

(No Model.)

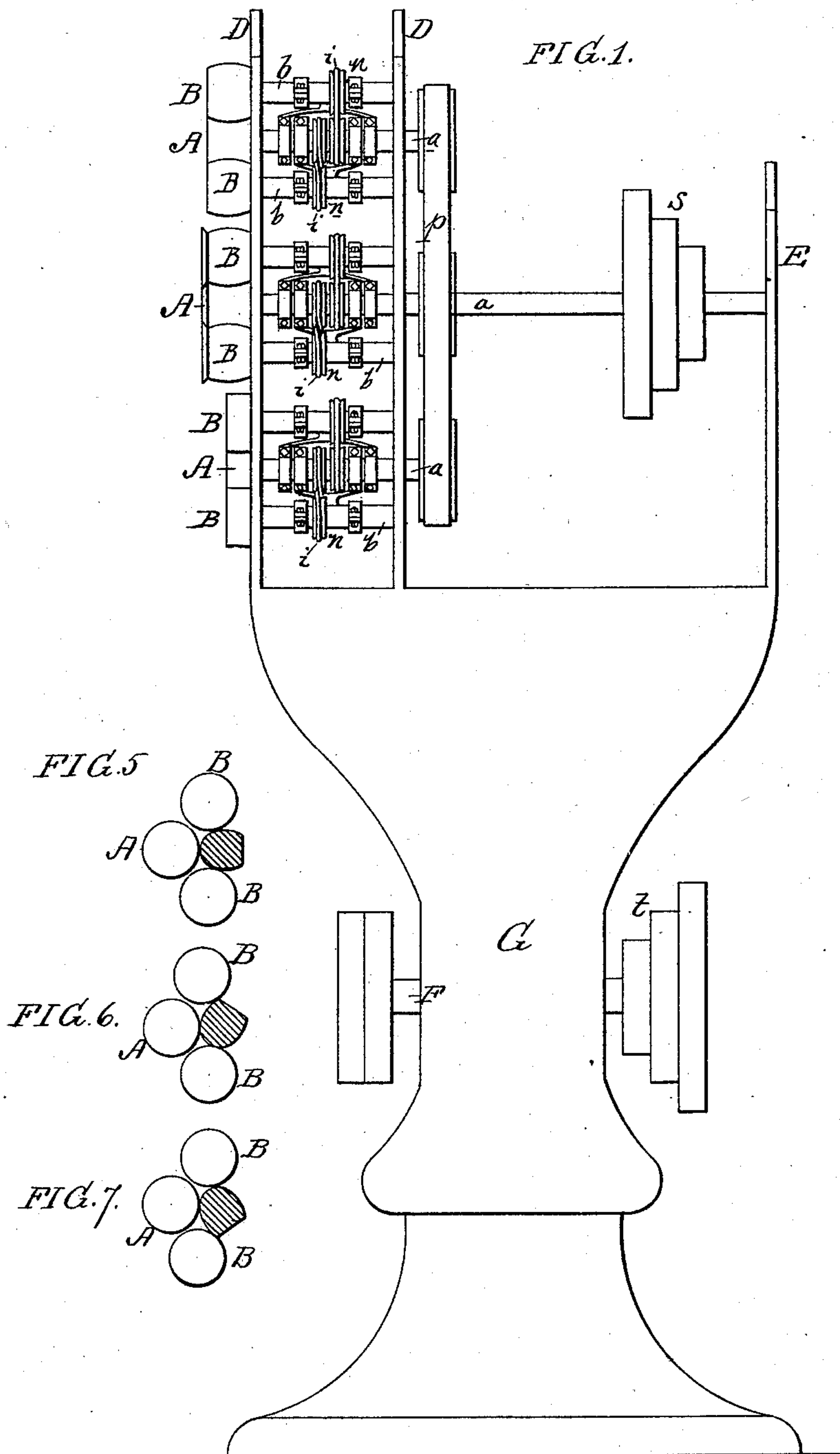
2 Sheets—Sheet 1.

J. L. CROSS.

HEEL BURNISHING MACHINE.

No. 278,102.

Patented May 22, 1883.



WITNESSES:

Harry Green
David Williams

INVENTOR:

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Horn and Sons

(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

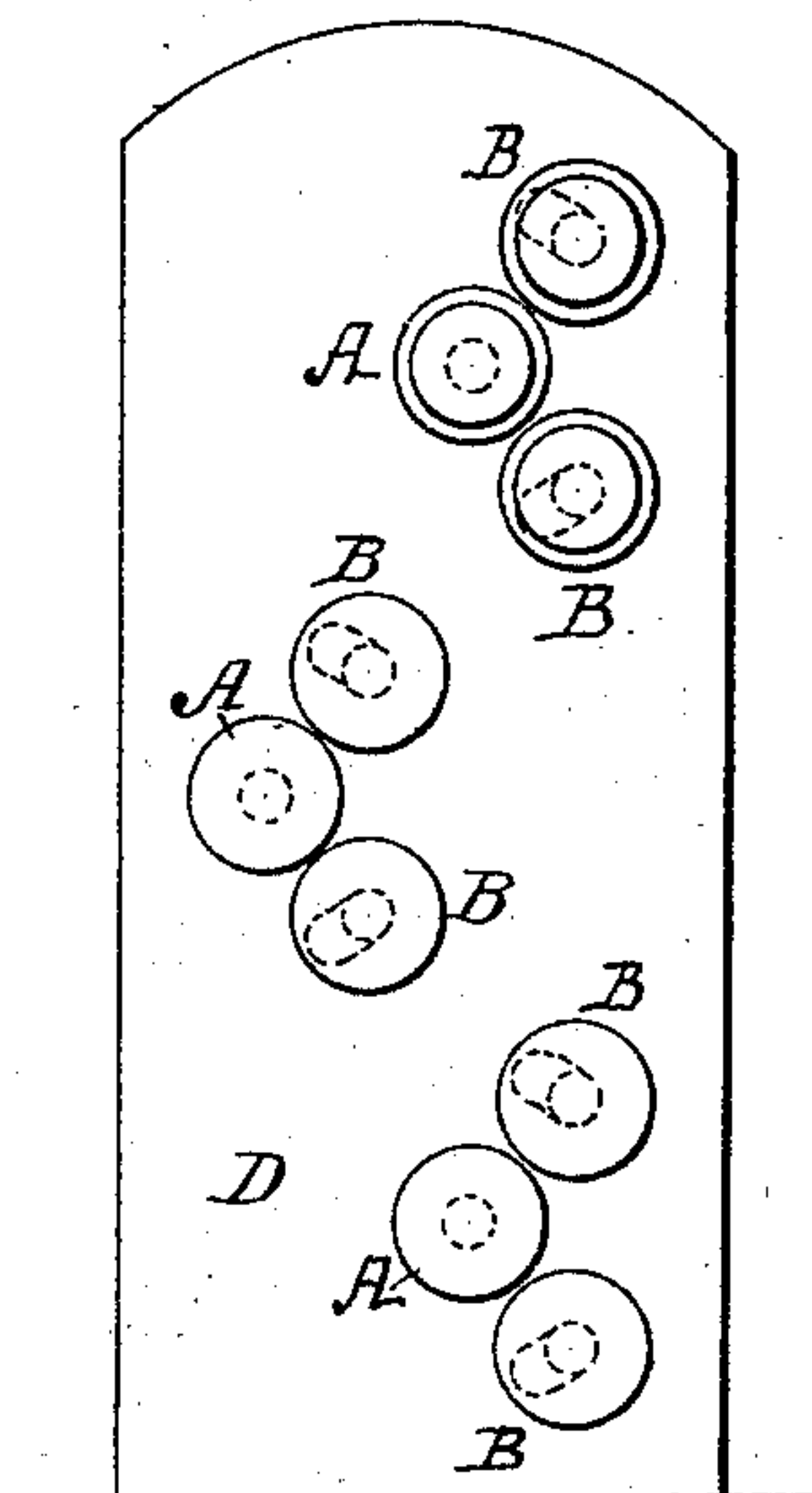


FIG. 3.

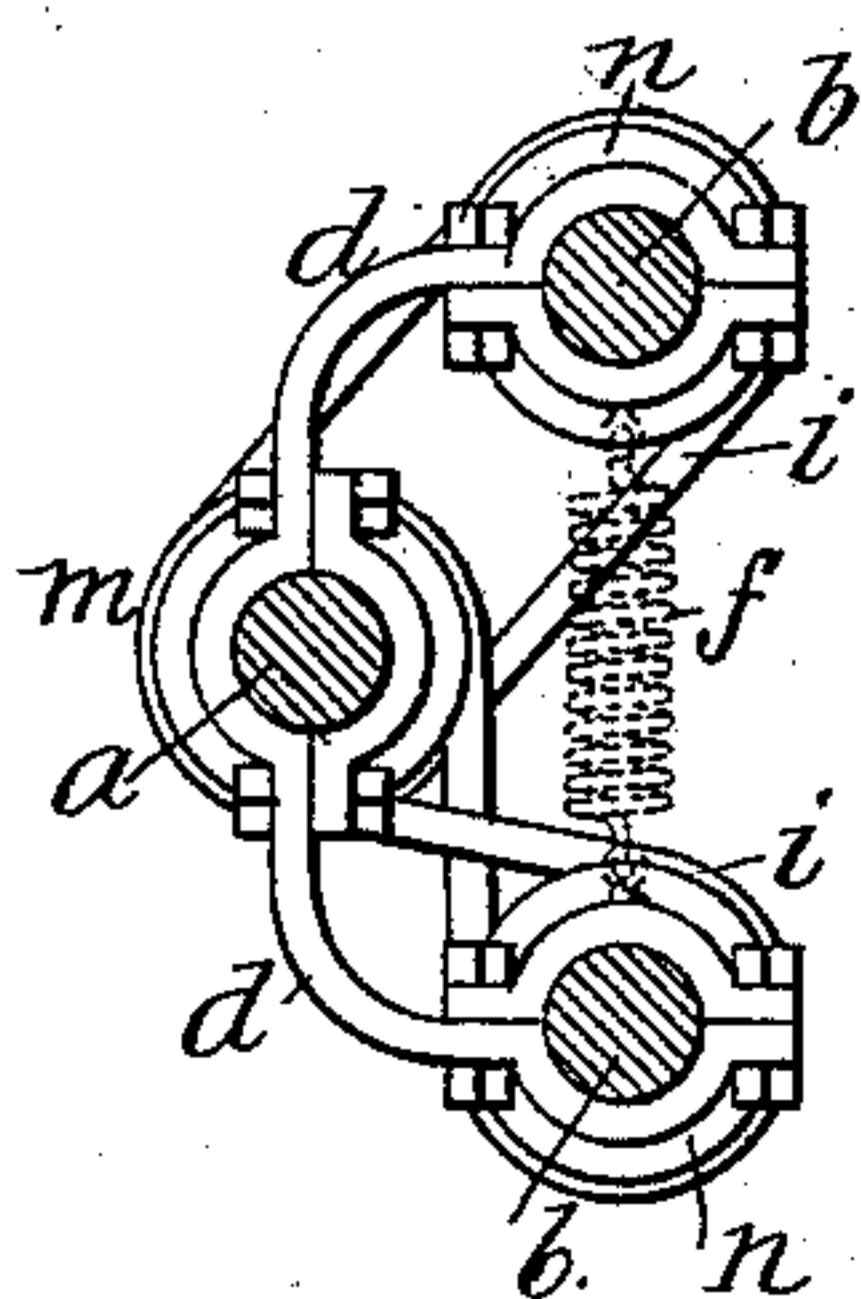


FIG. 4.

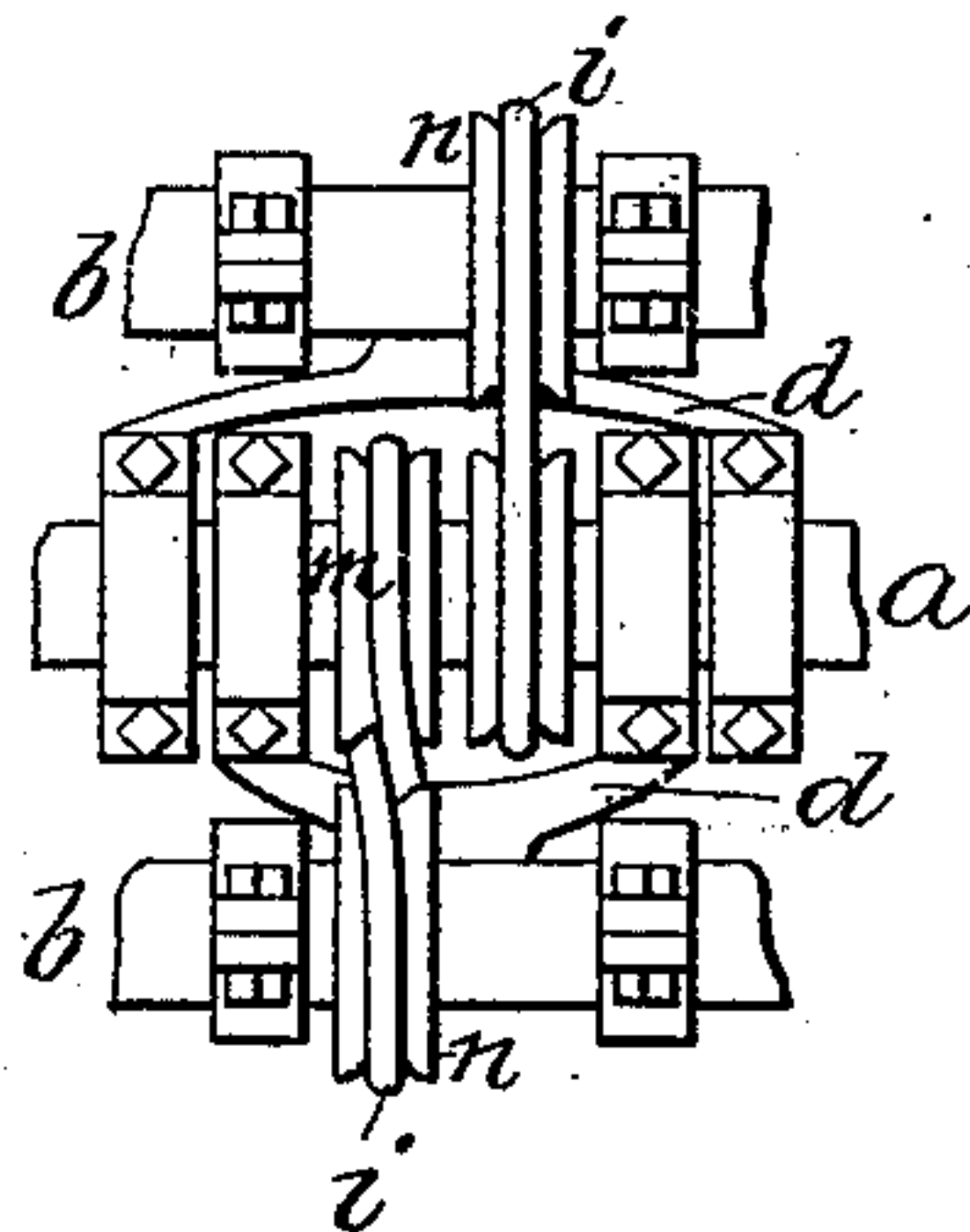


FIG. 8.



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UNITED STATES PATENT OFFICE.

JOHN L. CROSS, OF PHILADELPHIA, PENNSYLVANIA.

HEEL-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 278,102, dated May 22, 1883.

Application filed April 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. CROSS, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Shoe-Heel-Burnishing Machines, of which the following is a specification.

The object of my invention is to construct a machine for rapidly burnishing the heels of boots and shoes by means of revolving burnishing-tools in place of the usual reciprocating or vibrating tools; and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1, Sheet 1, is a side view of a heel-burnishing machine with my improvements; Fig. 2, Sheet 2, a face view; Figs. 3 and 4, views of the driving-gear of one set of burnishers; Figs. 5, 6, and 7, Sheet 1, diagrams illustrating the operation of the burnisher; and Fig. 8, a diagram showing a modification.

A preliminary understanding of my invention may be had from the diagrams Figs. 5, 6, and 7, in which A B B represent three rotary burnishers, so arranged in respect to each other that when a shoe-heel is applied to the same, as shown in Fig. 5, the burnisher A is adapted to act upon the rear portion of the heel, while the burnishers B B act upon opposite sides of the same. By vibrating the shoe the heel is caused to traverse in contact with the burnishers, and the entire edge of the heel is exposed to the action of said burnishers, as shown in Figs. 6 and 7, the side burnishers, B, yielding laterally, as demanded by the shape of the heel.

In the organized machine shown in Figs. 1, 2, 3, and 4, I employ three sets of burnishing-tools, each set of tools having a special shape, governed by the character of the work which the tools have to perform. Thus one set of tools may be adapted to act upon the body or hollow of the heel, another set upon the top or edge of the heel where it joins the upper, and the third set upon the lower edge or top lift of the heel. This construction, however, is not essential to my invention, as each machine may have but one set of burnishing-tools.

The shafts *a* of the tools A of each set are

adapted to fixed bearings in standards D on the frame of the machine, but the shafts *b* of the tools B are adapted to slots in said standards, and are carried by forked arms *d*, hung to the shafts *a* and connected together by spiral springs *f*, the tendency of which is to draw the shafts *b* toward each other, the shafts, however, being free to yield as the tools carried thereby are pressed laterally outward by the heel.

Belts *i* pass around pulleys *m* on the shafts *a* and round pulleys *n* on the shafts *b*, and the shafts *a* of the upper and lower sets of burnishers are driven from the shaft *a* of the central set by means of a belt, *p*, passing over pulleys on the respective shafts, said central shaft extending to a rear standard, E, and having a cone-pulley, *s*, which receives a belt from a similar pulley, *t*, on the driving-shaft F, the latter being adapted to bearings on the post G of the frame, and being furnished with the usual fast and loose pulleys for the driving-belt.

The side burnishers, B B, are preferably rotated in opposite directions, so as to counteract the effect which they would otherwise have to twist the shoe in the hands of the attendant.

Instead of using three burnishers, as shown, two burnishers may in some cases be employed, as shown in Fig. 8, these burnishers being free to yield. In this case, however, a more extended movement of the heel is necessary, and more care in handling is required than when the three burnishers are employed.

I claim as my invention—

1. The combination, in a heel-burnishing machine, of two or more rotary burnishers and means whereby they are adapted to yield to accommodate themselves to the shape of the heel, as set forth.

2. The combination of the rear burnisher, A, the yielding side burnishers, B B, and mechanism for rotating said burnishers.

3. The combination of the rear burnisher, A, and its shaft *a*, the side burnishers, B B, and their shafts *b b*, and the arms *d d*, hung to the shaft *a* and carrying the bearings for the shafts *b b*, as set forth.

4. The combination of the burnisher A and its shaft *a*, the burnishers B and their shafts *b*,

adapted to bearings which are free to yield laterally, and a spring for drawing said bearings toward each other, as set forth.

5 5. The combination of the burnisher A and its shaft *a*, the burnishers B and their shafts *b*, the arms *d*, hung to the shaft *a* and carrying the shafts *b*, the spring *f*, connecting the arms *d*, and belts and pulleys whereby the shafts *b* are driven from the shaft *a*, as set forth.

In testimony whereof I have signed my name 16 to this specification in the presence of two subscribing witnesses.

JOHN L. CROSS.

Witnesses:

HARRY L. ASHENFELTER,
HARRY SMITH.