A. L. HATFIELD.

BLADE HOLDER.

APPLICATION FILED DEC. 5, 1913.

1,171,390. Patented Feb. 8, 1916.

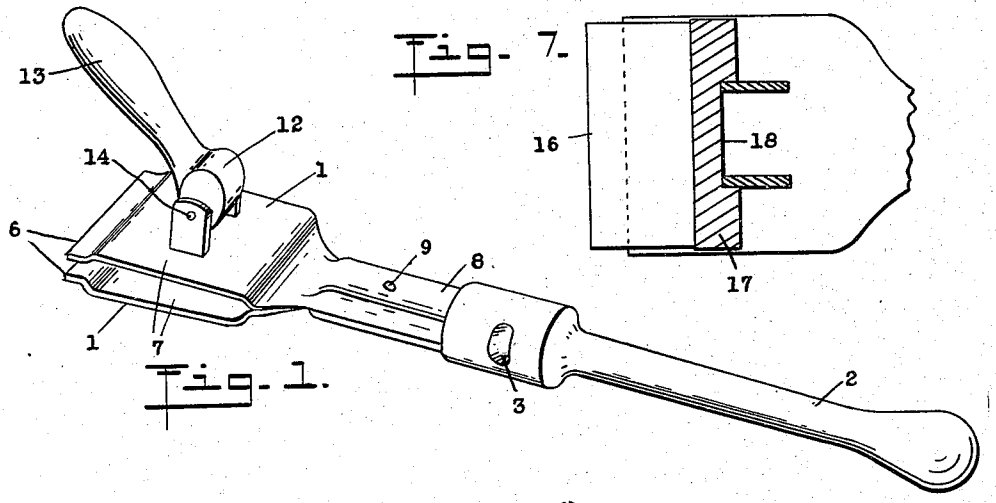


Fig. 1.

Fig. 7.

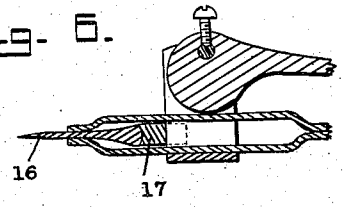


Fig. 6.

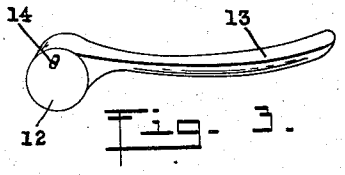


Fig. 3.

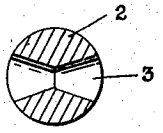


Fig. 4.

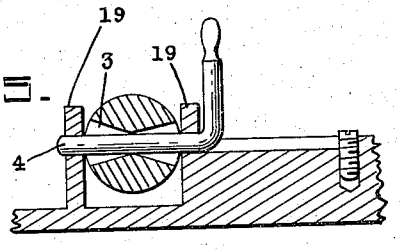


Fig. 5.

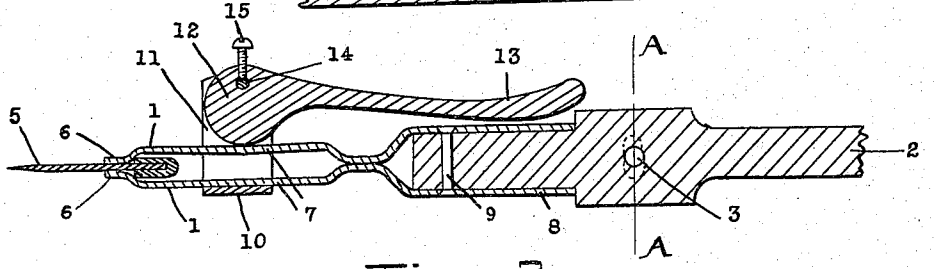


Fig. 2.

WITNESSES:

Howard P. King.

Mildred E. Brooks

INVENTOR:

Andrew L. Hatfield,

BY

Russell M. Everett,

ATTORNEY.

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ANDREW L. HATFIELD, OF NEWARK, NEW JERSEY, ASSIGNOR TO HYFIELD MANUFACTURING COMPANY, A CORPORATION OF NEW YORK.

BLADE-HOLDER.

1,171,390. Specification of Letters Patent. Patented Feb. 8, 1916.

Original application filed September 27, 1913, Serial No. 792,077. Divided and this application filed December 5, 1913. Serial No. 804,787.

To all whom it may concern:

Be it known that I, ANDREW L. HATFIELD, a citizen of the United States, residing at Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Blade-Holders, of which the following is a specification.

This invention relates more particularly to blade holders for use with machines for sharpening safety razor blades such as shown and described in my application Serial Number 792,077 filed September 27, 1913, of which this present application is a division.

The objects of this invention are to provide a blade holder adapted to receive blades of different makes; to provide resilient jaws for clamping blades of varying thickness; to press the jaws together by means of a cam; to prevent wedge-like blades from slipping in said jaws; to admit transverse rocking of said blade holder; to secure simplicity of construction and operation, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings in which like numerals of reference indicate the same parts throughout the several views, Figure 1 is a perspective view of a blade holder embodying my invention; Fig. 2 is a longitudinal sectional view through the same showing a blade clamped in position thereby; Fig. 3 is a detail perspective view of the cam and lever detached from the holder; Fig. 4 is a cross-sectional view on line A—A of Fig. 2; Fig. 5 is a cross-sectional view similar to Fig. 4, showing the mounting for said holder; Fig. 6 is a cross-sectional view similar to Fig. 2 showing a tapered blade clamped thereby and the utilization of a back support to maintain a constant projection of said blade, and Fig. 7 is a sectional view through the holder and back support in the plane of the blade.

In the specific embodiment of the invention illustrated in said drawings, the reference numerals 1, 1 indicate a pair of jaws normally held apart at their free ends by their own resiliency or otherwise and secured at their other ends to a handle 2. A suitable aperture 3 is provided through the handle about half way of the length of the holder whereby the holder may be swiveled upon a pivot pin 4 or the like (see Fig. 5) forming part of the machine to which the holder is to be applied, and it will of course be understood that when the blade holder is mounted upon such a pivot pin, the jaws 1, 1 project toward the grinding element and will apply a blade 5 carried between themselves to said grinding element. Longitudinally of the handle, the aperture 3 is preferably of uniform width so as to fit the pivot pin nicely, but in transverse cross section the opening at either end of the aperture is of greater extent than at the center (see Figs. 4 and 5). In this manner, the blade holder is adapted to twist a limited amount about its own longitudinal axis and swing up and down but not sidewise. This enables the blades to readily accommodate themselves to the grinding element so that the grinding element always acts upon the blade in a uniform manner.

The jaws 1, 1 preferably are formed each from a piece of sheet metal having at its outer end a lip 6 to grip a blade and an offset middle portion 7 spaced from the corresponding middle portion of the other jaw, and a hollow end 8 adapted to fit over the inner end of the handle and be riveted or otherwise secured thereto as at 9. Extending upwardly through the middle portion 7 of the jaws, with the closed connecting portion 10 of itself underlying the bottom one of said jaws, is a U-shaped bracket 11 the free ends of which protrude a distance above the upper one of said jaws. Pivotally supported between said free ends is a cam 12 having a handle 13 for rotating the same and for forcing the jaws together. It will be understood that the handle 13 is preferably arranged to swing in a vertical plane through the holder and when down against the holder as in Fig. 2 the cam is operating to close the jaws together. Obviously the slots in the opposite jaws for the arms of the bracket 11 are exactly alike in both of said jaws and thus the said jaws are duplicates, as shown in the drawings, and can be made from a single die. The pivotal support of the cam is preferably effected by a pin 14 extending through the cam and projecting at either end into suitable holes in the U-shaped bracket, a screw 15 in the cam engaging the pin to prevent removal of the same. In Figs. 6 and 7 I have shown a wedge shaped blade 16 clamped between the jaws,

and in order to prevent such a blade from edging inwardly toward the handle end of the holder, I provide a back support 17 adapted to be positioned between the jaws intermediate of their outer ends and the U-shaped bracket and notched at its middle portion on one edge as at 18 so as to take around the arms of the U-shaped bracket in between the jaws. It is preferable to hollow the opposite or front edge of this back support to correspond to the curvature of the head of the blade.

It will be understood that in operation, a blade is inserted between the jaws of the holder and the cam revolved to clamp the jaws toward the blade, gripping it securely. The holder is then put in the machine, being inserted between a pair of lugs 19, 19 carrying the pivot pin 4. The pivot pin 4 is then pushed home through the aperture 3 in the blade holder, which, due to the peculiar shape of the aperture, allows the blade to adjust itself to the grinding element.

Having thus described the invention what I claim is:

1. A blade holder comprising in combination with a pair of opposite jaws adapted to clamp a blade between themselves, a handle extending from said jaws having a transverse aperture adapted to receive a supporting pin and substantially parallel to the biting ends of said jaws, said aperture being enlarged at its opposite ends both upward and downward with respect to the plane of the jaws and said enlargement increasing from the center of the handle to the opposite ends of the aperture, whereby the holder may rock transversely upon the supporting pin and is prevented from movement longitudinally of the handle.

2. A blade holder comprising in combination with a pair of opposite jaws adapted to clamp a blade between themselves, a handle extending from said jaws having a transverse aperture adapted to receive a supporting pin and substantially parallel to the free ends of said jaws and varying in size from the center of the handle to the opposite ends of said aperture whereby the holder may rock transversely upon said supporting pin and is prevented from movement longitudinally of the handle.

3. A blade holder comprising in combination with a pair of opposite jaws adapted to clamp a blade between themselves, a handle extending from said jaws having a transverse aperture adapted to receive a supporting pin and substantially parallel to the biting ends of said jaws, said aperture being of uniform width in planes extending through the handle longitudinally and of greater width at the ends than at the center in a plane transverse to the handle, whereby the holder may rock transversely upon the supporting pin and is prevented from movement longitudinally of the handle.

4. In a blade holder, the combination of a pair of clamping jaws, members extending transversely between said jaws and spaced from each other in a line parallel to the gripping edges of the jaws and at a distance therefrom, a back support between said clamping jaws intermediate said gripping edges and spaced members having its front edge toward the gripping edges adapted to receive the back of a razor blade and its opposite or rear edge recessed or cut away to receive said spaced members and form shoulders engaging the same to prevent lateral displacement of the back support.

ANDREW L. HATFIELD.

Witnesses:
HOWARD P. KING,
JANET A. AYERS.

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