G. GUTEKUNST AND C. MAG.

RAZOR HONING DEVICE.

APPLICATION FILED MAR. 29, 1920.

1,420,656. Patented June 27, 1922.

2 SHEETS—SHEET 1.

FIG. 1

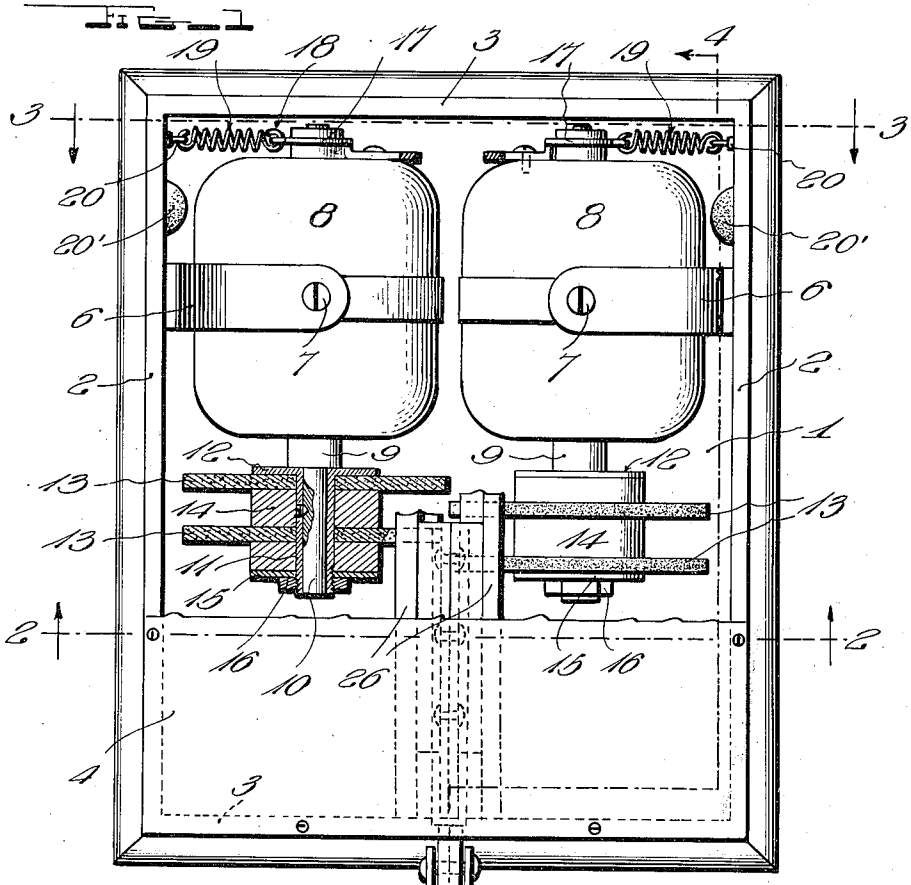
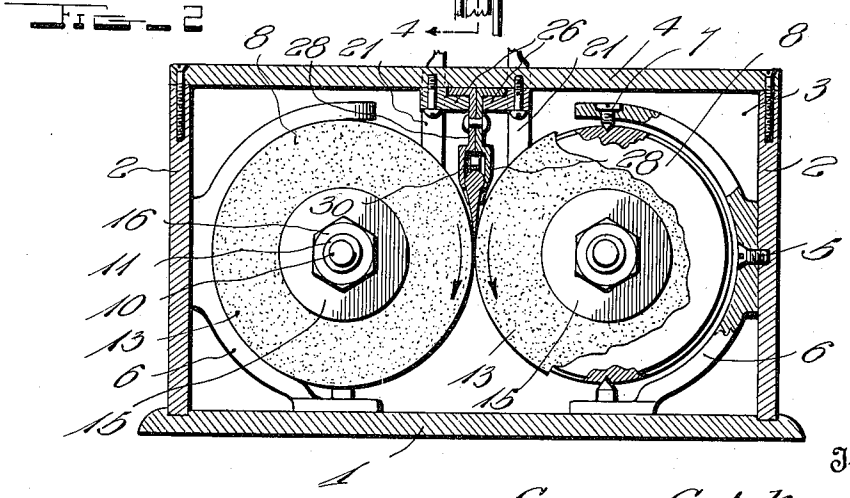


FIG. 2



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2 SHEETS—SHEET 2.

FIG. 3

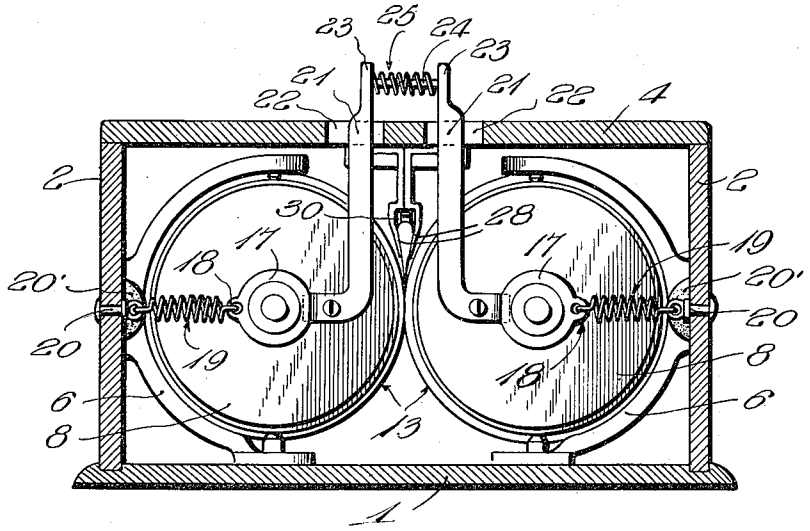
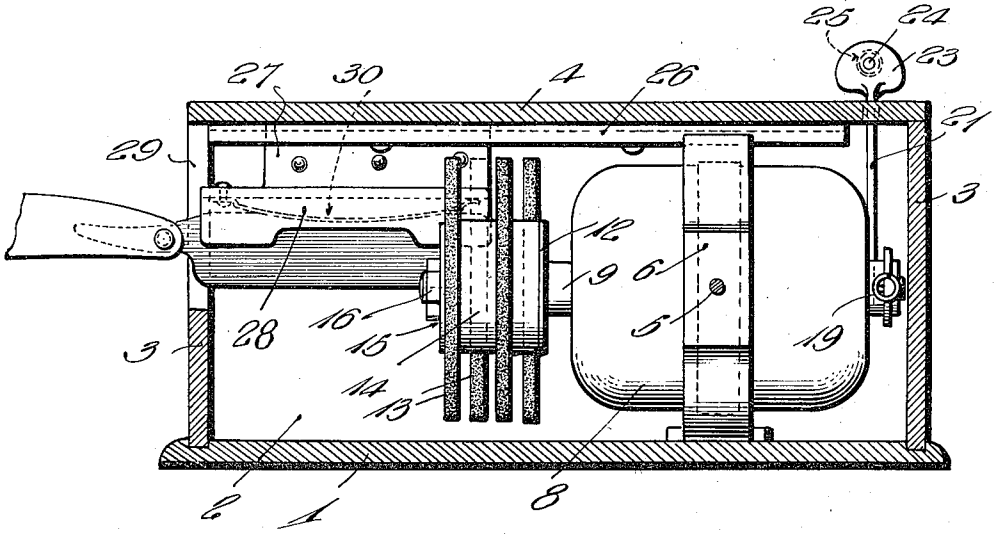


FIG. 4



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RAZOR-HONING DEVICE.

1,420,656. Specification of Letters Patent. Patented June 27, 1922.

Application filed March 29, 1920. Serial No. 369,553.

To all whom it may concern:

Be it known that we, GEORGE GUTEKUNST and CHARLES MAG, citizens of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Razor-Honing Devices; and we do 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 generally to grinders, and more particularly to razor honing devices.

The principal object of the invention is to provide a device by which ordinary straight razors may be honed or sharpened.

Another object of the invention is to provide a device of this character employing opposing grinding members in connection with improved means for yieldably holding them in engagement with the opposite sides of the razor blades.

A further object of the invention is to generally improve upon devices of this class by the provision of a comparatively simple, strong, durable and inexpensive construction, one which will be efficient and reliable in operation, and well adapted to the purpose for which it is designed.

With these and other objects in view, the invention consists of the novel features of construction, and the combination and arrangement of parts as are hereinafter fully described and claimed.

In the accompanying drawings in which similar reference characters designate like parts throughout the several views:

Figure 1 is a top plan view of the device, the cover plate of which is partially broken away so as to show the internal construction of the same.

Fig. 2 is a transverse sectional view of the device taken on the plane indicated by the line 2—2 of Fig. 1.

Fig. 3 is a longitudinal sectional view taken on the line 3—3 of Fig. 1, and

Fig. 4 is another transverse sectional view taken on the plane indicated by the line 4—4 of Fig. 1.

The underlying principles of the invention may be carried out by various details of construction and the combination and arrangement of parts, but the preferred construction consists of a supporting member in the form of a box having a bottom 1, side walls 2, end walls 3 and a removable top or cover plate 4. The box may be of any suitable shape or configuration, but is preferably rectangular.

Secured at their intermediate portions in any suitable manner as by means of screws 5 to the side walls 2 of the box and disposed within the same are U-shaped brackets 6. These are preferably located closer to one end of the box than the other and their arms extend toward one another substantially in alignment transversely with respect to the box.

The free ends of the arms of the U-shaped brackets 6 are provided with inwardly extending cones or pointed studs 7, and pivotally supported or hung between the studs 7 of each of the brackets 6 is an electric motor 8. The motors 8 are consequently disposed side by side with their axes disposed more or less in parallel relation. The shafts 9 of the motors 8 have one of their ends reduced as at 10 and extend considerable distances beyond the casings thereof. Fixed upon the reduced portions 10 of the motor shafts are sleeves 11, the inner ends of which are provided with integrally formed discs 12 which bear against the shoulders formed at the junctions of the reduced portions 10 of the shafts and the main portions 9 thereof, while the other ends of the sleeves 11 are externally threaded. Fitted upon the sleeves 11 are grinding discs 13 which are spaced apart by spacing members or discs 14. After the desired number of grinding discs 13 and spacing discs 14 are placed upon the sleeves 11, clamping plates 15 and nuts 16 are placed upon said sleeves to clamp the parts together.

The discs 13 mounted upon the shaft of one of the motors are out of alignment with those carried by the shaft of the other motor so that the entire arrangement of grinding discs is staggered.

The two motors 8 are constructed so as to rotate in opposite directions, and the direction of rotation is indicated by the arrows.

Fixed in any suitable manner to the ends of the motors 8 remote from the grinders are brackets 17 provided with eyes 18 to which one of the ends of coil springs 19 are connected. The other ends of the coil springs 19 are connected to eyes 20 or other suitable elements fastened to the side walls 2 of the box. These coil springs 19 pulling

as they do upon one of the ends of the motors 8 serve to maintain the grinding discs 13 of the respective motors adjacent one another and serve to return the parts to this position after the motors have been swung upon their pivots so as to separate the respective grinding discs to facilitate the easy insertion of a razor blade between said discs. The swinging movement of the motors 8 under the influence of the coil springs is limited by means of rubber or other suitable bumpers 20′ secured to the side walls 2 of the box.

The brackets 17 are provided with opposing arms 21 which extend through openings 22 arranged in the top or cover plate 4. The free ends of the arms 21 disposed exteriorly of the box are formed into finger pieces 23 having aligned studs 24 extending inwardly therefrom. Surrounding the studs 24 and confined between the finger pieces 23 is a compression coil spring 25. The spring 25 acts in conjunction with the springs 19.

Screwed or otherwise suitably secured to the lower side of the top or cover plate 4 and extending longitudinally thereof is a pair of spaced L-shaped guide rails 26, between which is slidably mounted a substantially T-shaped razor blade carrier 27 provided with a pair of opposing resilient razor clamping members 28. The carrier 27 is preferably made in two sections which are riveted or otherwise suitably fastened together.

As clearly shown in Fig. 4 of the drawings, one of the end walls 3 of the box is provided with an opening 29 which is disposed in alignment with the razor blade carrier 27.

The device, while capable of being used for honing or sharpening razor blades of various makes, styles, or constructions, is especially adapted for honing or sharpening the blades of ordinary straight razors. In order to sharpen the blade of a straight razor, the finger pieces 23 are pressed together so as to swing the motors 8 upon their pivots and separate the respective grinding discs. The razor blade may then be inserted through the opening 29 and in between the clamping members 28 of the carrier 27. The carrier 27 is provided with a leaf spring 30 secured at one end and adapted to bear against the back of the razor blade in order to hold the latter firm between the clamping members. After the razor blade has thus been placed in the carrier 27 the carrier is slid inwardly by pushing upon the handle of the razor so that the blade will be inserted between the two sets of grinding discs. After this has been done the finger pieces 23 may be released and the springs 19 and 25 will act so as to cause the opposing grinding discs 13 to bear evenly upon opposite sides of the razor blade. Assuming that the motors 8 are in operation, by reciprocating the handle of the razor, the blade will be moved back and forth between the opposing grinding discs and will be effectively sharpened or honed.

From the foregoing description, taken in connection with the accompanying drawings, the construction, use and operation of the invention will be readily understood.

As hereinbefore stated, the underlying principles of the invention may be worked out in various other manners than as above described and shown in the drawing, and it is to be understood that various modifications in the construction and arrangement of the parts are allowed within the meaning of the appended claims.

What is claimed is:

1. A device of the class described comprising a support, a pair of motors pivotally mounted to said support and disposed side by side, opposing sharpeners fixed to the shafts of said motors at one of the ends thereof and movable toward and away from each other upon swinging movement of said motors upon their pivots, coil springs connected at one of their ends to said support and at their other ends to the other ends of said motors for yieldably holding the latter in the position where said sharpeners are close together, arms carried by said motors and provided with finger pieces adapted to be engaged to swing said motors upon their pivots against the tension of said springs, and a blade carrier operable between said sharpeners.

2. A device of the class described comprising a support, a pair of motors pivotally mounted to said support and disposed side by side, opposing sharpeners connected to the shafts of said motors at one end of the latter and movable toward and from each other upon swinging movement of said motors upon their pivots, coil springs connected at one of their ends to said support and at their other ends to the said motors for yieldably holding the latter in the position where said sharpeners are close together, arms carried by said motors and provided with finger pieces adapted to be engaged to swing said motors upon their pivots against the tension of said springs, an additional spring interposed between said arms, and a blade carrier operable between said sharpeners.

3. A device of the class described comprising a box having openings in the top thereof and an opening in one of its ends, a pair of U-shaped brackets mounted in opposing relation within said box, a pair of motors mounted between the arms of said brackets, opposing sharpeners fixed upon the shafts of said motors at one of the ends thereof and movable toward and away

from each other upon swinging movement of said motors upon their pivots, coil springs connected at one of their ends to the sides of said box and at their other ends to the other ends of said motors for yieldably holding the latter in the position where said sharpeners are close together, arms fixed to the last mentioned ends of said motors and extending upwardly therefrom through the openings in the top of said box, the extremities of said arms being formed into finger pieces, an additional coil spring interposed between said finger pieces and acting in conjunction with the aforementioned coil springs, and a blade carrier slidably mounted upon the lower surface of the top of said box and operable between said sharpeners, said blade carrier being disposed in alignment with the opening in the end of the box.

In testimony whereof we have hereunto set our hands.

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