No. 750,398. PATENTED JAN. 26, 1904.

A. W. SCHEUBER.

STROPPING MACHINE.

APPLICATION FILED APR. 27, 1903.

NO MODEL.

Fig. 1

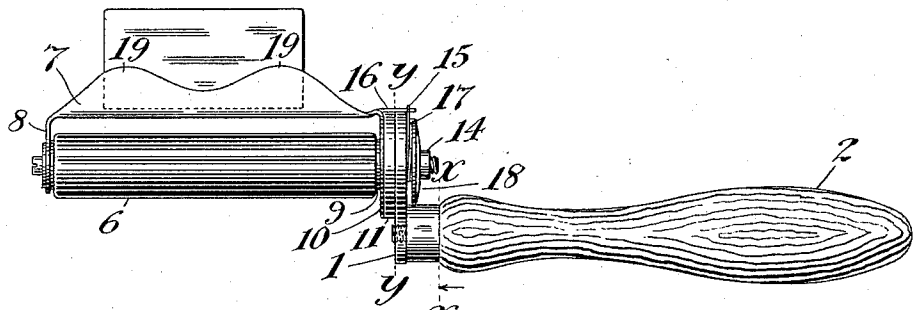


Fig. 6

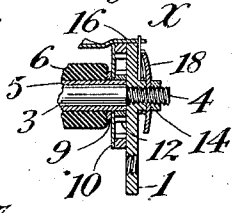


Fig. 2

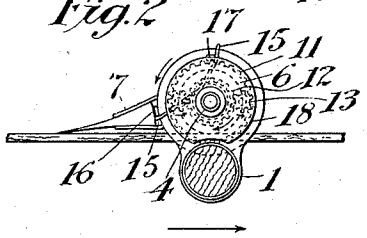


Fig. 3

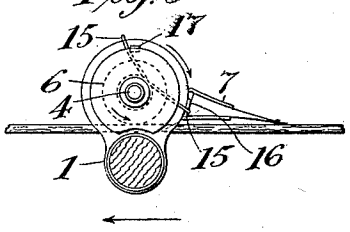


Fig. 4

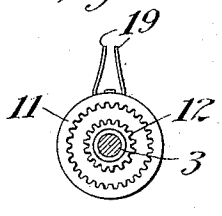
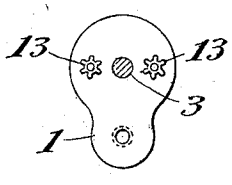


Fig. 5



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

No. 750,398. Patented January 26, 1904.

UNITED STATES PATENT OFFICE.

AUGUST WM. SCHEUBER, OF HOBOKEN, NEW JERSEY.

STROPPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 750,398, dated January 26, 1904.

Application filed April 27, 1903. Serial No. 154,553. (No model.)

To all whom it may concern:

Be it known that I, AUGUST WM. SCHEUBER, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Stropping-Machines, of which the following is a full, clear, and exact specification.

My invention relates to machines for stropping razor-blades, and particularly to that type wherein a blade is inserted in a suitable holder and by merely moving the machine back and forth upon the stropping-surface the blade is automatically turned down and its edge brought into contact with said stropping-surface for sharpening.

In an application filed by me February 21, 1903, Serial No. 144,377, I have shown a machine of the general character above mentioned, but my present improvement has for its object the production of a more simplified, compact, and efficient machine.

In the accompanying drawings, illustrating my invention, Figure 1 is a plan view; Figs. 2 and 3 sectional views taken on line x x of Fig. 1 and looking in the direction of the arrow, the two figures, however, showing the parts in different relative positions; Fig. 4, a sectional view taken on line y y of Fig. 1 looking in the direction of the arrow; and Fig. 5 a view of the plate to which the handle is attached and showing the idler gear-wheels secured thereto looking in a direction opposite to the arrow in Fig. 1; and Fig. 6 is a vertical sectional view of that portion of the machine containing the reversing-gears, &c.

In the drawings, 1 represents a suitable plate or support, to which is secured the handle 2. To this support is rigidly secured the spindle 3, shown in the drawings, with its end 4 screw-threaded into said plate. Upon this spindle is mounted to revolve the cylinder or sleeve 5, carrying the friction-roller 6 to revolve therewith, and journaled concentric with said roller is the blade-holder 7, its outer end 8 journaled upon the outer end of the spindle 3, while its inner end is journaled upon the cylinder 5 adjacent to the inner end of the rubber roller, as at 9. The blade-holder is preferably bent out of a single piece of metal into the proper shape and its inner end formed into the shape of a disk 10. To this disk is secured the internally-toothed gear-wheel 11, (shown in Fig. 4,) while to the inner end of the cylinder 5 is secured to revolve therewith the external gear 12. Gears 11 and 12 both lie in the same plane and are concentric. Gear-wheels 13 13, mounted upon suitable studs secured to the plate 1, operatively connect gears 11 and 12 and provide for a reciprocal motion of said gears, and therefore the roller and blade-holder, the said gears being so proportioned that a complete rotation of gear 12 causes but a half-rotation of gear 11. The effect of this differential gearing will be readily understood. In the stropping of a razor-blade the sharpening action is the result of the wearing away of the metal forming or lying adjacent to its edge. This wearing away of the metal is according to well-known laws directly in proportion to the frictional and abrading action which takes place. It is therefore important in a successful stropping-machine that the blade be made to bear as heavily as possible upon the stropping-surface with the expenditure of the least amount of strength as it is moved back and forth, and by means of the differential gearing above referred to a given amount of pressure exercised by the hand is multiplied in its effect upon the razor-blade. A small coil-spring 14 is mounted on the back of the plate 1 and its two projecting arms 15 15 are adapted to contact with a lug 16, struck out from the blade-holder, and a second lug 17 on the upper edge of the guard-plate 18, secured on the end of the spindle. It is preferable to employ a comparatively thick metal blank out of which to form the blade-holder, and where this is the case the gripping-faces 19 19 are apt to be less elastic than is desirable for the convenient insertion of the blade. In order to obviate this difficulty, I form my blade-jaws into serrations or projections, so that but small portions thereof are used to actually grip the blade—for instance, but two of such opposing surfaces being operative in the structure shown in Fig. 1.

The operation of the machine will be readily understood. A blade having been inserted into the blade-holder by sliding it between the clamping-jaws into the position shown in Fig. 1, the machine is grasped by its handle and

the rubber roller moved backward and forward in contact with the stropping-surface, necessary pressure being used to cause the rotation of the roller. In Fig. 2 the machine is being moved in the direction of the arrow shown beneath, thereby causing the rubber roller and the pinions and gears to revolve in the directions indicated by the small arrows, and thus the blade-holder is turned down behind, bringing the edge of the blade into contact with the strop. In Fig. 3 the movements are reversed and the opposite edge of the blade brought into contact with the stropping-surface. Upon releasing the pressure of the roller on the stropping-surface the spring-arms 15 of the coiled spring 14 bear against the lug on the blade-holder and the stationary lug on the guard-plate and causing the blade-holder to immediately assume a vertical position.

I find it desirable in some instances to secure the handle to the machine so that it is in a plane somewhat below the lower edge of the roller. By this means any downward pressure thereon tends to cause the machine to assume an upright position on the strop, thereby providing for substantially equal pressure for either stroke.

It is obvious that many changes and modifications may be made in my invention without departing from the spirit thereof, and I do not intend to limit myself to the particular structure shown and described; but

What I claim, and desire to secure by Letters Patent, is—

1. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, and gear-wheels connecting said blade-holder and friction-roller, said gear-wheels being in the same plane and arranged so that a rotation of the friction-roller in one direction brings about a rotation of the blade-holder in an opposite direction, substantially as described.

2. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, gear-wheels connecting said blade-holder and friction-roller, and means for moving the blade-holder out of contact with the strop, said gear-wheels being in the same plane, and arranged so that a rotation of the friction-roller in one direction causes a rotation of the blade-holder in an opposite direction, substantially as described.

3. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, means connecting said blade-holder and friction-roller whereby a rotation of the friction-roller in one direction brings about an opposite rotation of the blade-holder, the movement of the friction-roller and blade-holder being substantially as two is to one, substantially as described.

4. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, means connecting said blade-holder and friction-roller whereby a rotation of the friction-roller in one direction brings about a rotation of the blade-holder in an opposite diriction, the movement of the friction-roller being relatively greater than the movement of the blade-holder, substantially as described.

5. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, means connecting said blade-holder and friction-roller whereby a rotation of the friction-roller in one direction brings about an opposite rotation of the blade-holder, the movement of the friction-roller being relatively greater than the movement of the blade-holder, and means for moving the blade out of contact with the strop, substantially as described.

6. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, means connecting said blade-holder and friction-roller, whereby a rotation of the friction-roller in one direction brings about an opposite rotation of the blade-holder, and means for moving the blade out of contact with the strop, the movement of the friction-roller and blade-holder being substantially as two is to one, substantially as described.

7. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, gear-wheels connecting said blade-holder and friction-roller whereby a rotation of the friction-roller in one direction causes a rotation of the blade-holder in an opposite direction, said gear-wheels being in the same plane and arranged so that the movement of the friction-roller and blade-holder are substantially in the proportion of two to one, substantially as described.

8. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, gear-wheels connecting said blade-holder and friction-roller whereby a rotation of the friction-roller in one direction causes a rotation of the blade-holder in an opposite direction and means for moving the blade out of contact with the strop, said gear-wheels being in the same plane and arranged so that the movement of the friction-roller and blade-holder is substantially in the proportion of two to one, substantially as described.

9. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, means connecting said blade-holder and friction-roller whereby a movement of the friction-roller in one direction causes a movement of the blade-holder in an opposite direction, and a coiled spring, the ends of which are in operative contact with the blade-holder, for moving the blade out of contact with the strop, substantially as described.

10. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, gear-wheels connecting said blade-holder and friction-roller, and a coiled spring on said spindle, the ends of which are adapted to con-

tact with a portion of the blade-holder for moving the blade out of contact with the strop, substantially as described.

11. In a stropping-machine, a spindle, a blade-holder and friction-roller thereon, gear-wheels operating in the same plane and connecting said blade-holder and friction-roller, and a spring so arranged that its ends are in operative contact with the blade-holder for moving the blade out of contact with the strop, substantially as described.

12. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, gear-wheels connecting said blade-holder and friction-roller, and a spring on said spindle having its ends adapted to contact with a portion of the blade-holder, for moving the blade out of contact with the strop, said gear-wheels being in the same plane and arranged so that the movement of the friction-roller is relatively greater than the movement of the blade-holder, substantially as described.

13. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, an internal gear secured to said blade-holder, a pinion or gear secured to said friction-roller, and idler-gears, connecting the said pinion and internal gear, substantially as described.

14. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, an internal gear secured to said blade-holder, a pinion or gear secured to said friction-roller, idler-gears connecting said pinion and internal gear, and means for moving the blade out of contact with the strop, substantially as described.

15. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, an internal gear secured to said blade-holder, a pinion or gear secured to said friction-roller, idler-gears connecting said pinion and internal gear, and a spring also on said spindle, having its ends adapted to contact with a portion of the blade-holder for moving the blade out of contact with the strop, substantially as described.

16. In a stropping-machine, a suitable frame or support, a spindle rigidly secured thereto, a blade-holder and friction-roller on said spindle, gear-wheels operating in the same plane and connecting said blade-holder and friction-roller, and a spring also on said spindle, having its ends adapted to contact with a portion of the blade-holder, for moving the blade out of contact with the strop, substantially as described.

17. In a stropping-machine, a suitable frame or support, a spindle rigidly secured thereto, a blade-holder and friction-roller on said spindle, gear-wheels operating in the same plane, and connecting said blade-holder and friction-roller, a spring also on said spindle, having its ends adapted to contact with a portion of the blade-holder, for moving the blade out of contact with the strop, and a guard-plate protecting said spring, substantially as described.

18. In a stropping-machine, a suitable frame or support, a spindle mounted thereon, a blade-holder and friction-roller on said spindle, means connecting said blade-holder and friction-roller for imparting reciprocal motion thereto, and a handle located in a plane below the lower surface of the friction-roller, substantially as described.

19. In a stropping-machine, a suitable frame or support, a blade-holder and friction device mounted thereon and means connecting said blade-holder and friction device whereby the effect of a given pressure upon the friction device is increased in its action of forcing the blade upon the stropping-surface, substantially as described.

20. In a stropping-surface, a suitable frame or support, a spindle, blade-holder and friction-roller mounted thereon, means connecting said blade-holder and friction-roller whereby the effect of a given pressure upon the friction-roller is increased in its action of forcing the blade upon the stropping-surface, substantially as described.

21. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, and means connecting said blade-holder and friction-roller whereby the effect of a given pressure upon the friction-roller is increased in its action of forcing the blade upon the stropping-surface, substantially as described.

22. In a stropping-surface, a spindle, a blade-holder and friction-roller on said spindle, and a differential gearing connecting said blade-holder and friction-roller, whereby the effect of a given pressure upon the friction-roller is increased in its action of forcing the blade upon the stropping-surface, substantially as described.

23. In a stropping-machine, a spindle, a blade-holder and friction-roller on said spindle, a differential gearing connecting said blade-holder and friction-roller, whereby the effect of a given pressure upon the friction-roller is increased in its action of forcing the blade upon the stropping-surface, and spring-actuated means for moving the blade out of contact with the strop, substantially as described.

24. A blade-holder having a plurality of opposing gripping-surfaces, substantially as described.

25. A blade-holder having two pairs of gripping-surfaces for holding the blade, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

AUGUST WM. SCHEUBER.

Witnesses:
CLIFFORD E. DUNN,
ADOLPH F. DINSE.