June 29 , 1926. 1,590,386

E. A. LAVALLEE

HONING DEVICE

Filed Feb. 21, 1925 2 Sheets-Sheet 1

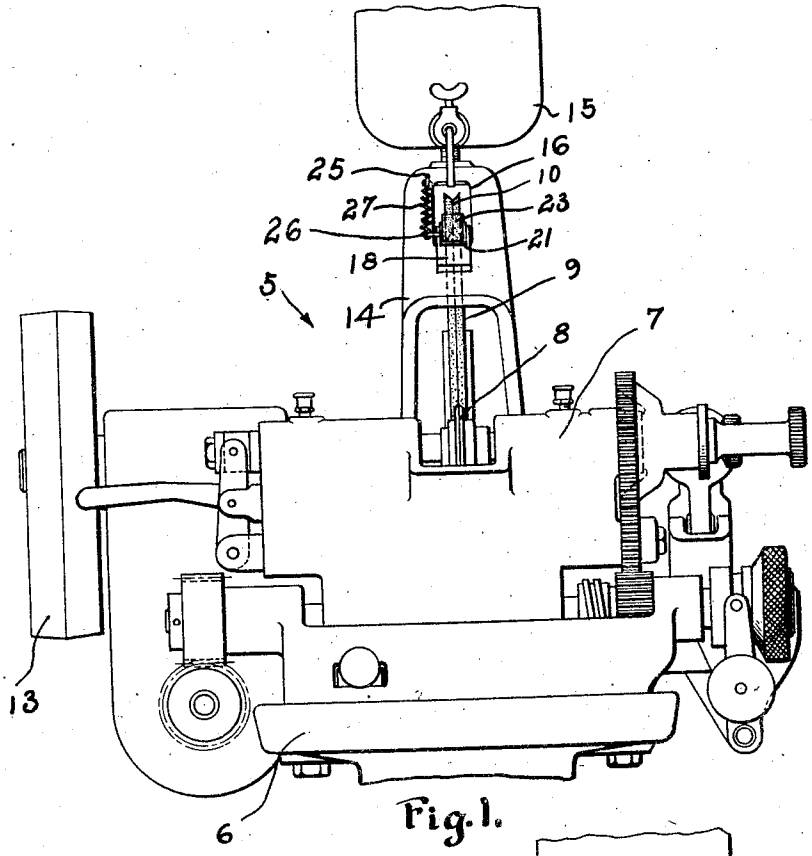


Fig. 1.

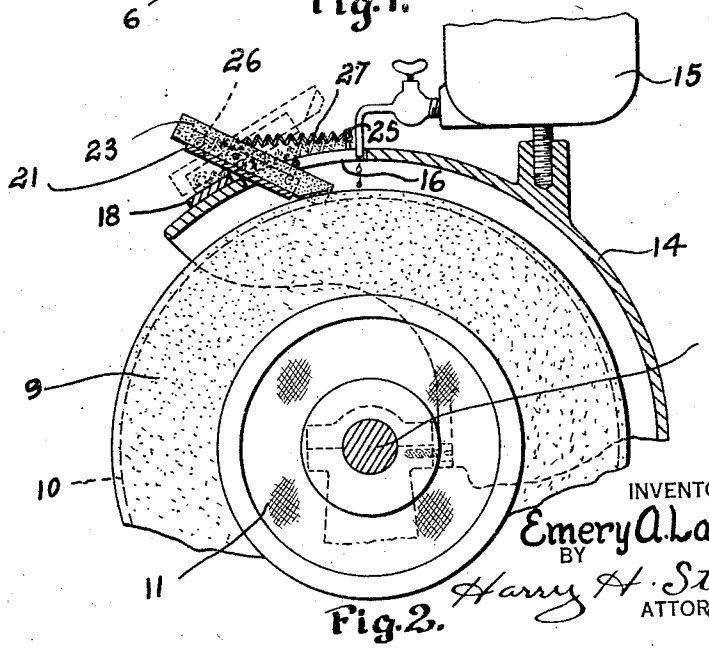


Fig. 2.

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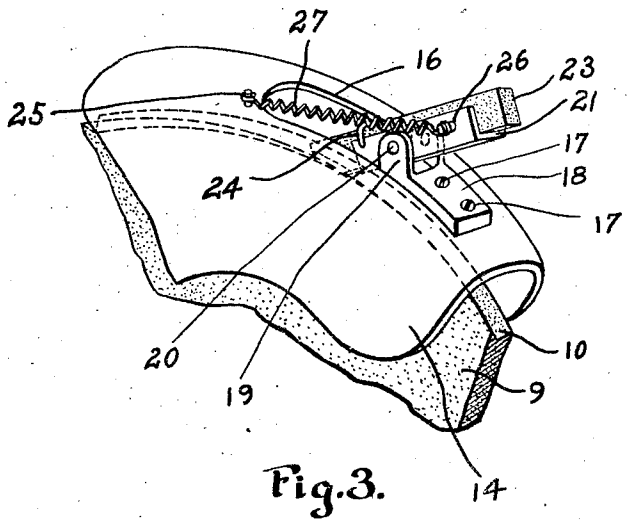


Fig.3.

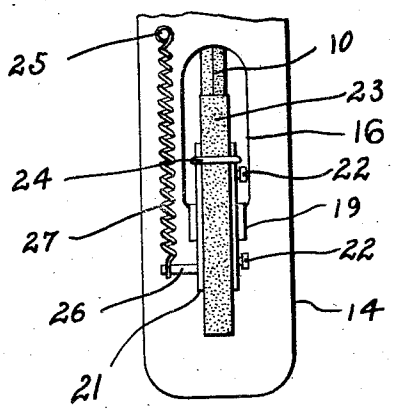


Fig.4.

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UNITED STATES PATENT OFFICE.

EMERY A. LAVALLEE, OF SOUTHBRIDGE, MASSACHUSETTS, ASSIGNOR TO AMERICAN OPTICAL COMPANY, OF SOUTHBRIDGE, MASSACHUSETTS, A VOLUNTARY ASSOCIATION OF MASSACHUSETTS.

HONING DEVICE.

Application filed February 21, 1925. Serial No. 10,862.

This invention relates to lens edging machines, and has as an object to provide an improved and more efficient honing device for the stones of these machines.

An important object of this invention is to provide a honing device which may be equally applicable to lens edging machines of all types, and which may be easily applied to any of the lens edging machines now in use without changing in any way the construction of the same.

Another important object of this invention is to provide a honing device which may be clamped either in or out of engagement with the edging stone, so that the machine may be operated independently of the honing device if desired.

Still another object of this invention is to provide a honing device in which the honing stone shall be adjustably mounted so that the same may be replaced or adjusted to compensate for the wear of the edging stone.

Other objects and advantages of this invention, together with details of construction and method of operation of the same, will become apparent during the course of the following description.

In the drawing forming a part of this specification, and in which I have employed like numerals to designate corresponding parts throughout all views of the same:

Figure 1 is a front elevation of a lens edging machine provided with a honing device constructed in accordance with my invention;

Figure 2 is a transverse sectional view taken through a portion of the machine shown in Figure 1, to more clearly illustrate the honing device per se;

Figure 3 is a perspective view of a portion of the guard for the edging stone, showing the honing device in operation; and

Figure 4 is a top plan view of the same.

In lens edging machines of all types, and particularly in lens edging machines adapted to edge beveled lenses, it is necessary to provide means for honing the edging stone in order to keep the same true. In the constant grinding of the edges of lenses, the glass being substantially hard tends to wear the stone unevenly, so that in order to obtain a true and even edge on a finished lens it is necessary that the edging stone be constantly resurfaced.

In the particular lens edging machine illustrated in this drawing, however, it is substantially impossible to provide a honing device which shall always be in engagement with the edging stone without materially hampering the efficiency of the stone due to the fact that the stone is flexibly mounted in order that it may adapt itself to the contour of the edges of lenses, and that this required flexible movement will be eliminated if a honing device be constantly bearing upon the periphery of the stone.

It, therefore, becomes an important advantage of this invention that there is provided a honing device which may be clamped either in or out of engagement with the edging stone so that it is possible to use the stone for edging lenses of peculiar edge shapes without having the motion of the stone hindered by the clamping action of the honing device.

Referring more particularly to the drawing, wherein I have shown the preferred embodiment of this invention, the numeral 5 designates a lens edging machine in its entirety, the same comprising a base 6, on which is slidably mounted a lens carriage 7 adapted to rotatably support the lens 8, which is to be edged. An edging stone 9 provided with a peripheral groove 10 for edging beveled lenses is flexibly mounted by means of a yielding center 11 to a shaft 12 and rotated by means of a power pulley 13 keyed to this shaft. Mounted above the edging stone 9, and supported by the base 6 is a stone guard 14 substantially enclosing the stone and adapted to support above the same suitable water supply means, such as 15. Formed in the top of the guard 14 and near the front thereof is an opening 16 adjacent the forward end of which is mounted by means of suitable screws or rivets 17, a bracket 18. The end of the bracket 18 adjacent the opening 16 is provided with the upwardly projecting ears 19 adapted to

pivotally support by means of the pivot points 20 a honing stone holder 21. This honing stone holder is a substantially trough shaped member U-shaped in cross section, and is provided with the thumb screws 22 for clamping a honing stone, such as 23. An inverted U-shaped strap 24 has its arms pivotally mounted in the sides of the holder 21 adjacent the forward end thereof, and encircles the honing stone 23 to aid in clamping the same in the holder. Fastened by means of a suitable bolt 25 to the guard 14, and by means of a pin 26 to the forward end of the holder 21, is a helical spring 27 tending to swing the forward end of the holder 21 about its pivot 20.

In the operation of the honing device the holder 21 and the stone 23 are tilted as clearly shown by solid lines in Figure 2 of the drawing, so that the same is in engagement with the groove 10 on the periphery of the edging stone 9, and is held in this position by means of the helical spring 27. It is obvious that when the edging stone 9 is rotated with the honing device in this position, the groove 10 will be trued. It will further be seen that due to the adjustability of the honing stone 23 compensation may easily be made for the wearing of the edging stone so that a true and full contact may be maintained at all times. If, however, it is desired that the edging stone 9 be rotated but not honed, the honing device may be turned about its pivot to the position shown in dotted lines in Figure 2 of the drawing, in which position it will be held by the helical spring 27, pulling below the pivot 20, and tending to draw the forward end of the holder 21 against the bracket 18.

From the foregoing description, therefore, it will be seen that I have provided a honing device which may be thrown into or out of engagement with the edging stone at the will of the operator of the machine. I have also provided a honing device which may easily be applied to lens edging machines of all types, and which will be particularly applicable for a machine adapted to edge beveled lenses, and in which it is customary to flexibly mount the edging stone. The honing device as disclosed is not only simple in construction and cheap to manufacture, but is also strong and durable, requiring little or no attention after installation.

While I have shown and described a preferred form of this invention, it is to be expected that in the practical use of the same various changes in structure will suggest themselves, so that I desire to reserve the right to make these changes in so far as I remain within the spirit of my invention and the scope of the appended claims.

Having thus described my invention, I claim:

1. In a device of the character described, a rotatable grindstone, a support adjacent the periphery of the grindstone, a honing member pivoted on the support so that one end of the honing member may be swung into contact with the stone, an attaching member on the support and a spring connected at one end to the honing member at a point intermediate the pivot and the end of the honing member that does not contact with the grindstone and at the other end to the attaching member whereby the spring will tend to hold the honing member against the grindstone when it is moved on its pivot to the operative position and will tend to hold it out of contact when moved on its pivot to the inoperative position.

2. In a device of the character described, a rotatable grindstone, a support adjacent the periphery of the grindstone, a honing member pivoted on the support so that one end of the honing member may be swung into contact with the grindstone, an attaching member on the support and a spring non-slidably connected at one end to the honing member at a point intermediate the pivot and the end that does not contact with the grindstone and non-slidably connected at the other end to the attaching member whereby the spring will tend to hold the honing member against the grindstone when the honing member is moved on its pivot to the operative position and will tend to hold it out of contact when moved on its pivot to the inoperative position.

3. In a device of the character described, a rotatable grindstone, a support adjacent the periphery of the grindstone, a honing member pivoted on the support so that one end of the honing member may be swung into contact with the grindstone, an attaching member on the support and a spring connected at one end to the honing member at a point intermediate the pivot and the end that does not contact with the grindstone and at the other end to the attaching member whereby the spring will tend to hold the honing member against the grindstone when the honing member is moved on its pivot to the operative position, the attachment of the spring to the honing device being above the pivot whereby the spring will tend to hold the hone out of contact when moved on its pivot to the inoperative position, the end of the spring attached to the honing device moving to a position below the pivot.

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