W. H. MORGAN.

RAZOR SHARPENER.

APPLICATION FILED JULY 22, 1914.

1,167,589.

Patented Jan. 11, 1916.

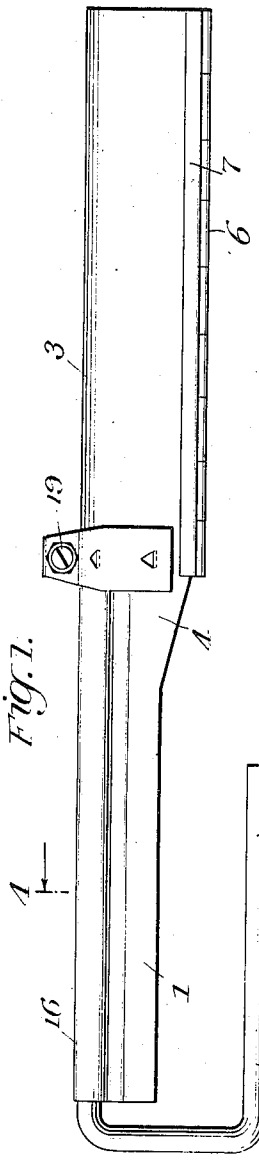


Fig. 1.

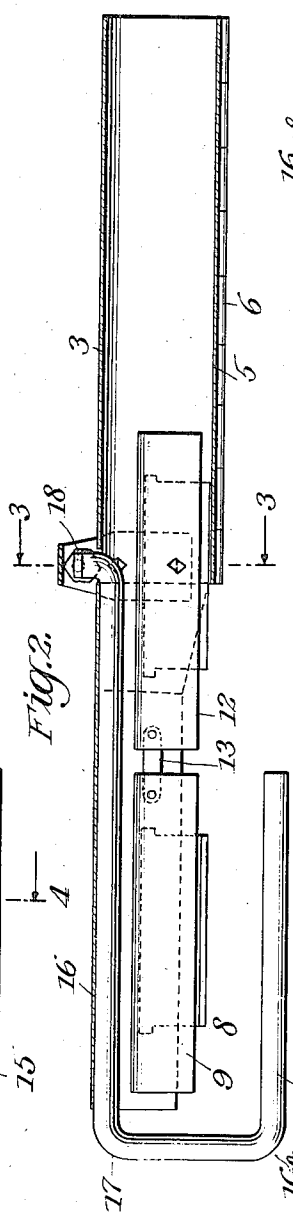


Fig. 2.

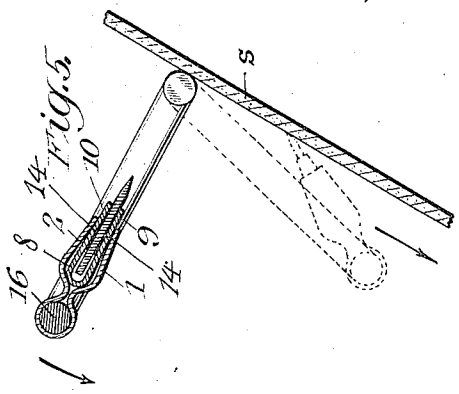


Fig. 5.

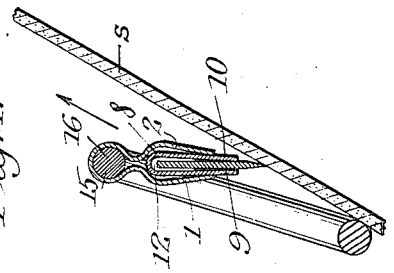


Fig. 4.

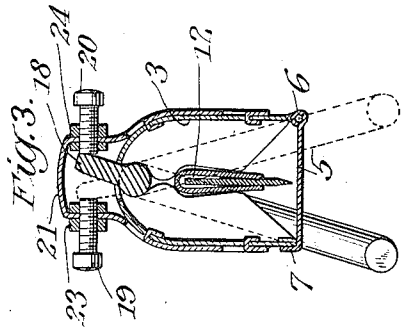


Fig. 3.

WITNESSES:

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RAZOR-SHARPENER.

1,167,589. Specification of Letters Patent. Patented Jan. 11, 1916.

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To all whom it may concern:

Be it known that I, WILLIAM H. MORGAN, a citizen of the United States, and a resident of Pomeroy, Ohio, have invented new and useful Improvements in Razor-Sharpeners, of which the following is a specification.

The invention relates to razor blade sharpeners, and more particularly to such sharpeners adapted to operate upon razor blades of different kinds and sizes.

The objects of the invention will be indicated hereafter in part, and will in part be obvious to those skilled in the art.

The invention consists in the novel articles, parts, combinations and improvements herein shown and described.

The accompanying drawings, referred to herein, and forming a part hereof, illustrate one embodiment of the invention, the same serving in connection with the description herein to explain the principles of the invention.

Of the drawings:—Figure 1 is a side elevation of the device; Fig. 2 is a central longitudinal section, corresponding to Fig. 1, through the blade holder and showing the blade carrier in position; Fig. 3 is a transverse section through the device on line 3—3 of Fig. 2; Fig. 4 is a transverse section through the blade carrier on line 4—4 of Fig. 1; and Fig. 5 shows the reversal of the carrier at the end of the stroke, and in dotted lines its position to begin the sharpening stroke in the opposite direction.

Referring to the accompanying drawings, illustrating by way of example one embodiment of the invention, a blade holder is shown comprising two resilient plates 1 and 2 converging together from their back edge toward their front edge to give a spring binding action upon the blade direct, or upon a blade carrier, adapted to lie between the plates 1 and 2 and to be firmly held thereby. In the embodiment of the invention shown in Figs 2, 4 and 5, a blade carrier 8 is used, the same being firmly held by the plates 1 and 2.

The holding plates 1 and 2 are formed integrally together of spring metal and are turned at the back and enlarged at 16 to hold and form a bearing for the angle determining device (to be later described). The holding plates 1 and 2 are thus resiliently movable toward and from each other to take blades or blade carriers of different thicknesses and to hold the blades firmly while being stropped. The blade holding plates 1 and 2, in accordance with one feature of the invention, are also formed integral with a handle 3 which also may be of spring sheet metal, and is preferably formed of such shape and size as to afford a firm and comfortable grip for the hand. The handle is shown in cross-section in Fig. 3, although the particular form thereof is immaterial so far as concerns many features of the invention. Webs or extensions 4 are shown extending between the holding plates 1 and 2 and the handle 3, to strengthen and stiffen the device and to increase the spring action. The handle 3 is also provided, in accordance with one feature of the invention, with a lid 5, connected to the handle 3 proper by a suitable hinge 6, and having a lip 7, adapted to engage the other edge of the handle 3 (see Figs. 1 and 3). This lid 5 may have a spring action or a holding action against the springing of the adjacent sides of the handle 3, whereby the gripping action of the holding plates 1 and 2 is increased. The blade carrier can be inserted through the handle 3, as likewise may a razor having a handle, and this is facilitated by the opening of the lid 5.

For the purpose of easily adapting the device to various kinds of blades, and for rapid and easy insertion of various kinds of blades, there is provided according to one feature of my invention a bladecarrier 8 for holding certain kinds of blades and adapted to be inserted into and withdrawn from the blade holder. As shown the bladecarrier 8 comprises plates 9 and 10 between which the razor blade may rest. The plates 9 and 10 are connected together in a suitable manner, and preferably they exert a spring action on the intervening blade. Said plates 9 and 10 are preferably made of spring metal and formed integrally by turning at the back (see for example Figs. 4 and 5).

For convenience and facility, the bladecarrier 8 is provided preferably with a part 12 extending backwardly into the handle 3, which part 12 may be grasped by the fingers in inserting and withdrawing the blade carrier. Also, the part 12 is preferably pivotally connected to the blade-carrier 8 proper, as by a double pivoted joint 13 (see Fig. 2). Thus, the part 12 may be swung or inclined

outwardly from within the handle 3 when the blade carrier is inserted into or withdrawn from the bladeholder 1, 2.

In accordance with one feature of the invention, there is provided within the plates 9 and 10 of the blade-carrier, a soft material 14 adapted to protect the opposite edge from the one being stropped of a double edge blade and also it may lie against the sides of the blade form bearing surfaces thereagainst. For this purpose a doubled-over sheet, or two strips 14 of blotting paper, or other suitable material is placed within the plates 9 and 10 in position to protect the unused edge of a doubled edge razor blade, and to also firmly hold the blade in position without danger of injuring it. The blade may be inserted within the blade-carrier 8 and this may be placed within the handle 3 and slid longitudinally into the blade-holder between the plates 1 and 2. A handled razor may also be so slid in through the handle 3, and with a thick bladed razor some of the devices may be dispensed with.

Means are provided for determining the angle of incidence of the blade being sharpened with the face of the strop. This is of prime importance in securing a proper stropping of the razor. Said means comprise devices which may be adjusted or regulated to lay the blade against the strop at a desired angle whereby a true sharpening action is secured. That is, if the blade lies too flat, the action of the strop will be along a line, angle or portion of the blade away from the edge, and thus the edge will not be acted upon by the strop at all. This is especially true of certain safety razor blades which should lie on the strop at the angle of the blade just where it leaves the edge. On the other hand, if the angle of the edge with the strop is too acute, the edge will be rounded and not form a good cutting shape. Said means comprise a member adapted to rest upon the strop, and devices coöperating therewith whereby it may be accurately adjusted or moved relatively to the blade holder, and then firmly held in the position to which adjusted, the adjustment being varied as desired for different blades, and being the same for both sides of the blade.

In the form shown a rod 15 extends in front of and substantially parallel with the plates 1 and 2 of the blade holder and at such distance therefrom as to be in front of and substantially parallel to the edge of a blade held by the blade holder. The rod 15 is bent backward, as at 16^a, and bent again as at 17 having a rotative bearing in the cylindrical part 16 at the back of the blade holder previously referred to. Means are provided for determining, and varying as desired, the amount of angular adjustment of the rod 15 with respect to the blade in the blade holder, and also for regulating and rendering uniform the angular adjustment on both sides, so that the edge of the blade will be laid just right on the strop s when traveling in both directions, that is, when sharpening successively one side of the blade edge and then the other. As shown, the rod 15 is continued back along the blade holder, and is provided with a lug or finger 18 turned up transversely therefrom. The lug 18 is between two adjusting members, such as the screws 19 and 20.

The screws 19 and 20 are mounted in a housing or bearing plate 21, preferably formed integrally and bent over at the top and fixed to the handle 3 in a suitable manner, as by a bent tongue and slot fastening as shown. The screws 19 and 20, may have, if desired, suitable bearing and locking nuts as shown at 23 and 24 in Fig. 3.

It will be understood that departures may be made from the precise form shown and described within the scope of the accompanying claims without departing from the principles of the invention and without sacrificing its chief advantages.

I claim—

1. A device for use in sharpening razor blades, comprising a hollow sheet metal handle, the sides of said handle being extended forwardly and brought together at their free edges to adapt them to clamp a razor-blade, and means carried in said extended portion to serve as a gage in stropping the blade.

2. A device for use in sharpening razor blades, comprising a hollow sheet-metal handle, the sides of said handle being extended forwardly and brought together at their free edges to adapt them to clamp a razor-blade, and a gage-bar journaled in the top portion of said extended sides to determine the angle of incidence of the blade with the strop.

3. A device for use in sharpening razor blades, comprising a hollow sheet-metal handle, the sides of said handle being extended forwardly and brought together at their free edges to adapt them to clamp a razor-blade, a gage-bar journaled in the top portion of said extended sides to determine the angle of incidence of the blade with the strop, and means mounted in the top portion of the handle to limit the movement of said gage-bar in either direction.

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

WILLIAM H. MORGAN.

Witnesses:
HARVEY G. JONES,
GEORGE REA.