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H. J. GAISMAN.

STROPPING MECHANISM FOR RAZORS.

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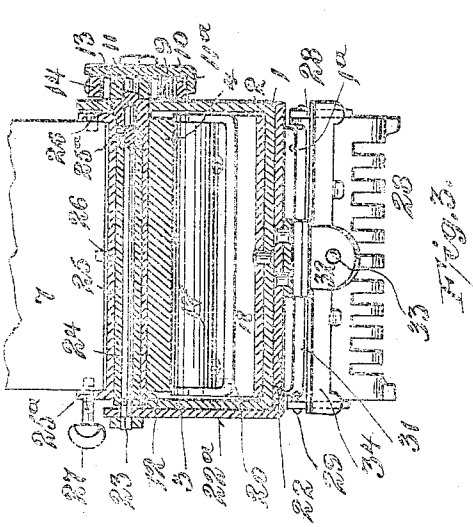


Fig. 3.

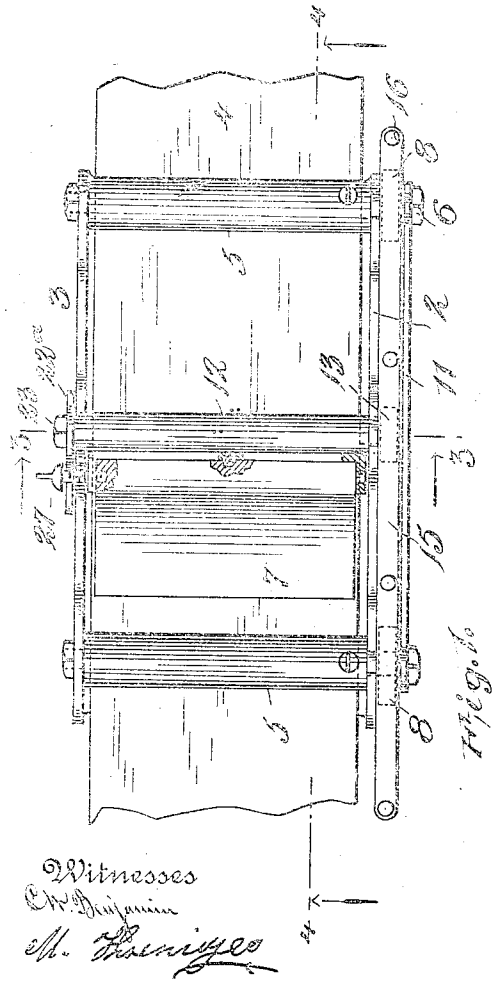


Fig. 2.

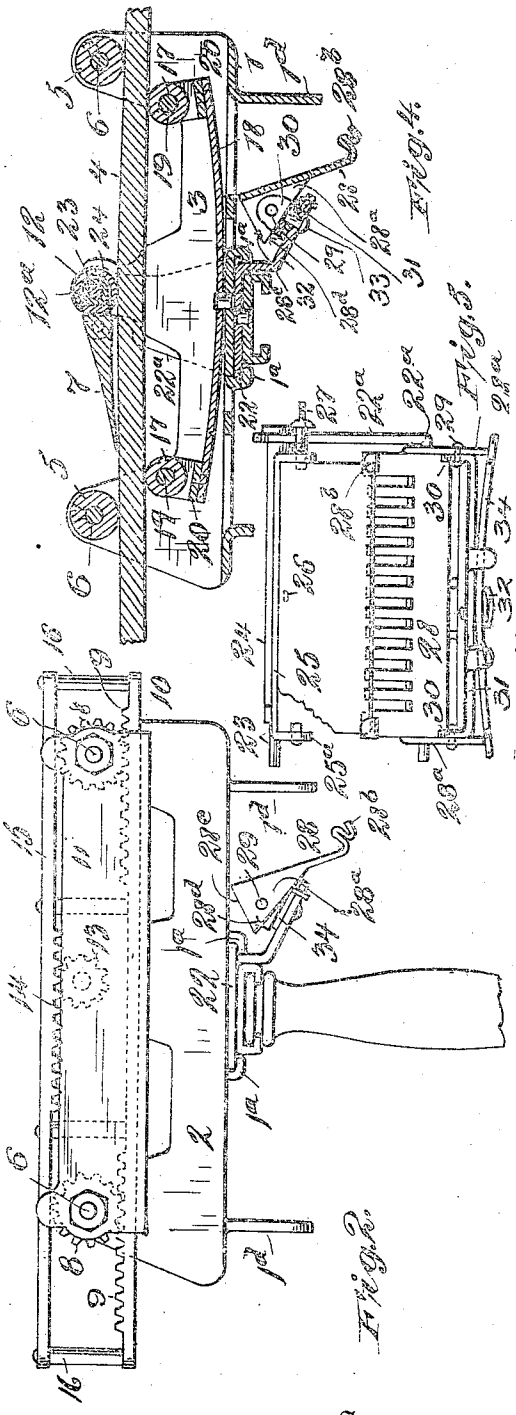


Fig. 1.

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STROPPING MECHANISM FOR RAZORS.

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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, New York, have invented certain new and useful Improvements in Stropping Mechanism for Razors, of which the following is a specification.

My invention has for its object to permit a safety razor blade to be stropped without removing it from its holder in the razor frame.

To this and other ends my invention comprises the novel details of improvement 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 my improvement mounted upon a strop ready for use, Fig. 2 is a side elevation, looking from the lower part of Fig. 1, Fig. 3 is a cross section, substantially on the line 3, 3, in Fig. 1, looking in the direction of the arrows, Fig. 4 is a longitudinal section, substantially on the line 4, 4, in Fig. 1, looking in the direction of the arrows, and Fig. 5 is a side view of a safety razor frame shown in the other views.

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

The main frame of the device comprises a base member or plate 1 and sides 2, 3, which may be struck up from suitable sheet metal, said sides being so spaced as to receive a strop 4 between them. At 5 are indicated rollers located between and carried by the sides 2, 3, and said rollers are shown secured on shafts 6 journaled in the upwardly extending members of the sides 2, 3, said rollers being located near opposite ends of the main frame, the strop 4 being adapted to pass through the frame beneath said rollers and in contact therewith, so that as the frame is reciprocated along the strop the rollers 5 will be oscillated to rock the razor blade 7. The means I have shown for causing the blade 7 to be rocked by said rollers comprise racks and gears arranged as follows:—To the rollers 5 are secured gears 8 that mesh with racks 9 carried by a sliding bar or frame 10 guided upon the main frame, as by a guiding plate 11 shown provided with an inturned lower bearing web 11^a (see Fig. 3), which plate 11 may be hung on the shafts 6. The main frame is provided with a pivotally supported blade holder or carrier 12 journaled upon the intermediate upwardly extending portions of the sides 2, 3, and at one end said carrier or holder has secured to it a gear 13 that meshes with a rack 14 shown carried by a bar 15 rigidly connected with the bar 10, as by posts 16. In other words, the parts 10, 15 and 16 comprise a sliding frame having the racks 9 and 14. As shown in Fig. 2 the racks 9 mesh with the under sides of the gears 8 and the rack 14 meshes with the upper side of the gear 13, which is designed for causing the blade edge to be thrown in the direction opposite to that in which the device travels along the strop. Thus, when the device travels from left to right in Fig. 1, along the strop, the rollers 5, which bear on their under surface upon the strop, are caused to rotate by the strop and will, through the racks and gears, throw the blade holder or carrier 12 and the blade 7 toward the left, and when the device is moved in the reverse direction said rollers and the gears and racks will throw the blade in the reverse direction, so that at all times the blade will drag on the strop behind the carrier or holder 12. 1^d indicates handle members on the main frame for reciprocating it.

To cause the rollers 5 to bear firmly upon the strop so as to produce the required friction for rocking said rollers, as the device is reciprocated along the strop, I provide rollers 17 that bear against the under surface of the strop and are pivotally carried, as shown in Figs. 3 and 4, by a plate spring 18 attached centrally to the base member 1 of the main frame and having a normal spring tendency to push the rollers 17 against the strop. The rollers 17 are supported upon rods 19 that are carried by yokes or frames 20 secured to the spring 18 (see Figs. 3 and 4.) In the arrangement shown the rollers 17 are located at one side, respectively, of a line passing vertically (in Fig. 4) through the axes of rollers 5, so as to have a tendency to bend the strop as it passes under the rollers 5 to cause an increased gripping action between the strop and said rollers. As shown in the drawings, the blade carrier or holder 12 is of tubular form provided with a longitudinally disposed groove or channel 12^a that opens through one side thereof, as in Fig. 4, and also opens through the end thereof opposite the gear 13, as indicated in Fig. 3, to enable the blade holder of a safety razor to slide therein in a longitudinal direction. This arrangement permits of the attachment to the blade holder 12 of a blade or blade holder while it remains in the frame of a safety razor so that it is not necessary to remove the blade from such razor frame in order to strop the blade by means of my improvements. In other words, my improved stropping device is arranged to have a safety razor frame and its attached blade applied in such manner that the complete safety razor will be supported and carried by the frame of the stropping device so that the blade can be rocked for stropping its edge. To this end I provide a safety razor whose frame is open or provided with a space leading through it from one side to the other, as from front to rear, between the blade holder and the guard to permit the passage of a strop, and which frame is also open

on one end to permit the razor frame to be applied to the main frame by sliding the razor across the main frame and whereby the blade holder of the razor frame can slide into the blade holder or carrier 12. The arrangements I have shown for this purpose are as follows: At 22 is the base member of a safety razor frame provided on one end with an upright 22^a to which is secured a rod 23 upon which is pivotally mounted the tubular portion 24 of a holder which carries the blade 7, and said tubular portion 24 of the blade holder is adapted to slide into the open end of the carrier 12 in the position shown in Fig. 3. As shown in Figs. 3 and 5 the razor blade holder 24 has a yoke member 25 secured to the tubular member 24, the blade 7 being secured between the lugs 25^a of said yoke, pins 26 on the yoke entering corresponding sockets in the blade, a screw 27 carried by a lug 25^a and entering the socket in the blade serving to detachably and firmly hold the blade in its holder. But other well known means may be provided for receiving the blade on its holder. The base part 22 of the razor frame is adapted to be attached to the base member 1 of the stropping device frame at the same time that the razor blade holder 24 is in position in the blade holder or carrier 12 of the stropping device, and to this end I have shown the base 1 provided with guides 1^a, extending transversely of said base and adapted to permit base part 22 to slide therein transversely of frame 1, (see Figs. 2 and 4.) The arrangement of the parts is such that when the blade is to be stropped the base 22 of the razor frame is placed at one side of the main frame in line with the guides 1^a of the latter and the shaft 23 and tubular member or sleeve 24 are also alined with the socket or guide of holder 12, and then the razor frame is pushed toward the main frame so that the razor frame will be secured to the main frame, the base plate 22 thus being held by guides 1^a and the blade 7 connected with the carrier 12 to rock therewith, as indicated in Fig. 3, the razor frame thus being firmly mounted on the main frame. In such position of the parts (the razor frame being supported and carried by the main frame), the blade 7 will be caused to rock as the device is reciprocated along the strop in manner before described.

In order that the razor frame may be connected with the frame of the stropping device without interference, I connect the blade guard 28 movably with the razor frame so that said guard may be thrown down from its shaving position with respect to the blade edge, as indicated in Figs. 2, 3 and 4, when the blade is to be stropped so as to leave a free space between the base part 22 of the razor frame and its blade holder 24. As shown, the guard 28 is pivotally supported by the razor frame on pivots 29 that pass through lugs 28^a on the guard and through lugs or ears 30 on a bar 31 secured upon an extension 32 of the base 22, a rivet 33 being shown holding the parts 31 and 32 firmly together. The guard 28 is shown provided with lips 28^b that are adapted to engage the edge of the razor blade for holding the edge in shaving position with respect to the guard, and to hold said guard in shaving position I provide a spring 34 that is shown clamped between the bar 31 and the extension 32 by the rivet 33, and the ends of said spring are adapted to be engaged by the edges 23^a of the lugs 28 of the guard when the guard is pressed up in shaving position against the blade edge so that the tendency of said spring is to push the lips 28^b against the blade edge to hold the guard firmly in position. When the blade is to rock, the guard is swung back on its pivots in position to hang below the base 1 of the main frame to permit the ready insertion of the razor frame into the main frame as indicated in Figs. 2 and 4, in which position the edges 28^d of lugs 28^a bear on spring 34 to hold the guard in the lowered position.

The advantages of my improvements are that the stropping devices may remain mounted upon the strop so that during the operation of shaving, when it is required to strop the blade, it will merely be necessary to move back the guard 28 and without removing the blade from the razor frame apply the frame and the razor to the stropping device in the manner described and then reciprocate the device having the attached razor along the strop, then when the blade is stropped withdraw the razor frame and blade from the stropping device, adjust the guard to the blade and proceed with shaving.

Having now described my invention what I claim is:

1. The combination of a frame adapted to be reciprocated with respect to a strop and provided with means for receiving and rocking a blade, with a razor frame provided with means for pivotally supporting a blade, so the latter may rock in said razor frame, said blade supporting means being arranged to be applied to the blade rocking means of the first named frame for rocking the blade thereby, substantially as described.

2. The combination of a frame adapted to be reciprocated with respect to a strop and provided with a pivoted blade holder and means for rocking said holder, with a safety razor frame provided with a blade pivotally supported in said razor frame to rock therein and adapted to be fitted to the blade holder of said first mentioned frame, substantially as described.

3. The combination of a frame adapted to be reciprocated with respect to a strop and provided with a pivoted blade holder and means for rocking said holder, with a safety razor frame provided with a pivoted blade holder and having an opening through from side to side to permit the free passage of the first named frame while the blade holder of the razor frame is fitted to the holder of the first named frame, substantially as described.

4. The combination of a frame adapted to be reciprocated with respect to a strop and provided with a pivoted blade holder and means for rocking said holder, with a safety razor frame provided with a pivoted blade holder and having an opening through from side to side and also open at one end to permit the razor frame to be slid transversely of the first named frame to enable the holder of the razor frame to be fitted to the holder of the first named frame, substantially as described.

5. The combination of a frame adapted to be reciprocated with respect to a strop and provided with a pivoted blade holder and means for rocking said holder, with a safety razor frame provided with a pivoted blade holder adapted to be fitted to the holder of the first named frame, and means for securing said frames together while their respective holders are fitted together, substantially as described.

6. The combination of a frame adapted to be reciprocated with respect to a strop and provided with a pivoted blade holder and means for rocking said holder, with a safety razor frame provided with a pivoted blade holder adapted to be fitted to the holder of the first named frame, the safety razor frame having a base member beneath its holder and one end open to receive the first named frame, and a guide for holding the safety razor frame upon the first named frame, substantially as described.

7. The combination of a frame adapted to be reciprocated with respect to a strop and provided with a pivoted blade holder and means for rocking said holder, with a safety razor frame provided with a pivoted blade holder

adapted to be fitted to the holder of the first named frame, the safety razor frame having a base member beneath its holder and one end open to receive the first named frame, the first named frame having a guide adapted to receive the base member of the safety razor frame for holding the latter upon the former while the blade holders are fitted together, substantially as described.

8. The combination of a frame adapted to be reciprocated with respect to a strop and provided with a pivoted blade holder and means for rocking said holder, with a safety razor frame provided with a base portion and an upright on one side, a blade holder pivotally carried by said upright, the end of the frame opposite said upright being free to be passed over the first named frame, said blade holder being arranged to be fitted firmly to the blade holder of the first named frame, substantially as described.

9. The combination of a frame adapted to be reciprocated with respect to a strop and provided with a pivoted blade holder and means for rocking said holder, with a safety razor frame provided with a base portion and an upright on one side, a blade holder pivotally carried by said upright, the end of the frame opposite said upright being free to be passed over the first named frame, said blade holder being arranged to be fitted firmly to the blade holder of the first named frame, the first named frame having a guide to receive the base portion of the safety razor frame, substantially as described.

10. In a stropping device the combination of a frame, a blade holder pivotally carried by said frame, rollers journaled on the frame on opposite sides of said holder, and mechanism connecting said rollers with said holder for rocking the latter by the former, substantially as described.

11. A stropping device comprising a frame, a blade holder pivotally carried by said frame, rollers journaled on said frame on opposite sides of the holder, an independent member mounted to slide with respect to the frame, and mechanism connecting said member with said rollers and holder for rocking the latter by means of said rollers, substantially as described.

12. A stropping device comprising a frame, a blade holder pivotally carried thereby, rollers journaled on the frame on opposite sides of the holder, racks movably carried by the frame, and gears connected with the rollers and holder and operated by said racks, substantially as described.

13. A razor stropping device comprising a frame, a blade holder pivotally carried thereby, rollers journaled on the frame on opposite sides of the holder, gears connected with said rollers and holder, and racks meshing with said gears, the point of contact of the gear of the holder being on the side opposite the contact of the gears of the rollers with the corresponding rack, substantially as described.

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