

H. CLAUSS.
STROPPING MACHINE.
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985,975.

Patented Mar. 7, 1911.

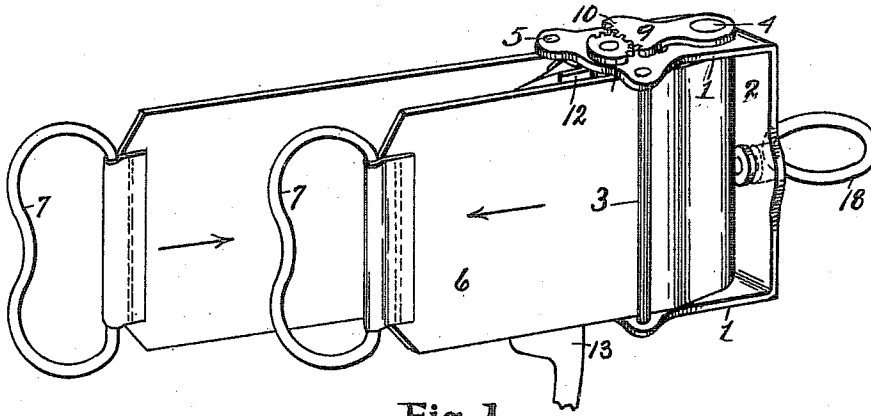


Fig. 1.

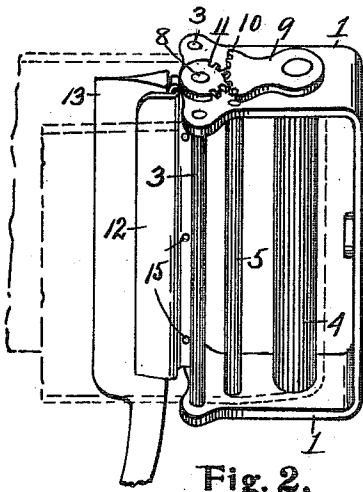


Fig. 2.

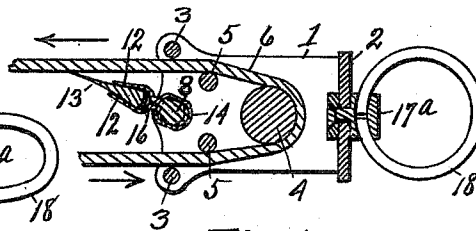


Fig. 4.

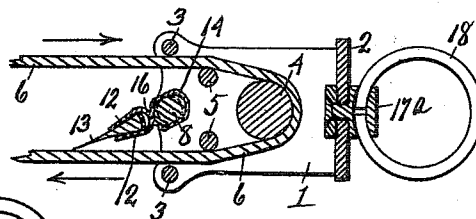


Fig. 5.

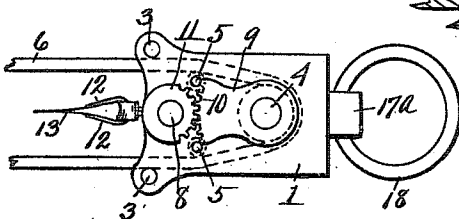


Fig. 3.

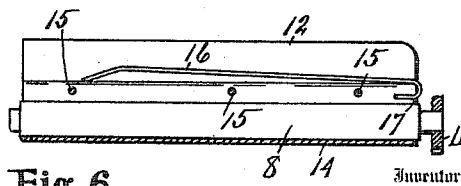


Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

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STROPPING-MACHINE.

985,975.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRIE CLAUSS, a citizen of the United States, residing at Fremont, in the county of Sandusky, State of Ohio, 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 machine especially designed for stropping the blades of razors, and consists in the construction and arrangement of parts hereinafter more fully set forth and claimed.

The object of the invention is to produce a device of the character described, of simple and inexpensive construction, wherein the arrangement is such as to provide for throwing the razor blade quickly and firmly from side to side concurrent with the change in the direction of movement of the strop; to afford a large amount of friction between the strop and actuating roller so as to insure precision in operation and positiveness in the movement of the razor blade; to provide for suspending freely the sides of the strop where the blade comes in contact therewith so as to afford conditions corresponding more nearly with hand stropping; to provide for presenting the edge of the blade to the strop at such an angle as to afford the proper abrasive action thereon and to maintain the sides of the strop separated such distance with respect to the axis of oscillation of the blade as to make possible a proper contact between the blade and strop.

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

Figure 1 is a perspective view of a stropping device involving my invention, showing a razor blade therein, the handle of the razor being broken away. Fig. 2 is a perspective view of the device with the strop removed. Fig. 3 is a top plan view of the device, as shown in Fig. 1, the ends of the strop being broken away. Figs. 4 and 5 are horizontal sections through the device showing the position of the blade when engaging the opposite sides of the strop. Fig. 6 is a detail in longitudinal section through the blade-holder

showing the spring seated between the sides of the jaws of the holder for maintaining the proper tension upon the blade to hold it in place during the operation of stropping.

The frame which is trilateral in shape and formed preferably of sheet metal, consists of a single piece comprising the parallel end portions 1 connected at one end by a cross-piece 2. The free ends of the end portions 1 are connected by the parallel tie-rods 3.

Journaled in the end 1 of the frame and extending therebetween is the actuating-roller 4 which is of relatively large diameter. Also journaled in and extending between said end portions are the relatively small spreading rollers 5 which are disposed between the roller 4 and the rods 3.

The strop 6 is looped over the roller 4, the end portions thereof passing over the rollers 5 and between said rollers and the rods 3, the terminals of said strop being provided with the hand loop handles 7 to facilitate the manipulation thereof. The diameter of these loop handles, as will be seen, is less than the width of the strop, whereby they may be passed between the ends of the frame, to allow of the threading of the strop through the frame, over the actuating roller, as described, without removing said loops from the strop or taking the device apart, enabling the strop to be removed at will. Journaled at its ends between the end portions of the frame is the blade-holder shaft 8 which is disposed in front of and at an equal distance between the spreading rollers 5, the axis of oscillation of said shaft being in substantial transverse alinement with the rods 3.

Upon the projecting end of the roller 4 is an arm 9 provided at its free end with a rack segment 10 which meshes with the teeth of a mutilated pinion 11 mounted on the projecting end of the blade-holder shaft 8. The blade-holder comprises the opposed spring jaws 12 adapted to embrace the back and sides of a razor blade 13. Said jaws are formed integral with a tubular part 14 which embraces the shaft 8 and conforms to the flat sides thereof, and are united at their base by the rivets 15 (see Fig. 2) which confine said tubular part on said shaft. Lying at the base of the jaws between the sides thereof is a bent spring 16 (see Fig. 6) having a hooked terminal 17 which is secured in a slot in the blade-holder. The blade is inserted endwise in the holder so as to lie between the clamping jaws 12

and the tension of the spring 16 is exerted on the blade to hold it firmly between said jaws.

Secured centrally to the cross-piece of the frame is a swiveled head 17^a in which is journaled a ring 18 to enable the stropping device to be attached to a hook or other object during the operation of stropping, and at the same time afford facility of movement thereof.

When operating this device a razor blade is inserted between the edges of the holder, as shown, and the ring 18 engaged over a hook or other firm object so as to enable the proper tension to be placed upon the strop. The loop handles 7 are then grasped by the operator and the strop drawn longitudinally through the stropping device in opposite directions in reciprocal succession. The passage of the strop over the roller 4 rotates said roller and swings the arm 9 mounted on the end thereof to cause the rack carried at the free end of said arm to rotate the pinion 11 and impart a slight rotation to the blade-holder, swinging said holder from side to side as the direction of movement of the strop is successively changed, and carrying the edge of the blade therein into contact with the surface of the outwardly moving portion of the strop, as will be well understood in the art. Because of the length of the rack arm 9, the rotary movement imparted from the roller 4 to the shaft 8 is accelerated in the latter by reason of the relative smaller circle in which the pinion 11 turns as compared with that of said arm, whereby the blade-holder is quickly actuated at the instant the direction of movement of the strop is changed, preventing the cutting of that side of the strop with which the blade was last in engagement, and carrying the blade quickly into contact with the other side of said strop.

It will be noted that the position of the blade-holder in the frame is such that the blade therein is caused to extend beyond the frame and is brought into contact with the sides of the strop at a point well in advance of any lateral support for the strop sides, whereby the blade is made to engage the strop between its points of suspension, thereby producing results very like those obtained in hand stropping. It will further be observed that the position of the spreading rollers 5 is such that the sides of the strop are separated thereby such distance as to cause the blade to engage the strop sides at the proper angle to insure the requisite action thereon as said strop is manipulated. In this connection attention is called to the fact that the tie-rods 3 which serve as guide rods for the strop, prevent the sides of the strop being unduly separated. Said rods, however, do not interfere with a free lateral movement of the ends of the strop, thereby

permitting the angle at which the edge of the blade shall engage the strop, to be changed by allowing the distance between the ends thereof to be varied as it is drawn through the machine.

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

1. A stropping device comprising a frame, an actuating roller journaled therein of relatively large diameter, spreading rollers in advance of said actuating roller, a pivotally mounted blade-holder in advance of and between said spreading rollers, a strop looped over said actuating roller, the sides of said strop passing over said spreading rollers, the position of said blade-holder being such as to cause it to project beyond the frame and carry a blade therein against the unsupported side of the strop, a relatively long arm on the end of the actuating roller having a rack segment at its free end and pinion on the shaft of the blade-holder meshing therewith for imparting movement from said roller to said blade-holder.

2. A stropping device comprising a triangular frame formed of a single piece consisting of parallel end portions and a cross piece connecting said end portions, an actuating roller journaled at its ends in said end pieces, guide rods connecting the free ends of said end pieces, spreading rollers journaled in the end pieces between the actuating roller and said guide rods, a blade-holder pivotally mounted between said end pieces to extend beyond the front margins thereof, and a strop looped over the actuating roller and passing between the spreading rollers and guide rods, the ends of the strop projecting from the frame on each side of the blade-holder.

3. A stropping device comprising a frame, an actuating roller journaled therein of relatively large diameter, spreading rollers and guide rods located in the frame in radial alinement with the axis of said actuating roller, a strop looped over the actuating roller and passing between the spreading rollers and said rods, a blade-holder pivoted in the frame centrally between said guide rods and in advance of said spreading rollers, and means for imparting movement from the actuating roller to said blade-holder.

4. A stropping device comprising a frame, an actuating roller journaled therein of relatively large diameter, spreading rollers and guide rods located in the frame in radial alinement with the axis of said actuating roller, a strop looped over the actuating roller and passing between the spreading rollers and said rods, a blade-holder pivoted in the frame centrally between said guide rods and in advance of said spreading

rollers, an arm on the shaft of the actuating roller carrying a segmental rack, and a mutilated pinion on the journal of the blade-holder meshing therewith.

5 5. A stropping device comprising a frame, an actuating roller journaled therein, spreading rollers journaled in the frame forward of said actuating roller, a strop
10 looped over the actuating roller embracing said spreading rollers, a blade-holder pivotally mounted in the front margin of the frame forward of and between said spreading rollers to project beyond said frame,
15 means connecting the blade-holder with the actuating roller to actuate the blade-holder and carry the blade against the unsupported sides of the strop beyond the frame.

20 6. A stropping device comprising a tri-lateral frame formed of a single piece consisting of parallel end portions and a cross-piece connecting said end portions, a jour-

naled ring swiveled to said cross-piece, an actuating roller journaled at its ends in said end pieces, guide rods connecting the free ends of said end pieces, spreading rollers journaled in the end pieces between the actuating roller and said guide rods, a blade-holder pivotally mounted between the end pieces to extend beyond the margin thereof, means connecting the blade holder
30 and actuating roller, and a strop looped over the actuating roller and passing between the spreading rollers and guide rods, the ends of said strop projecting from the frame on each side of the blade-holder. 35

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

HENRIE CLAUSS.

Witnesses:

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B. H. ADLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."