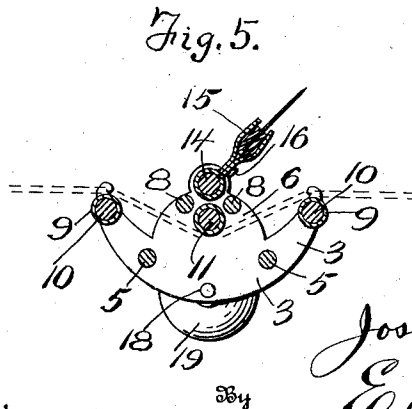
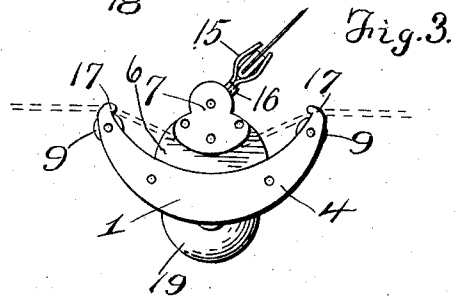
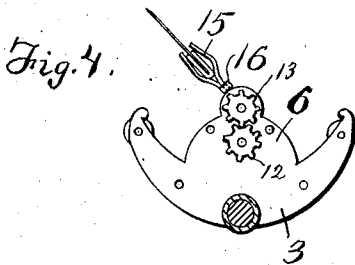
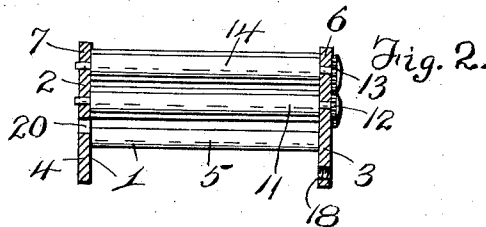
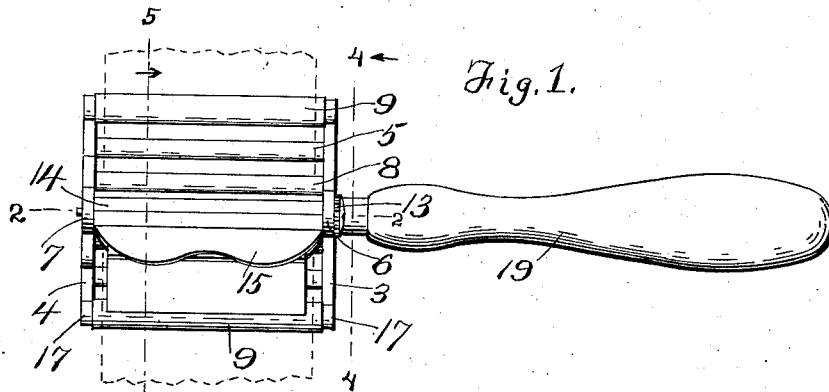


J. KAUFMAN.  
STROPPING MACHINE.  
APPLICATION FILED AUG. 5, 1909.

1,025,572.

Patented May 7, 1912.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOSEPH KAUFMAN, OF NEW YORK, N. Y.

## STROPPING-MACHINE.

1,025,572.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed August 5, 1909. Serial No. 511,392.

*To all whom it may concern:*

Be it known that I, JOSEPH KAUFMAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Stropping-Machines; and I do hereby 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.

This invention relates to improvements in stropping machines and more particularly to such as are adapted especially for stropping safety razor blades.

Among the objects in view are the retention of the strop and machine in proper relative positions during operation, the free and ready application and removal of the machine to and from a strop, the maintaining of rigidity and firmness of parts, and the accurate manipulation of the razor blade for insuring proper action of the strop relative to the edge of the blade, while obviating injury to the strop.

With these and further objects in view, as will in part be hereinafter set forth and in part become obvious, the invention comprises certain novel constructions, combinations and arrangements of parts as hereinafter disclosed and claimed.

In the accompanying drawing,—Figure 1 is a plan view of a stropping machine embodying the features of the present invention, a fragment of a strop being indicated in dotted lines in operative position. Fig. 2 is a vertical section therethrough taken on the plane indicated by line 2—2 of Fig. 1. Fig. 3 is an end view of the machine with a strop indicated in dotted lines in operative position, and the blade clamp shown in the act of moving from one side of the machine to the other. Fig. 4 is a transverse, vertical section taken on the plane indicated by line 4—4 of Fig. 1 and looking in the direction indicated by the arrow. Fig. 5 is a similar view of the same taken on the plane indicated by line 5—5 of Fig. 1, and looking in the direction indicated by the arrow.

Referring to the drawing by numerals, 1 indicates a main frame portion and 2 an auxiliary or inner frame portion. Said

frame portions comprise a frame for the operating parts of the present improved stropping machine. The frame 1 is made up of an end plate 3, a second end plate 4, and connecting rods or bars 5, 5, rigidly fixed at their opposite ends to the respective plates 3 and 4. The auxiliary frame portion 2 consists of an edgewise extension projecting upwardly from plate 3, a plate 7 opposite extension 6 and connecting bars or rods 8, 8, rigidly fixed at their opposite ends to plate 7 and extension 6.

Journalled in the main frame portion 1 beneath the line of travel of the strop are anti-friction rollers 9, 9, each consisting preferably of a sleeve rotatably mounted on a cylindrical rod 10 fixed at its ends to the respective plates 3 and 4. Obviously, sleeves 9 may be fixed to rods 10, and the rods in turn journalled at their ends in the side plates of the main frame portion. Rollers 9 are preferably spaced apart for approximately the width of the machine, and disposed intermediate the width of the machine is a roller 11 journalled in the side plates 6 and 7 of the auxiliary frame. Roller 11 may consist of an inner cylindrical rod inclosed by a surrounding sleeve rigidly connected to the rod, and the journals of the roller extend through plates 6 and 7, and one of said journals fixedly carries a gear wheel 12, which gear wheel meshes with a similar gear wheel 13 fixed to the extended journal of a roller 14 journalled in the auxiliary frame portion and spaced above roller 11.

A razor blade receiving and retaining clamp 15 is carried by roller 14 and may be made up in any suitable form adapted to receive and firmly clasp a razor blade, and for cheapness and simplicity of construction, I prefer to form the clamp of a sheet of spring material folded intermediate its width about the roller 14 and firmly clasped thereon so as to move with the roller, the free edges of the sheet being held together by lugs 16 extending from one end of one side of the sheet and bent over the corresponding contiguous edge of the other side of the sheet. The outer edges of the sheet are left free to serve as clamping jaws, and in operation the back of the razor blade is simply forced between the jaws for spread-

ing the same apart and being clasped thereby.

The side plates 3 and 4 may, of course, assume any desired configuration but are preferably shaped approximately to conform in a general way to the shape assumed by the strop and having outstanding arms which carry rollers 9, and each of said plates is provided with a terminal extension 17 at the end of each arm projecting above the respective roller 9 a distance considerably greater than the thickness of the strop so as to provide stops for the strop for preventing the strop from assuming an angular relation to the machine by slipping across the terminals of the arms and also preventing the strop from moving edgewise out of engagement with the machine. Extensions 17 thus serve as guides and effectually retain the parts in their proper relative positions during operation.

For manipulating the machine, plate 3 is provided with a threaded aperture 18 into which the threaded shank of an operating handle 19 is threaded. It is to be noted that the plate 7 is spaced above plate 4 leaving an intervening slot or opening 20, and in operation the machine is applied to the strop by moving the edge of the strop through the slot 20 above rollers 9, 9, and beneath roller 11. After the machine has been positioned on the strop, the strop being fixed at one end to a support and grasped at the other end by one hand of the operator, the handle 19 is grasped by the other hand of the operator and the machine is shifted back and forth along the strop. Of course, the razor blade will have been positioned prior to the starting of the manipulation of the machine, and as the machine travels in one direction, the blade lies with its edge directed away from the direction of travel, and as the operator starts to reverse the movement the roller 11 revolves sufficiently for causing rotation of gears 12 and 13 to an extent swinging the razor blade over to the opposite side of the machine so as to have the edge directed oppositely to the direction of return travel, and the blade will remain in this position until the machine starts back again, whereupon the action of the roller 11 will cause the blade immediately to resume its former position, and so on throughout the entire operation, the edge of the blade being always directed away from the direction of travel and lying on the strop in such angular relation thereto as to produce the best possible stropping effect.

To remove the machine from the strop, it is only necessary to lift the edge of the strop over the extension 17 of plate 4, and then to draw the machine endwise away from the strop.

Obviously, the strop may be reciprocated longitudinally and the machine held sta-

tionary instead of movement of the machine with respect to the strop, and during the stropping movement, except immediately at the beginning of each movement when the razor blade clamp is being swung from one position to another, the roller 11 remains inactive and simply slides along the strop.

What I claim is,—

1. In a stropping machine, the combination of a main frame portion, an auxiliary frame portion carried thereby, an opening being formed between the auxiliary frame portion and the main frame portion for application and removal of the machine to a strop, razor blade shifting means carried by the auxiliary frame portion and adapted to be actuated by the strop, and guiding extensions projecting from the main frame portion in position for retaining the strop in proper relative position with respect to the shifting means.

2. In a stropping machine, the combination of side plates spaced apart, a rod rigidly connecting the same, guiding rollers carried between the plates and adapted to lie beneath and engage a strop, one of said plates being formed with an extension, a side plate spaced from the other side plate, a rod rigidly connecting said spaced side plate to said extension, a pair of rollers journaled in the last-mentioned side plate and extension, intermeshing gears carried by said rollers, one of the rollers being positioned for engaging and being actuated by the strop, and a razor blade clamp carried by the other roller for clasping a razor blade in condition for positioning the edge of the blade against the strop alternately on opposite sides of the machine.

3. In a stropping machine, the combination of a frame adapted to be shifted along a strop, razor blade carrying and shifting means sustained by said frame in position for being actuated by a strop along which the machine is shifted, guiding means for the strop disposed beneath the strop and above the plane of the lowermost point of the shifting means engaged by the strop, and retaining extensions projecting above said guiding means at the ends of the frame for confining the strop.

4. In a stropping machine, the combination of side plates, means rigidly connecting the same, guiding rollers carried by the side plates, an operating handle projecting laterally from one of the side plates, an edgewise extension from one of the side plates, a third side plate spaced from and rigidly connected to said extension, razor blade carrying and shifting means sustained by said last-mentioned side plate and extension and adapted to be engaged and actuated by a strop, and strop confining extensions carried by the first-mentioned side plates and projecting above the guiding rollers thereof.

5 5. In a stropping machine, the combination of side plates, means connecting the same, arms outstanding from the side plates, strop guide rollers carried by said arms, blade holding and shifting means disposed between the rollers and positioned for being engaged and actuated by a strop engaging the guide rollers, and extensions upstanding

from said arms past the edges of the strop engaging the guide rollers.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH KAUFMAN.

Witnesses:

A. WORSNOP,  
WILBUR RANKIN.

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