

S. H. HODGES.
Attachments for Heel-Trimming and Burnishing
Machines.

No. 136,916.

Patented March 18, 1873.

Fig. 1.

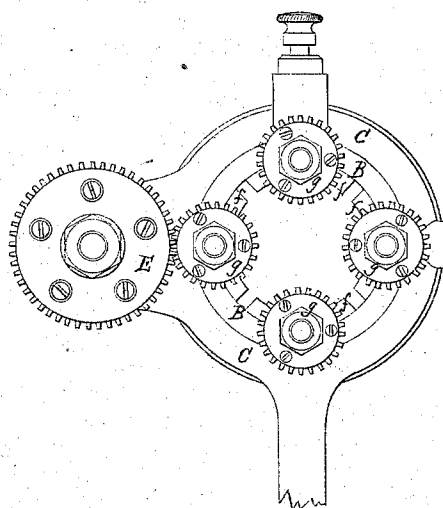


Fig. 2.

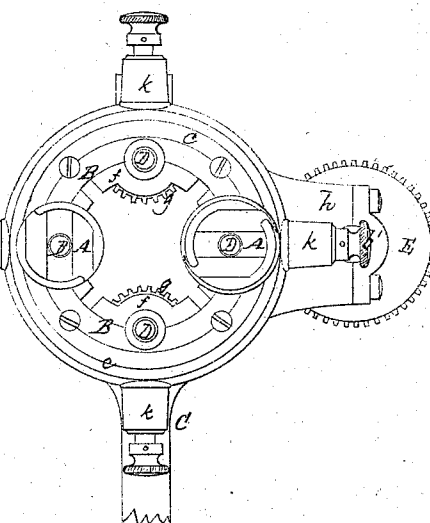


Fig. 3.

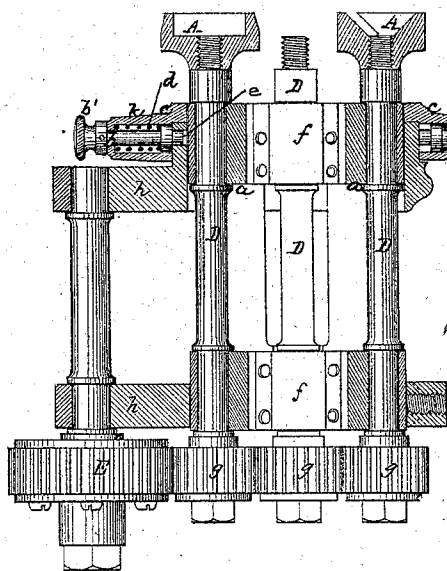
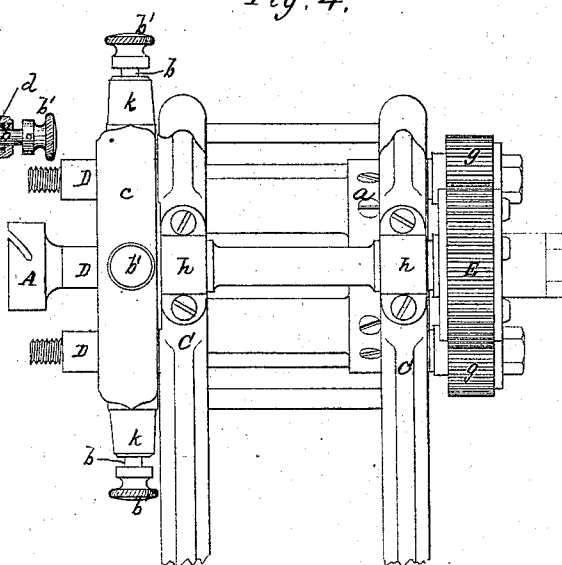


Fig. 4.



Witnesses.

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by his attorney.

A. Curtis.

UNITED STATES PATENT OFFICE.

SAMUEL H. HODGES, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE HODGES
EDGE TRIMMING AND SETTING MACHINE ASSOCIATION, OF SAME PLACE.

IMPROVEMENT IN ATTACHMENTS FOR HEEL TRIMMING AND BURNISHING MACHINES.

Specification forming part of Letters Patent No. 136,916, dated March 18, 1873.

To all whom it may concern:

Be it known that I, SAMUEL H. HODGES, of Lynn, Essex county, Massachusetts, have invented certain new and useful Improvements in Machinery for Cutting, Trimming, or Burnishing the Heels or Soles of Boots and Shoes, of which the following is a specification:

This invention is designed with a view to providing trimming or burnishing machinery with a number of tools adapted to the various requirements of the work, any one of which may be brought into operative position with ease and without loss of time.

The main features of the invention are, in general terms, as follows: First, mounting two or more trimming, cutting, or burnishing tools in a frame or turret which is capable of being revolved on its axis, in order to bring into operative position with respect to the work any required one of the tools which it carries; second, mounting the tools on independent axles or shafts, supported in bearings in the revolving turret, and capable of being rotated for the purpose of imparting a corresponding movement to the tools which they carry; third, combining with the revolving turret and the tool-holding shafts supported therein pinions fixed on said shafts, and a driving-gear mounted on some suitable part of the apparatus so as to be tangential, or thereabout, to the circle described by the pinions when the turret revolves, under such an arrangement that the pinion of the shaft of that tool only which is brought into operative position will be caused to engage with said driving-gear; fourth, combining with the revolving tool-holding turret and its bearings stop-pins, or their substantial equivalents, whereby, when the desired tool has been brought into operative position, the turret can be locked so as to prevent its further movement, and thus maintain the tool accurately in its proper position.

In the accompanying drawing I have represented the manner in which my invention is or may be carried into effect.

Figure 1 is a rear elevation of the tool-holding turret and that portion of the burnishing or trimming apparatus immediately connected with it. Fig. 2 is a front elevation of the same; Fig. 3, a horizontal section in the plane of the axis of the turret; and Fig. 4, a side elevation.

Under my invention two, three, four, or more tools can be applied to the turret. In the drawing I have represented a machine adapted to carry four.

The tools, of which two are indicated at A, are mounted on the front end of a cylinder, B, which I call the turret, and which has its bearing in a supporting-frame, C, in which it is capable of freely revolving. The construction of the turret and its supporting frame or bearing may be varied considerably without departing from the principle of my invention, all that is required being a tool-supporting turret or cylinder, whether solid or hollow or of skeleton formation, adapted to revolve in a suitable bearing so as bring any one of the tools it carries into position to operate upon the work.

In the present instance the turret is composed of a barrel with thickened cylindrical ends *a*, which revolve in annular bearings C, which, in this instance, constitute the supporting-frame of the turret. Upon the front end of the turret are mounted the tools A; and it will be seen that by turning the turret in its bearings either one of the tools A may, at pleasure, be brought into position for work. With the turret I combine means whereby, after it has been rotated sufficiently to bring any tool to the required position, it may be locked and prevented from further rotation. The means I prefer to employ consist of sliding pins *b*—one for each tool—held in tubular projections *k* on a flanged collar, *c*, attached to or formed on the front end of the turret and overhanging the edge and exterior of the front bearing C, as shown. These pins slide in and out, toward and away from the turret. Their outward movement is effected by pulling on their heads or knobs *b'*, and their inward movement is caused by means of their encircling spiral springs *d*. A socket, *e*, is formed in the front bearing C, in the plane in which the pins move when the turret is revolved, so that it may form a prolongation of any one of the holes in and through which the pins work, when such hole happens to be brought opposite it during the rotary movement of the turret. When this takes place the pin which is thus brought opposite to the socket will be forced into it by the spring pressure, and the turret will thus be locked and will remain fixed

until the pin is drawn out. The arrangement of the locking devices is such, as shown, that the locking of the turret takes place only when one of the tools is brought into operative position.

The turret is well adapted to carry rotary burnishing or trimming tools. An arrangement for this purpose is shown in the drawing. The tools are mounted on shafts *D*, which extend through and are adapted to revolve in bearings in the ends of the turret. One portion of the shaft-bearings is formed in the body of the turret, and the other portion is formed by removable caps *f*, which can be taken off, if, for any reason, it is desired to remove the shafts or any one of them. The tools are mounted on the front ends of the shafts, and on the opposite ends of the shafts are fixed pinions *g*, which are all equidistant from the axis of revolution of the turret. As it is necessary to drive only one tool at a time I place on the frame *C* or on some other suitable part of the apparatus a driving-gear, *E*, whose shaft or journal has its bearings in brackets *h* and receive motion from the prime mover. The gear *E* is so located that it will be tangential, or nearly so, to the circle in which the pinions move when the turret is revolved; and it is so arranged that, when the turret has been rotated to bring any one of the tools into position for work, the pinion of that tool will engage or mesh with the said gear, as indicated in Figs. 1 and 3. Thus only the tool actually in use is caused to rotate while the others remain idle and unmoved. The same arrangement permits the driving-gear *E* to be thrown out of gear with all the pinions by simply rotating the turret far enough to throw the wheel *E* out of gear with one pinion without moving it far enough to bring the next pinion into gear.

The frame or bearings *C* may be attached to or form part of a vibratory arm or frame, such as shown and described in burnishing or trimming machinery heretofore patented by me; or the same may be fixed to any suitable support. The pins *b* with their tubular supports *k* serve also as handles, by means of which the workman can very conveniently turn and adjust the turret.

While I have described the manner in which I prefer to carry my invention into effect, yet it is manifest that the details of construction and arrangement of the parts of mechanism may be varied in many respects without de-

parture from the principle of my invention. I do not, therefore, limit myself to the precise details herein shown and described.

In lieu of the employment of pinions and gears mounted and operating as explained to revolve the turret, friction-wheels or their equivalents may be employed.

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

1. In machinery for cutting, trimming, or burnishing the soles or heels of boots and shoes, a revolving tool-holding turret supported in suitable bearings and carrying two or more tools, any one of which may, by rotating said turret, be brought into operative position, substantially as shown and set forth.

2. In combination with the revolving tool-holding turret arranged for operation as specified, the means herein described or their substantial equivalent, whereby the turret, after being turned to bring into position any one of its tools, may then be locked and prevented from further movement, substantially as set forth.

3. In machinery for trimming or burnishing the heels or soles of boots and shoes, the combination, with a revolving turret supported in suitable bearings, of two or more independent tool-holding shafts mounted in bearings in said turret, and capable of rotating upon their axes, substantially as and for the purposes set forth.

4. The combination, with the turret and the tool-holding shafts mounted therein and provided each with a pinion, as described, of a driving-gear, tangential, or nearly so, to the circle in which the said pinions move during the rotation of the turret, and so placed that when any one of the tools has been brought into the required position for work, the pinion of the shaft of that tool will mesh with said driving-gear, substantially as set forth.

5. The combination of the revolving turret and its supporting-frame, the tool-shafts mounted in said turret, the locking-pins for holding the turret in position after its adjustment, and the driving-gear and pinions for rotating the tool-shafts, said parts being constructed and arranged for joint operation, substantially as shown and set forth.

S. HORATIO HODGES.

Witnesses:

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