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F., R. & O. KAMPFE.

MACHINE FOR STROPPING RAZOR BLADES.

(Application filed July 17, 1900.)

(No Model.)

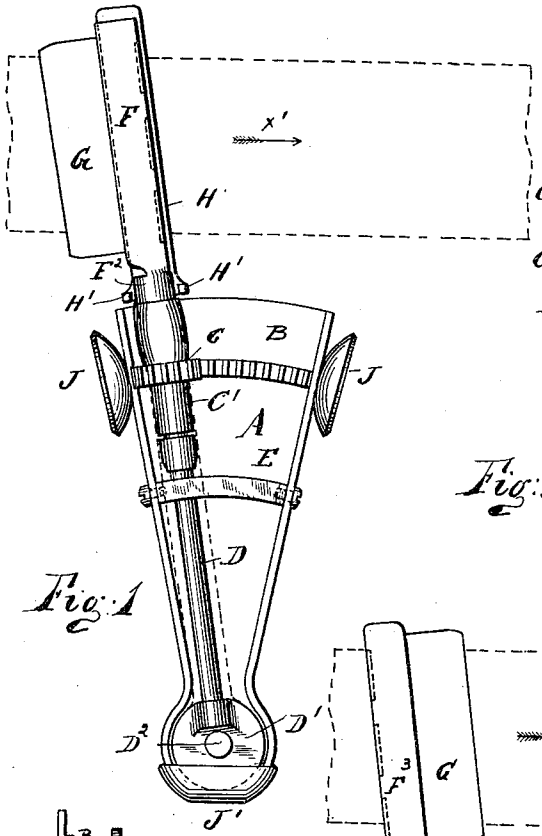


Fig. 1.

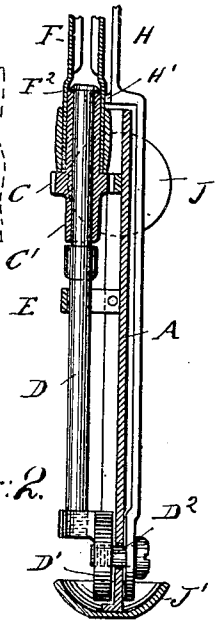


Fig. 2.

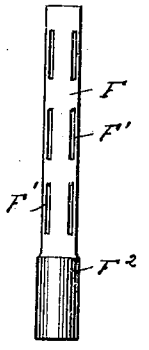


Fig. 3.

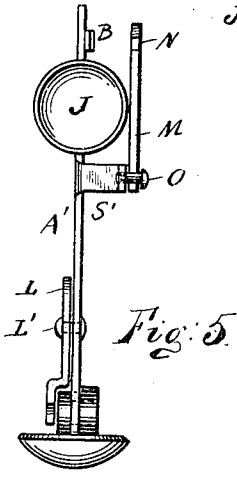


Fig. 5.

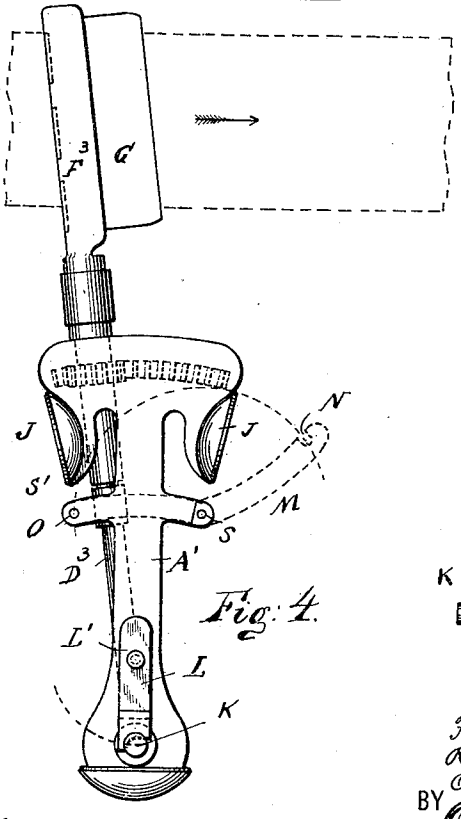


Fig. 4.

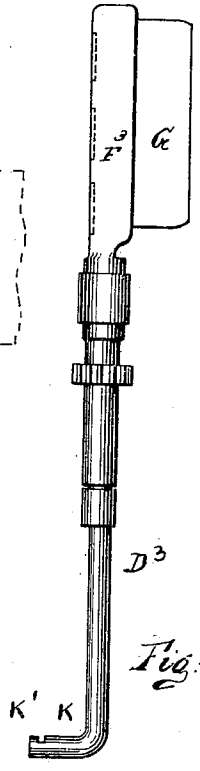


Fig. 6.

WITNESSES:

F. Stallman

N. M. Flanney

INVENTORS

F. Kampfe

R. Kampfe

O. Kampfe

BY Osgood & Sims

their ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK KAMPFE, RICHARD KAMPFE, AND OTTO KAMPFE, OF NEW YORK, N. Y.

MACHINE FOR STROPPING RAZOR-BLADES.

SPECIFICATION forming part of Letters Patent No. 658,649, dated September 25, 1900.

Application filed July 17, 1900. Serial No. 23,902. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK KAMPFE, RICHARD KAMPFE, and OTTO KAMPFE, citizens of the United States, and residents of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Machines for Stropping Razor-Blades, of which the following is a specification.

The object of our invention is to provide a new and improved machine for stropping razor-blades which is simple in construction, strong and durable, and reliable and effective in action.

In the accompanying drawings, in which like letters of reference indicate like parts in all the figures, Figure 1 is a face view of our improved stropping-machine as applied flat upon a strop. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a rear view of the blade-holder. Fig. 4 is a face view of the same as converted into a razor-blade-honing device. Fig. 5 is a side view of the construction shown in Fig. 4. Fig. 6 is a side view of the swinging detachable blade support or holder.

As shown in Figs. 1 and 2, the approximately sector-shaped frame A is provided on one face a short distance from its segmental edge with a segmental rack B, engaging the pinion C, fixed on a sleeve C′, mounted to turn axially on the free end of a rod D, pivoted on the lower end of the frame A concentric with the rack B in such a manner that the rod D can swing over said frame A.

The rod D is preferably provided at its pivoted end with a flat head D′, through which the pivot D^2 passes. A U-shaped bail or yoke E extends over the rod D and has its ends secured to the sides of the frame A and prevents the rod D from moving away from the frame A, thus keeping the pinion C in engagement with the rack B at all times, as the pressure exerted while stropping would tend to disengage the pinion from the rack.

The blade-holder F, which is substantially U-shaped in cross-section and serves to receive the back part of the blade G, is provided with a series of longitudinal slots F′ for the purpose of increasing its resiliency and facilitating the insertion and removal of the blade. This blade-holder is secured at its lower end to the sleeve C′ above the pinion C.

A friction-plate H, adapted to rest on the face of the strop, is located below the blade-holder F and is extended over the lower face of the frame A to the pivot D^2, by which it is also pivoted to the frame A. It will be observed that the friction-plate H and the rod D are on opposite faces of the frame A.

The friction-plate H has two lugs H′, extending upward at opposite sides of the neck F^2 at the lower end of the blade-holder F, so as to compel the blade-holder and friction-plate to swing together, while permitting the blade-holder to turn axially on the rod D. For facilitating the handling of the implement a cup-shaped finger-rest J is attached to each side of the frame A near the upper end and a button-shaped rest J′ for the palm of the hand is attached to the lower end of the frame A.

The blade G is placed into the blade-holder F, and the friction-plate H is rested flat upon the strop, and the entire device is moved in the direction of the arrow x', Fig. 1, whereby the blade is drawn over the strop in such a manner that its cutting edge is pressed on the strop. At the end of the stroke the direction of movement is reversed—that is, the device is moved in the inverse direction of the arrow x'—and as the pressure on the implement causes the friction-plate, and with it the blade-holder, to retain its position, the frame A only swings in the inverse direction of the arrow x' until the right-hand edge of the frame A arrives at the blade-holder, whereupon the pressure exerted in the inverse direction of the arrow x' by the frame on the blade-holder and friction-plate is greater than the friction between the friction-plate H and the strop, and the entire device is moved in the inverse direction of the arrow x'; but by the movement of the frame A in the inverse direction of the arrow x' while the friction-plate and blade remained at rest, as far as movement lengthwise of the strop is concerned, the blade-holder was turned axially by the coaction of the rack B and pinion C, and thus the blade was turned one hundred and eighty degrees on its back and its other face pressed upon

the strop while the device is being moved in the inverse direction of the arrow x', and so on.

As shown in Figs. 4 and 5, parts of the frame can be cut away to make it lighter, and the friction-plate H can be omitted, so that when the device is reversed it can be used as a honing device. When the parts are in these positions, the blade will reverse on its back at the reversing of the stroke; but in the movements in the direction of the arrow x^2, Fig. 4, and in the inverse direction of the arrow x^2 the cutting edge will precede the back of the blade, while in the construction shown in Figs. 1 and 2 the back of the blade preceded the cutting edge during such movements.

So as to permit of detaching the blade-holder F^3, as shown in Fig. 6, for the purpose of using it as a hand-stropper, the lower end of the rod D^3 is bent to form a pivot K, which can be passed through a hole in the lower end of the frame A', Figs. 4 and 5. The pivot K has a notch K' for receiving a latch L, pivoted at L' to the frame for locking the pivot in the frame A' when the device is to be used for honing. To permit of removing the rod D^3, the cross-piece M is hinged at one end to the arm S of the frame A', and the other end has a notch N for receiving a pin O, fixed on the arm S' of the frame A'. When the rod D^3 is to be removed, the cross-piece M is swung into the position shown in dotted lines in Fig. 4, and when the rod D^3 is to be mounted on the frame A' the cross-piece M is swung across the frame A' and its notched end engaged with the pin O.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a razor-blade-stropping device, the combination with a handle-frame, of a segmental rack on said frame, a rod pivoted on said frame concentric with the rack, a pinion mounted loosely on said rod and engaging the rack, a blade-holder connected with the pinion and a friction-plate pivoted to the frame concentric with the pivoted rod on that face of the handle-frame opposite the one on which the rod is mounted and mounted to swing with said rod, substantially as herein set forth.

2. In a razor-blade-stropping device, the combination with a handle-frame, of a segmental rack on said frame, a rod pivoted on said frame concentric with the rack, a pinion mounted loosely on said rod and engaging the rack, a blade-holder connected with the pinion and a friction-plate pivoted to the frame concentric with the pivoted rod, below the blade-holder and in line therewith and mounted to swing with the same, substantially as set forth.

3. In a razor-blade-stropping device, the combination with a handle-frame, of a segmental rack on said frame, a rod pivoted on said frame concentric with the rack, a pinion mounted loosely on said rod and engaging the rack, a blade-holder connected with the pinion and a friction-plate pivoted to the frame concentric with the pivoted rod and having lugs projecting upward at opposite sides of the lower end of the blade-holder, substantially as herein set forth.

4. The combination with a handle-frame, of a segmental rack on said frame, a rod pivoted on said frame, concentric with the rack, a pinion mounted loosely on said rod and engaging the rack, a blade-holder connected with said pinion, and a cross-piece on said frame extending across and over the pivoted rod, substantially as herein set forth.

5. The combination with a handle-frame, of a segmental rack on said frame, a rod pivoted detachably on said frame, concentric with the rack, a pinion mounted on said rod and engaging the rack, a blade-holder connected with the pinion and a latch for locking the rod on the frame, substantially as herein set forth.

6. The combination with a handle-frame, of a finger-rest upon each side of the same, a palm-rest button on the lower end of the frame, a segmental rack on the frame, a rod pivoted on said frame concentric with the rack, a pinion on said rod engaging the rack and a blade-holder connected with said pinion, substantially as herein set forth.

7. In a stropping device, the combination with a handle-frame, of a finger-rest on each side edge of the same, a button on the lower end, a reversible blade-holder and means for automatically reversing said holder, substantially as herein set forth.

8. A razor-blade holder U-shaped in cross-section and having longitudinal slots in its back along the side edges of the back to increase its resiliency, substantially as herein set forth.

Signed at New York city, in the county of New York and State of New York, this 14th day of July, A. D. 1900.

FREDERICK KAMPFE.
RICHARD KAMPFE.
OTTO KAMPFE.

Witnesses:
N. M. FLANNERY,
OSCAR A. GUNZ.