O. KAMPFE.

RAZOR BLADE STROPPING DEVICE.

APPLICATION FILED AUG. 24, 1908.

928,664. Patented July 20, 1909.

Fig. 1.

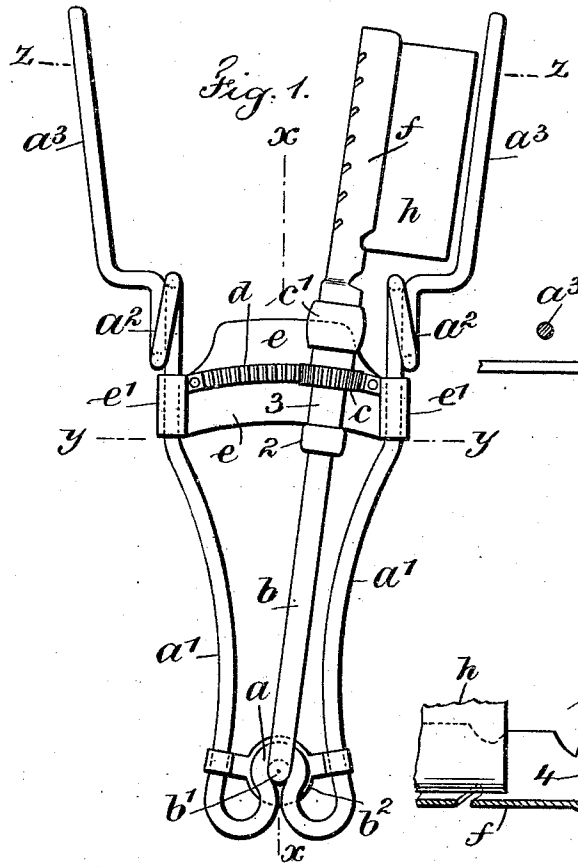


Fig. 5.

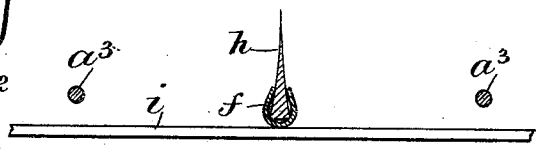


Fig. 3.

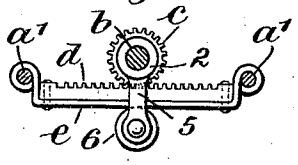


Fig. 4.

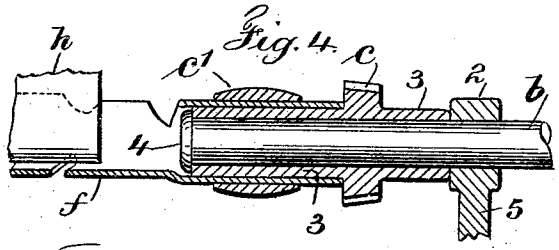


Fig. 2.

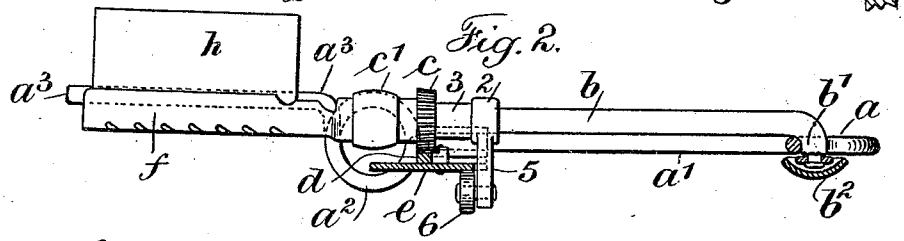
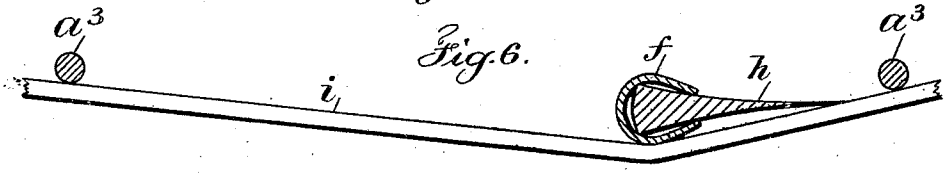


Fig. 6.



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UNITED STATES PATENT OFFICE.

OTTO KAMPFE, OF NEW YORK, N. Y.

RAZOR-BLADE-STROPPING DEVICE.

No. 928,664. Specification of Letters Patent. Patented July 20, 1909.

Application filed August 24, 1908. Serial No. 450,030.

To all whom it may concern:

Be it known that I, OTTO KAMPFE, a citizen of the United States of America, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented an Improvement in Razor-Blade-Stropping Devices, of which the following is a specification.

My present invention is designed as an improvement upon the razor blade stropping devices heretofore invented and used by F. R. and O. Kampfe, and particularly the devices of U. S. Letters Patent #725,449, of April 14, 1903; #767,696, of August 16, 1904; #658,649, of September 25, 1900, and Re-issue #12,164, of October 27, 1903, with the object of simplifying and making less expensive the stropping device and at the same time so placing the razor edge upon the strop that the part sharpened will be longer and more tapering than has been the case with said previous devices.

In the device of said Patents #725,449 and #767,696, rollers lying against the strop and gears connected thereto and operated thereby were employed to turn the blade holder, normally out of contact with the strop, and the blade held thereby so as to bring the edge to be sharpened down against the strop, with the stroke applied in opposite directions, consequently the strop drew straight between the rollers.

In the device of Patents #658,649 and Reissue #12,164, there were no guiding and actuating rollers or gears operated thereby and the blade holder alone rested upon the strop and was by the pressure applied and the stropping movement in opposite directions turned over to bring the opposite blade edges into position on the strop.

In the latter devices and in the absence of guiding control the edge of the blade was liable to be sharpened rounding instead of flat, and the object of my present invention is to obviate this difficulty in an inexpensive stropping device where the strop is guided at either stropping side or at both sides according to the pressure applied.

In the device of my present invention I employ a frame, a pivot rod fulcrumed at its inner end to the frame, a pinion on the pivot rod engaging a segmental rack on the frame, and means for holding the pinion in engagement with the rack against the tendency of the stropping action to separate said parts; and I prefer to place the blade holder at an obtuse angle of inclination to the axis of the pivot rod.

The essential features of my invention reside in a bent one-piece wire frame with rest bars and a blade holder out of line with the rest bars of the frame so that when the back of the blade holder rests upon the surface of the strop, the latter is in a plane appreciably below the plane passing through the rest bars or touching the lower edges of the same, consequently in the act of stropping the blade, either the blade holder and one rest bar will bear at a time upon the strop according to the direction of movement, or the strop will assume a curve between the rest bars and touching upon the rest bars and the blade holder, with the result in either instance that more of the edge of the razor blade will rest upon the strop than has heretofore been the case in the aforesaid devices, and a tapering rather than a blunt edge will be made in the act of sharpening.

In the drawing, Figure 1 is a plan representing the device of my improvement. Fig. 2 is a longitudinal section and elevation on the dotted line *x*, *x*, of Fig. 1, and in which the blade holder and blade are shown as in an upright position. Fig. 3 is a cross section and elevation at the dotted line *y*, *y*, Fig. 1. Fig. 4 is a section and partial elevation in larger size through the blade holder and the revoluble parts connected therewith and the pivot rod. Fig. 5 is a diagrammatic cross section at about the dotted line *z*, *z*, of Fig. 1. Fig. 6 is a cross section in larger size also at about the dotted line *z*, *z*, of Fig. 1, showing the relation of the blade holder and blade with the rest bars in the operation of sharpening the blade.

The frame of the razor blade stropping device of my present invention is preferably formed of wire in one piece comprising the bent in-turned pivot center *a*, the diverging arms a^1 a^1 extending therefrom, the finger loops a^2 a^2 and the diverging rest bars a^3 a^3. The bent form given to this frame imparts rigidity and stiffness, the same being held together as between the members a^1 and the loops a^2 by a plate *e* on which is mounted the segmental rack *d;* the plate having rounded ends e^1 which engage similar parts of the wire frame and extend across between said parts.

b is a pivot rod fulcrumed at b^1 in the bent

pivot center a^1 of the wire frame, and I prefer to employ a metal cup plate b^2 over the pivot or fulcrum b^1 of the rod b which is formed with oppositely extending strap members passing around the members a^1 of the wire frame and so held in position; this cup member forming a rest for one or more fingers of the hand in grasping the stropping implement. The rod b is provided with a sleeve 2 forming a stop for the sleeve 3 which extends between the sleeve 2 and the head 4 or up-set end of the rod b.

On the sleeve 3 there is a pinion c meshing with the segmental rack d on the plate e, and c^1 is a ring or annulus surrounding the sleeve 3 and the blade holder f and employed as a finish or as a means of receiving a pin by which the sleeve 3 and base of the blade holder f are connected so as to turn together.

Preferably formed with and extending out from the sleeve 2 is an arm 5 which passes across the edge of the plate e and on its free end is connected a roller 6 bearing upon the under and outer surface of the plate e, performing the double function of maintaining the pinion c in mesh with the segmental rack d and also holding down against the strop the blade holder and blade, because the natural tendency of the blade holder and blade in the stropping act would be to separate the pinion from the segmental rack.

I have shown and prefer to so connect the blade holder f to the sleeve 3 that the same with the blade h will occupy an obtuse angle of inclination to the axis of the pivot rod, the same as has been shown and described in the aforesaid Patents #658,649 and Reissue #12,164, but I do not limit myself in the present instance to such construction.

Figs. 2 and 5 show that the surface of the blade holder comes below the line of the rest bars a^3. This is especially apparent from Fig. 5 in which a part of the strop i is shown with the blade holder f bearing thereon and the rest bars a^3 as occupying a plane parallel to but appreciably above the plane of the strop, and in the operation of the device, this bearing of the blade holder upon the strop, with the movement in opposite directions, causes the blade holder to turn over from side to side. This turning movement rotates the pinion c and the sleeve 3 around the rod b over the surface of the segmental rack d from the proximity to a rest bar on one side as shown in Fig. 1 to the opposite proximity with the movement back and forth of the blade along the surface of the strop. In this operation it will be substantially impossible to maintain the relation of the parts shown in Fig. 5, because the strop will either bend around the blade holder and come in contact with the two rest bars as shown in Fig. 6, or the strop will yield so as to touch one rest bar and blade holder at a time. With either of these positions the same function is performed and the same relation maintained of the blade to the surface of the strop upon which it rests. This is shown in Fig. 6.

I am aware that it is quite common in this art to place a blade holder above a plane at the periphery of the rollers or rest bars, but in this instance the acute angle produced by the surface of the strop and a line through the blade, is greater than the acute angle produced by a line at the surface of the strop and through the blade when the blade holder rests upon the strop as is shown in Fig. 6. Therefore in the old way only the edge of the blade was touched by the strop, whereas in the new way according to Fig. 6, an appreciable surface of the razor blade rests upon the strop so that the surface sharpened will be greater in the new way and less in the old way, with the result of a blunt edge according to the old method, and a long tapering edge according to the new way; the edge produced by the present improvement being a better tapering edge and more fitted to do the work than the edge produced in the old way.

I claim as my invention:—

1. In a razor blade stropping device, the combination with a frame having rest bars, of a blade holder, the center of which is below an operative plane passing through the centers of the rest bars.

2. In a razor strop device, the combination with a frame having rest bars, of a blade holder, the center of which is on the stropping side of the frame at one side of a plane passing through the centers of the rest bars, whereby the strop in use lies flat between either or both of the rest bars and the blade holder.

3. In a razor blade stropping device, the combination with a frame having rest bars, of a blade holder operated between the rest bars and occupying a plane below an operative plane passing through the rest bars, whereby the blade holder and either one of the rest bars at a time contact with the strop in use according to the direction of movement.

4. In a razor blade stropping device, a bent one-piece wire frame comprising a bent pivot center at one end, with return members, diverging members extending therefrom and end diverging rest bars with finger loops between the diverging members and the rest bars.

5. In a razor blade stropping device, a bent one-piece wire frame comprising a bent pivot center at one end, with return members, diverging members extending therefrom and end diverging rest bars with finger loops between the diverging members and the rest bars, a plate extending between members of the bent frame and having return ends engaging the frame adjacent to the finger loops, a segmental rack bar secured to

the plate, a rod pivoted in the pivot center of the frame and adapted to swing, an arm and roller device secured to said rod crossing said plate and the roller bearing on the under surface thereof, a sleeve, a pinion and a blade holder secured to said swinging rod, and the pinion engaging the segmental rack.

6. In a razor blade stropping device, a bent one-piece wire frame comprising a bent pivot center at one end, with return members, diverging members extending therefrom and end diverging rest bars with finger loops between the diverging members and the rest bars, a rod pivoted to the pivot center of the said wire frame and at its opposite end provided with devices for carrying the razor blade, and a cup plate over the pivot center of said rod acting as a shield to the hand or the fingers from contact with the pivot center.

Signed by me this 14th day of August 1908.

OTTO KAMPFE.

Witnesses:
ARTHUR H. SERRELL,
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