(No Model.)

J. W. C. KLEEBERG.

APPARATUS FOR SHARPENING RAZORS, &c.

No. 533,904. Patented Feb. 12, 1895.

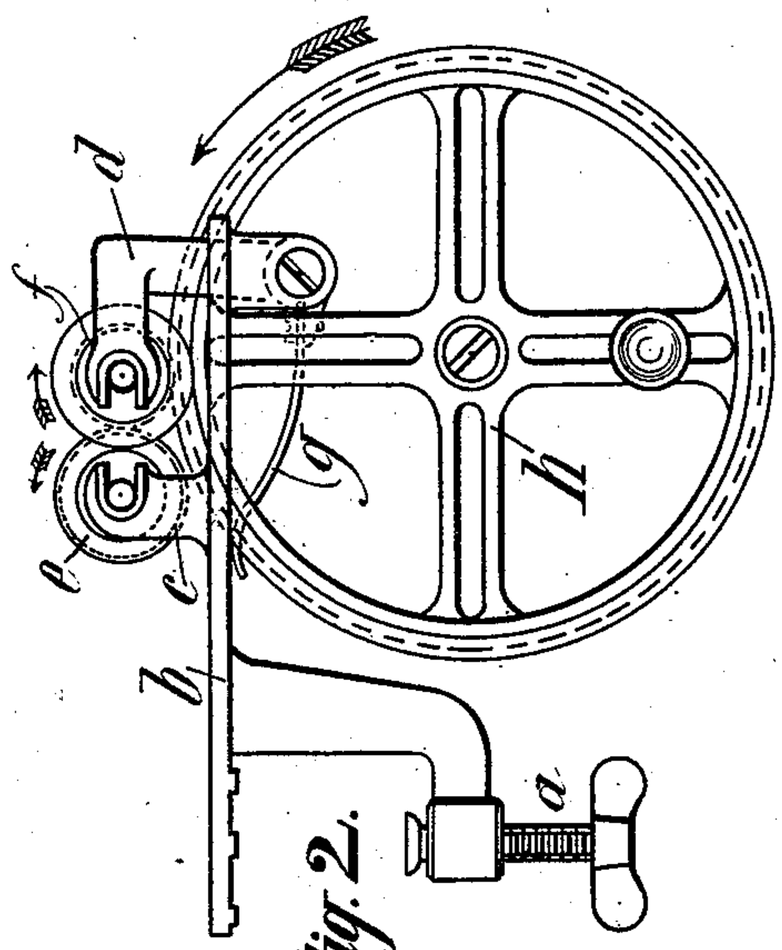

Fig. 2.

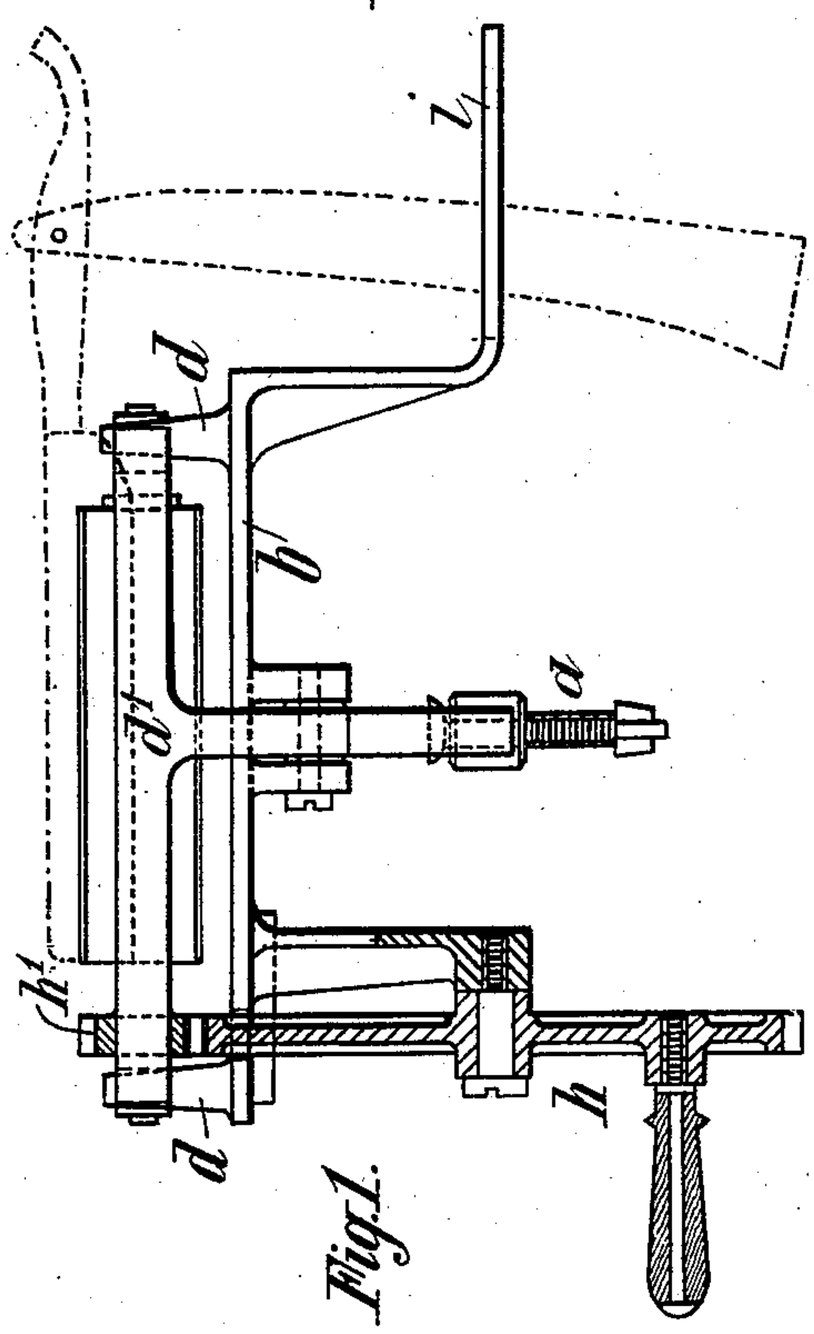

Fig. 1.

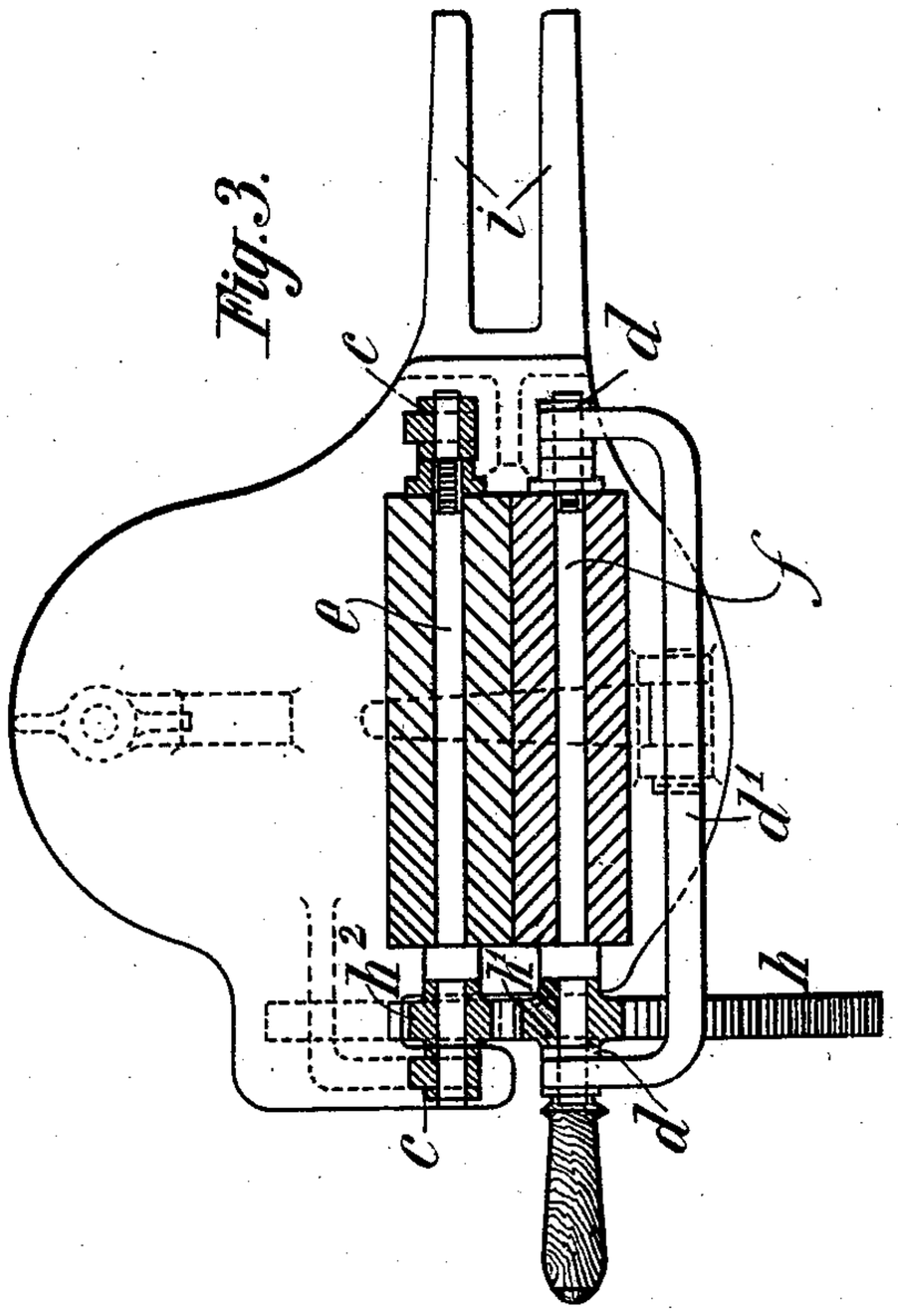

Fig. 3.

Witnesses:
B. S. Ober.
Henry Orth

Inventor:
Johann Wilhelm Carl Kleeberg.
By Henry Orth Atty.

UNITED STATES PATENT OFFICE.

JOHANN WILHELM CARL KLEEBERG, OF HAMBURG, GERMANY.

APPARATUS FOR SHARPENING RAZORS, &c.

SPECIFICATION forming part of Letters Patent No. 533,904, dated February 12, 1895.

Application filed August 23, 1894. Serial No. 521,100. (No model.)

To all whom it may concern:

Be it known that I, JOHANN WILHELM CARL KLEEBERG, a subject of the German Emperor, and a resident of Hamburg, in the German Empire, have invented an Apparatus for Sharpening Razors and other Edge-Tools, of which the following is a specification.

My invention relates to an apparatus for sharpening razors and other edge-tools and the objects of my invention are to make the sharpening more perfect and to perform it in a shorter period of time than it was possible in using ordinary grind-stones or straps. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, Fig. 2 an end view, and Fig. 3 a sectional plan of the improved apparatus.

Similar letters refer to similar parts throughout the several views.

Upon a foundation-plate *b* which may be secured to a table or the like by means of a set-screw *a* are mounted two fixed standards *c c* and two movable standards *d d* the latter being connected with each other by means of an arch-piece *d'*. The standards *c* and *d* have at their upper ends laterally slotted bearings for the trunnions of the grind-rollers *e* and *f*, so that when the arch piece or frame *d'* is swung away from roller *e*, both rollers can be readily removed from their bearings when this becomes necessary from any cause. A suitable spring *g* acting upon the arch-piece *d'* tends to move the movable standards *d d* toward the fixed standards *c c* so that the grind-roller *f* is slightly pressed against the other grind-roller *e*. Rotation may be given to these grind-rollers in opposite direction by means of a suitable gear $h\ h'\ h^2$. When the grind-rollers revolve the cutting-edge of the razor to be sharpened rests upon the line of contact of the grind-rollers while the handle of the razor is supported by means of a bifurcated arm *i* so that the razor can not overturn or capsize. By moving the razor a few times to and fro between the grind-rollers (in the direction of the line of contact of the latter) the razor will be sharpened by the rotating grind-rollers in a most perfect manner which operation requires only a few seconds.

One of the grind-rollers *e* may have a somewhat greater diameter than the other grind-roller *f*, which is hardly remarkable in the illustrations of the drawings; but in this case the same velocity of periphery must be given to the said unequal grind-rollers so that two generatrixes of them will meet each other at the common line of contact of the grind-rollers only after a certain number of revolutions. By this arrangement an unequal wearing-out of the grind-rollers will be avoided.

During the sharpening-operation always other parts of the grind-rollers come in contact with each other and the cutting edge to be sharpened.

The above described apparatus may also be used for sharpening other edge-tools than razors but an essential difference must be made between it and other well-known sharpening devices, composed of two small adjoining disks. In sharpening devices of this class the cutting-edge rests only upon the small point of contact of the said disks and by drawing along the respective edge-tool, its cutting edge will be sharpened only at this point at times. In opposition thereto in the present apparatus the cutting-edge in its whole length rests upon the line of conduct of two considerable long grind-rollers so that the said cutting-edge is sharpened in its whole length at one or the same time.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

1. In apparatus for sharpening edge tools, the combination of two grinding rollers of unequal diameter, a swinging frame for one of said rollers, a spring acting upon the frame to appress its roller against the co-acting roller, and means adapted to positively revolve both rollers in opposite directions at the same surface speed, substantially as and for the purpose set forth.

2. In apparatus for sharpening edge tools, the combination of a supporting plate, a grind-

ing roll, *e*, revoluble in bearings on said plate, a frame articulated to the plate and adapted to swing to and from the grinding roll *e*, a co-acting grinding roll *f* revoluble in bearings in said frame, the bearings for both rolls having open ends facing each other, whereby when said frame is swung back both rolls can be removed from their bearings, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 9th day of August, 1894.

JOHANN WILHELM CARL KLEEBERG.

Witnesses:
DIEDRICH PETERSEN,
C. L. THEODOR MÜLLER.