C. H. PERKINS.

Horseshoe-Machines.

No. 143,781. Patented Oct. 21, 1873.

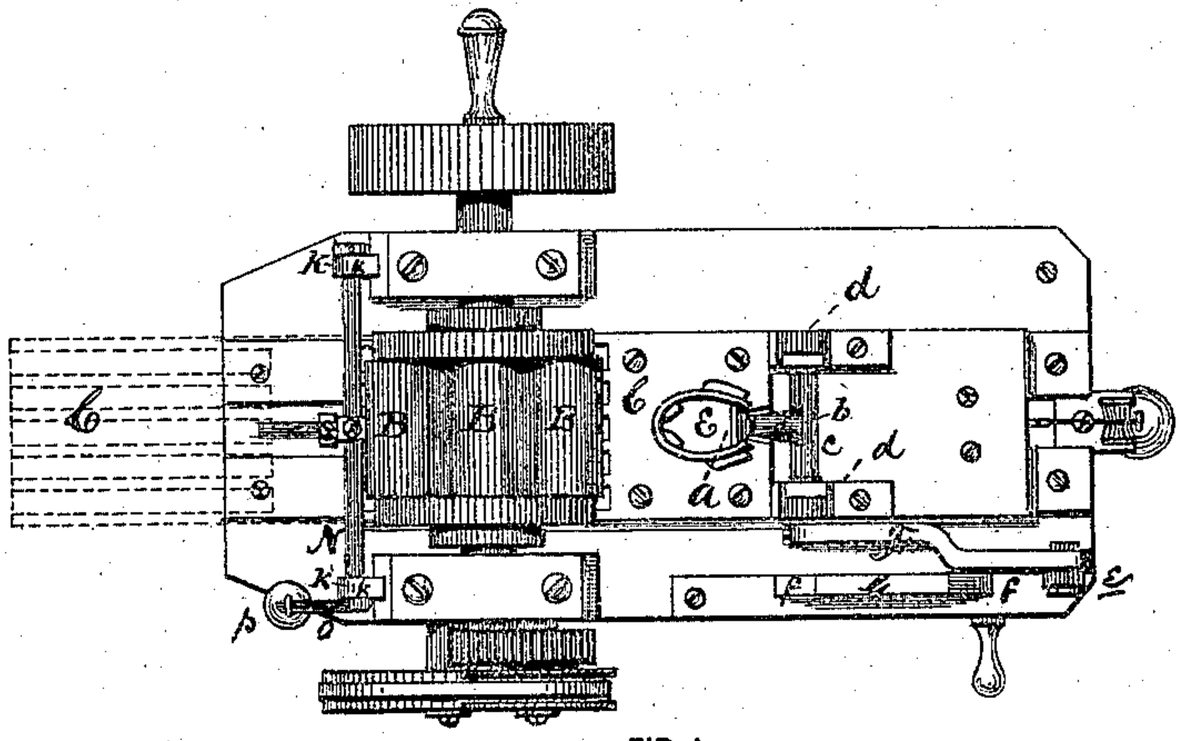

FIG. 1.

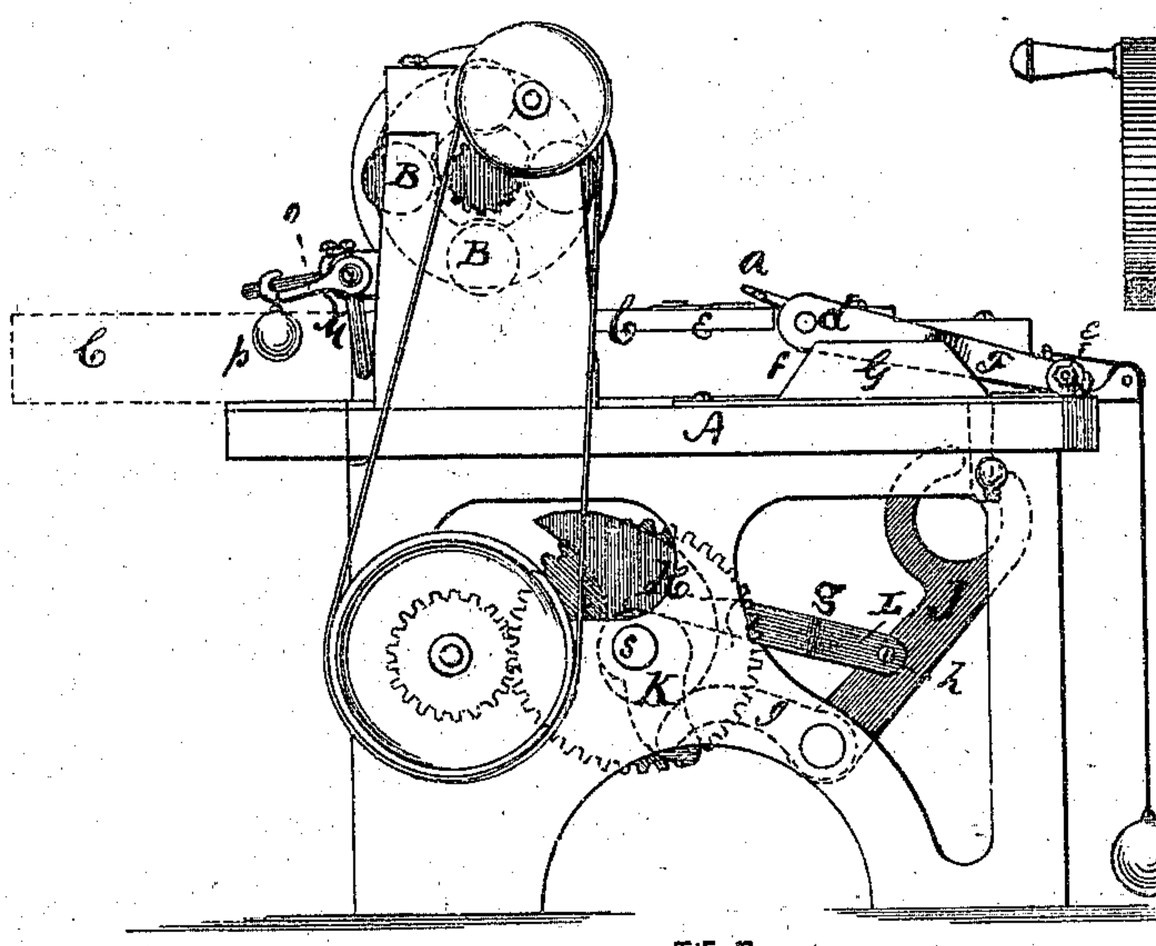

FIG. 2.

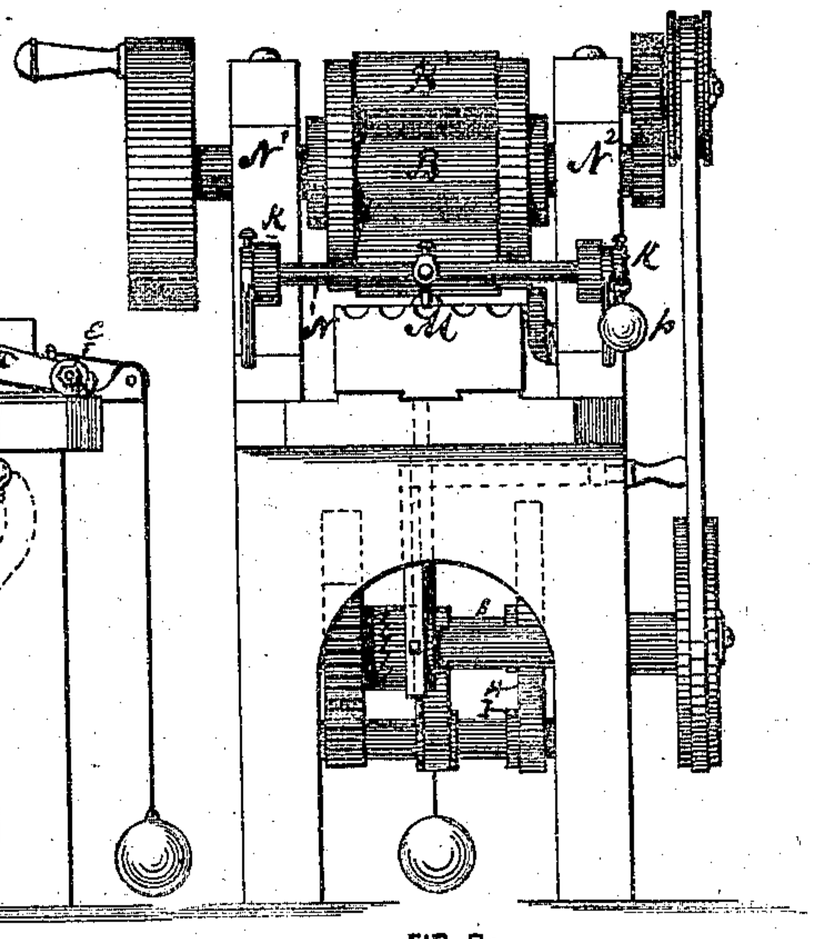

FIG. 3.

WITNESSES.

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CHARLES H. PERKINS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE RHODE ISLAND HORSESHOE COMPANY, OF SAME PLACE.

IMPROVEMENT IN HORSESHOE-MACHINES.

Specification forming part of Letters Patent No. **143,781**, dated October 21, 1873; application filed September 5, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. PERKINS, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Horseshoe-Machines; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a top view. Fig. 2 is partly a side view and partly a view in longitudinal vertical section. Fig. 3 is an end view.

The machine hereinafter described is an improvement upon that for which Letters Patent were granted to myself and Richard W. Comstock, May 28, 1867, numbered 65,265. The improvements relate to the means for holding the horseshoe-blank upon the bed during the operation of "plating" out the toe.

A is the rectangular frame of the machine. B is the series of revolving hammers, and C is a reciprocating bed supporting the anvil-die, and arranged to slide to and fro underneath the revolving hammers, as described in the Letters Patent before mentioned. E is the anvil-die, upon which the previously-bent blank, which is to be fashioned into a shoe, is placed. It is necessary in machines of this class whose rotary hammers, in combination with a sliding anvil, have both a percussive and a rolling action upon the shoe-blank, that the blank should be held down firmly at the heels upon the anvil-bed while the toe is being plated out by the hammers. To enable this to be done I make use of a presser-bar, *a*, which is a short bar of about twelve inches in length, and forms the end of the arm *b*, which latter is attached to the shaft *c* mounted on journal-bearings *d* on the reciprocating bed C. The shaft *c* projects beyond one of its bearings to give room for the attachment thereto of the lever-arm F, whose farther end carries a friction-wheel, *e*. Upon the frame of the machine a raised track, G, is placed, with inclined planes *f* at each end, and the location of the track is such that the friction-wheel upon the end of the lever-arm F will travel upon the same as the sliding bed C moves back and forth underneath the rotary hammers. The effect of the combination of the lever-arm F and track G is, as the bed C is moving forward, to cause the presser-bar *a* to clamp the shoe-blank to the bed at the heels during all the time that the friction-wheel is traveling upon the straight part of the track, and until it begins to descend the inclined plane at the end, at which time the shoe-blank does not require to be longer held down, and should also be released from the presser *a* to enable its heels to be hammered.

While the shoe is being hammered the movement of the bed C should be slow, but the return movement should be a quicker one in order to avoid useless consumption of time. This return movement is, in the machine above referred to, effected by means of a weight attached to the sliding bed, which acts to drag the latter back when the bed is released from the influence of the cam, which imparts to it its forward movement. It is desirable, however, that such return movement should be positively effected in case the weight fails to act.

In the present machine, H is the cam or wiper, mounted on the transverse shaft *s*, which, by acting upon the curved toe I of the bed-lever J, carries the bed with a slow movement underneath the revolving hammers B. The return movement is positively effected by the wiper K on the shaft *s* impinging against a rounded face, *g*, on the hinged toe L, which is pivoted to the bed-lever J at *h*, in the path for the most effective action of the wiper, whereby a very quick movement is imparted to the bed C with simplicity of mechanical arrangement.

To discharge the finished shoe from the machine I make use of a drag, M, which is keyed to the transverse shaft N, which has bearings in ears *k* projecting from the standards N^1 N^2, in which the revolving shaft of the hammers is mounted. An arm O, projects from the shaft N, and has a weight, *p*, hung thereon, the tendency of which is to keep the face of the drag M bearing upon the face of the bed C. When, however, by the forward movement of the bed, the toe of the shoe which is being hammered is carried under the drag, the latter

will be raised until the toe has passed beyond it, when it will drop in rear of the toe, and act, when the bed returns, to strip the shoe from the anvil and discharge it from the machine.

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

In a horseshoe-machine, the combination of the sliding bed C, the presser-bar *a*, the lever-arm F, and track G for clamping a horseshoe-blank to the bed near the heels while the toe is being plated out, substantially as described.

CHARLES HENRY PERKINS.

Witnesses:
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