually controlled means for retracting said guard to uncover the forward edge of said blade, said manually controlled means comprising a pivoted operating member and a bail detachably connecting said operating member and said guard.

5. A scraping device comprising a handle, a blade secured thereto and having its edge extending transversely with respect to the handle, a guard movable with respect to the blade and arranged to extend out beyond the edge of the blade, a lever pivoted to the handle on a fulcrum whose axis is substantially parallel to the edge of the blade, and a connection to retract the guard when the lever is moved toward the handle.

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