No. 818,680. PATENTED APR. 24, 1906.

E. B. GIBFORD.

STROPPING MACHINE.

APPLICATION FILED APR. 24, 1905.

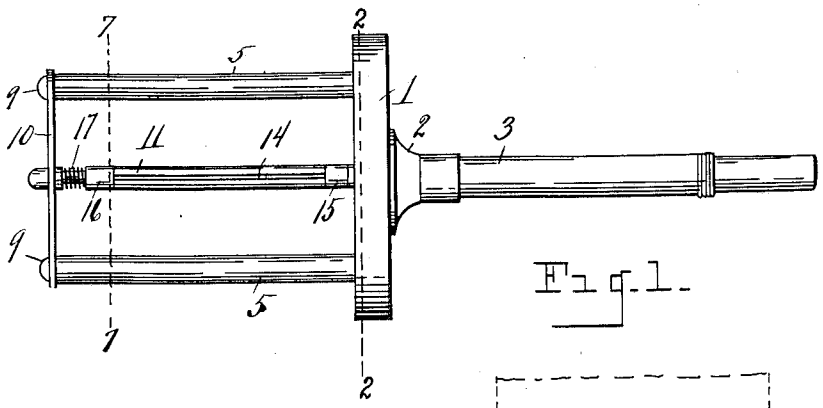


Fig. 1.

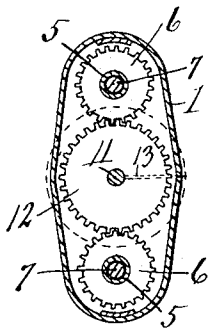


Fig. 2.

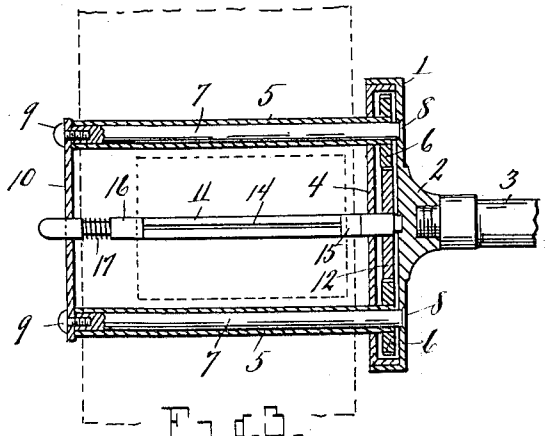


Fig. 3.

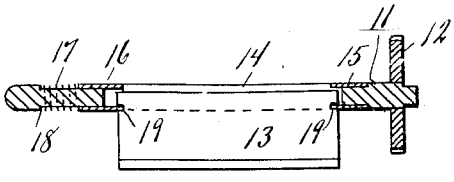


Fig. 4.

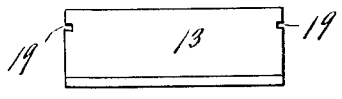


Fig. 5.



Fig. 6.

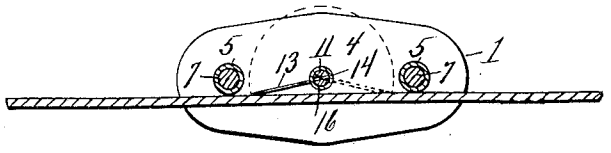


Fig. 7.

Witnesses:
O. B. Baenziger.
J. G. Howlett.

Inventor
Edward B. Gibford.

By His Attorneys
E. S. Wheeler & Co.

UNITED STATES PATENT OFFICE.

EDWARD B. GIBFORD, OF ADRIAN, MICHIGAN, ASSIGNOR TO AMERICAN SAFETY RAZOR CO., OF ADRIAN, MICHIGAN, A CORPORATION OF MICHIGAN.

STROPPING-MACHINE.

No. 818,680. Specification of Letters Patent. Patented April 24, 1906.

Application filed April 24, 1905. Serial No. 257,292.

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 stropping-machines especially designed for stropping safety-razor blades; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide a stropping-machine which will successfully hold and strop a very thin and light safety-razor blade and at the same time automatically swing said blade as the direction of movement of the stropping device is changed so as to bring its edge properly into contact with the strop, making possible the stropping of a very thin blade not attainable heretofore.

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

Figure 1 is an elevation of my improved stropping-machine. Fig. 2 is a sectional view through the casing, as on line 2 2 of Fig. 1. Fig. 3 is a longitudinal section through the hollow rotary sleeves, the frame, and the gear-casing, the handle being broken away. Fig. 4 is a longitudinal section through the central slotted shaft adapted to receive and hold the blade, the gear-wheel on the end of said shaft also appearing in section. Fig. 5 is a plan view of the blade. Fig. 6 is an end elevation thereof. Fig. 7 is a transverse section, as on line 7 7 of Fig. 1.

Referring to the characters of reference, 1 designates the casing in which the gearing is housed and consists of two opposed plates fitted together and secured in any suitable manner. Projecting from the outer face of the casing is a boss 2, into which the handle 3 is screwed. Passing through and journaled in the back plate 4 of the casing are the sleeves 5, carrying upon their inner ends the gear-wheels 6. The sleeves 5 are supported and adapted to turn upon the rods 7, which pass through the casing and sleeves, each of said rods having at one end a head 8, which is countersunk in the casing, and said rods at their other ends being provided with tapped apertures which receive the screws 9, that pass through the opposite ends of the cross-plate 10 of the frame, whereby the ends of said rods are supported and tied together by means of said cross-plate, forming, in conjunction with the casing, sleeves, and plate 10, a rectangular frame.

The blade-holding shaft 11 extends longitudinally of the frame equidistant from and between the sleeves 5, the outer end of said shaft being journaled in the plate 10 and the inner end passing through the back plate of the gear-casing and carrying a gear-wheel 12, which meshes with the gears 6 on the sleeves, by which arrangement when the sleeves are pressed upon a strop and drawn longitudinally thereof the frictional contact with the strop will cause said sleeves to rotate in the same direction and revolve the shaft in the opposite direction.

The blade 13 is flat and thin and of uniform thickness, which renders it comparatively inexpensive; but because of the lightness and thinness of such a blade it has been found difficult to hold it in any manner to permit it to be stropped. The holding means in this stropping device consists in a slot 14, passing through and extending longitudinally of the central portion of the shaft 11, said slot being of such width as to receive the back of the blades. Upon one end of said shaft is a fixed collar 15, which extends over a portion of the slot at one end thereof. Upon the opposite end of said shaft is a slidable collar 16, backed by a coiled spring 17, which embraces the shaft between the end of the sleeve and the shoulder 18 and extends over a portion of the other end of said slot. This collar 16 may be moved longitudinally on the shaft against the action of the spring, so as to permit the blade to be entered in the slot of the shaft. To hold the blade in place, it is provided with notches 19 in the ends thereof, the notch in one end being engaged over the end of the fixed collar 15 and the notch at the other end receiving the end of the collar 16, which is held yieldingly in place by the spring 17,

thereby locking the blade in the slot of the shaft.

The spaces between the shaft and the sleeves 5 is such as to allow the blade to rotate with the shaft without striking said sleeves, so that when the stropping device is placed upon a strop it may be placed either side up and when it is drawn lengthwise of the strop in the operation of stropping the blade 13, through the movement of the shaft 11, will be swung into contact with the face of the strop in a direction opposite to that in which the machine is being drawn, the blade reversing from side to side as the direction of movement of the stropping-machine is changed, thereby enabling the blade to be perfectly stropped upon both sides of its cutting edge. To remove the blade, it is only necessary to slide the collar 16 upon the shaft sufficiently to withdraw it from the notch in the end of the blade, when said blade may be withdrawn from the slot in the shaft.

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

1. In a stropping-machine, the combination of the rotary sleeves and gears thereon, the rotary shaft carrying a gear meshing with the gears on said sleeves, said shaft having a narrow longitudinal slot therethrough to receive a thin blade, and a device on the shaft for locking the blade in said slot.

2. In a stropping-machine, a rotary blade-holder consisting of a shaft having a narrow longitudinal slot therethrough adapted to receive a thin blade, a fixed member on the shaft adapted to engage one end of said blade, and a movable member on the other end of the shaft adapted to engage the other end of the blade to hold it in said slot.

3. In a stropping-machine, a blade-holder consisting of a rotary shaft, said shaft having a longitudinal slot therethrough, a fixed collar at one end of the shaft which embraces a portion of said slot at one end, and a movable collar at the opposite end of the shaft embracing a portion of the opposite end of said slot.

4. In a stropping-machine, the combination of the rotary sleeves carrying the gear-wheels, the casing embracing said gear-wheels, the rods passing through the casing and through the sleeves, the end plate extending between the ends of said rods and attached thereby, the central shaft carrying a gear-wheel which meshes with the gear-wheel on the sleeves, said shaft having a longitudinal slot therethrough adapted to receive a thin blade, a fixed collar on said shaft adapted to engage one end of the blade, a sliding collar on the other end of the shaft adapted to engage the opposite end of the blade, and a handle attached to the casing for manipulating the device.

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

EDWARD B. GIBFORD.

Witnesses:

CLARKE E. BALDWIN,

W. B. ALEXANDER.