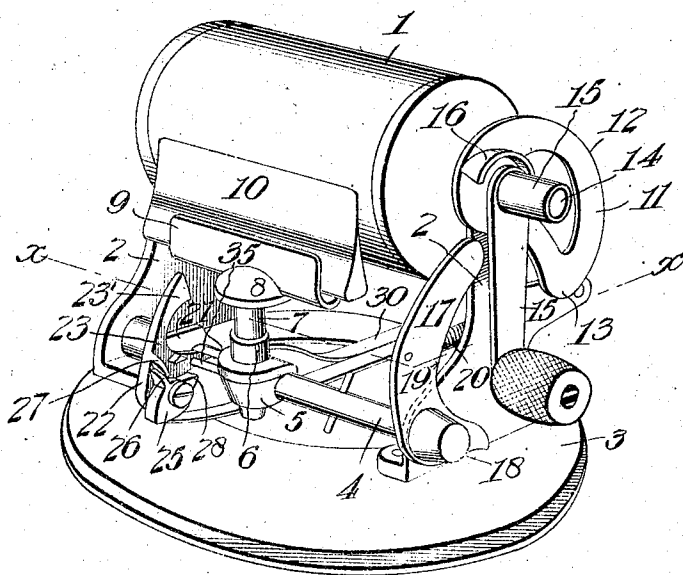


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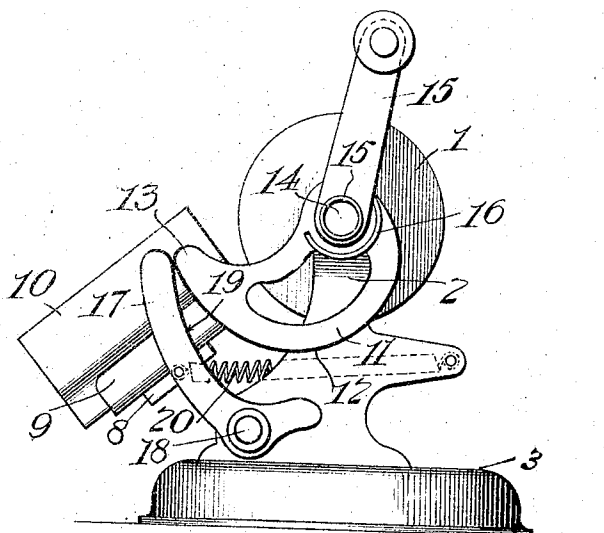
941,529.

Patented Nov. 30, 1909  
 2 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 2.*



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Witnesses  
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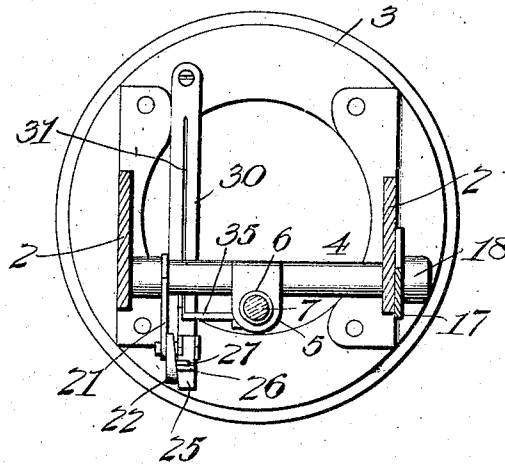
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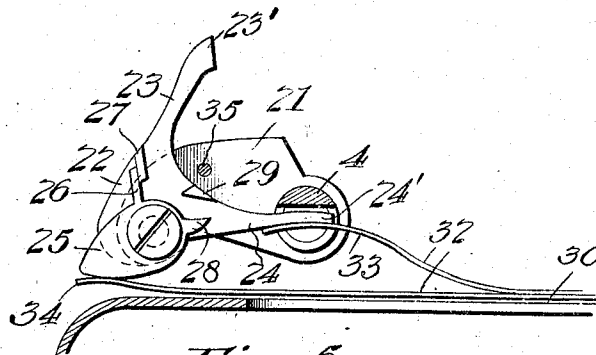
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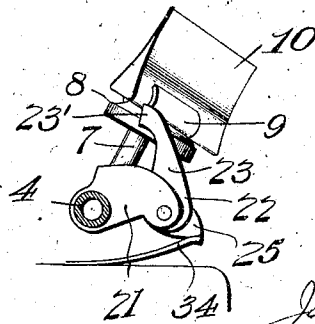
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

FREDERICK MYERS, OF NEW YORK, N. Y.

DEVICE FOR SHARPENING RAZORS AND RAZOR-BLADES.

941,529.

Specification of Letters Patent.

Patented Nov. 30, 1909.

Application filed August 2, 1909. Serial No. 510,909.

To all whom it may concern:

Be it known that I, FREDERICK MYERS, a citizen of the United States, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Devices for Sharpening Razors and Razor-Blades, of which the following is a specification.

This invention relates to devices for sharpening razor blades and has especial reference to that class of devices adapted for sharpening safety razor blades.

The object of this invention is to provide an improved device of this character by means of which a razor blade may be effectively moved into and out of contact with a sharpening roller, and placed in reversed position against the roller.

A further object of the invention is to provide an improved device of this kind, which will be simple and economical in construction, embodying only a single sharpening roller, and a small number of operative parts.

The invention consists of a razor blade sharpening device and in details thereof constructed and arranged as hereinafter set forth and claimed.

Referring to the accompanying drawings in which similar figures of reference indicate like parts, Figure 1 is a view in perspective of a razor blade sharpening device, constructed in accordance with this invention. Fig. 2 is a side view thereof. Fig. 3 is a plan view thereof in horizontal section on the line  $x-x$ , Fig. 1. Fig. 4 is a detail view partly in transverse section showing the device for moving the razor blade into reverse position. Fig. 5 is a detail view of the device in Fig. 4 showing its relation to the razor blade as the latter is moved into reverse position.

In the construction of the device a suitable sharpening roller 1 is provided, having its bearings mounted in uprights 2, secured to a suitable base 3. Mounted in the lower end of the uprights 2, is a shaft 4, having its central portion provided with an enlargement 5, with a tubular socket 6, in which is swiveled a pin 7, having a head 8, provided with a suitable U-shaped clamping support 9, adapted to hold a safety razor blade 10. The sides of the support 9 conforming to the shape of the head of the blade 10 and being slightly elastic serve to hold the blade firmly in place. In order to move the blade

10 to and away from the roller 1 and permit the edge of the blade to be held against the sharpening roller for an interval of time, while it is being sharpened, a mechanism for that purpose is provided, preferably of the following construction.

An elongated cam 11 with an extended outer curved edge 12 terminating in a nose 13 is rigidly mounted at its inner end on an axial projection 14 of the roller 1, extending through an upright 2. The roller is rotated by a handle 15, loosely mounted on the projection 14 by means of a laterally projecting tubular sleeve 15 engaging the projection 14. Mounted on the side of the cam 11, at its inner end, and curving over the inner end of the handle 15 is a strip 16, the end of which engages the edge of the handle 15 when the latter is swung up against it. In this position if the movement of the handle be continued in the same direction, the roller 1 will be rotated, and the cam 11 swung around from the position shown in Fig. 1, until its nose 13 contacts with a curved arm 17, mounted on the projecting end of the shaft 4 and held thereon by a screw cap 18 engaging the end of the shaft. The arm 17, having the elongated inner curved edge 19 over which the nose 13 of the cam 11 is adapted to ride, in the position shown in Fig. 1, remains immovable, as the cam 11 swings around until the nose 13 strikes the arm 17. The cam in its further movement pushes back the arm 17, and oscillates the shaft 4, thereby swinging the blade and its support away from the roller 1. In order that the roller 1 may not be turned backward and thereby be cut by the razor, the strip 16 tapers in width from end to end so that if the handle be turned backward its flat portion will ride over the outer edge of the strip 16, and fail to turn the roller.

By means of the shape and movement of the cam with respect to the arm 17 it will be seen that the razor blade and its holder will remain at rest for an interval of time while the blade is being sharpened, which corresponds to the space of time in which the arm 17 remains at rest while the cam is moving. The arm 17 is limited in its outward movement by a coiled spring 20, connecting it with the upright 2, and restoring it to its normal position shown in Fig. 1, when released from the cam 11. The action of the spring 20 causes the shaft 4 to oscillate

and swing the blade holder and blade toward the roller 1, and the blade into contact with the latter in the position shown in Fig. 1.

In the position of the parts shown in Fig. 2, the blade holder has been swung away from the roller 1, to the limit of its outward movement, and the blade is shown in the act of turning or being swung into reversed position. To permit of the initial portion of this movement before the shaft 4 oscillates and the blade holder swings back to normal position, as the nose 13 of cam 11 leaves the end of arm 17, the edge 12 of cam 11 rides over the end of arm 17 momentarily holding the arm 17, shaft 3, and blade holder at rest until the blade holder and blade have been partly turned, when the cam 11 releases arm 17, and the latter with blade holder and blade are moved back to normal position by the spring 20.

To rotate the blade holder and swing the blade into reversed position the following device is employed. Mounted on the shaft 4, adjacent to one end thereof is a rearwardly extending arm 21 to the outer end of which is a bifurcated lever 22 having the arms 23 and 24, the arm 23, projecting upward with an inwardly curved upper end 23' adapted to contact with the razor blade when it is swung away from the roller 1. The arm 24 extends forward and has its outer end 24' projecting into a recess in the shaft 4. Pivoted on the pivot pin of the lever 22 is a cam shaped pawl 25, limited in one direction of its oscillating movement by a projection 26 on its upper side which comes in contact with a stop or projection 27 on the lever 22. A projection 28 on its forward end with which a projection 29 on the lever 22 is adapted to come in contact serves as a stop to the downward movement of the lever 22. The lever 22, and the pawl 25 are held in their normal position, shown in Figs. 1 and 4 by any suitable spring device, and as here shown, preferably by a metallic strip 30, having the slit 31 forming the spring leaf arms 32 with the bent spring ends 33 and 34, the end 33 bearing against and holding up the arm 24 of lever 22, and the end 34 bearing against the lower side of the pawl 25 near one end thereof and holding the projection 26 against the stop 27. Projecting laterally from the enlargement 5 on the shaft 4 is a pin 35, adapted to contact with and ride over and under the forward tapering end of the pawl 25 when the blade holder is swung away from the roller 1.

The reversal of the razor blade is brought about as follows:—When the blade holder and blade are swung away from the roller 1 by the oscillation of shaft 4, the arm 21 on shaft 4 is swung downward, carrying with it lever 22, and pawl 25, which bearing on spring end 34 presses it down under tension.

At the same time the pin 35, as the blade holder is thrown back, strikes one end of the pawl 25, and throws down lever 22, its arm 24 pressing down under tension the spring end 33, and its arm 23 being swung forward strikes one end of the blade 10 and whirls it nearly around into reversed position, when the blade holder being swung back into normal position the blade is pressed into a straight line against the roller 1. As the arm 23 strikes one end of the blade, the pin 35 bearing down on one end of the pawl 25 holds the arm 23 in its forward position, so that the other end of the swinging razor blade is permitted to pass over the arm 23. The pin 35 then owing to the oscillation of shaft 4 slips off of the pawl 25 and the spring end 33 reacting under tension throws lever 22 and its arm 23 into normal position.

It will thus be seen from the foregoing description that a simple and effective razor blade sharpener is provided employing but one sharpening roller in conjunction with a simple and effective device for moving the razor blade into and out of contact with the sharpening roller, and changing it to reversed position by whirling or rotating it in a horizontal plane at a right angle to the vertical plane in which the sharpening roller is being rotated always in the same direction.

Having described the invention, I claim—

1. A device of the character described, comprising a sharpening roller, and means for moving a razor blade into and out of contact with said roller, and rotating it in a horizontal plane into reversed position.

2. In a device of the character described, a swiveled razor blade support, and means for rotating it to bring the razor blade into reversed position.

3. A device of the character described, comprising a sharpening roller, means for moving a razor blade into and out of contact with the roller, and holding it for an interval of time in contact with the roller, and means for swinging said blade in a horizontal plane into reversed position.

4. A device for sharpening razors including sharpening means revoluble in a vertical plane, a blade holder, and means for rotating said holder and blade in a horizontal plane to reverse the position of the blade.

5. In a device of the character described, a sharpening roller, a blade holder mounted in a swiveled support and means for moving said holder to and away from said roller, and rotating said holder in its support to reverse the position of the razor.

6. In a device of the character described, a sharpening roller, a rock shaft, a razor blade holder and razor blade, having a swiveled support on said shaft, means for striking the razor blade and whirling it into reversed position, and means for operating

said several parts in timed relation to each other.

7. In a device of the character described, a sharpening roller, an oscillating shaft having a curved lever arm, a cam on the roller shaft adapted to intermittently operate said lever arm, and a razor blade holder mounted on the oscillating shaft.

8. In a device of the character described, a sharpening roller, an oscillating shaft, a razor blade holder and blade mounted in a swiveled support on said shaft, a pivoted lever mounted on said shaft and adapted to strike the razor blade and rotate its support to bring the blade into reversed position, and means for operating the several parts as herein set forth.

9. In a device of the character described, a sharpening roller, an oscillating shaft, a razor blade holder and blade mounted in a swiveled support on said shaft, a lever on said shaft, a cam on the roller shaft adapted to intermittently operate said lever, means for operating said roller and cam, an arm on said oscillating shaft, and a lever pivoted to said arm and adapted to strike the razor blade to bring it into reversed position.

10. In a device of the character described, a sharpening roller, an oscillating shaft, a razor blade holder and blade mounted in a swiveled support on said shaft, a spring controlled lever on said shaft, a cam on the roller adapted to intermittently operate said lever, means for operating said roller and cam, an arm on said oscillating shaft, and a lever pivoted on said arm, and having a pawl, and spring arms engaging said pivoted lever and pawl and a projection on the razor

blade holder support adapted to engage said pawl and operate said pivoted lever, said pivoted lever being adapted to strike the razor blade and whirl it into reversed position.

11. In a device of the character described, a sharpening roller having an extension of its shaft, a handle loosely mounted on said extension, and a cam mounted on said extension and having a projection adapted to engage the handle to operate the roller in the forward direction of its movement and to be disengaged by the handle if it be turned backward.

12. In a device of the character described, a sharpening roller, a cam movable with said roller, an oscillating shaft, having a curved lever arm adapted to be intermittently operated by said cam, a rotatable razor blade support mounted on said shaft, means for moving said arm to normal position and means operated by said shaft for whirling said razor blade to a reversed position and permitting it to turn one revolution on its support.

13. In a device of the character described, a sharpening roller rotatable in a vertical plane, a blade holder rotatable in a plane at right angles to said vertical plane, a rocking support for said blade holder, and means for operating said support and roller and causing the blade holder to remain at rest for an interval of time at the end of each rocking movement of its support.

FREDERICK MYERS. [L. S.]

In presence of—  
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EDWARD W. CADY.