

(No Model.)

C. H. KELLEY.  
HEEL AND SHANK FINISHING MACHINE.

No. 490,808.

Patented Jan. 31, 1893.

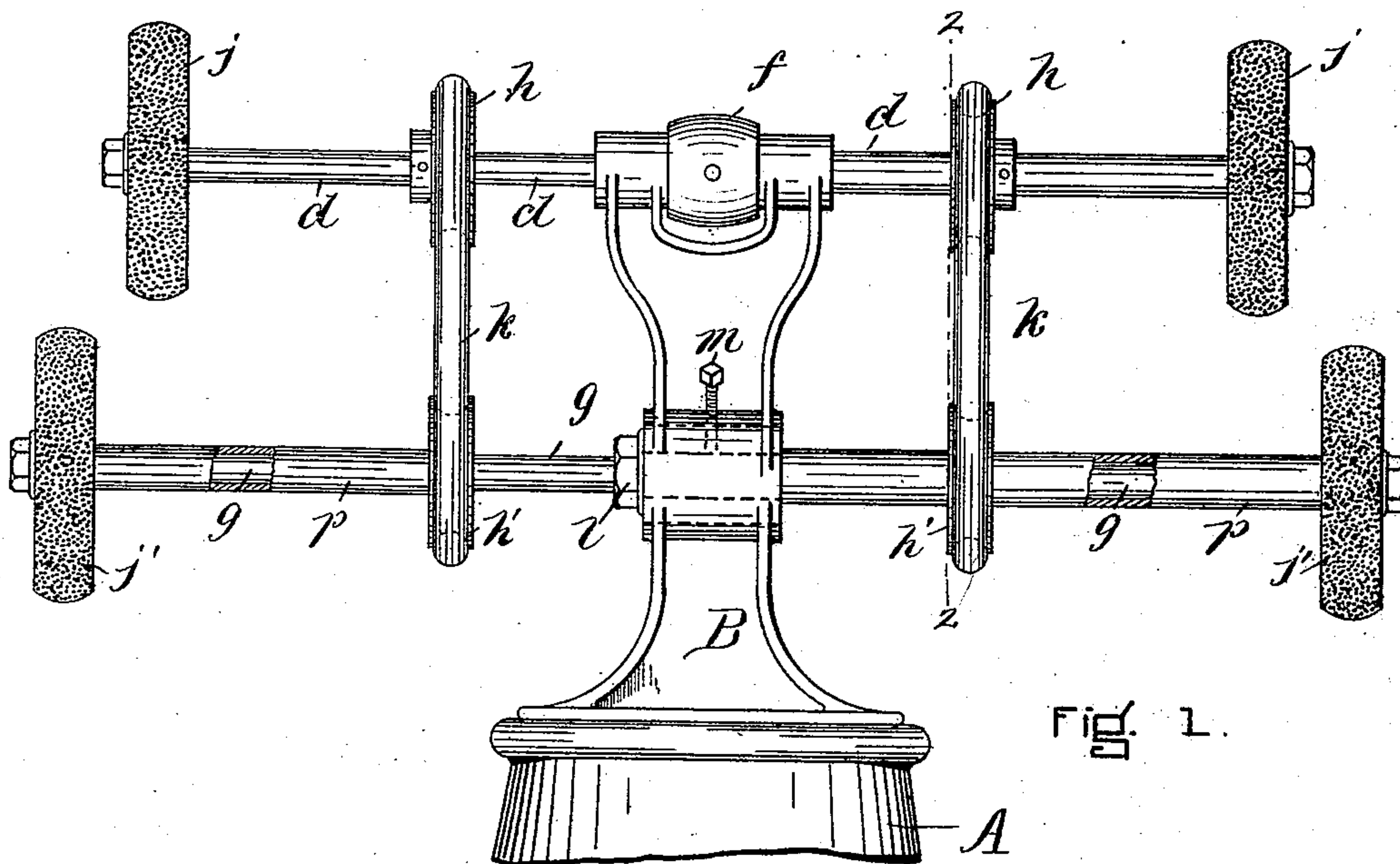


Fig. 1.

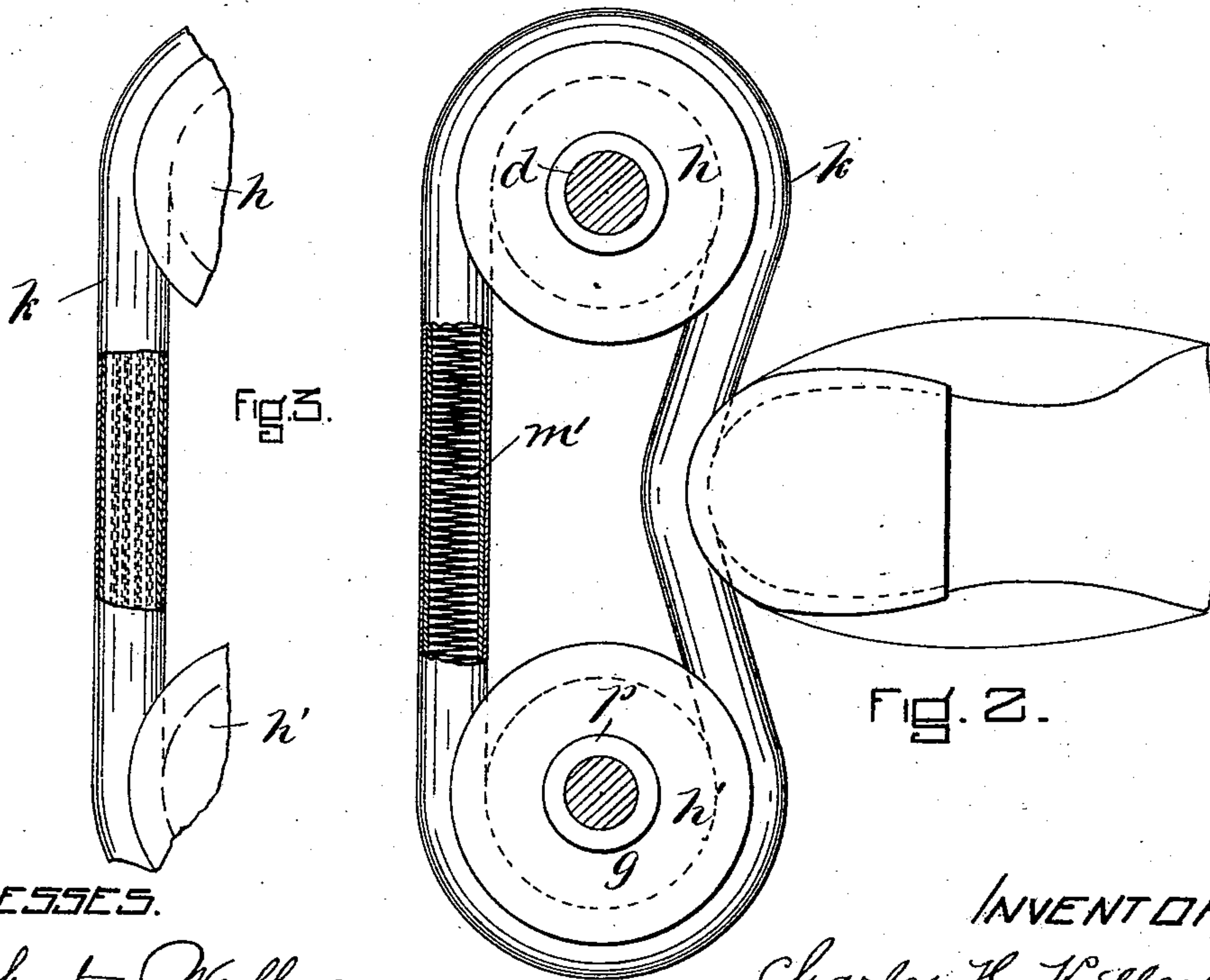


Fig. 2.

WITNESSES.

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INVENTOR.

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by  
Macleod Calver & Randall  
his attys.



# UNITED STATES PATENT OFFICE.

CHARLES H. KELLEY, OF REVERE, MASSACHUSETTS.

## HEEL AND SHANK FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 490,808, dated January 31, 1893.

Application filed October 8, 1891. Serial No. 408,126. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. KELLEY, a citizen of the United States, residing at Revere, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Heel and Shank Finishing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object an improvement in machines for finishing the heels and shanks of boots and shoes. In finishing a heel the edge and bottom and usually a portion of the shank of the shoe are covered with an ink or preparation for blacking the parts and after this has dried, wax is applied by means of a revolving brush and the wax is then rubbed in and polished by holding the parts against a band of rubber or other polishing surface which is flexible and will fit the curvatures of the heel and shank. For this purpose a tubular belt or band of rubber is employed which is first inflated so as to give it some rigidity or resistance. Such a belt, however, does not possess rigidity enough to properly rub the wax into the heel and polish it and if there be any slight imperfections or cracks in the heel these are not filled up and covered as they should be. The machines also, as at present constructed so far as known to me, are slow of operation and inconvenient for the operator to use in that they require him to move from one point to another in finishing a heel. My improved machine is designed to overcome these objections and it consists in the construction and arrangement of mechanism hereinafter more fully set forth and in the employment therewith of a tubular flexible belt having within it a spiral wire or spring or equivalent device which renders it sufficiently rigid to effectually polish the parts and to rub in the wax, yet permits it to accommodate itself to the curves of the heel, all as hereinafter set forth. The novel features of my invention are pointed out in the claims which are appended hereto and made a part hereof.

In the drawings Figure 1 is a front elevation of my machine showing two sets of brushes and two polishing belts. Fig. 2 is a sectional view from line 2—2, Fig. 1 showing a polishing belt with a heel applied thereto.

Fig. 3 is a detail view illustrating a modification in the polishing belt.

A is the standard of the machine which may be of any suitable shape. On the top of the standard is an upright B, which is forked at its upper end and is provided with bearings for the shaft *d*. A belt pulley *f* is secured on the shaft *d* between the bearings and by this means power is applied thereto. The shaft *d* projects on either side of the bearings permitting the machine to be made in duplicate and adapted for two operators. At one side of the bearings, shaft *d* is lessened in diameter forming a shoulder which abuts against the bearing. On the shaft *d* at either side of the bearings is secured a grooved pulley *h*, and at each of the outer ends of the shaft a circular brush *j*, is secured. Below the shaft *d* is set a stationary shaft or rod *g*, which passes through a vertical slot in the upright B to permit of the adjustment of the rod *g* vertically when it is desired to tighten or slacken the polishing belts *k*. The stud or rod *g* is provided with a shoulder at one side of the upright and at the other with a nut *l*, so that it may be securely clamped in a given position in the upright.

When it is desired to adjust the rod *g* the nut *l* is loosened and the set screw *m* turned. By unscrewing the set screw the rod is allowed to rise and the belts *k* to slacken, and by setting in the screw the rod is lowered and the belt is tightened. This form of construction to permit of adjustment is common and will require no more detailed description. On the rod *g* at either end thereof is placed a sleeve *p*, to which is secured a grooved pulley *h'*, and another circular brush *j'*. A polishing belt *k* is provided for each pair of grooved pulleys. These belts are of the construction shown Fig. 2. They consist of a rubber tube, inside which is placed a spiral wire spring *m'*. This wire spring operates as a weighted stiffener for the belt to hold the rubber out against the article to be polished and at the same time does not interfere with the necessary flexibility of the belt but permits it to yield in all directions and thus to fit the curvatures of the heel or shank, as shown. By the arrangement shown an easily constructed, compact machine is produced at which two operators can work.



Instead of the springs *m'* inside of the hollow polishing belts *k* I may insert any other equivalent device to give sufficient rigidity to the belts and to stiffen them so that they will offer a proper resistance and will closely accommodate themselves to the curved or uneven surfaces of the heels or other parts of the boots and shoes which are to be polished, and for this purpose I may use strands of chain inside of the belts, as shown in Fig. 3 which will properly weight and stiffen the latter.

I claim:—

1. The combination with the standard A and the upright B of the shaft *d* journaled in the said upright and provided with a pulley *h* and polishing brush *j*, of a rotary sleeve or shaft *p* carrying a pulley *h'* and brush *j'* and an elastic belt *k* connecting the said pulleys, and forming a combined polishing and driving belt, and means for operating the shaft *d* substantially as shown and described.

2. The combination with the standard A and the upright B of the shaft journaled in

the said upright and provided with pulleys *h* and polishing brushes *j*, of rotary sleeves or shafts *p* carrying pulleys *h'* and brushes *j'* and elastic polishing belts *k* connecting said pulleys, each of said belts being provided with an interior flexible and weighted stiffener, substantially as shown and described.

3. The combination with the standard A and the upright B of the shaft *d* journaled in the said upright and provided with pulleys *h* and polishing brushes *j*, of rotary sleeves or shafts *p* carrying pulleys *h'* and brushes *j'* and elastic polishing belts *k* connecting said pulleys, each of said belts being provided with an interior flexible and weighted stiffener consisting of a spiral wire spring, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. KELLEY.

Witnesses:

WM. A. MACLEOD,  
A. H. MORRISON.