G. BROWNING.

STROPPING MACHINE.

APPLICATION FILED JULY 30, 1909.

1,142,076.

Patented June 8, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

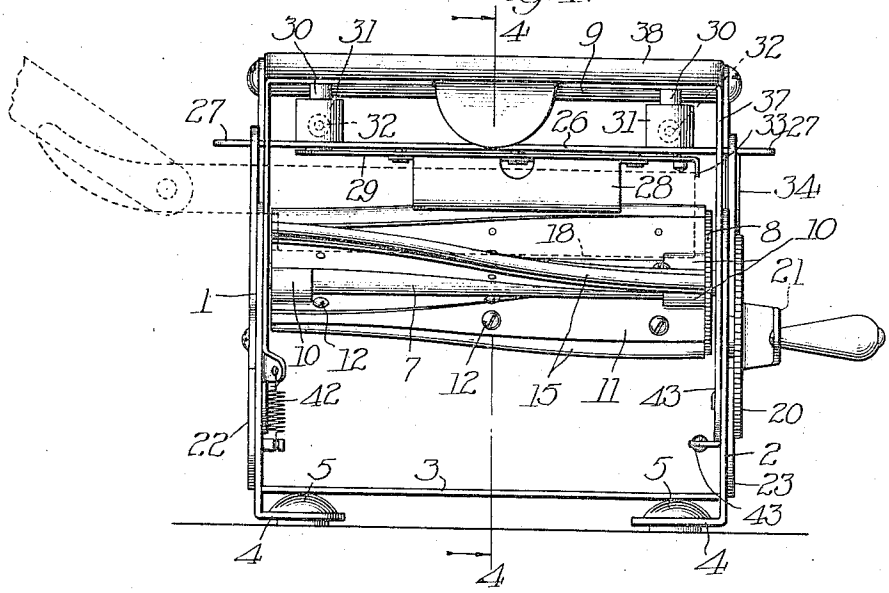


Fig. 2.

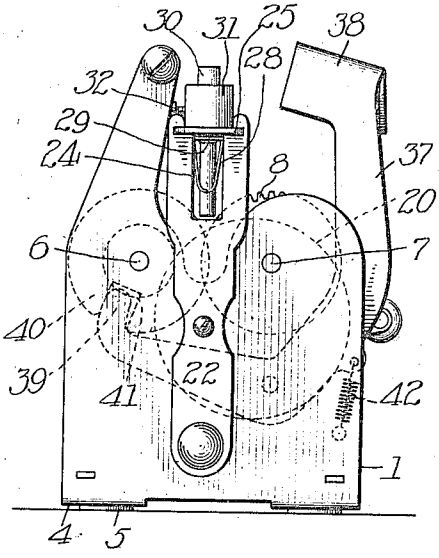
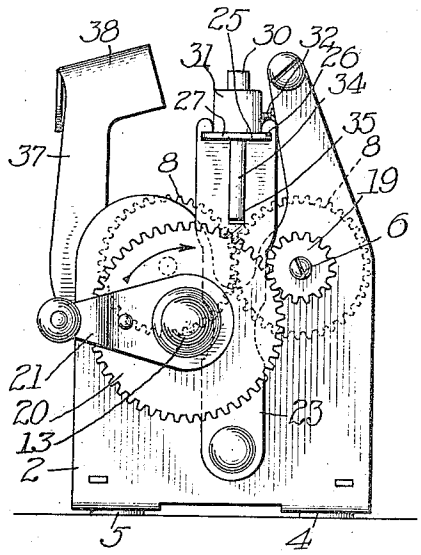


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

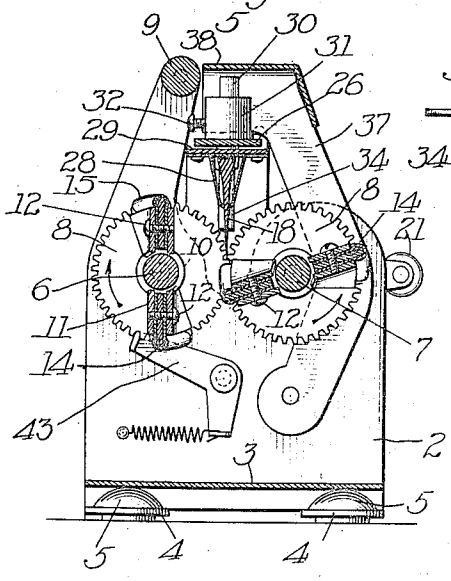


Fig. 5.

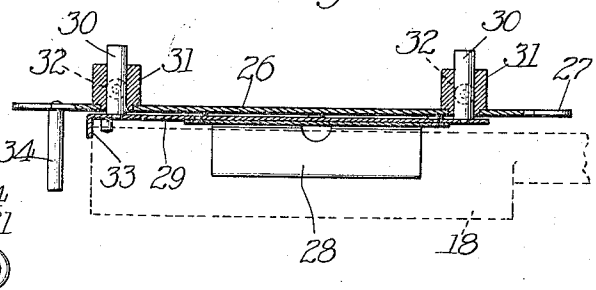


Fig. 6.

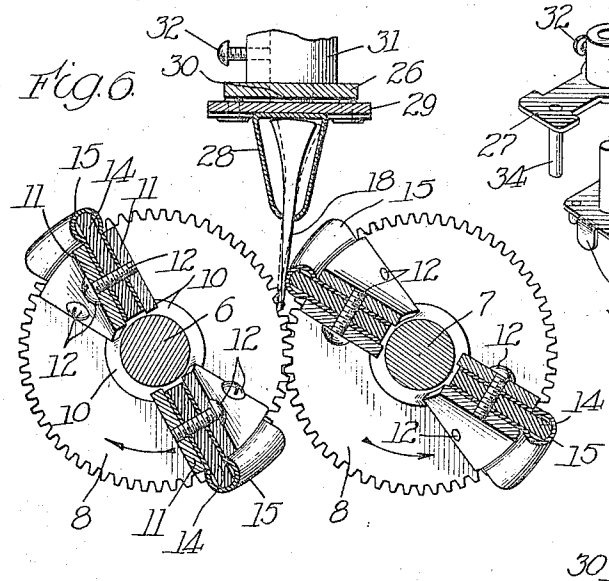


Fig. 7.

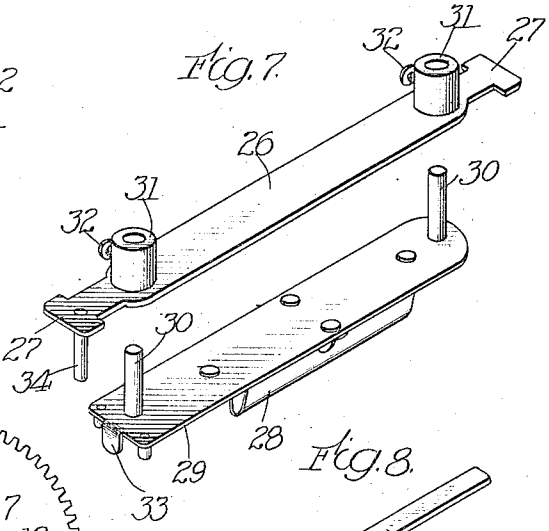


Fig. 8.

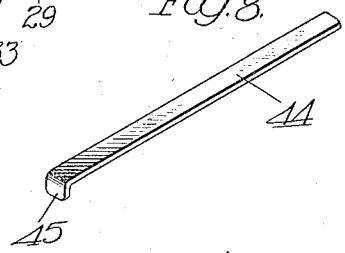
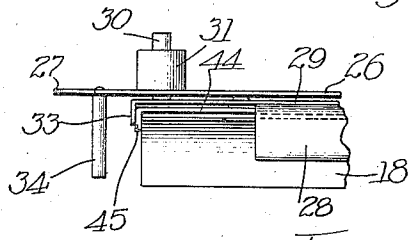


Fig. 9.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE BROWNING, OF CHICAGO, ILLINOIS, ASSIGNOR TO PERFECTION RAZOR STROP COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

STROPPING-MACHINE.

1,142,076. Specification of Letters Patent. Patented June 8, 1915.

Application filed July 30, 1909. Serial No. 510,468.

To all whom it may concern:

Be it known that I, GEORGE BROWNING, a subject of the King of England, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stropping-Machines, of which the following is a description.

My invention relates to devices for stropping or sharpening a razor or other cutting blade, and for this purpose is provided with improved stropping elements and with means for holding the blade to be sharpened in the most advantageous position for the convenient and accurate application of the sharpening mechanism.

The object of my invention is to provide a simple, convenient and effective device of the kind described, and to this end consists in the novel construction, arrangement and combination of parts herein shown and described and more particularly pointed out in the claims.

In the accompanying drawings wherein like or similar reference characters indicate like or corresponding parts: Figure 1, is a side elevation of my device. Fig. 2, is an end elevation of the same. Fig. 3, is an elevation of my device showing the end opposite that shown in Fig. 2. Fig. 4, is a section taken substantially on line 4—4 of Fig. 1. Fig. 5, is a section of the blade holder of my device taken substantially on line 5—5 of Fig. 4. Fig. 6, is an enlarged sectional detail, showing the base holder and coöperating parts. Fig. 7, is a perspective detail of the blade holder. Fig. 8, is a perspective detail of a distance piece for adjusting the position of a blade in the blade holder. Fig. 9, is a fragmentary view showing a portion of a blade holder with the distance piece shown in Fig. 8 in operative relation thereto.

In the preferred form shown in the drawings a suitable frame is provided consisting of a pair of substantially vertical end members 1 and 2 rigidly connected near their lower and upper ends by the transverse members 3 and 9 respectively. In the form shown each end member is provided at its lower end with one or more parts 4 bent inward to a position substantially parallel to the member 3 and adapted to serve as feet or bearings for the frame. If desired a pad 5 of rubber or other suitable material may be provided, extending through a suitable opening in each part 4 or otherwise conveniently secured in position to serve as a cushion to prevent slipping or marring the surface upon which my device is resting. A pair of substantially parallel rollers or members 6 and 7 are rotatably mounted in suitable bearings upon the end members 1 and 2 each provided with a gear 8 rigidly secured thereto and arranged to coöperate to rotatively connect the members so that a rotation of one will produce a corresponding rotation of the other. The stropping or sharpening elements may be of any desired construction, and mounted upon or secured to the members 6 and 7 in any desired manner. In the form shown, each member is provided with a pair of suitably formed plates 10—10 slightly spaced from each other and arranged to extend longitudinally thereof. The central portion of each plate is formed to clamp upon the member with a part 11 projecting radially at each side, adapted to engage a suitable stropping or sharpening element between them. As shown a plurality of screws or bolts 12 are provided in the extended portions of the plates 10 adapted to draw the plates together to clamp the stropping elements in position upon the member.

The stropping or sharpening elements each preferably consists of a substantially flat sheet or plate 14 of soft rubber or other suitable resilient material rigidly clamped in a radial position between the extended portions 11 of the plates 10 with its periphery or outer edge projecting beyond the plates. A suitable covering of leather or other stropping material 15 is arranged to inclose the outer edge of the sheet 14 and extends into the space between the sheet 14 and plate 10 to secure the same in position.

In the preferred construction the plates 10 are so formed that the stropping elements are arranged spirally upon the members and extend longitudinally thereof substantially the entire length of the members. The gears 8 are so arranged that when the members are rotated the stropping surfaces upon one member will alternate with the stropping surfaces upon the other member, so that a blade 18 extending into the space between the members will have its opposite sides engaged alternately. In the preferred construction shown, the stropping elements extend slightly farther radially from the axis of the member at one end than at its

opposite end, so that the pressure against the side of the blade increases slightly from one end of the cutting edge to the other and by operating upon a larger portion of the blade greatly increases the efficiency of the device especially where the edge to be stropped or sharpened is slightly curved or rounded.

Any suitable means may be provided for rotating the members 6 and 7. In the form shown one end of the member 6 projects slightly beyond the end member 2 and a pinion 19 is mounted upon the projecting portion. A gear 20 is rotatably mounted upon a pin 13 or other suitable means upon the end member 2 arranged to mesh with the pinion 19. A crank or other convenient means 21 is provided upon the gear 20 for rotating the same so that by turning the crank the member 6 will be rotated preferably at a speed considerably greater than the gear 20.

The blade 18 to be stropped or sharpened may be held in position to be operated upon by the stropping elements in any desired manner. In the form shown a pair of arms 22 and 23 are provided upon the end members 1 and 2 respectively each rigidly secured thereto in any suitable manner. The upper end of the arm 22 is provided with a central slot or recess 24 extending longitudinally of the arm of suitable width to permit any projecting portion, as for example, the handle or other part upon, or attached to, a blade to extend to the space beyond the end members. The end of each arm is also preferably provided with a central depression 25 arranged to coöperate with a suitably formed transverse plate 26 having its end formed to engage the recesses 25 to support the plate in position and permit its lateral movement. The extremities of the plate 26 are also preferably increased in width slightly as at 27—27 to provide suitable shoulders to engage the sides of the recesses 25 to prevent longitudinal movement of the member 26. In the preferred construction shown, a resilient clamp 28 is provided of suitable form to engage a blade intermediate its edges leaving sufficient space between the walls of the clamp and that portion of the blade extending into the clamp to permit a limited lateral movement of the edges of the blade so that while the blade is held firmly in the clamp, its cutting edge is free to move laterally to adjust itself to the stropping elements.

The clamp 28 may be adjustably secured to the plate 26 in any convenient manner. In the form shown, the clamp 28 is rigidly secured to a back plate 29 extending longitudinally beyond the ends of the clamp. A pair of posts or pins 30—30 are provided upon the upper or rear side of the back 29 adapted to fit in suitable sockets 31—31 upon the plate 26. A set screw 32 or other convenient fastening means is provided upon each of the sockets 31 adapted to engage a pin 30 when positioned in the sockets to firmly hold the same in position. In the form shown a part 33 is provided upon the back 29 arranged to engage the extremity of a blade positioned in the clamp 28 to indicate its proper position in the holder, and to prevent its longitudinal movement during the stropping operation.

In the preferred construction a pin or projection 34 is provided upon the plate 26 adapted to coöperate with a suitably formed slot 35 in the arm 23 to prevent rocking or tipping of the bar 26 when the device is in operation.

In the form shown, a lock or cover 37 is provided extending across the space between the members 1 and 2 and having a part at each end adapted to closely fit above the extremities of the plate 26 to prevent its displacement from the recesses 25. A disk 40 provided with a suitably formed notch or depression 41 in its periphery is rigidly secured to the member 6. A part 39 is provided upon one end of the lock 37 adapted to engage the notch 41 to prevent rotation of the members 6 and 7 while the lock 37 is open or in the position shown in Figs. 2 and 3. A spring 42 or other suitable means is provided to normally hold the lock open so that after the blade holder is positioned in my device the lock 37 must be closed or moved into position to prevent displacement of the plate 26 before the stropping elements can be operated.

In the preferred construction a spring actuated dog 43 is provided to engage the teeth of the gear 8 or other convenient part upon the members so that the stropping elements cannot be rotated in a direction to cut or injure the stropping surfaces nor a blade being sharpened by engagement of the stropping elements with the cutting edge of the blade.

Where it is desired to strop a blade narrower than that for which the clamp 28 is intended or where it is desirable for any cause to have the edge to be stropped project farther from the clamp 28, the distance piece 44 shown in Figs. 8 and 9 may be employed. In the preferred construction shown, the distance piece 44 consists of a flat piece of metal of any desired thickness and of suitable width to fit within the clamp 28 at the back 29. The part 44 is preferably of suitable length to extend entirely through the clamp and engage the projection 33 and the end of the part 44 is preferably bent or otherwise provided with a lateral projection as at 45 to engage the blade and operate in substantially the same manner as the projection 33 operates for a wider blade.

It is believed that the operation of my de-

vice is clearly described in the foregoing specification and no further description is necessary.

Having thus described my improvement it is obvious that various immaterial modifications may be made in my device without departing from the spirit of my invention hence I do not wish to be understood as limiting myself to the exact form and construction shown.

What I claim as new and desire to secure by Letters Patent is:

1. In a device of the kind described, a frame, a rotary member mounted upon said frame, and a stopping element mounted upon said member, in combination with a blade holder provided with a part loosely coöperating with said frame to rigidly maintain said blade holder in position, and means upon said blade holder adapted to engage a blade intermediate its back and edge and present the edge of said blade to said stropping element.

2. In a device of the kind described, a rotary member, and a stropping element mounted upon said member comprising resilient means extending longitudinally of, and rigidly attached to, said member, and stropping material inclosing the periphery of said resilient means, in combination with a blade holder, extending substantially parallel to the axis of said member adapted to engage the blade to control its position and permit lateral movement of the edge of said blade to adjust the same to said stropping element.

3. In a device of the kind described, a rotary member, and a stropping element, mounted upon said member with one end slightly farther from the axis of said member radially than its opposite end, in combination with a blade holder extending substantially parallel to the axis of said member adapted to engage the blade to control its position and permit lateral movement of the edge of said blade to adjust the same to said stropping element.

4. In a device of the kind described, a frame, a rotary member mounted upon said frame and a stropping element mounted upon said member, in combination with a bar having a part near each end loosely cooperating with said frame to rigidly maintain said bar in position and a blade holder adjustably mounted upon said bar adapted to engage a blade to control its position and present the same to said stropping element.

5. In a device of the kind described, a frame, a rotary member mounted upon said frame and a stropping element mounted upon said member, in combination with a bar having a part near each end loosely cooperating with said frame to rigidly maintain said bar in position and a blade holder adjustably mounted upon said bar adapted to engage a blade intermediate its back and edge and control its position and permit lateral movement of the edge of said blade to adjust the same to said stropping element.

6. In a device of the kind described, a frame, a rotary member mounted upon said frame and a stropping element mounted upon said member, in combination with a blade holder provided with a part loosely cooperating with said frame to rigidly maintain said blade holder in position, and a movable part upon said frame adapted to prevent the disengagement of said blade holder.

7. In a device of the kind described, a frame, a rotatable member mounted upon said frame and a stropping element mounted upon said member, in combination with a blade holder provided with a part loosely coöperating with said frame to rigidly maintain said blade holder in position and a movable part upon said frame provided with means adapted to engage said member and prevent its rotation, and with a part adapted to prevent the disengagement of said blade holder from said frame, said movable part being so formed that said rotatable member is only released when said blade holder is locked in position.

8. In a device of the kind described, a frame, a rotary member mounted upon said frame, a stropping element mounted upon said member and a blade holder provided with a part loosely coöperating with said frame to rigidly maintain said blade holder in position, in combination with a movable part provided with means normally engaging said rotatable member to lock the same against rotation and with a part adapted to prevent the disengagement of said blade holder when said movable part is operated, the several parts being so formed that said rotatable member is only released from said engaging means when said blade holder is locked against disengagement from said frame.

9. In a device of the kind described, a frame, a rotary member mounted upon said frame, and a stropping element mounted upon said member, in combination with a blade holder provided with a part loosely coöperating with said frame to rigidly maintain said blade holder in position, and means upon said blade holder adapted to engage a blade and present its edge to said stropping element, and means for locking said rotatable member against rotation in one direction.

10. In a device of the kind described, a frame, a rotatable member mounted upon said frame, a stropping element mounted upon said member and a blade holder provided with a part loosely coöperating with said frame to rigidly maintan said blade holder in position, in combination with a

movable part provided with means normally engaging said rotatable member to lock the same against rotation and with a part adapted to prevent the disengagement of said blade holder when said movable part is operated, said movable part being so formed that said rotatable member is only released from said engaging means when said blade holder is locked against said disengagement from said frame, and means for locking said rotatable member against rotation in one direction.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE BROWNING.

Witnesses:
BURTON U. HILLS,
BLANCHE CHALMERS.