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I. SHAPIN

2,011,422

RAZOR BLADE STROPPER

Filed Nov. 9, 1933

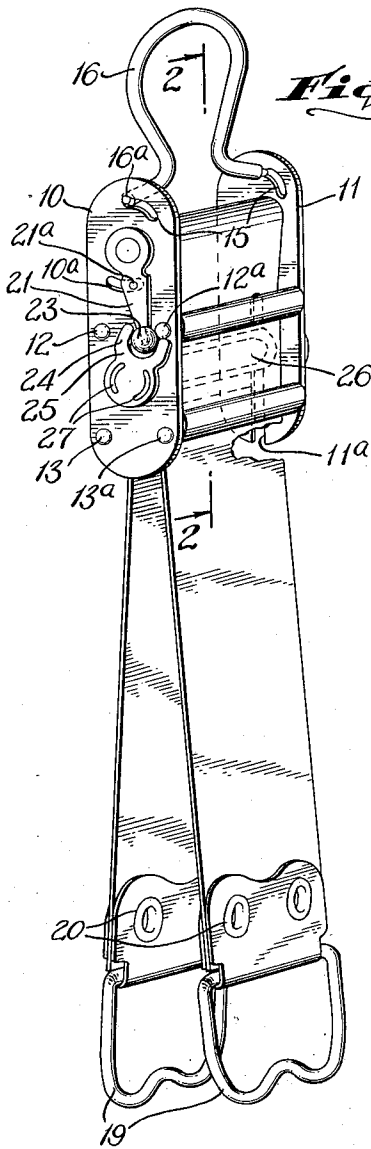


Fig. 1

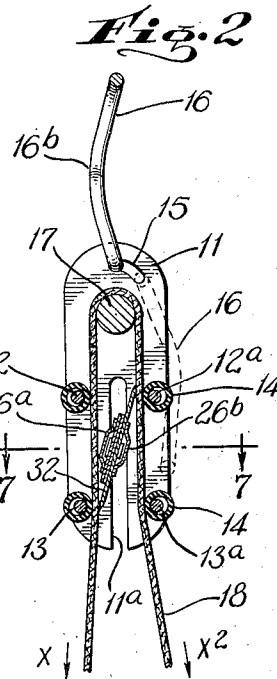


Fig. 2

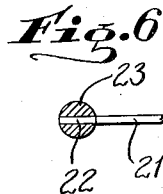


Fig. 6

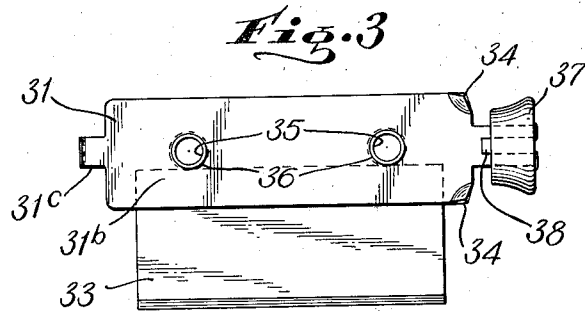


Fig. 3

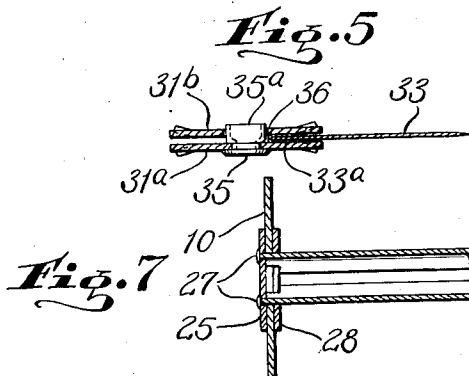


Fig. 5

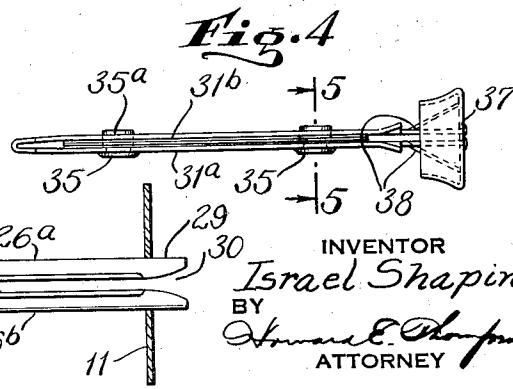


Fig. 4

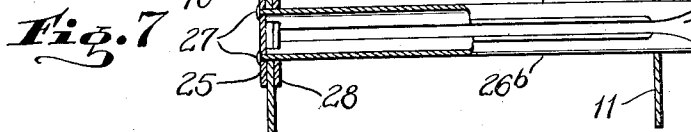


Fig. 7

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2,011,422

RAZOR BLADE STROPPER

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Application November 9, 1933, Serial No. 697,266

3 Claims. (Cl. 51—63)

This invention relates to stoppers for use in stropping razor blades; and the object of the invention is to provide a stopper with means for supporting both double edged and single edged blades in connection therewith to provide for the stropping thereof; a further object being to provide the frame of the device with two sets or pairs of yielding guide rollers over which the strop is movable, and which aid in supporting the strop in firm engagement with the opposed sides of the cutting edge of razor blades in the stropping operation; a further object being to provide means actuated by the strop in the forward and backward movements of the end portion thereof for automatically shifting the blade holder to perform stropping operations on both sides of the cutting edge or edges thereof, and further to the provision of an anti-frictional means in the leverage or linkage between the blade holder and the means for actuating the same; a further object being to provide a single blade holder which is so constructed as to receive and support either a single or double edged blade; a still further object being to provide means for coupling a handle member with the frame device so as to permit compact folding of the handle member with respect to the frame when not in use; and with these and other objects in view, the invention consists in a stopper of the class and for the purpose specified, which is simple in construction, efficient in use, and which is constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a perspective view of a stopper device made according to my invention and indicating the method of its use.

Fig. 2 is a section on the line 2—2 of Fig. 1 omitting part of the construction.

Fig. 3 is a plan view of a blade holder which I employ shown detached from the frame.

Fig. 4 is a side edge view of the structure shown in Fig. 3.

Fig. 5 is a section on the line 5—5 of Fig. 4.

Fig. 6 is a sectional, detail view of a part of the construction shown in Fig. 1; and,

Fig. 7 is a partial section on the line 7—7 of Fig. 2.

In carrying my invention into effect, I provide a stopper frame consisting of two side plates 10 and 11 coupled together and spaced

apart by two pairs of rods 12, 12a and 13, 13a. In practice, I dispose on these rods within the plates 10 and 11 freely mounted tubes 14 composed of suitable material and preferably of a yielding material, such for example, as rubber.

At one end of the plates 10 and 11 are arc-shaped slots 15, one end of which terminates centrally of the plate and the other end adjacent one side thereof as clearly seen in Figs. 1 and 2 of the drawing, so that a U-shaped handle member 16 or the ends 16a thereof passing through the plates 10 and 11 are free to move in said slots so that the handle member may be collapsed onto the frame as indicated in dotted lines in Fig. 2, the handle member being preferably offset centrally as indicated at 16b to conform with the contour of the frame or to pass over one of the rods, namely, the rod 12a when the handle member is in folded position.

Rotatably mounted in the plates 10 and 11 adjacent the apertures 15 is a rod 17 of large diameter, over and around which a strop 18 is adapted to pass, said strop being also disposed inwardly of the tube 14 and extending beyond the plates, and has yoke-shaped handles or grips 19 attached thereto by plates 20 by means of which the strop may be drawn toward and from the frame for the purposes later described.

Attached to one end of the rod 17 is an arm or lever 21, which in the construction shown is disposed outwardly of the plate 10, the lever having an inwardly pressed bead 21a operating in an arc-shaped slot 10a to limit the swinging movement thereof in two directions. The end of the lever 21 terminates in a pin 22 upon which is mounted an anti-frictional ball 23, the latter seating and operating in the yoke 24 of another lever or rocker arm 25 secured to one end of a blade operating member 26 consisting of two similar parts 26a and 26b. The ends of said parts are riveted to the rocker arm 25 as indicated at 27, the member 26 being rotatable in both plates 10 and 11, a washer 28 being disposed adjacent the plate 10, whereas the other end 29 of the member 26 extends through the plate 11 and is substantially cylindrical in form to rotate in the plate 11, the separate parts of said member having adjacent surfaces beveled outwardly to form a substantially V-shaped throat 30 facilitating the insertion of a blade supporting part 31 into the member 26 between the separate parts 26a and 26b thereof. In this connection, it will be noted that the plate 11 has an elongated slot 11a opening through one end thereof to facilitate the attachment of the

part 31 including either a double edge blade 32 or a single edged blade 33 with the stopper.

The blade supporting part 31 is so constructed as to support either the double edged blade 32 or the single edged blade 33, said part being formed from an elongated sheet of material folded upon itself to form plates 31a and 31b joined at one end by a crosshead 31c. The corners of both of said plates are curved outwardly to a slight degree as indicated at 34 to facilitate the insertion of the enlarged backing 33a of the blade 33 into and between said plates. Riveted to the plates 31a are pins or eyelets 35 which project upwardly through apertures 36 in the plates 31b, and the projecting ends 35a thereof are adapted to receive the conventional alignment apertures of the double edged blades 32 to key the same to the supporting part 31 in the operation of placing the same in the member 26 and to retain the same against movement with respect to said member in the part 31 in the stropping operation. The other end of the plates 31a and 31b are riveted to a knob or finger piece 37 by means of which the part 31 may be moved into and out of the member 26. Said ends of the plates also include angularly disposed spring members 37 cut from the material thereof which are adapted to frictionally enter the parts 26a and 26b of the member 26 to frictionally retain the part 31 and the blade therein against displacement from the member 26 in the use of the stopper.

When mounting the double edged blade 32 upon the supporting part 31, it will be apparent that said blade is disposed outwardly of the plate 31b whereas the enlarged end 33a of the blade 33 is disposed between the plates 31 and 31b as indicated in Fig. 5 of the drawing. It will also be apparent that the edges of the blades when mounted in the stopper device will be disposed adjacent the tubes 14 as indicated in Fig. 2 of the drawing so that the outward pressure of the edges of the blades is resisted by said tubes which, as before stated, are preferably composed of yielding material.

In the use of the device, the handle portion 16 is attached to a nail, hook or other support after a blade has been mounted in position within and between the opposed surfaces of the strip 18 as indicated in Fig. 2, the hand grips are engaged by the hands of the operator and one end of the stop is pulled forwardly, and after the completion of this stop, the other end of the stop is advanced forwardly, and this operation continues as long as the operator feels that it is necessary to perform the desired stropping operation.

In this intermittent forward and backward movement of the strip, the frictional engagement of the strip with the rod 17 operates to rotate the same, throwing the lever 21 and rocker arm 25 so as to oscillate the supporting member 26 to move both side surfaces of the cutting edge of the blade into engagement with the strip, it being understood that with the member 26 in the position shown in Fig. 2, the strip is being pulled in the direction of the arrow x Fig. 2, whereas with the pull of the strip in the direction of the arrow x2 in said figure, the member 26 will be oscillated to and from the edges of the blade into engagement with the tubes 14 on the pins 12, 13a.

It is also preferred that a suitable abrasive material be applied to the inner surfaces of the stop to provide more efficient stropping operations, as well as to establish greater frictional

engagement of the stop with the rod, insuring proper actuation of the lever 21 and rocker arm 25. It will be understood that my invention is not necessarily limited to the specific structural details herein shown and described, and various changes in and modifications of the construction herein set forth may be made within the scope of the appended claims without departing from the spirit of my invention or sacrificing its advantages.

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

1. A stopper of the class described comprising a frame consisting of spaced sides plates, a member rotatably mounted in one end portion of the frame and arranged intermediate said plates, a stop adapted to pass around said member to rotate the same by frictional engagement therewith, a razor blade supporting element rotatably mounted in the plates of said frame adjacent the other end thereof, a lever on said member outwardly of one of said plates, a rocker arm on said element and in operative engagement with said lever whereby the rotation of said member will transmit rotary, oscillatory movement to said element, an anti-frictional member freely movable on said lever and operating in a yoke on said rocker arm to reduce frictional engagement between said parts in the operation thereof, two pairs of tubes mounted within the plates of said frame at opposite sides of said element and within the path of movement of a double edged blade supported in said element for guiding the stop in its movement through the frame and with respect to the edges of said blade, said tubes being composed of yielding material and being disposed adjacent the edges of razor blades mounted in said element to form a backing therefor in the stropping operation, and a handle member adjustably supported in the side plates of the frame to permit the extension thereof and collapsible mounting with respect to the frame.

2. A stopper of the class described comprising a frame consisting of spaced elongated plates, a blade supporting element rotatably mounted in one end portion of the frame, a rotatable member in the other end portion of the frame, a stop movable over said member for actuating the same, means centrally of the frame and in the first named end thereof for guiding the stop in its movement relatively to said element and over said member, means outwardly of one plate of the frame for placing said member and element in operative engagement with each other, said element including a detachable blade receiving part consisting of relatively movable plates, the other side plate of the frame having an elongated aperture opening through one edge thereof for receiving the detachable part of the blade supporting element with the blade therein, the guiding means for said stop comprising spaced pairs of pins with tubes mounted on said pins and disposed in the path of movement of the edge of the blade arranged in said frame, said second named means comprising a yoke-shaped arm on said element, a lever on said member and an anti-frictional part freely movable on the end of said lever and within the yoke of said rocker arm, and a handle member pivotally and adjustably coupled with the side plates of said frame.

3. A stopper of the class described comprising a frame consisting of spaced elongated plates, a blade supporting element rotatably mounted in one end portion of the frame, a rotatable member

in the other end portion of the frame, a strop
movable over said member for actuating the same,
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named end thereof for guiding the strop in its
5 movement relatively to said element and over said
member, means outwardly of one plate of the
frame for placing said member and element in
operative engagement with each other, said ele-
ment including a detachable blade receiving part

consisting of relatively movable plates, the other
side plate of the frame having an elongated aper-
ture opening through one edge thereof for receiv-
ing the detachable part of the blade supporting
element with the blade therein, and said element 5
comprising a split tube transversing the side plate
of the frame and in connection with which the
blade receiving part is frictionally coupled.

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