No. 747,688. PATENTED DEC. 22, 1903.

S. R. DUVAL.

BLADE SHARPENER.

APPLICATION FILED SEPT. 9, 1903.

NO MODEL.

Fig. 2.

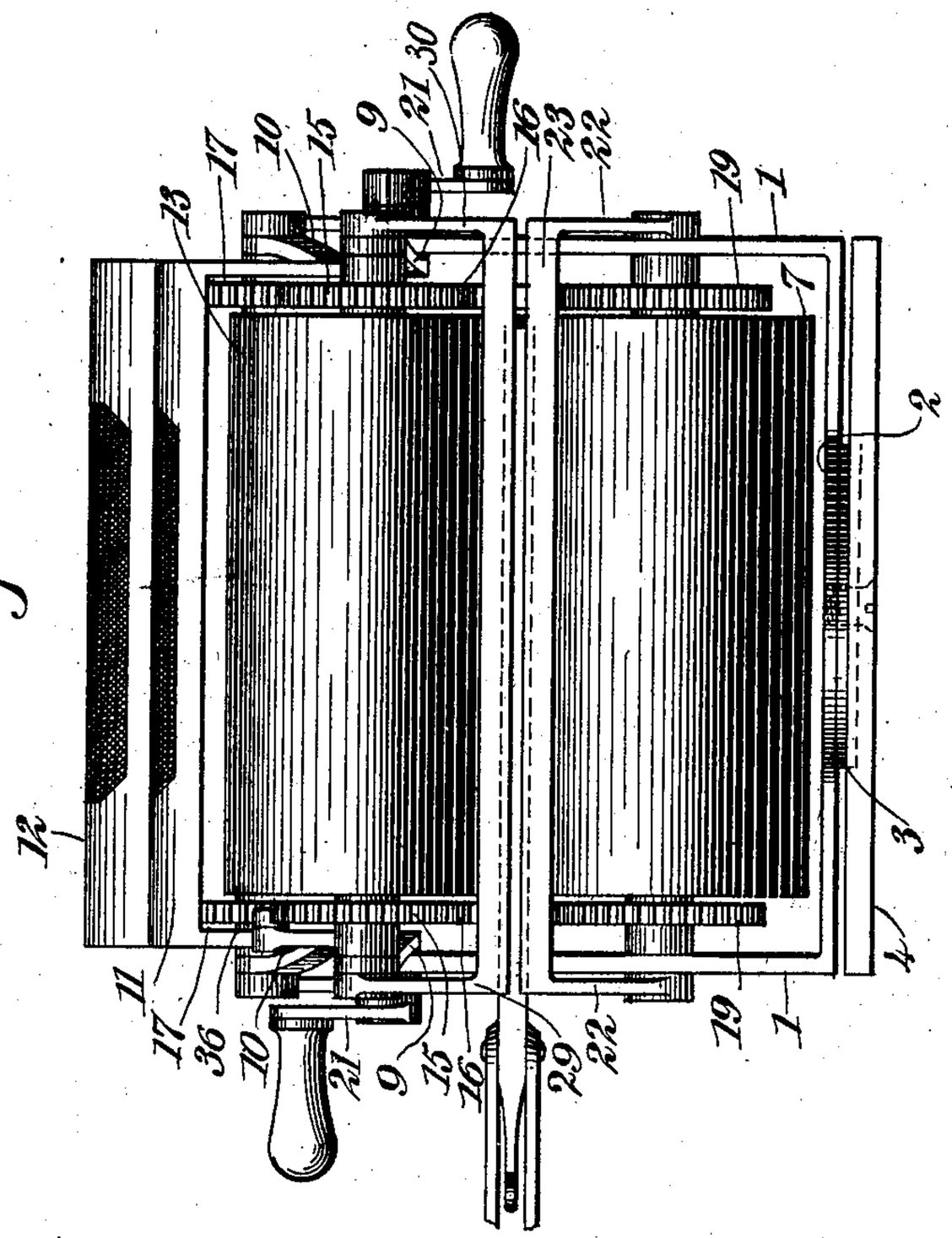
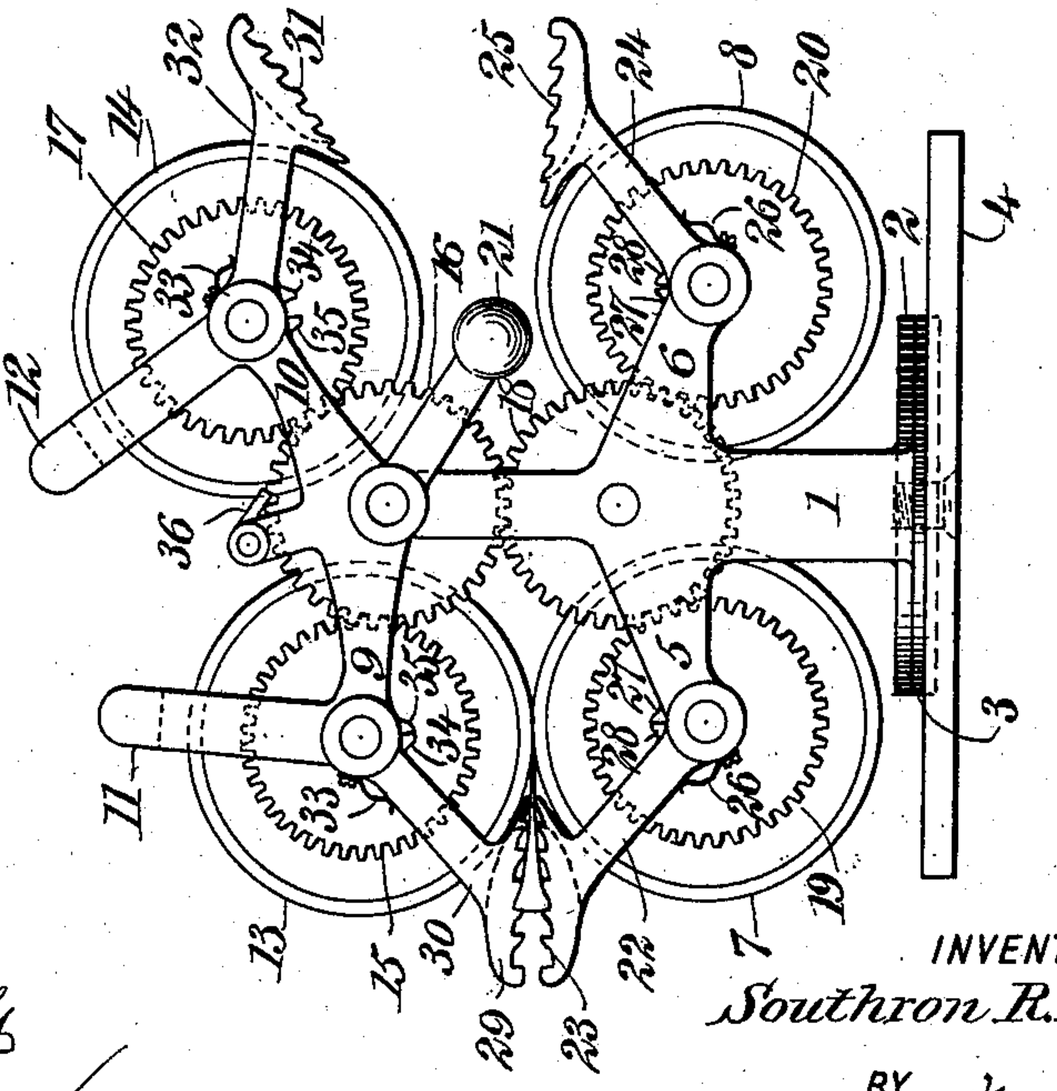


Fig. 1.



WITNESSES:

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No. 747,688. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

SOUTHRON RHODES DUVAL, OF NEW ORLEANS, LOUISIANA.

BLADE-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 747,688, dated December 22, 1903.

Application filed September 9, 1903. Serial No. 172,498. (No model.)

To all whom it may concern:

Be it known that I, SOUTHRON RHODES DUVAL, a citizen of the United States, and a resident of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and Improved Blade-Sharpener, of which the following is a full, clear, and exact description.

This invention relates to improvements in blade-sharpeners, more particularly razor-blades, an object being to provide a sharpener of a type having coacting grinding, honing, or stropping rollers, whereby both sides of a blade may be operated upon simultaneously, thus quickly bringing the "teeth" or "feather" of a razor-blade edge to a uniform and central line, leaving the blade in condition for use.

Further objects of the invention will appear in the general description.

I will describe a blade-sharpener embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both figures.

Figure 1 is a side elevation of a blade-sharpener embodying my invention, and Fig. 2 is an elevation at right angles to Fig. 1.

The frame of the device comprises standards 1, extended from a plate 2, mounted to rotate on a horizontal plane on a bed-plate 3. This bed-plate, as shown, is secured to a base 4, which may be attached, by means of screws or otherwise, to a table or the like.

On the standards 1 are outwardly-extended arms 5 6, which provide bearings for rollers 7 8. Mounted to rock on the upper ends of the standards 1 is a frame having oppositely-extended arms 9 10, the opposite arms 9 being connected by a cross-bar 11, while the opposite arms 10 are connected by a cross-bar 12. These cross-bars form handles for rocking the frame and also for holding the jaws to be hereinafter described in connection with the blade.

The arms 9 form bearings for a roller 13, and the arms 10 form bearings for a roller 14. The rollers 7 and 13, forming one pair, are covered with a suitable material—such, for instance, as leather—for stropping the blade, and the rollers 8 and 14, forming the other pair, are provided with a suitable powder or the like for grinding purposes.

On the ends of the roller 13 are gear-wheels 15, meshing with pinions 16, having their shaft-bearings in the standards 1, and the roller 14 at its ends is provided with gears 17, also meshing with said pinions 16. Said pinions 16 engage pinions 18, mounted on a shaft having bearings in the standards 1, and these pinions 18 mesh with gears 19 20 on the ends of the rollers 7 8. By this arrangement it is obvious that by turning the pinions 16 by means of either one of the cranks 21 the several rollers will be rotated. I place a crank-handle on each end of the shaft for convenience in operating with the right hand when the machine is reversed.

Mounted to swing on the shaft of the roller 7 are arms 22, which carry a jaw 23, and similar arms 24 are mounted to swing on the shaft of the roller 8 and carry a jaw 25. The jaws are pressed yieldingly upward by means of springs 26, attached at one end to the arms 5 6 and at the other end bearing on the arms 22 and 24. The jaws are limited, however, in their upward movement by stops 27 on the arms 5 6, designed to be engaged by stop-lugs 28 on the jaw-carrying arms.

Coacting with the jaw 23 is an upper jaw 29, attached to arms 30, mounted to swing on the shaft of the roller 13, and coacting with the jaw 25 is an upper jaw 31, carried on arms 32, swinging on the shaft of the roller 14. These jaws 29 and 31 are pressed yieldingly downwardly by means of springs 33, similar to those first described, and are limited in their movement by lugs 34 35, arranged, as described, with reference to the lugs 27 and 28.

The jaws, it will be noted, are longitudinally serrated or toothed, the teeth being conformed substantially to the back of the razor-blade and to the concavity near the rear edge, so that the razor-blade is rigidly held from outward movement.

In operation the blade to be sharpened is placed upon the lower jaw and then the upper jaw is to be swung down to engage with the upper side of the blade, the said blade at this time having its edge engaged between the two coacting rollers, as clearly indicated in Fig. 1. The rollers are to be operated in a direc-

tion away from the edge of the blade, and to prevent any possible reverse motion a pawl 36 is mounted to swing on the rocking frame for engaging with the teeth of one of the pinions 16. When it is desired to use the other pair of rollers, the machine may be turned horizontally, as before described.

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

1. A blade-sharpener comprising a pair of sharpening-rollers, one of said rollers having swinging movement relatively to the other roller and spring-pressed jaws for holding the blade in position between the rollers, one of said jaws being carried with the swinging roller.

2. A blade-sharpener comprising standards, lower rollers carried at opposite sides of said standards, a rocking frame on the standards, upper rollers carried by said frame and coacting with the first-named rollers, and means for rotating the several rollers simultaneously.

3. A blade-sharpener comprising standards, arms extended outward from opposite sides of said standards, sharpening-rollers having shaft-bearings in said arms, jaws mounted to swing on the shaft of said rollers, a frame mounted to rock on said standards, rollers coacting with the first-named rollers and having their shaft-bearings in said frame, jaws carried on the shafts of said last-named rollers for coacting with the first-named jaws, and means for rotating the several rollers simultaneously.

4. A blade-sharpener comprising standards mounted to rotate on a substantially horizontal plane, arms extended in opposite directions from said standards, rollers having their shaft-bearings in said arms, a frame comprising oppositely-extended arms mounted to rock on said standards, cross-bars connecting opposite arms and forming handles, rollers having their shaft-bearings in said arms, blade-clamping jaws for each pair of rollers, and means for simultaneously rotating the several rollers.

5. A blade-sharpener comprising two pairs of sharpening-rollers, blade-clamping jaws for each pair of rollers, each jaw being longitudinally serrated, a rocking frame carrying a jaw of each pair, gearing for rotating the several rollers, and a pawl for engaging with one of the gears, to prevent reverse movement.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SOUTHRON RHODES DUVAL.

Witnesses:

HERBERT H. HERR,

CHAS. HERR.