Dec. 8, 1931. J. HOLTZMAN 1,835,397

SAFETY RAZOR SHARPENER

Filed June 13, 1925

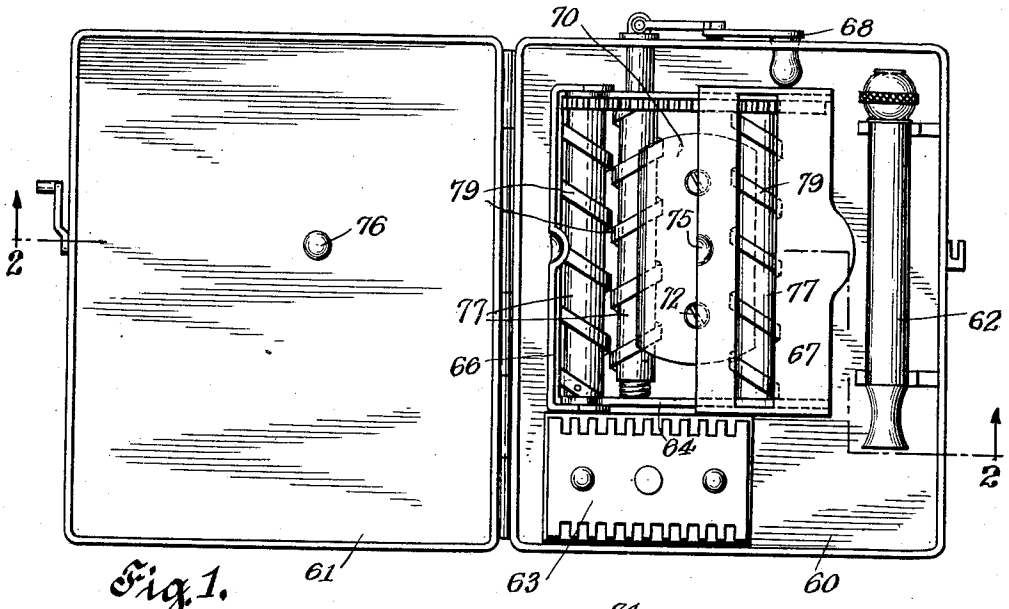


Fig. 1.

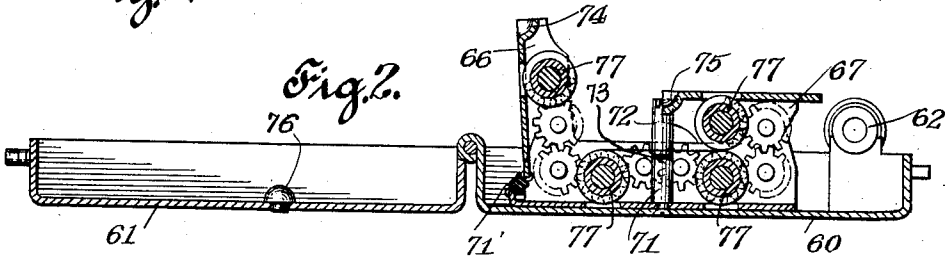


Fig. 2.

Fig. 6.

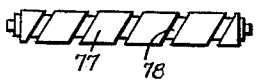


Fig. 3.

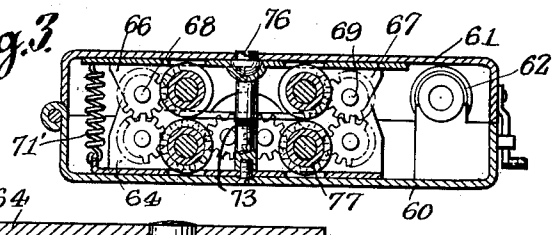


Fig. 4.

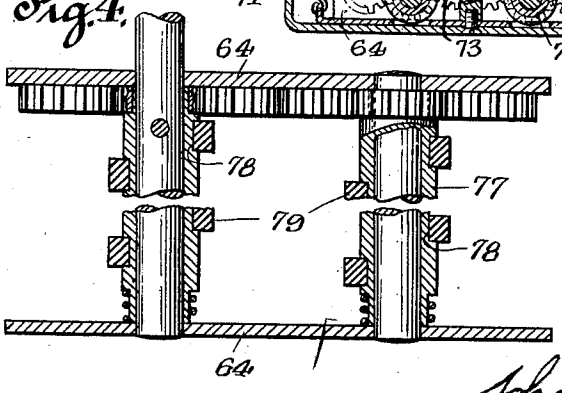
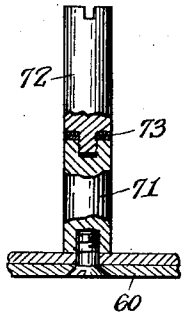


Fig. 5.



INVENTOR

John Holtzman

Patented Dec. 8, 1931 1,835,397

UNITED STATES PATENT OFFICE

JOHN HOLTZMAN, OF NEW YORK, N. Y.

SAFETY RAZOR SHARPENER

Application filed June 13, 1925. Serial No. 36,802.

This invention relates to devices for sharpening safety razors and has as one of its objects to provide means for stropping either single or double edge blades in a workmanlike manner.

Another object is to provide a device which automatically operates on both side edges of the blades simultaneously.

A still further feature is in the provision of sharpening devices which are efficient in operation, inexpensive to construct and of pleasing appearance.

These several objects are attained by the novel construction and combination of parts hereinafter described and shown in the accompanying drawings, forming a material part of this disclosure, and in which:—

Figure 1 is a plan view of an embodiment of the sharpener and case, shown in an open position.

Figure 2 is a transverse sectional view of the same taken on line 2—2 of Figure 1.

Figure 3 is a similar sectional view of the same, but showing the case in a closed position.

Figure 4 is an enlarged fragmentary sectional view showing the roll driving mechanism.

Figure 5 is a view of the pressure limiting device.

Figure 6 is a side view of one of the rolls in detail.

As shown a generally rectangular casing 60 is provided with a hinged cover 61, and means to support a safety razor handle 62 and guard 63.

Two pairs of rolls are used, of the type illustrated in Figure 6 the lower rolls of each pair being journalled in the frame 64, the upper rolls being mounted in frames 66 and 67, pivoted at 68 and 69 to the lower frames, all of the several rolls being fixed on spindles connected by train gears so arranged as to permit the frames to be opened without separation of the gear teeth and are rotated by a foldable handle 68 extending through the casing.

A double edged blade 70 is held centrally between the pairs of rolls when in operation and a tension spring 71′ is arranged to raise the frame 66 with its roll coincident with the release of the cover and to urge the roll in the frame 66 away from its cooperating roll in the frame 64. A similar spring may be used for the frame 67, if desired. The spring 71′ resists closing movement of the frame 66 and serves to partly counter-act the pressure of the rolls on the blade, whereby said pressure may be regulated as desired.

In order to prevent undue pressure on the blade 70 when between the rolls, a pair of posts 71 are secured centrally at the lower frame 64 in the floor of the casing and set in the tops of the posts are studs 72, having yielding washers 73 intervening, the aggregate thickness being adjustable due to the screw threaded connections between the stud and bar.

Each frame 66 and 67 has depressed portions 74 and 75 at their inner adjacent edges, which are adapted to make contact with the outer end of the element 72, thus limiting their downward movement, and carried by the cover 61 is a screw 76, its point making contact with the depressions 74—75, when the cover is closed, pressing the rolls in the upper frames towards the lower to impinge upon the edges of the blades against the action of the spring 71′.

The several rolls 77 are helically grooved as at 78, and fixed in these grooves are strips of leather or like material 79 provided with an abradant material to act upon the edges of the blades in stropping the same and it will be seen that the direction of rotation of the rolls is outward or away from the edges, both above and below.

In operation, the safety razor having been dismounted, its handle may be placed in brackets provided for it in the casing and its guard disposed on pins fixed in another part of the casing.

When the casing catch, as shown in Figures 1, 2 and 3 are released, the rear, upper frame is raised by the spring 71′, as seen in Figure 2 permitting the front upper portion to be raised by an operator, thus providing a clear space in which to dispose the blade 70 on the lower rolls, the blade being guided

by the studs 72 which pass through the usual openings in the blade.

The upper frames 66—67 are then swung over upon the blade, the cover closed and secured by its catches, whereupon, by turning the handle the four abrading rolls simultaneously operate to strap the opposed edges of the blade effectively.

As the spring washers 73 permit the height of the studs 72 to be minutely adjusted to a moderate amount, and the upper roll carrying frames rest on their upper ends, it will be seen that the rolls may be adjusted to operate on blades varying somewhat in width and thickness without affecting the results attained. The studs 72, therefore, prevent undue pressure being put by the rolls upon the blade. It will be understood that if desired, the cover 61 need not be closed and that pressure may be put upon the rolls through the frame 66 manually, against the action of the spring 71'.

From the foregoing it will be seen that the device disclosed pertains to razors of the safety type and include many novel and practical features tending to efficiency.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A safety razor blade sharpening device comprising a frame base section, a pair of abrading rolls in said base section, two frame cover sections hinged to the base section to fold inwardly thereover, an abrading roll in each cover section, a pair of posts fixed in said base section to extend above the base section, said posts being spaced and suited to pass through the perforations of a safety razor blade to position its edges freely between the upper and lower rolls, and a spring interposed between at least one of said frame cover sections and the base section for resisting, though not preventing, closing movement of one of said frame cover sections and normally tending to separate a pair of cooperating rolls.

2. A safety razor blade sharpening device comprising a casing, a frame base section fixed therein, a pair of abrading rolls in said base section, two frame cover sections hinged to the base section to fold inwardly thereover, an abrading roll in each cover section, a pair of posts fixed in said casing to extend through the base section, said posts forming stops to limit the swinging movement of the cover section towards the base section, spring tension means to resist the movement of one of said cover sections towards the base section when pressed thereagainst whereby the pressure exerted by the abrading rolls on the blade is regulated, and means for manually rotating all of said rolls simultaneously without respect to their position.

3. In a safety razor sharpening device comprising a casing having a base member and two cover members arranged to swing freely until stopped, a pair of sharpening rolls journalled in the base member, a sharpening roll cooperating with one roll of said pair journalled in each cover member, said rolls being arranged to have a razor blade interposed intermediate said rolls in sharpening relation thereto, a gear train connecting all of said rolls and being constantly in mesh in all positions of said casing members, a coil spring arranged independently of the rolls and between the base member and a cover member and urging a pair of cooperating rolls apart to resist the closing movement of the cover member toward the base member thereby regulating the pressure of the rolls on the blade when stropping and when pressure is applied to the cover member, and means to turn all the rolls.

4. In a safety razor sharpening device comprising a casing having a base member and a cover member hinged to said base member, a sharpening roll mounted in the base member, a cooperating sharpening roll mounted in the cover member, a gear train connecting all said rolls, said gears being constantly in mesh in any angular position of said members, said rolls being arranged to have a razor blade interposed intermediate said rolls and in sharpening relation thereto, yieldable means including a coil spring mounted independently of said rolls to resist the movement of one roll toward the other, and urging said rolls apart, and to regulate the pressure of said rolls on the blade during the stropping operation and means to turn said rolls.

In testimony whereof I have signed my name to this specification.

JOHN HOLTZMAN.