

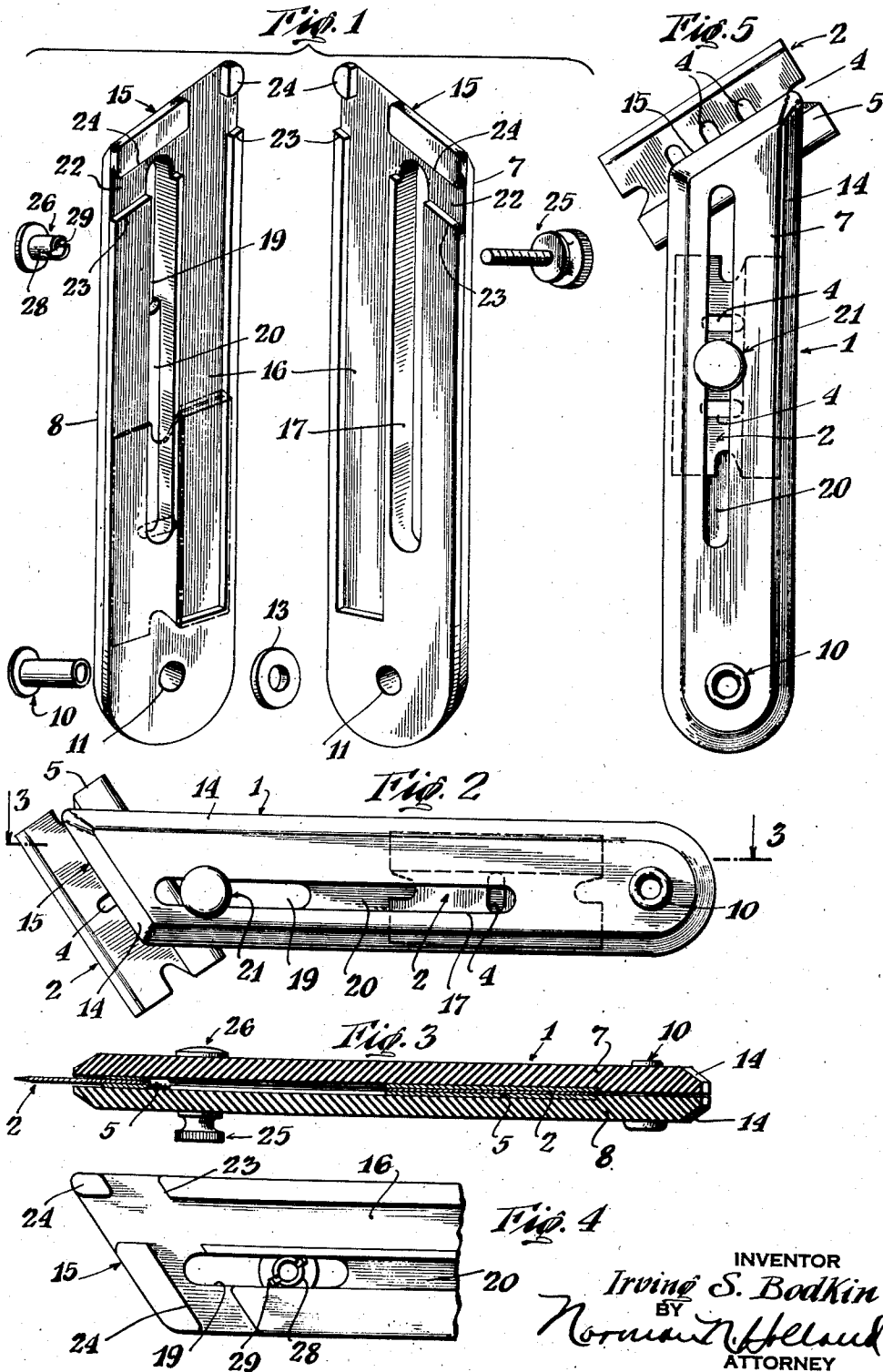
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SCRAPING DEVICE

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2,304,332

SCRAPING DEVICE

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4 Claims. (Cl. 30—335)

The present invention relates to scraping and cutting devices and is an improvement upon the device shown in a prior Patent No. 2,237,331 for Cutting device, granted April 8, 1941.

Because of its keen cutting edge and slight thickness, a razor blade is very useful for scraping paint, adhesives, grease, et cetera from windows, tile and other hard surfaces. However, a razor blade is an instrument both difficult and dangerous to hold with one's fingers.

The present invention is an improvement upon the previous construction of application Serial No. 216,205 and provides a combination scraping and cutting device in which razor blades may be easily and rapidly shifted from scraping to cutting positions and vice versa.

An object of the present invention is to provide an improved holder for retaining a razor blade in scraping position.

Another object of the invention is to provide a holder adapted to retain a razor blade in either scraping or cutting position.

Another object of the invention is to provide a razor blade holder which may be easily and rapidly adjusted to adapt a blade for performing scraping or cutting operations.

A further object of the invention is to provide a holder adapted to contain extra razor blades.

Still another object of the invention is to provide a holder with which a razor blade may be quickly assembled and adjusted for scraping operations.

Another object of the invention is to provide a holder for holding a razor blade in scraping position which is at the same time adapted to minimize breakage of the razor blade.

Still another object of the invention is to provide a razor blade holder which has an improved handle securing and blade adjusting means.

A still further object of the invention is to provide a razor blade holder which may be easily and inexpensively manufactured.

Other and further objects of the invention will be obvious upon an understanding of the illustrative embodiment about to be described, or will be indicated in the appended claims, and various advantages not referred to herein will occur to one skilled in the art upon employment of the invention in practice.

A preferred embodiment of the invention has been chosen for purposes of illustration and description and is shown in the accompanying drawing, forming a part of the specification, wherein

Fig. 1 is an exploded perspective view illus-

trating a preferred embodiment of the present device;

Fig. 2 is a side view of the preferred embodiment with a blade shown in scraping position;

Fig. 3 is a sectional view taken along line 3—3 of Fig. 1;

Fig. 4 is an enlarged fragmentary view of one of the handle members and a preferred form of clamping means; and

Fig. 5 is a side view of the device assembled for rapid shifting of blades.

Referring more particularly to the drawing, there is illustrated a preferred embodiment of the invention comprising a holder 1 for razor blades 2. In the preferred embodiment the razor blade 2 is of the single edge type and has recesses or apertures 4 therein for facilitating use in a holder, and a reinforcing strip or backing member 5 tightly clamped about one edge thereof.

The part of the holder 1 which retains razor blades in cutting position is described in detail in the above referred to previous application. More briefly, it comprises a pair of separate handle members 7 and 8, preferably made of some plastic molding material such as Bakelite or the like, pivotally secured together adjacent one end thereof by a rivet or pin 10, which passes through aperture 11 in the handle members and also through an intermediate spacing member 13. The spacing member 13 holds the handle members apart sufficiently to permit insertion and movement of razor blades between the handle members. The opposite ends of the handle members 7 and 8 have their ends 15 formed obliquely to the axes of the members and are similar to each other, except that they are what may be referred to as right-hand and left-hand members which cooperate to receive the razor blade 2 between them.

Each of the handle members 7 and 8 has bevelled side and end edges 14 to facilitate gripping and a longitudinally extending channel or groove 16 therein for receiving the reinforcing strip 5 of a razor blade 2 so as to adjustably hold the blade either within the handle or to project it in cutting position beyond the oblique ends thereof. A relatively long slot 17 in one handle member 7 and a shorter slot 19 with aligned recess 20 in the other handle member 8 permits longitudinal movement of a bolt and screw clamping means 21 which passes through the slots and also may pass through a recess 4 of a blade 2 held between the handle members. The blade 2 may thus be moved completely within

the holder or moved so that it projects in cutting position beyond the end of the holder.

The foregoing features of my previous application cooperate with certain additional features described herein to produce a combination scraping and cutting tool. In scraping position a razor blade 2 is held across substantially parallel to the oblique end 15 of the holder so that to-and-fro movement of the holder 1 causes the sharp edge of a blade to strike an object with a slicing action.

A razor blade 2 may be adjustably held in scraping position in the holder 1 by providing each handle member with a transverse channel or groove 22 adjacent and substantially parallel to the oblique ends of the handle members 7 and 8. These transverse channels extend across the width of the handle members and complement each other to form a recess for receiving the reinforcing strip 5 of the razor blade 2. The blade 2 may be placed in scraping position (Fig. 2) in the handle 1 by inserting one end of its reinforcing strip 5 into the recess formed by the transverse channels 22 and by pushing the blade into the recess. In scraping position a blade cannot move longitudinally of the holder 1 for side wall portions 23 and 24 of the transverse channels abut against the reinforcing strip 5. Endwise movement of the blade out of the transverse recesses 22 is prevented by causing the handle members to press firmly toward each other against a blade to clamp the blade firmly in position.

Clamping of the handle members 7 and 8 against a blade is accomplished in the preferred embodiment by clamping means 21 which comprises a threaded bolt 25 and a cooperating threaded nut or bushing 26. The clamping means 21 has enlarged shoulders on the nut 26 and bolt 25 for abutting against the outside surfaces of the handle members 7 and 8 to pull them toward each other against a blade and extends through the slots 17 and 19 of the handle members 7 and 8 and may be moved to a position adjacent the reinforcing strip 5 of a razor blade 2 to give a tight gripping of the blade. Screwing the bolt 25 and nut 26 together or apart effects tightening or loosening of the handle members 7 and 8 against a blade. To prevent rotation of the nut 26 with the bolt 25 during tightening or loosening of the clamping means a shank 28 on the nut 26 which projects into the slot 19 of handle member 8 is preferably provided at opposite sides thereof with outwardly extending projections 29 (Figs. 1 and 4). These projections 29 fit within the slot 19 and extend outwardly sufficiently far to contact the side walls of slot 19 as the nut tends to rotate with the bolt 25. Thus rotation of the nut is prevented as the bolt 25 is turned. This feature facilitates operation of the clamping means with only two fingers since it is not necessary to hold the nut 26 to prevent rotation thereof.

It may be desired, for reason to be brought out hereinafter, to have the bolt 25 of the clamping means 21 pass through an aperture 4 of a blade 2 retained within the holder (Fig. 5). This is particularly true with types of blades which have various differently positioned apertures (Fig. 5) and any one of them may be utilized.

With the present device, both scraping and cutting operations may be efficiently performed with the same instrument without any appreciable loss of time. For example, assuming that

it is desired to change from scraping position to cutting position, the clamping means 21 may be unscrewed to release the scraper blade, which may then be pushed into the longitudinal cutter blade recess 16 to be used in cutting operations. If it is not desired to use the scraper blade for cutting, the blade may be removed from the transverse scraper slots 22 and a new blade easily and rapidly moved forward in the holder into cutting position. In shifting from cutting to scraping position the reverse procedure may be performed just as rapidly and easily. In instances where the blades used are of the type having a plurality of apertures therein (Fig. 5) the rapidity of the change from cutting to scraping positions and vice versa may be even greater. With such blades, the clamping means 21 is passed through one of the blade apertures 4 so that upon releasing thereof the scraper blade may be removed from the transverse channel and a cutting blade moved forward into a position without the necessity of actually taking the nut and bolt of the clamping means 21 apart. The reverse change from cutter to scraper may also be more rapidly performed with such blades.

It will be seen that the present invention provides a new and improved device adapted to retain the keen cutting edge of a safety razor blade in position for use as a scraping tool and also in position for use as a cutting tool. It is a double feature device which permits a quick change over from use as a scraper to a cutter and vice versa. The bevelled edges at the oblique ends of the holder permit a razor blade to be held at a slight angle to the surface being scraped, which is generally the most advantageous position for using a scraper. A reservoir for extra blades, or for all the blades when carrying the device in a pocket, is provided inside the holder where the sharp cutting edges are protected. The improved nonrotating clamping means may be easily adjusted with the use of only two fingers and securely holds a blade between the side members for use as a scraper or a cutter.

As various changes may be made in the form, construction and arrangement of the parts herein without departing from the spirit and scope of the invention and without sacrificing any of its advantages, it is to be understood that all matter herein is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. A holder of the class described adapted to retain a razor blade comprising, in combination, a pair of handle members each having an oblique end and a transversely extending groove therein with perpendicular sides spaced from and substantially parallel to its oblique end adapted to cooperate with the corresponding groove in the other handle member to provide a recess for receiving the enlarged back of a razor blade, and each handle member having a lengthwise extending groove therein with perpendicular sides crossing said transversely extending groove adapted to cooperate with the groove in the other handle member to provide a channel for retaining a blade in cutting position and for containing extra blades, the crossing of said grooves being intermediate the ends thereof to provide a common projection for retaining the blade in either position to prevent impairment of their effectiveness in holding a razor blade and each handle member having an elongated slot there-through for containing and guiding a razor blade clamping and adjusting means.

2. A razor blade holder of the class described comprising, in combination, a pair of handle members pivotally secured together adjacent one end thereof adapted to hold a razor blade between them, each of said handle members having therein transversely and longitudinally extending grooves with perpendicular sides crossing each other at a portion spaced from one end thereof to provide a common projection for retaining the blade in each of two positions and to prevent impairment of the effectiveness of the grooves in holding a blade, the corresponding grooves in said handle members being adapted to cooperate with each other and with said common projection to form recesses adapted to envelop the back of a razor blade, and each handle member having an elongated slot for receiving shiftable razor blade clamping means and shiftable clamping means in said elongated slots adapted to be moved to different positions along the lengths thereof comprising a hollow internally threaded member with outwardly extending projections thereon extending into one of said slots and adapted to engage the sides of said slot to limit rotation of said member, and a bolt member projecting through said other slot and cooperating with said internally threaded member to clamp said handle members firmly together against a razor blade and retain the blade between said handle members.

3. A cutting and scraping device of the class described comprising, in combination, a pair of handle members each having a longitudinal groove therein intermediate the sides thereof, each of the said handle members having a transverse cooperating groove spaced from one end thereof and crossing the longitudinal groove therein at a portion spaced from one end thereof to provide a common projection for retaining a razor blade in each of two positions, said

5 grooves being adapted to receive the reinforcing back of a single-edge blade, the width of the longitudinal and transverse grooves in the respective members being substantially equal to the height of the backing and the sides of the grooves being substantially perpendicular to the plane of the handle members to prevent edgewise movement of the blade, whereby the sides of the grooves and the common projection formed at the crossing of the grooves will cooperate to lock the razor blade backing in position against edgewise movement and will engage the edge of the backing at the extreme edge of the handle members when the blade extends transversely thereof and at the extreme end of the handle members when the blade extends longitudinally thereof to prevent impairment of the effectiveness of the grooves in holding a blade and means for securing the handle members together to hold a blade in position therebetween.

10 4. In a device of the class described, the combination of a pair of handle members, cooperating longitudinal and transverse grooves in each of said handle members crossing each other at a portion spaced from one end thereof to provide a common projection for retaining a razor blade in each of two positions and to prevent impairment of the effectiveness of the grooves in holding a blade, the sides of said transverse and longitudinal grooves being substantially perpendicular, whereby the top and bottom edge of the backing of a single-edge razor blade will be engaged and held firmly in position in said longitudinal groove and also in said transverse groove by the sides of the groove in which the back of the blade is placed and by the said common projection formed by the crossing of said longitudinal and transverse grooves, and means for securing the handle members together.

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