No. 656,818. Patented Aug. 28, 1900.

F., R. & O. KAMPFE.

STROPPING MACHINE.

(Application filed Aug. 17, 1899.)

(No Model.)

Fig: 1.

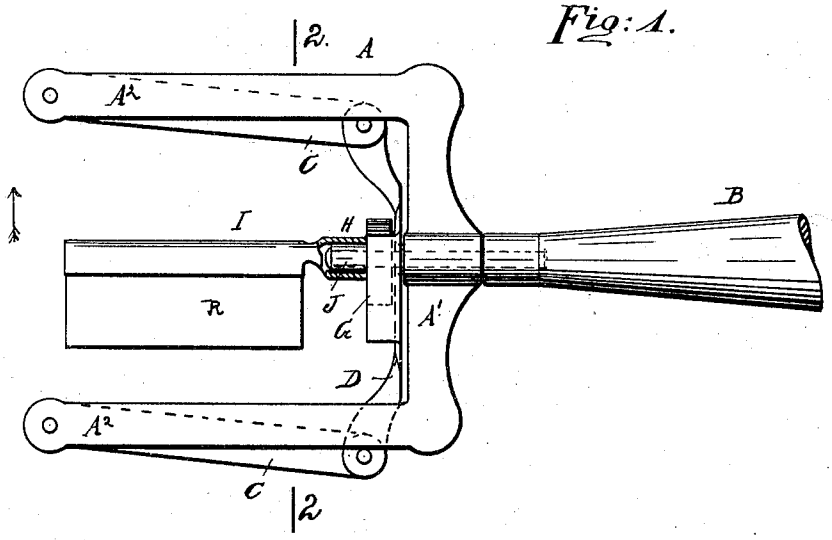


Fig: 2.

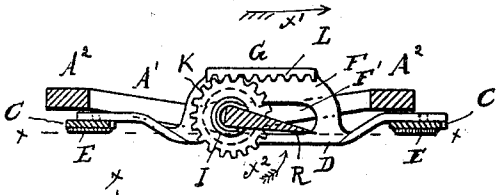


Fig: 3.

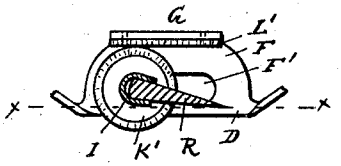


Fig: 5.

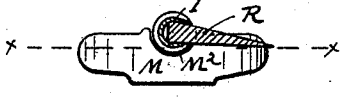


Fig: 4.

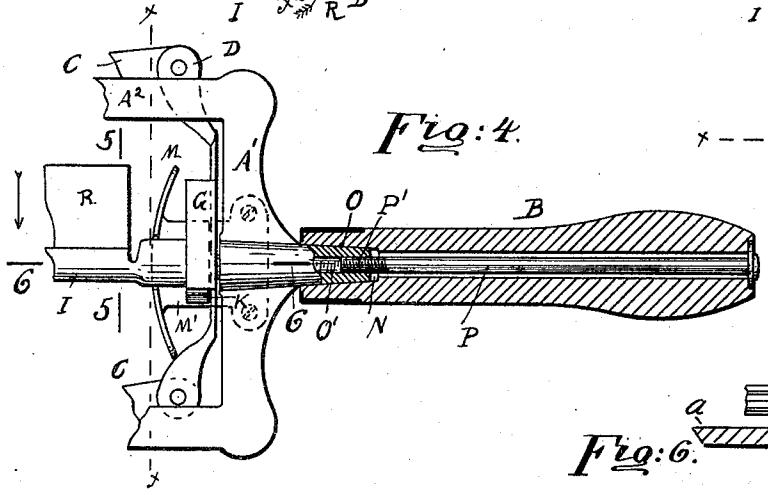
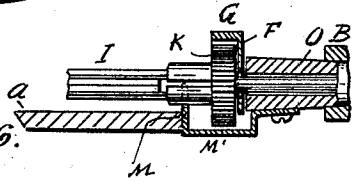


Fig: 6.



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FREDERICK KAMPFE, RICHARD KAMPFE, AND OTTO KAMPFE, OF NEW YORK, N. Y.

STROPPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 656,818, dated August 28, 1900.

Application filed August 17, 1899. Serial No. 727,548. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK KAMPFE, RICHARD KAMPFE, and OTTO KAMPFE, citizens of the United States, and residents of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Stropping-Machines, of which the following is a specification.

This invention relates to improvements in machines for stropping razor-blades, especially the blades of safety-razors.

The object of our invention is to provide a new and improved razor-blade-stropping machine which is simple in construction, strong and durable, automatically reverses the blade as soon as the stroke of the implement on the strop is reversed, prevents the edge of the strop from coming in contact with the gearing of the implement, and can be folded very compactly.

In the accompanying drawings, forming a part of this specification, and in which like letters of reference indicate like parts in all the views, Figure 1 is a face view of our improved stropping-machine, parts being broken away and others shown in section. Fig. 2 is a vertical transverse sectional view of the same on the line 2 2 of Fig. 1. Fig. 3 is a similar view showing a modified construction. Fig. 4 is a partial face view of the same, showing the handle in longitudinal vertical view. Fig. 5 is a transverse sectional view on the line 5 5 of Fig. 4. Fig. 6 is a vertical longitudinal sectional view on the line 6 6 of Fig. 5.

The U-shaped frame-piece A is attached at the center of its cross-bar A′ to the handle B, and to the free end of each side bar A^2 of the frame-piece A a flat link C is provided, the swinging ends of said two links being connected with each other by a connecting-bar D, pivoted at its ends to said links. The links C are provided on their inner sides with a layer E, of rubber, ebonite, wood, leather, or other suitable material, for increasing the friction. The connecting-bar D is provided with an upwardly-extending wing F, provided with a flange G along its free edge and with a longitudinal slot F′ through which a sleeve H can pass freely, said sleeve being formed on the lower end of a longitudinally-grooved or U-shaped blade-holder I. The neck H is mounted to turn freely on the projecting end of a pin J, fixed and firmly secured in the cross-bar A′ of the frame-piece A and also passed through the slot F′ in the wing F. A pinion K, fixed on the neck H, engages a rack L, formed on the inner surface of the flange G, as shown in Figs. 1, 2, 4, and 6, or a friction-wheel K′ may be secured on the neck H and engage frictionally a friction-plate L′ on the inner surface of the flange G, as shown in Fig. 3.

The device is placed upon the strop (indicated by the dotted line $x\ x$ in Figs. 2, 3, 4, and 5) in such a manner that the friction linings or layers E of the links C rest upon the surface of the strop, as shown in Fig. 2. The device is reciprocated on the strop, and when the device is moved in the direction of the arrow x', Fig. 2, the friction-linings E temporarily hold the links C on the strop; but the blade-holder I, being carried by the cross-bar A′, moves with the frame-piece A in the direction of the arrow x^2. As the rack G is held at rest for the time being, as it is connected with the links C, which, as stated, are held temporarily at rest on the strop by the friction-linings E, the pinion K is rotated in the direction of the arrow x^2, Fig. 2, and the blade-holder and blade R are reversed—that is, swing from the position shown in Fig. 2 to the opposite side, so that its opposite face rests upon the strop. The friction of the friction-linings E on the strop is then overcome by the power propelling the implement, and the entire device is moved along the strop in the direction of the arrow x'. When the direction of the stroke is reversed and the implement moved on the strop in the inverse direction of the arrow x', the friction-linings E hold the links C and rack for the time being, and the pinion K is turned in the inverse direction of the arrow x^2, and so on. It is evident that the friction-wheel and friction-plate act in the same way to turn the blade-holder axially when the implement is reversed.

To prevent the edge of the strop a, Fig. 6, from coming in contact with the pinion K and to facilitate holding the implement in proper position on the strop, a curved guard-plate M is attached to a bracket-arm M′, at-

tached to the cross-bar A′ of the frame-piece A, said guard-plate preferably having a recess M^2 for receiving the neck H of the blade-holder I.

The handle B may be permanently secured to the frame-piece A or may be made detachable. The detachable handle is provided on its upper end with a slightly-tapering recess N for receiving the slightly-tapering projection O, extending from the bottom edge of the cross-bar A′, which projection has a threaded bore O′ extending upward from its lower end. A wire or spindle P is secured firmly and held lengthwise in the handle B in such a manner that its upper threaded end P′ projects into the recess O from the bottom of the same. To secure the handle B on the frame-piece A, the projection O is inserted in the recess N in the upper end of the handle, and the handle is then turned axially, so as to screw the threaded end P′ of the spindle or wire P firmly into the threaded bore of the projection O. This construction permits of packing the stropping-machine much more compactly than when the handle is permanently attached.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a stropping-machine, the combination with a frame, of a link pivoted to the same, a blade-holder mounted in said frame to turn axially and means for turning said blade-holder axially from the pivoted link at the beginning of each stroke of the machine on a strop, substantially as herein shown and described.

2. In a stropping-machine, the combination with a frame, of links pivoted to the same, a cross-bar pivoted to said links, a blade-holder mounted in the frame to turn axially and means for turning said holder from the said cross-bar, substantially as herein shown and described.

3. In a stropping-machine, the combination with a frame, of links pivoted to the same, a slotted cross-bar pivoted to the links, a blade-holder mounted to turn axially on the frame and passing through said slot and means for turning said blade-holder from the slotted cross-bar, substantially as herein shown and described.

4. In a stropping-machine, the combination with a frame, of a blade-holder mounted to turn axially on a pin on said frame, links pivoted on the frame, a cross-bar pivoted to said links and means for turning the holder from said cross-bar, substantially as herein shown and described.

5. In a stropping-machine, the combination with a frame, of a link pivoted to the upper end of the same, a cross-bar connected with the swinging end of said link, a blade-holder mounted on the frame to turn axially and means for turning said holder from the cross-bar, substantially as herein shown and described.

6. In a stropping-machine, the combination with a frame, of links pivoted to the upper end of the frame, a cross-piece having a slotted and flanged wing, a blade-holder mounted to turn on the frame and passing through the slot and means for turning the holder from said flange, substantially as herein shown and described.

7. In a stropping-machine, the combination with a frame, of a blade-holder mounted to turn axially on said frame, means for turning said holder, a projection on said frame and having a threaded bore in its free end, a handle having a recess in its upper end and a screw held on the handle and extending into said recess from the lower end thereof, substantially as herein shown and described.

8. In a stropping-machine, the combination with a frame-piece, of a blade-holder mounted to turn axially thereon and means for turning it, a tapering projection on the frame, and provided with a threaded bore in its free end, a handle having a tapering recess in its upper end for receiving the tapering projection on the frame and a screw fixed in the bottom of said recess and adapted to be screwed into the threaded bore of the projection on the frame, substantially as herein shown and described.

9. In a stropping-machine, the combination with a frame to rest flat upon the strop of swinging members pivoted on the frame to swing in a plane parallel with the frame, a blade-holder mounted to turn axially on said frame, means for turning said holder from said swinging members and a friction layer on said swinging members, substantially as herein shown and described.

Signed at New York city, in the county of New York and State of New York, this 9th day of February, A. D. 1899.

FREDERICK KAMPFE.
RICHARD KAMPFE.
OTTO KAMPFE.

Witnesses:
H. ADOLPH WINKOPP,
M. SMILLIE.