E. B. GIBFORD.

STROPPING MACHINE.

APPLICATION FILED JULY 6, 1909.

951,240. Patented Mar. 8, 1910.

Fig. 1.

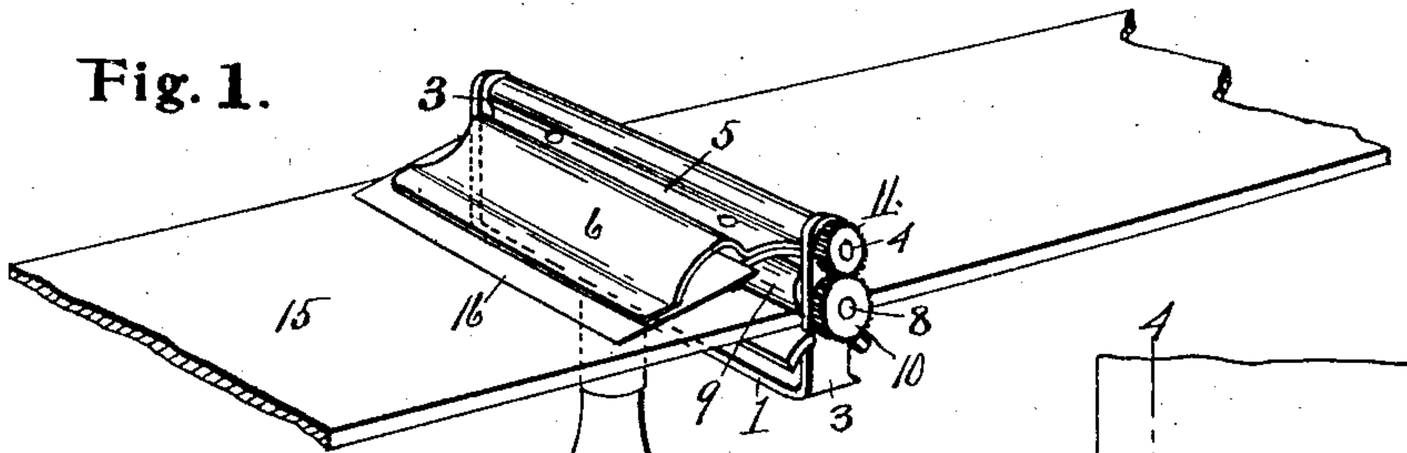
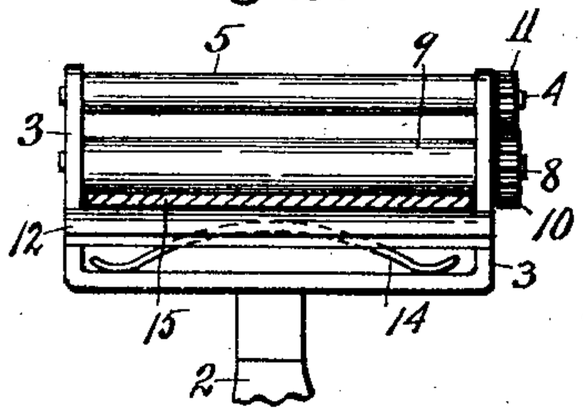


Fig. 2.



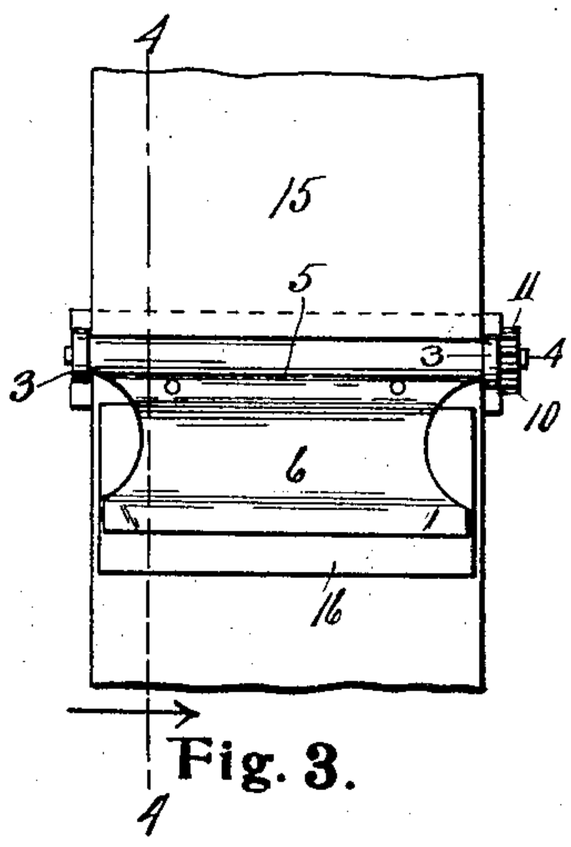


Fig. 3.

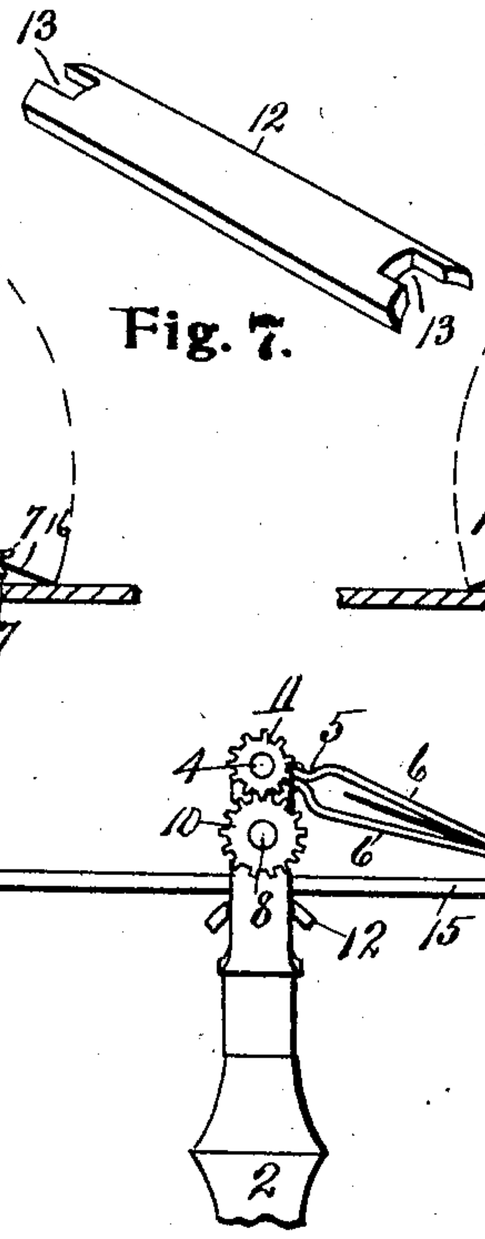


Fig. 7.

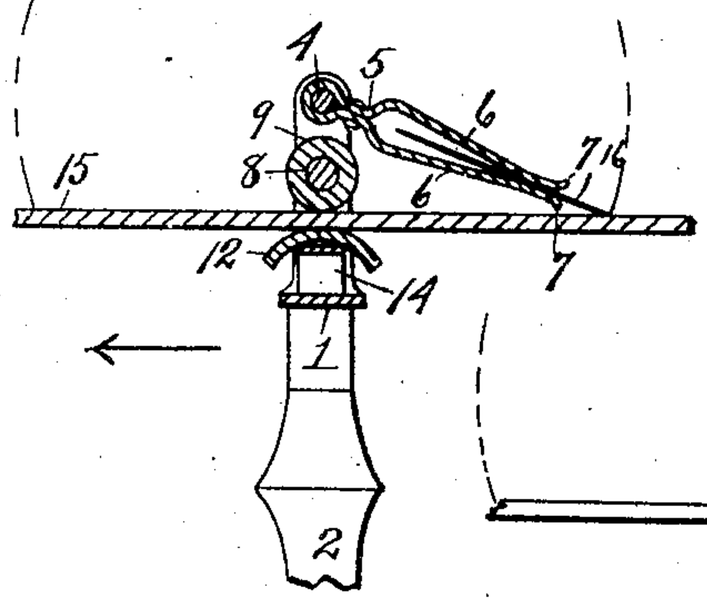


Fig. 4.

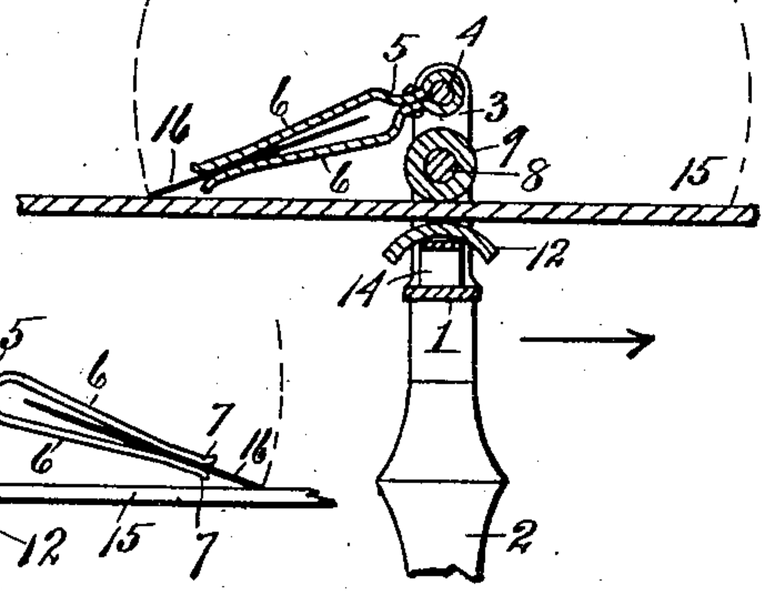


Fig. 5.

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

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STROPPING-MACHINE.

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To all whom it may concern:

Be it known that I, EDWARD B. GIBFORD, a citizen of the United States, residing at Adrian, in the county of Lenawee, State of Michigan, have invented certain new and useful Improvements in Stropping-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a stropping device, especially designed for stropping the blades of safety razors but adaptable for stropping blades of ordinary razors, if desired.

The invention consists in the construction and arrangement of parts illustrated in the accompanying drawings and pointed out particularly in the claims.

The object of the invention is to provide a simple and efficient stropping device which may be mounted upon a strop and by a manipulation of said device thereon effect a stropping of the blade, the arrangement being such as to cause the blade-holder to swing from side to side as the movement of the stropping device upon the strop is reversed, so as to bring both sides of the edge of the blade into contact with the strop, and at the same time prevent the cutting of the strop by the blade when the direction of movement of the device is changed; the device being light and compact, and operatable upon a straight strop as distinguished from the looped strop commonly employed in stropping machines, wherein the strop is drawn longitudinally therethrough.

The above object is attained by the structure illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of a stropping device involving my invention showing said device mounted upon a strop and a blade within the blade-holder. Fig. 2 is a side elevation, showing the strop in section. Fig. 3 is a top plan of Fig. 1. Fig. 4 is a transverse section as on line 4—4 of Fig. 3. Fig. 5 is a similar view showing the blade-holder and blade in the opposite position from that shown in Fig. 4. Fig. 6 is an end elevation of the device with the parts in the position shown in Fig. 4. Fig. 7 is a perspective view of the transversely curved pressure bar adapted to hold the strop in frictional engagement with the actuating roller.

Referring to the characters of reference, 1 designates a U-shaped frame to the central portion of which it attached the handle 2. The sides 3 of the frame extend vertically in parallel relation, and extending between the upper ends of said sides and journaled therein, is a shaft 4 carrying the blade-holder 5 which is rigidly secured thereto and adapted to move therewith. Said blade-holder is provided with the opposed spring clamping jaws 6 which are made converging and whose inner faces are normally contiguous along their outer edges, the margins of said clamping jaws being made slightly flaring, as shown at 7 to facilitate the introduction of a blade therebetween. Journaled in the ends 3 of the frame below the blade-holder is the shaft 8 of the actuating roller 9. Upon one end of said shaft is a gear wheel 10 which meshes with a pinion 11 on the end of the shaft 4 of the blade-holder, whereby movement is imparted to said holder to swing it from side to side in the arc of a circle as the roller 9 is rotated in opposite directions in reciprocal succession. Located below the roller 9 and vertically movable in the frame is the pressure bar 12 which is curved transversely or formed concavo-convex in cross section and is positioned in the frame with the convex side upward. To hold said pressure bar in position so that it may slide vertically, its ends are provided with the notches 13 which receive the ends 3 of the frame, whereby said bar is retained in place and is permitted to slide upon the end portions of the frame. Interposed between the frame and pressure bar is a bowed spring 14 whose ends rest upon said frame and whose central portions engage said bar, the tension of said spring being exerted to urge the bar upwardly.

A straight razor strop 15 is passed between the roller 9 and the pressure bar 12 and is held in frictional contact with the lower periphery of said roller by means of said spring which causes the pressure bar to urge the strop against said roller.

A blade 16 of the wafer type may be held by the jaws of the holder by crowding said

blade between said jaws, as shown, the edge of the blade being allowed to project such distance beyond the jaws as to cause it to come into contact with the surface of the strop, the tension of the jaws being sufficient to hold the blade in position while being operated upon. The shape of the jaws is such that a blade of the "Star" type thick at the back, may be placed between the jaws of the holder, if desired. The holder may also be made to hold the blade of an ordinary razor.

By holding the strop so as to place tension thereon and drawing the stropping device forth and back by means of the handle 2, the rotation of the roller 9 caused by the frictional contact of the strop therewith, will actuate the holder through the medium of the gearing to carry the blade into forcible engagement with the surface of the strop as the stropping device is moved longitudinally thereof, the arrangement being such that as the stropping device is moved to the right, the blade will be swung to the left and carried into contact with the surface of the strop and will trail in the rear of said device according to the direction in which the device is moving. A reverse movement of the device will swing the blade in the opposite direction into contact with the surface of the strop, as will be well understood, and as clearly shown by dotted lines in Fig. 4. The pressure exerted by the spring 19 will create such friction between the roller 9 and the strop as to cause the application of considerable power to the roller when the device is moved upon the strop, so that the blade will be held in contact with the surface of the strop with sufficient pressure to effect a successful stropping thereof.

It will be observed that because of the fact that the gear wheel 10 is larger than the pinion 11, as the roller starts to turn, the movement of the blade-holder will be accelerated so as to lift the blade quickly from the surface of the strop and obviate the cutting thereof at the time the blade-holder starts to swing when the direction of movement of the stropping device is changed.

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

1. The combination with a suitable frame, of a roller journaled therein, a blade-holder pivotally mounted in the frame, means connecting the roller and blade-holder to impart movement from the former to the latter, a pressure bar below the roller, a spring urging said bar upwardly, and a strop interposed between said bar and roller.

2. In a stropping device, a frame, an actuating roller journaled therein, a pivoted blade-holder, means connecting said holder and roller to impart movement from the former to the latter, a strop engaging the roller on its lower side, and means for urging the strop against the periphery of said roller.

3. A stropping device comprising a frame, an actuating roller journaled therein, a razor holder pivotally mounted in the frame, gearing connecting said holder and roller, a strop engaging the lower periphery of the roller, a pressure bar engaging the lower side of the strop, and a spring urging said bar upwardly to force the strop against the roller.

4. A stropping device comprising a frame, an actuating roller journaled therein, a blade-holder pivoted in the frame, gearing connecting said holder and roller, a pressure bar below said roller having a convex upper face, said bar being mounted in the frame to slide vertically, a spring interposed between said frame and bar to urge the latter upwardly, and a strop interposed between the bar and roller.

5. A stropping machine comprising a frame, an actuating roller journaled therein, a blade-holder pivoted in the frame, gearing connecting said holder and roller, a pressure bar below the roller, said bar having notches in its ends which receive the ends of the frame so as to mount the bar in the frame to slide vertically, a strop interposed between the bar and roller, and means for urging said bar in the direction of said roller.

6. A stropping device, comprising a frame, an actuating roller journaled therein, a blade-holder connected with said roller to swing from side to side as said roller is revolved in opposite directions, a pressure bar parallel with said roller slidably mounted, a strop interposed between said roller and bar, and means for urging said bar in the direction of said roller.

In testimony whereof, I sign this specification in the presence of two witnesses.

EDWARD B. GIBFORD.

Witnesses:
W. B. Alexander,
Katherine C. Murray.