No. 725,449. PATENTED APR. 14, 1903.

F., R. & O. KAMPFE.

RAZOR STROPPING DEVICE.

APPLICATION FILED AUG. 1, 1902.

NO MODEL.

Fig: 1.

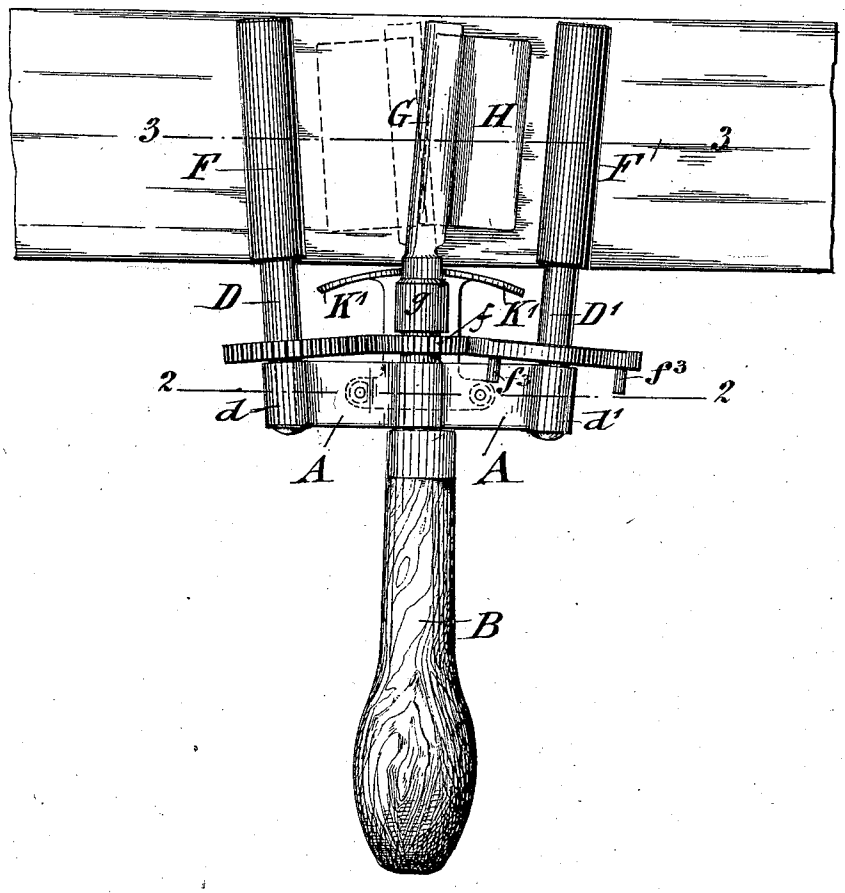


Fig: 4.

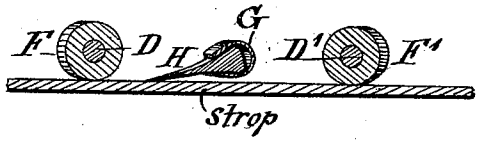


Fig: 3.

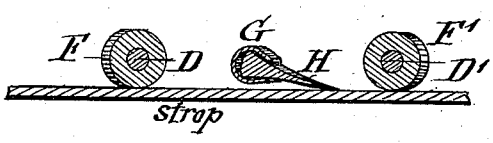
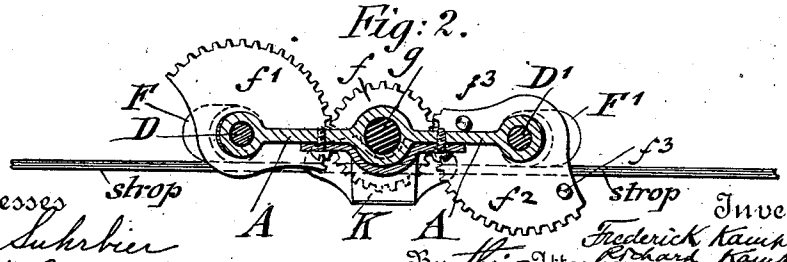


Fig: 2.



Witnesses
Henry J. Suhrbier
Conrad Zimmer.

Inventors
Frederick Kampfe
Richard Kampfe and
Otto Kampfe
By their Attorneys
Church & Niles

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

UNITED STATES PATENT OFFICE.

FREDERICK KAMPFE, RICHARD KAMPFE, AND OTTO KAMPFE, OF BROOKLYN, NEW YORK.

RAZOR-STROPPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 725,449, dated April 14, 1903.

Application filed August 1, 1902. Serial No. 118,023. (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, residing in New York, borough of Brooklyn, and State of New York, have invented certain new and useful Improvements in Razor-Stropping Devices, of which the following is a specification.

The razor-stropping device for which Letters Patent No. 405,961 were granted to us on June 25, 1889, comprised two parallel spindles, of which one carried a blade-holder and the other a friction-roller, and gearing for transmitting motion from the spindle carrying the blade-holder to the spindle carrying the friction-roller. The motion-transmitting gearing was provided with means for checking the motion of the blade-holder in either direction.

We have found by practical tests that a more effective stropping of the blade is obtained when the blade-holder is arranged permanently at an obtuse angle of inclination to the axis of the handle of the blade-holder, as described more fully in a pending application for Letters Patent which was filed by us on May 7, 1902, Serial No. 106,233; and the object of the present invention, therefore, is to so improve the razor-stropping device hereinbefore referred to that the blade-holder and friction-roller are arranged at an obtuse angle of inclination to the axis of the handle of the blade-holder, so as to apply the new principle discovered by us to the razor-stropping device heretofore patented by us, and produce thereby a greatly-improved razor-stropping mechanism; and for this purpose the invention consists of a razor-stropping device in which the blade-holder is arranged at an obtuse angle of inclination to the axis of its handle and in which the spindle of the friction-roller is arranged parallel with the blade-holder and at the same angle of inclination with the axis of the handle of the blade-holder as the latter.

The invention consists, further, of a razor-stropping device comprising a transverse support, two parallel spindles—one for the blade-holder and the other for a friction-roller—means for supporting the blade-holder and friction-roller at an obtuse angle of inclination to the handle of the support, and gearing for transmitting motion from the spindle of the friction-roller to the spindle of the blade-holder; and the invention consists, further, of certain additional details of construction, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a plan view of our improved razor-stropping device shown as applied to a strop. Fig. 2 is a vertical transverse section on line 2 2, Fig. 1, showing the operating-gearing of the stropping device. Fig. 3 is a vertical transverse section on line 3 3, Fig. 1, showing the blade in one position on the strop; and Fig. 4 is a similar section showing the blade and blade-holder in the opposite position on the strop.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, B represents the handle of our improved stropping device. The handle B is applied to a transverse support A, which may be made of suitable cast metal or bent up from sheet metal, said transverse support being provided at its center with means for attaching the handle B to the same and with a central bearing for the spindle g of the blade-holder G. The transverse support A is further provided, at each side of the spindle of the blade-holder G, with socket-bearings d d' for the spindles D D′ of two friction-rollers F F′, which are made of leather, rubber, or other suitable material, that produce friction when placed in contact with the strop. The blade-holder G is provided with a longitudinal opening which is adapted to receive the cutting-blade H. A pinion f is keyed to the spindle of the blade-holder and arranged to mesh with toothed segments f' f^2, that are keyed to the spindles D D′ of the friction-rollers F F′, so that when one of the friction-rollers is turned by contact with the strop on its axis the blade-holder is moved to one side and when the other roller is turned it is moved to the opposite side, as shown in Figs. 3 and 4. The edge of the blade is moved in either direction in contact with the strop until it arrives at the end of the stroke, when the blade is reversed by the motion in opposite direction of the handle.

One of the toothed segments of the motion-transmitting gearing is provided with stop-pins f^3, which project from the same and which serve to limit the rotative movement of the spindle of the blade-holder by alternately forming contact with the opposite sides of the transverse support A. To the under side of the transverse support A is attached the frame of a holder K, which is provided at its front end with a convex guard-plate K', that is located below the inner end of the blade-holder and which serves for moving the stropping device to and fro along the edge of the strop for producing the stropping action on the blade.

The mechanism so far described and its operation is fully described in the patent heretofore granted to us, and therefore requires no further description.

The improvement consists in arranging the axis of the blade-holder, as well as the axes of the spindles of the friction-rollers, at an obtuse angle of inclination to the axis of the handle and arranging the supporting-sockets for the spindles of the friction-rollers at a like obtuse angle of inclination to the axis of the handle. This requires that a proper bevel be imparted to the teeth of the motion-transmitting pinion f and to the teeth of the toothed segments f' f^2. By this arrangement the friction-rollers instead of being placed parallel with each other and parallel with the spindle of the blade-holder are now arranged converging toward each other and toward the axis of the handle, which is necessary so as to provide a space sufficient for permitting the oscillating motion of the blade-holder and blade from the position at one side of the axis of the handle to the position on the opposite side of the same. If the rollers were parallel with each other, the space required for the blade would not be sufficient, and there would consequently be a conflict between the blade and the friction-rollers when the former is moved from one side to the other, which would prevent the proper working of the stropping device. The required space, however, is provided by the converging position of the friction-rollers, as thereby the edge of the blade when the same is on one or the opposite side of the axis of the handle is parallel with the axis of the adjacent friction-roller. Our improved stropping device is therefore adapted to be operated with a blade-holder arranged at an obtuse angle of inclination to the axis of the handle and renders thereby the stropping device more effective, as it carries out the principle of stropping more fully described in the pending application hereinbefore referred to.

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

1. In a razor-stropping device, the combination, with a transverse support, of a handle for said support, a blade-holder the spindle of which is supported at an obtuse angle of inclination to its handle, a friction-roller the spindle of which is supported at the same angle of inclination to the axis of the handle and gearing for transmitting motion from the spindle of the friction-roller to the spindle of the blade-holder, substantially as set forth.

2. In a razor-stropping device, the combination, with a transverse support provided with a handle, of a blade-holder the spindle of which is arranged at an obtuse angle of inclination to the axis of said handle, an anti-friction-roller at each side of the handle the spindles of which are arranged at the same angle of inclination to the axis of the handle as the blade-holder, gearing for transmitting motion from the spindle of the antifriction-rollers to the spindle of the blade-holder, and check devices on the gear of one of the roller-spindles, substantially as set forth.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

FREDERICK KAMPFE.
RICHARD KAMPFE.
OTTO KAMPFE.

Witnesses:
PAUL GOEPEL,
HENRY J. SUHRBIER.