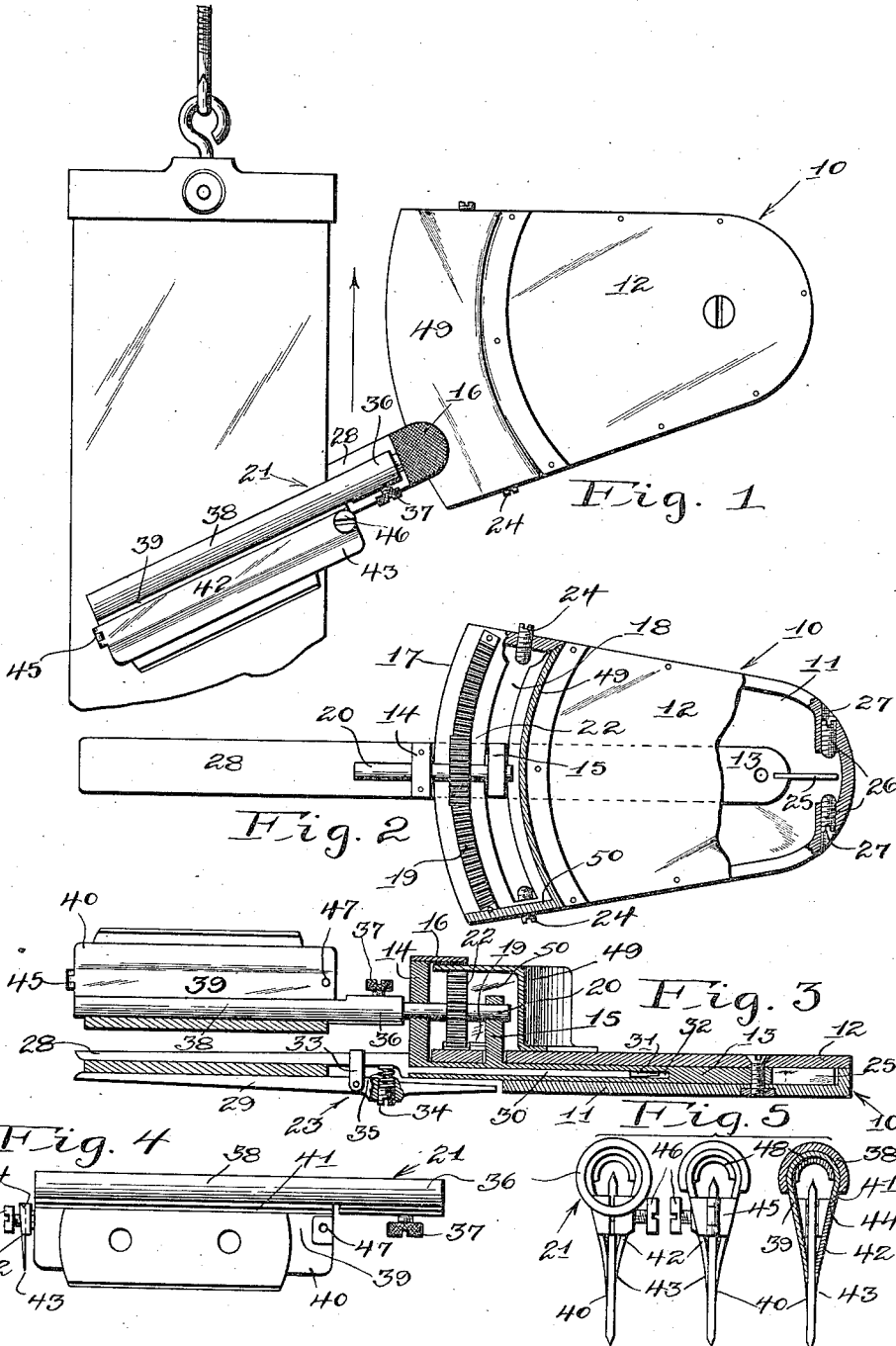


J. F. GAU.
 RAZOR STROPPING DEVICE.
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UNITED STATES PATENT OFFICE.

JOSEPH F. GAU, OF ST. PAUL, MINNESOTA.

RAZOR-STROPPING DEVICE.

1,063,192.

Specification of Letters Patent.

Patented June 3, 1913.

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To all whom it may concern:

Be it known that I, JOSEPH F. GAU, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented new and useful Improvements in Razor-Stropping Devices, of which the following is a specification.

My invention relates to razor stropping devices of the class illustrated in my application for patent filed June 18th, 1912, Serial No. 704,502, in which is disclosed a device for sharpening razors designed to give the desired diagonal movement to a blade upon a flexible strop and automatically rotate the blade to reverse it at the beginning of each stroke.

It is the object of my present invention to provide an improved device of this kind including yielding means to prevent impact between the cutting edge of the blade and strop as the former is reversed and also to prevent damage to said strop by said edge in case the blade-reversing mechanism fails to operate.

A further object is to provide a blade holder adapted to receive various types and sizes of blades, in conjunction with adjustable means for limiting the throw of said holder to accommodate such diverse blades to the razor strop.

A further object is to provide in a device of this kind a spring actuated jaw for gripping a strop and means for adjusting the tension of the spring.

A further object is to provide a razor stropping device of this class having its parts easily separable and designed to be knocked down and contained within a small case.

In the drawings, Figure 1 is a plan view of my improved device shown during its upward stroke on a strop; Fig. 2 is also a plan view with the blade holder removed and portions broken away to illustrate inclosed parts; Fig. 3 is a central longitudinal sectional view of the same; Fig. 4 is a plan view of the blade holder open to receive a blade, and Fig. 5 includes end views and a sectional view of said blade holder.

Referring now to the accompanying drawings, I have used the reference numeral 10 to indicate the hand grip, which consists of a hollow segmental base 11 and a cover 12 therefor. The bar 13 is pivotally mounted within the grip and is formed at its forward end with bearing posts 14 and 15, said post

14 being provided at its top with a knurled finger piece 16. The post 14 is arranged adjacent to the curved edge 17 of said grip and the post 15 protrudes through the curved slot 18 in the cover 12 thereof. A curved rack 19 is mounted on the cover 12 between the curved edge 17 and slot 18. The shaft 20, revoluble in said posts 14 and 15, is provided at its forward end with a detachable razor blade holder 21 and carries a gear wheel 22 in mesh with said rack 19. Protruding from the end of the bar 13 is a guide 23 adapted to frictionally engage one strop of the ordinary double strop, and when said hand grip is moved longitudinally of the strop, the bar 13 assumes diagonal positions with respect to the strop and grip, (one position being illustrated in Fig. 1,) as the blade holder 21 applies the blade to the strop. I have provided means for stopping the throw of the bar in either direction to thereby limit the turning of the blade holder. These means consist of a set screw 24 threaded in each side of the base 11. These screws are adjusted to limit the stroke of the bar 13 and to determine the position of the holder 21 at the end of such stroke, thus insuring the proper angle of said holder for blades of various widths, with reference to the surface of the strop. I have also provided means for retarding the motion of the bar 13 at the end of each stroke to thereby prevent the impact or slap of the cutting edge of the blade against the strop. These means consist of a spring bar 25 rigidly secured to the rear end of the bar 13, the free end of said spring being adapted to play between and engage the ends of the set screws 26 arranged in the transverse threaded bores 27 of said hand grip.

The guide 23, which protrudes from the forward end of the bar 13 comprises an upper jaw 28 and a lower jaw 29. The upper jaw 28 is fitted with a shank 30 having a screw driving tip 31 designed to turn the above mentioned stop screws 24 and 26. This shank is adapted to telescope in the recess 32 of the bar 13 and is secured therein by frictional contact with said bar. The lower jaw 29 is pivoted in the bearing 33 of the upper jaw 28 and is fitted with a set screw 34 which abuts against the end of a coiled spring 35 arranged between said jaws 28 and 29. Adjustment of this screw increases or diminishes the gripping power of the jaws.

The razor blade holder 21, detachably secured to the outer end of the shaft 20, consists of a gripping sleeve 36, fitted with a set screw 37 and terminating at one end in the heel 38. The resilient clamping base 39 is secured by frictional engagement within the heel 38, its lower side being beveled to an edge 40 and its upper side being formed with the beveled edge 41. The resilient clamping cover 42 is formed with beveled edges 43 and 44 corresponding respectively with the edges 40 and 41 of the clamping base, said base and cover being united at their forward ends by a hinge 45 located in position remote from the edges 40 and 43 of said base and cover. The screw 46, revoluble in the opposite end of the cover 42, is received by the threaded perforation 47 in the base 39, said screw being designed to draw said base and cover together and clamp a blade between their beveled sides 40 and 43 which, being resilient, conform to and grip the blade. The edge protector 48, of leather or other suitable material, is fixed within the base 39 of the holder 21.

The gear shield 49, inclosing the gear wheel 22 and rack 19, is secured to the cover 12 of the hand grip 10 and its ends 50 form rests for the thumb and index finger of the user.

In operation, a blade is secured within the holder 21 between its hinged cover 42 and base 39. The guide 23 is applied to the lower member of the strop, and the set screws 24 are adjusted to stop the throw of the bar 13 when the heel of the blade holder and the cutting edge of the blade are flat against the strop. The set screws 26 are adjusted to engage the spring 25 on the bar 13 shortly before said bar reaches the end of its throw. After such adjustments are made, the user moves the grip longitudinally along the strop and the holder 21 is automatically reversed at the beginning of each stroke and moved to proper position with respect to the upper strop. When it is desired to sharpen different styles of blades, it is, of course, necessary to change the adjustment of the screws 24 to secure the flat position of the blade with reference to the strop.

My improved device is especially advantageous in that no part of the mechanism except the blade and blade holder touches the sharpening strop during operation to interfere with its flexibility or to destroy its surface. The set screws 24 limit the turning of the blade holder to operative position and prevent the heel of said holder from rising from the strop, and the consequent turning of the cutting edge thereon. The spring 25 prevents injurious impact or slap of the cutting blade on the strop. This spring also acts to move the bar 13 from the extreme end of its stroke and lifts the cutting edge of

the blade from the strop, thereby preventing damage to said strop in case the blade is not reversed by operation of the guide. The knurled finger piece furnishes a rigid rest for the thumb of the operator in manipulating the lower jaw of the guide. The parts, being easily separable, permit convenient packing of the same in a small case.

Having described my invention, what I claim as new and desire to protect by Letters Patent, is:

1. In a device of the class described, the combination of a hand grip, a curved rack on said grip, a bar pivoted in said grip, a spring carried by said bar, adjustable stops on the grip for engaging said spring to retard the movement of said bar near the completion of its strokes, a shaft revolubly supported on said bar, blade holding means detachably secured to said shaft, a gear on the shaft engaging said rack for rotating said shaft to turn said holder and a guide attached to said bar and adapted to frictionally engage a strop.

2. In a device of the class described, the combination of a hand grip, a curved rack on said grip, a bar pivoted in the grip, blocks carried by the bar and arranged on opposite sides of the rack, a shaft revoluble in said blocks, blade holding means detachably secured to said shaft, a gear on the shaft in mesh with said rack for rotating said shaft to turn the holder, a shield comprising a guard for said rack and gear and finger rests for the user, and a guide removably attached to said bar and adapted to frictionally engage a strop.

3. In a device of the class described, the combination of a hand grip, a curved rack on said grip, a bar pivoted in the grip, posts carried by the bar and arranged on opposite sides of the rack, a shaft revoluble in said posts, blade holding means secured to said shaft, a gear on the shaft in mesh with said rack for rotating said shaft to turn the holder, a guide removably attached to said bar and adapted to frictionally engage a strop, and a rest on one of said posts for the thumb of the user.

4. In a device of the class described, the combination of a hand grip, a curved rack on said grip, a bar pivoted in the grip, posts carried by the bar and arranged on opposite sides of the rack, a shaft revoluble in said posts, blade holding means detachably secured to said shaft, a gear on the shaft in mesh with said rack for rotating said shaft to turn the holder, a shield comprising a guard for said rack and gear and finger rests for the user, a guide on said bar adapted to frictionally engage a strop, and a thumb rest secured to one of said posts and overlapping said shield.

5. In a device of the class described, the combination with a razor strop comprising

a pair of flexible members, of a hand grip, a bar pivoted in the grip, means for retarding the movement of said bar near the completion of its strokes, means supported by
5 said bar for holding a razor blade, and a guide carried by said bar adapted to frictionally engage one member of said strop, while the razor blade is applied to the other member.

10 6. In a device of the class described, the combination with a razor strop comprising a pair of flexible members, of a hand grip, a bar pivoted in the grip, adjustable stops

on said grip for limiting the throw of said bar, means supported by said bar for hold- 15 ing a razor blade and a guide carried by said bar adapted to frictionally engage one member of said strop, while the razor blade is applied to the other member.

In testimony whereof, I have signed my 20 name to this specification in the presence of two subscribing witnesses.

JOSEPH F. GAU.

Witnesses:

F. M. HARDY,
F. C. CASWELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."