H. J. GAISMAN.

STROPPING MACHINE.

APPLICATION FILED OCT. 21, 1911.

1,163,332.

Patented Dec. 7, 1915.

2 SHEETS—SHEET 1.

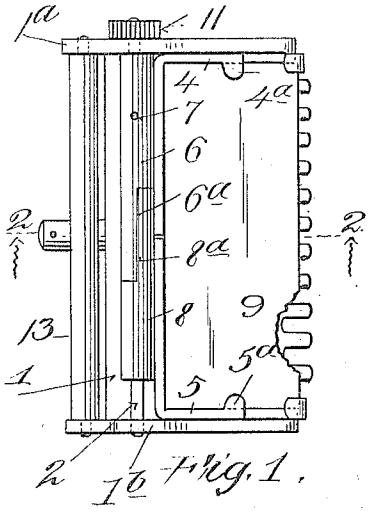


Fig. 1.

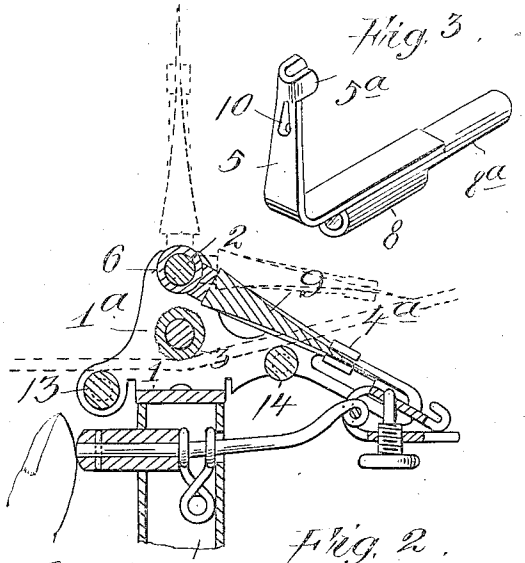


Fig. 2.

Fig. 3.

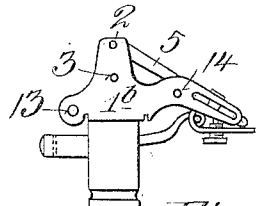


Fig. 4.



Fig. 8.

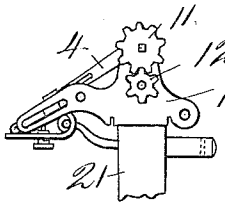


Fig. 5.

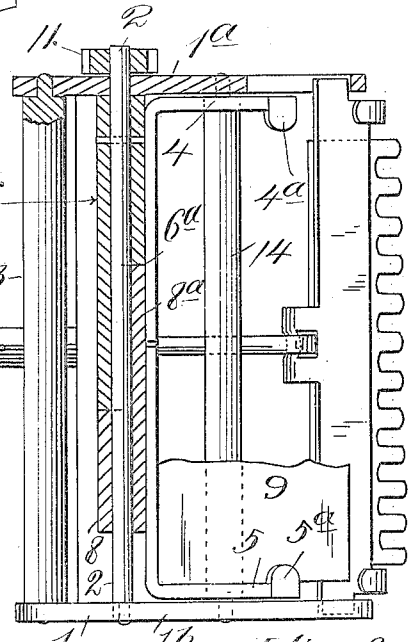


Fig. 6

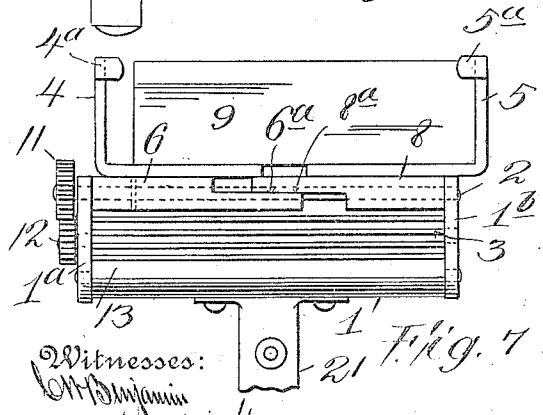


Fig. 7.

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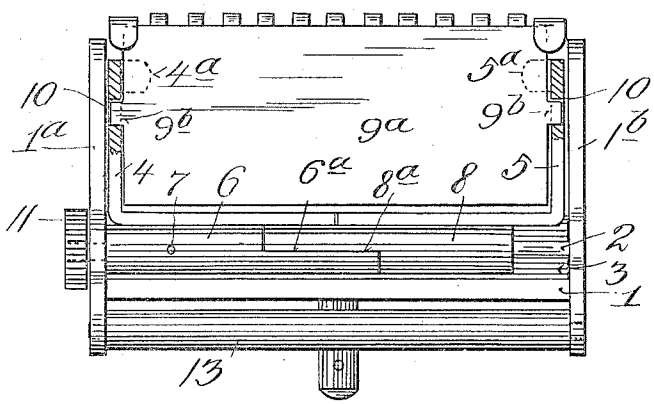


Fig. 9

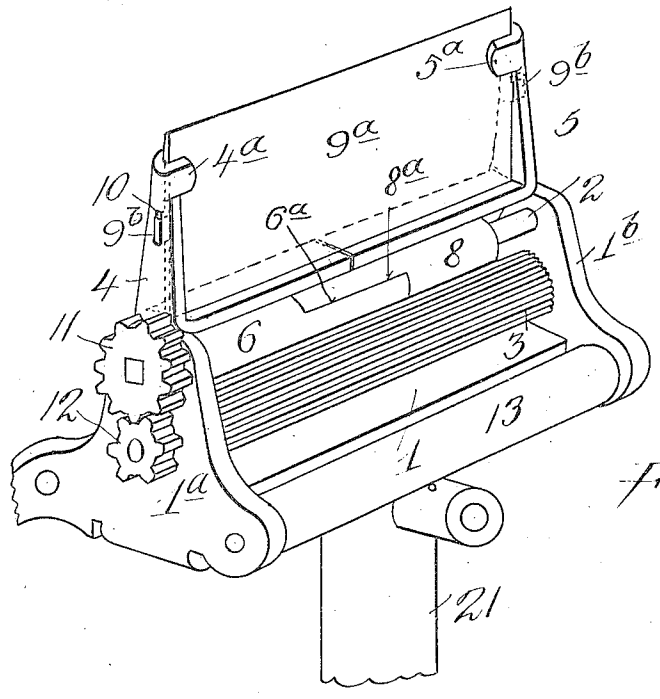


Fig. 10.

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UNITED STATES PATENT OFFICE.

HENRY J. GAISMAN, OF NEW YORK, N. Y., ASSIGNOR TO AUTO STROP COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

STROPPING-MACHINE.

1,163,332. Specification of Letters Patent. Patented Dec. 7, 1915.

Original application filed June 10, 1905, Serial No. 264,603. Divided and this application filed October 21, 1911. Serial No. 655,863.

To all whom it may concern:

Be it known that I, HENRY J. GAISMAN, a citizen of the United States, and resident of New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Stropping-Machines, of which the following is a specification.

This application is a division of my application for improvements in safety razors, filed June 10, 1905, Serial No. 264,603, and has reference to means for removably supporting a blade in its holder and to provide a holder adapted to hold blades of different styles, such as blades having a single cutting edge and a solid back, and blades having a plurality of cutting edges, and also to simplify the means for rocking the blade when the same is to be stropped.

In carrying out my invention I provide a frame, and a blade holder pivotally supported thereby and having two end members adapted to engage the ends of a blade, one of said members being movable toward and from the other, means for locking said members in rotative engagement, and means for rocking the blade holder; I also provide the blade holder with a gear that meshes with a gear on a roller journaled in the frame beneath the holder and provide the frame with guides for the strop on opposite sides of the roller whereby the strop works against the under side of the roller or its side farthest from the holder for causing the edge of the blade to swing in the reverse direction to the travel of the frame.

My invention also comprises novel details of improvements that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein,

Figure 1 is a plan view of a safety razor embodying my invention; Fig. 2 is a cross section thereof, enlarged, on the line 2, 2, in Fig. 1; Fig. 3 is a detail perspective view of part of the blade holder; Fig. 4 is a side view of the device; Fig. 5 is a view similar to Fig. 4, looking from the opposite side; Fig. 6 is a plan view, partly in section, on an enlarged scale; Fig. 7 is a rear view of the device, showing the manner of adjusting the blade in its holder, Fig. 8 is a detail view of a blade having cutting edges on opposite sides; Fig. 9 is a partly broken plan view showing blade 9^a in position, and Fig. 10 is a perspective view thereof, showing the blade and its holder raised.

Similar numerals of reference indicate corresponding parts in the several views.

The frame of the device shown comprises a base piece 1 and uprights 1^a, 1^b, in which are journaled the shaft 2 of the blade holder and a roller 3 for rocking the same. As shown, the blade holder comprises two end members 4, 5, projecting outwardly and parallel and having ears, 4^a, 5^a, to engage the ends of the blade, one member, as 4, being secured to shaft 2 and the other member 5 being mounted to slide thereon. In the construction shown the member 4 is secured upon or formed with a tube or bearing 6, having one end partly cut away, as at 6^a, and secured upon shaft 2, as by a pin 7, and the member 5 is secured to or formed with a tube or bearing 8 mounted to slide upon shaft 2 and having an end partly cut away, as at 8^a, to match the cut away part 6^a of tube 6, whereby said tubes have sliding engagement with respect to each other, but are held in rotative relation by the co-acting faces so as to rock in unison by and with shaft 2. Tube 8 is sufficiently short to enable it to slide along shaft 2 between tube 6 and upright 1^b for the purpose of receiving and releasing the blade 9, but when the member 5 is pressed toward member 4 the blade will be firmly held between said members, as by friction between shaft 2 and tube 8 and the interlocking sections 6^a, 8^a. The blade shown, except in Figs. 8, 9 and 10, is generally of wellknown construction, having a cutting edge and solid back portion. In Figs. 8, 9 and 10 the blade 9^a is indicated as a thin blade, to be made preferably of sheet steel, provided with cutting edges at opposite sides and having lugs 9^b projecting from its ends adapted to enter slots or recesses 10 in the members 4, 5, of the blade holder, whereby such thin blade 9^a may be firmly secured in the holder (Figs. 9 and 10) so that it may rock to have its edges stropped. By having the projections 9^b disposed centrally of the blade the latter may be readily adjusted in its holder to enable either edge to be stropped or used as desired. In the arrangement set forth one

cutting edge of the double edged blade 9ª projects forwardly of its holder to be engaged by a strop, while the opposite cutting edge is within the holder, and thus such cutting edge is protected, yet the blade may be reversed in its holder so that the last named edge may be presented outwardly for stropping or use, and the first named edge will extend inwardly and be protected by and within the holder. This use and adjustment of blade 9ª is permitted by means of its substantially centrally disposed end lugs 9ᵇ entering slots or recesses 10 in the members 4, 5, whereby said members may be spread apart to permit removing, reversing or insertion of a blade 9ª in the holder, and then said members 4, 5, may be pushed toward each other to retain the blade in such position between said members.

The blade holder or its shaft 2 is provided with a gear 11 that meshes with a gear 12 secured to roller 3, a space being provided through the frame beneath roller 3 for the passage of a strop, whereby as the frame is reciprocated along the strop the engagement of roller 3 with the strop will cause the blade holder to rock for stropping the edge of the blade. At 13, 14 the frame is provided with guides, preferably in the form of rollers journaled in the frame on opposite sides of roller 3 against which the strop may bear, whereby when the strop is in position between rollers 13 and 14 and held taut and the frame is reciprocated the tension of the strop against roller 3 will cause the blade holder to rock back and forth.

The guard device illustrated in the accompanying drawings is embodied in my application Serial No. 264,603 aforesaid, and forms no part of this application, but is illustrated to show the adaptability of the invention claimed herein in conjunction with a guard in a safety razor. The frame is shown provided with a handle 21 whereby the device may be reciprocated back and forth along the strop.

The various details of construction shown and described may be varied and changes made without departing from the spirit of my invention.

Having now described my invention what I claim is:—

1. In a stropping machine the combination of a frame and a shaft journaled at opposite ends thereon, with a blade holder comprising a pair of members spaced apart, one of said members being secured to said shaft, the other of said members being mounted to slide upon said shaft, and means carried by said members for holding the movable member in rotative relation to the other member in different positions of adjustment, substantially as described.

2. A blade holder comprising a pair of members spaced apart and having tubular portions, a shaft receiving said tubular portions, one of said tubular portions being secured to the shaft and the other movable thereon, and coacting faces on said tubular portions for causing said members to rock in unison, substantially as described.

3. A blade holder comprising a pair of members spaced apart and provided with tubular portions, a shaft receiving said tubular portions, one of said portions being secured to the shaft and the other movable thereon, said tubular portions having cut away parts overlapping and engaging each other, whereby one of said members may have movement toward and from the other while maintaining rotative relation, substantially as described.

4. The combination of a pair of blade holding members spaced apart and provided with tubular portions, a shaft receiving said tubular portions, one of said portions being secured to the shaft and the other movable thereon, said tubular portions having cut away parts overlapping and engaging each other, whereby one of said members may have movement toward and from the other while maintaining rotative relation, a frame supporting said shaft, and means for rocking said shaft and members, substantially as described.

5. The combination of a frame, a blade holder pivotally carried thereby, a roller journaled in the frame, the under side of which is adapted to be engaged by a strop, means connecting the said blade holder and said roller to impart movement from the latter to the former, and means for pressing the strop against the under side of said roller.

6. The combination of a frame, a blade holder pivotally carried thereby and provided with a gear, a roller journaled in the frame beneath the holder and provided with a gear meshing with the first named gear, said frame having a space open from one side to the other beneath the roller to permit the passage of a strop for engagement with the under side of the roller, and means for pressing the strop against said roller, substantially as described.

7. The combination of a frame, a blade holder pivotally carried thereby and provided with a gear, a roller journaled in the frame beneath the holder and provided with a gear meshing with the first named gear, said frame having a space open from one side to the other beneath the roller to permit the passage of a strop for engagement with the under side of the roller, and tensioning members on opposite sides of said roller for pressing said strop against said roller when it is under tension.

8. The combination of a frame, a blade holder pivotally carried thereby and provided with a gear, a roller journaled in the

frame beneath the holder and provided with a gear meshing with the first named gear, said frame having a space open from one side to the other beneath the roller to permit the passage of a strop for engagement with the under side of the roller, and guides for the strop carried by the frame on opposite sides of the roller, substantially as described.

9. In a sharpening device for razor blades, a frame, a shaft carried by and rotatable in said frame, a blade holder carried by and rotating with said shaft, a blade carried by said holder and having its operative edge projecting from the axis of rotation of said shaft, a gear on said shaft, a roller journaled in said frame, a gear on said roller intermeshing with said gear on said shaft, and strop tensioning rollers journaled in said frame on opposite sides of said roller and with their centers of rotation on a line angularly disposed toward a line passing through the centers of rotation of said shaft and said roller.

10. 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 roller to the holder, a strop engaging the roller on its lower side, and means for urging the strop against the periphery of said roller.

Signed at New York city, in the county of New York and State of New York, this 19th day of October, A. D. 1911.

HENRY J. GAISMAN.

Witnesses:
MAX M. KOTZEN,
T. F. BOURNE.