July 25, 1933. S. SEGAL 1,919,909

SHARPENING UNIT

Filed April 23, 1929

Fig. 1.

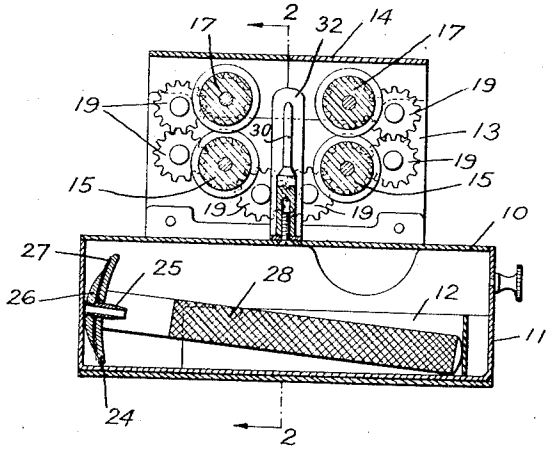


Fig. 2.

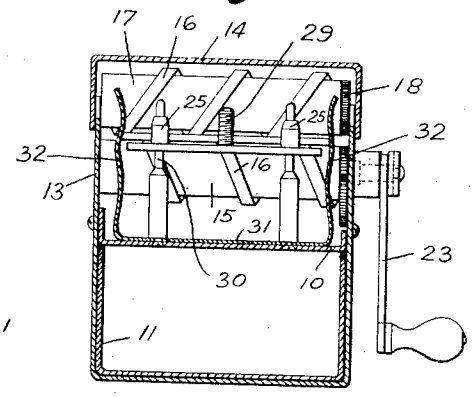


Fig. 3.

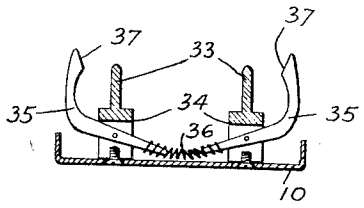


Fig. 4.

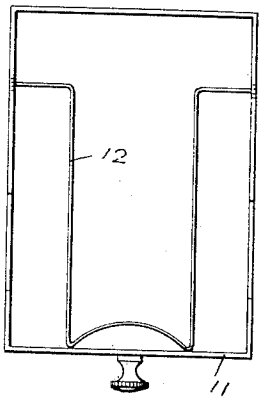
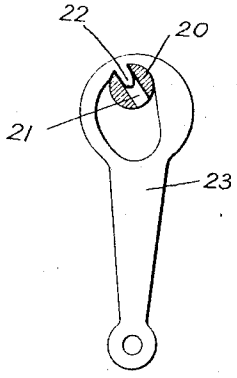


Fig. 5.



INVENTOR.
Samuel Segal
BY
Sewell, Quinn & Anderson
ATTORNEYS.

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UNITED STATES PATENT OFFICE

SAMUEL SEGAL, OF NEW YORK, N. Y., ASSIGNOR TO SEGAL SAFETY RAZOR CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

SHARPENING UNIT

Application filed April 23, 1929. Serial No. 357,421.

This invention relates to a sharpening unit and receptacle primarily adapted for use in the sharpening of razor blades and in the housing of a razor assembly, the present invention presenting structurally and functionally improved characteristics over apparatus of this character as heretofore constructed.

It is an object of the invention to provide a device of this type, the parts of which will be relatively few in number and individually rugged and simple in construction, these parts being capable of being readily manufactured and assembled to provide a compact unit capable of being sold at a nominal figure and operating over long periods of time with freedom from difficulty.

A further object of the invention is that of providing a sharpening device embodying a structure such that there will be practically no danger of the head or blade of the razor being accidentally displaced with respect to the elements which are to cooperate therewith, the present invention moreover providing a structure such that the parts may be detached readily from association with each other when it is desired to achieve this result.

A still further object is that of furnishing an operating structure for a sharpening device and by means of which the parts will be automatically uncoupled in the event that an attempt is made to improperly operate them. Consequently, these parts of the apparatus will not be damaged incident to faulty operation.

An additional object is that of providing a unit embodying a receiving space which will properly contain the parts to be utilized in association with said unit so that a convenient and condensed assembly is provided.

With these and other objects in mind, reference is had to the attached sheet of drawing illustrating practical embodiments of the invention, and in which:

Fig. 1 is a sectional side view;

Fig. 2 is a transverse view taken along the lines 2—2 in the direction of the arrows of Fig. 1;

Fig. 3 is a partly sectional side view of an illustrative form of retaining device capable of use in lieu of that shown in Figs. 1 and 2;

Fig. 4 is a plan view of the lower portion of the unit; and

Fig. 5 shows the operating or driving parts of the mechanism.

In these views, the numeral 10 indicates the base of the unit which, in the embodiment illustrated, is hollow and serves to house a drawer 11 within which, as shown in Fig. 4, a partition 12 is provided, the latter affording a space adequate for the snug accommodation of a razor and new as well as "spent" blades. Mounted upon the base is a housing provided for example by extended portions 13 of the side walls of the unit. Pivotally mounted adjacent the upper edges of this housing are lid portions 14 which in conjunction therewith and in closed position provide an upper deck.

Within the space thus furnished, a pair of rollers 15 are mounted. These rollers may conveniently be formed of metal and mount a spirally disposed stropping strip 16 which is conveniently formed of leather or a similar material capable of reconditioning the cutting edge of a blade. Similar rollers 17 are carried by the hinged sections 14 and all of these rollers are driven in any desired manner as, for example, by having their shafts mount gears 18 with the teeth of which transmitting gears 19 mesh. One of the roller shafts is extended as at 20 and this extension is formed with a recess or transversely extending bore 21 capable of accommodating the projection 22 extending inwardly from the edge of an opening which forms a part of a handle or lever 23.

It is obvious that, as shown, if the handle or lever is rotated in a clockwise direction, movement may occur between the shaft end 20 and this element. Ultimately, however, the projection 22 will ride within the opening 21 and thereupon under continued movement in the same direction, the shaft will be driven in synchronism with the handle. Obviously, if the handle is moved in a counter-clockwise direction—and due to the out-

line of the opening in this handle—the projection 22 will simply ride out of the bore or recess 21 and the parts may be turned freely with respect to each other. Consequently, if a blade is positioned between the stropping surfaces of the rollers, it will be appreciated that no injury can occur to either the stropping surfaces or the blade edge due to the construction hereinbefore described and provided to guard against such injury.

A razor for use in connection with a stropping device conveniently includes a head 24 formed with openings through which prongs 25 of clamping plate 26 extend, the blade 27 being interposed between this plate and the head and the parts being tightened by virtue of the fact that the handle 28 is provided at its outer end with a screw threaded socket accommodating the correspondingly threaded stem 29 of the clamping plate. The blade is, of course, formed with openings through which the prongs or studs 25 pass and contrary to conventional construction, it is preferred that the latter elements be bored so as to permit of the passage of pins 30 which extend upwardly from the base 10. Consequently and with the lid sections 14 swung to open positions, the razor head may be brought to a position at which the pins extend through and beyond the bores of the studs 25. Thereafter, by simply turning the handle of the razor with respect to the head, the stem 29 of the latter will become uncoupled from the former and the handle together with the head may be withdrawn.

According to the present invention, accidental displacement of the parts with respect to each other is under these circumstances avoided by for example securing a spring 31 to the base 10 and which spring has arms 32 bowed to provide recess portions the distance between which is adequate to snugly accommodate the length of a blade. Consequently, the blade will be retained as has been shown in Fig. 2 and incident to the fact that the clamping plate underlies the blade, the latter will also be maintained in position.

It is obvious that a construction different from that shown in Fig. 2 might be employed by simply securing to the base 10 pins 33 which have their lower ends terminating in forked portions 34 serving to pivotally accommodate the bodies of bell-crank levers 35, the inner ends of which are coupled by a spring 36. The outer arms of these levers may be formed with inwardly projecting portions 37 which lie normally beyond the blade edge and consequently serve to prevent an accidental detachment from the pins.

In both of these constructions however, it will be apparent that the clamping plate and blade may be readily pushed into position and that after the handle has been detached from the plate, the elements provided for this purpose will serve to retain the blade in such a position that the sharpening operation may be commenced after the lid sections have been swung downwardly.

From the foregoing it will be appreciated that among others, the several objects of the invention specifically afore referred to are achieved. It will moreover be appreciated that numerous changes in the structure and rearrangement of the parts might be resorted to without departing from the spirit of the invention as defined by the claims.

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

1. In combination, a pair of rollers, means for housing the same to be spaced from each other, further rollers cooperating with said first named rollers to provide two pairs of rollers each to cooperate with one of the cutting edges of a blade to sharpen the same, means for driving said rollers, a resilient element yieldingly engaging the end edges only of a blade disposed between said pairs of rollers and further supporting means separate from said element and cooperating therewith to automatically maintain the blade in operative position.

2. In combination, a pair of rollers, means for housing the same to be spaced from each other, further rollers cooperating with said first named rollers to provide two pairs of rollers each to cooperate with one of the cutting edges of a blade to sharpen the same, means for driving said rollers, a pair of bell-crank levers having their outer arms extending between said pairs of rollers, and means for yieldingly pressing said arms into engagement with the end edges of a blade to maintain the latter in operative position.

3. In combination, a pair of rollers, means for housing the same to be spaced from each other, further rollers cooperating with said first named rollers to provide two pairs of rollers each to cooperate with one of the cutting edges of a blade to sharpen the same, means for driving said rollers, supporting pins extending between said pairs of rollers and to mount a blade disposed between the same, and means for automatically gripping the end edges of a blade and arranged adjacent said pins to automatically retain the blade thereon.

4. A razor blade stropper, comprising a base, a pair of rollers mounted thereon and adapted to engage the cutting edge of a razor blade, means for rotating said rollers, means mounted on said base for engaging solely the unsharpened end edges of a razor blade and independent supporting means co-

operating with said blade engaging means to hold the blade in stropping position.

5. A razor blade stropper including, in combination, a base, a pair of rollers mounted on said base and adapted to engage the cutting edge of a razor blade, means for rotating said rollers, spring members carried by said base for yieldingly engaging solely the unsharpened end edges of a razor blade and separate supporting means cooperating with said spring members to hold the blade in stropping position.

SAMUEL SEGAL.