

(No Model.)

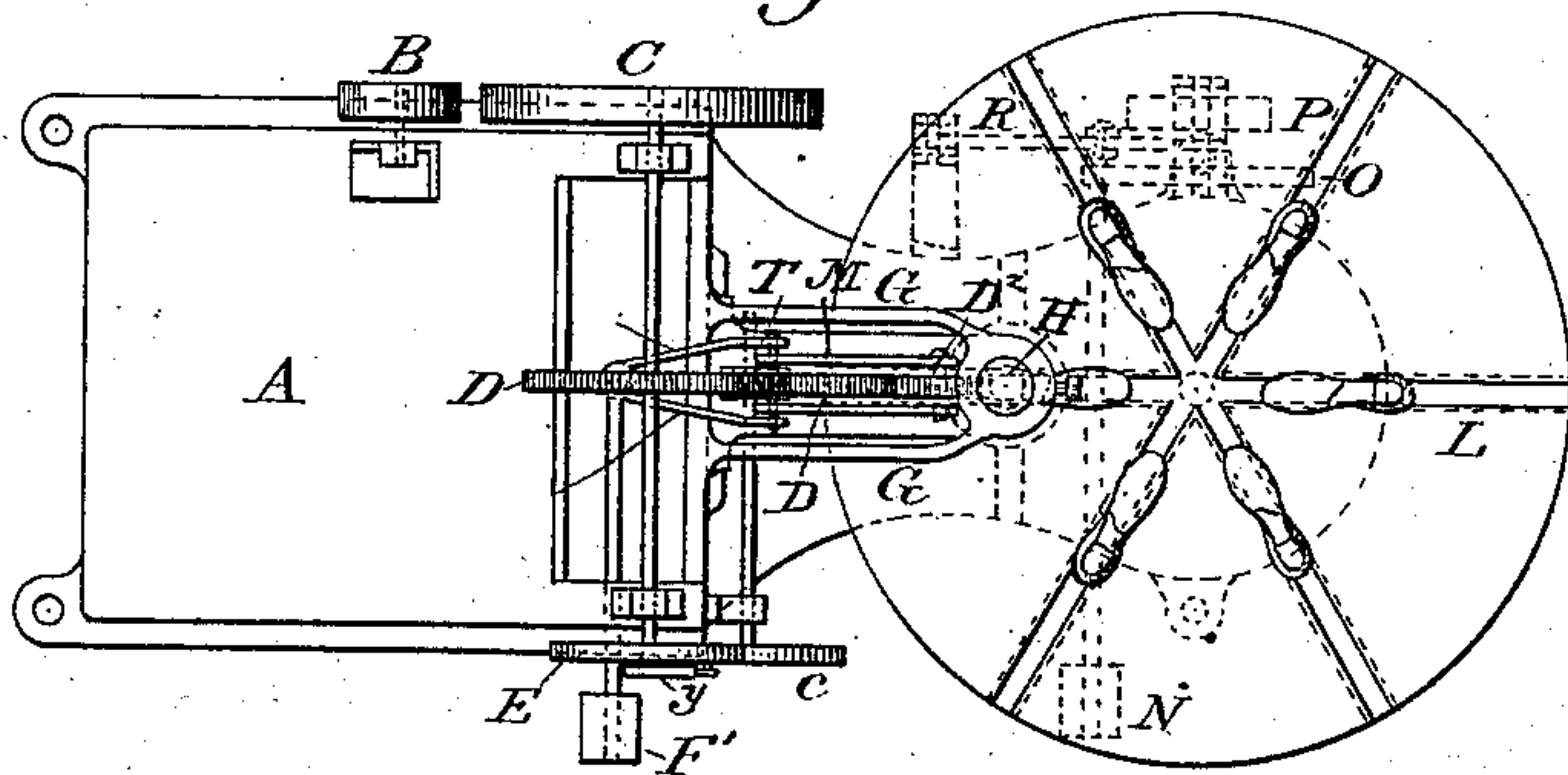
J. SPERRY.

MACHINE FOR HEELING BOOTS OR SHOES.

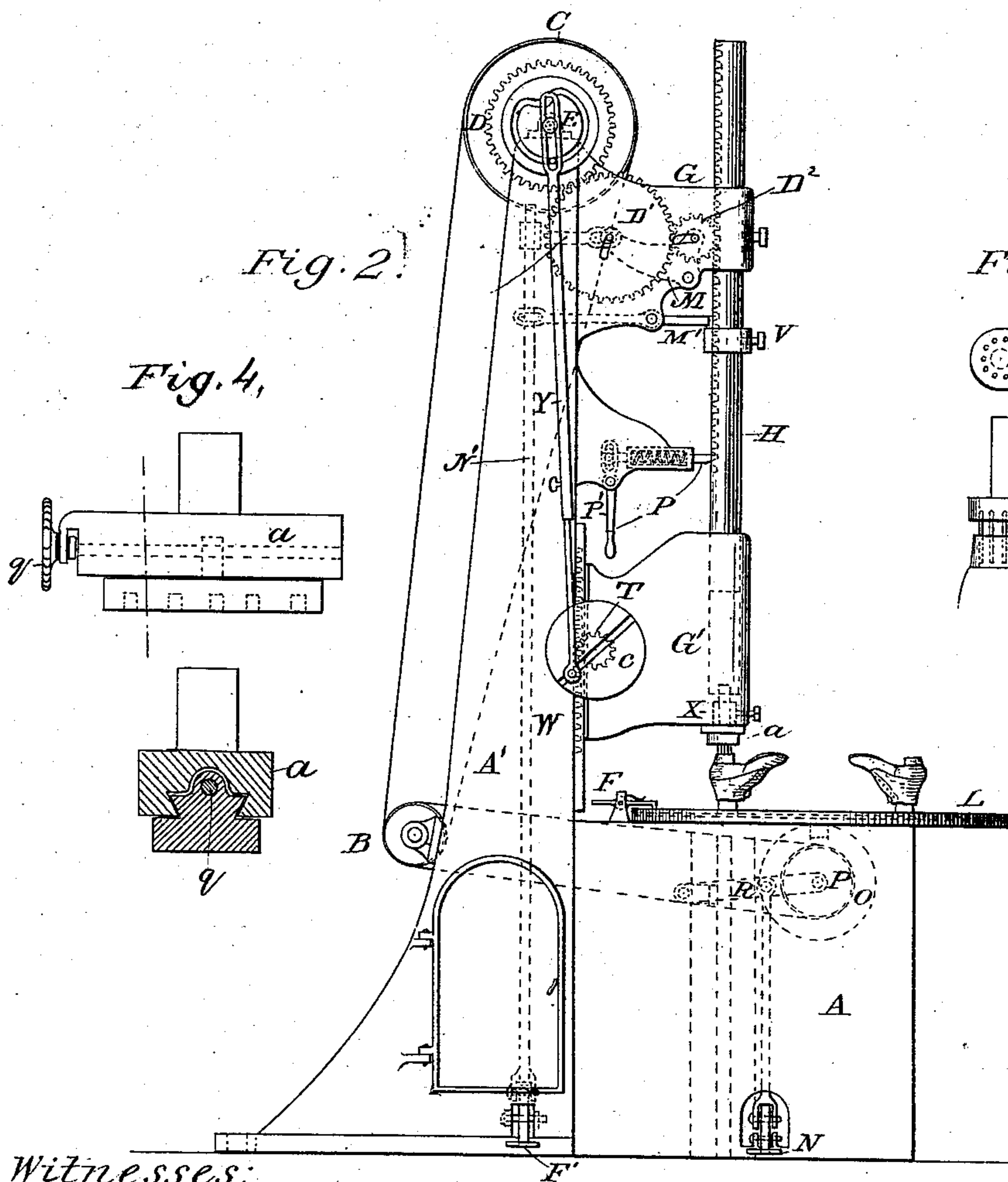
No. 275,535.

Patented Apr. 10, 1883.

*Fig. 1.*



*Fig. 2.*



*Fig. 3.*

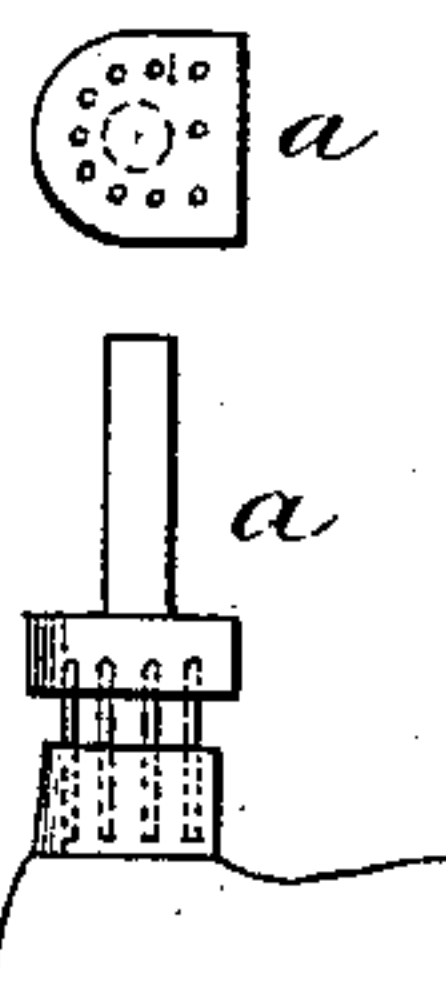
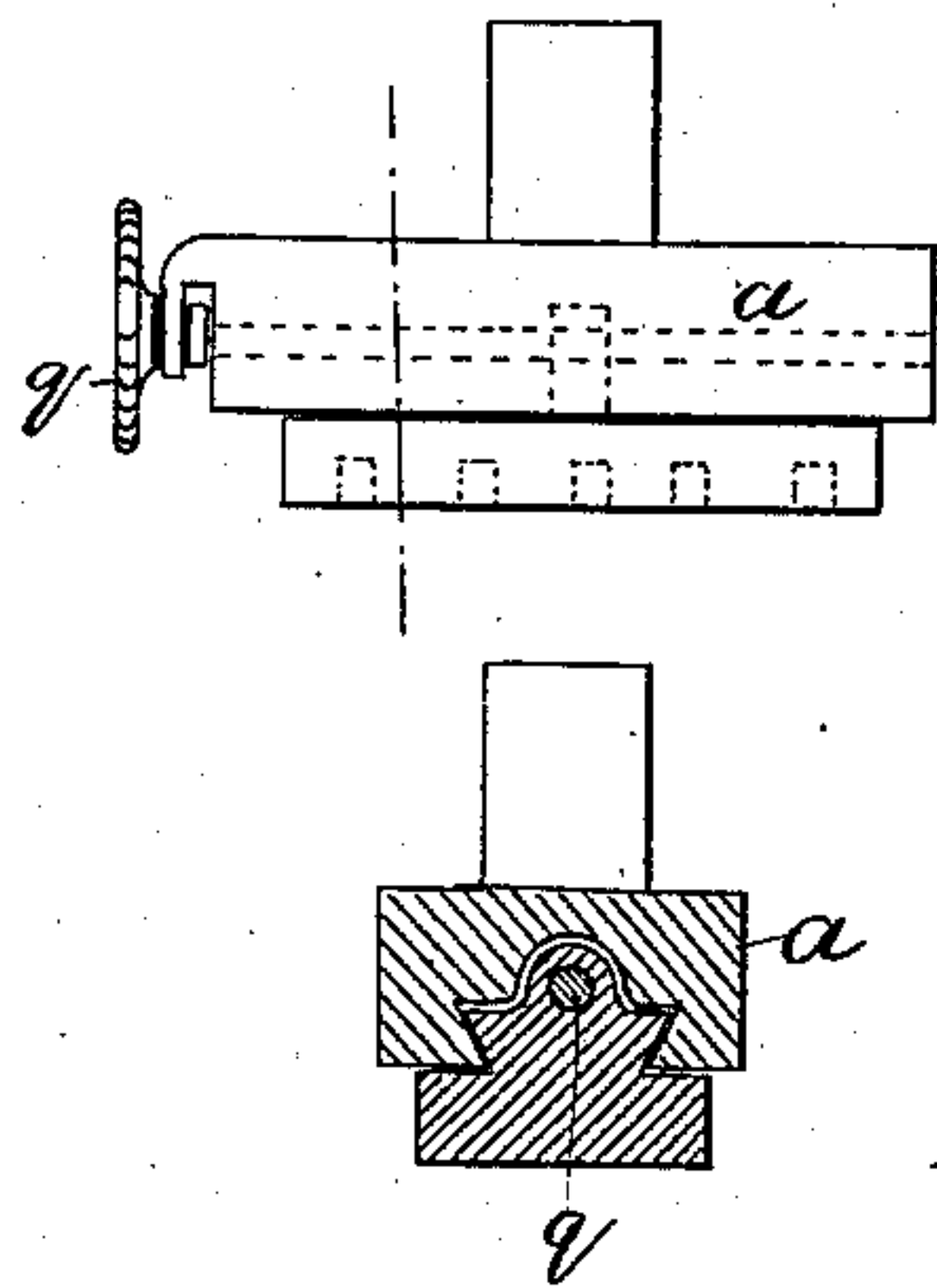


Fig. 4,



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOSEPH SPERRY, OF PHILADELPHIA, PENNSYLVANIA.

## MACHINE FOR HEELING BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 275,535, dated April 10, 1883.

Application filed July 18, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH SPERRY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Machine for Heeling Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in the class of boot and shoe heeling machines which have a vertically-sliding hammer and a rotary table for carrying successively beneath said hammer the boots or shoes to which heels are to be affixed.

The construction, combination, and operation of parts are as hereinafter described and claimed, reference being had to accompanying drawings, in which—

Figure 1 is a plan view, and Fig. 2 an elevation, of my improved machine. Fig. 3 represents a plan and side view of the nail-block. Fig. 4 represents a side view and section of a nail-block as it will usually be constructed.

The letter A indicates a horizontal base, and A' a vertical standard, which are rigidly connected and constitute the frame of the machine. The boots or shoes to which heels are to be affixed are supported on a horizontal table, L, which is adapted to revolve on a central pivot set in the base A. A spring-stop, F, is employed to lock the table in position for the drop-hammer to operate on the heels of the boots and shoes, and the table is intermittently rotated by a friction-wheel, O, arranged beneath it. Said wheel is driven from a pulley, B, by means of a belt that runs on the smaller pulley, P, fixed on the same shaft or journal with wheel O. Such journal has its bearings in the free end of a lever, R, which may be raised by a treadle, N, to bring the pulley O into the required frictional contact with table L. In the upper portion of standard A' is a shaft, on which are fixed a pulley, C, gear D, and cam-grooved disk E. A belt runs on pulleys B and C, and power may be applied to the shaft of the former or the latter, as convenience suggests. The gear D meshes with another, D', which drives a pinion, D<sup>2</sup>, that meshes with a rack formed on the drop-hammer H. Said gears therefore serve to raise the latter to the required height; but they must, obviously, be

disengaged in order to allow the hammer to descend, and to this end the gears D' D<sup>2</sup> are journaled in the respectively long and short arms of an elbow-lever, M, which is tilted on its pivot to take the gears into or out of engagement with the rack, as will be readily understood. The longer arm of said lever M is raised by a foot-lever or treadle, F', and a rod, N', having an arm which is suitably connected with the longer arm of the elbow-lever M. When the hammer H has been raised to the required height, the gears D' D<sup>2</sup> are thrown out of engagement with the rack by means of a trip-lever, M', which is pivoted horizontally in the standard A' and loosely connected at one end to the treadle-rod N'. The other end projects into such proximity to the hammer H that as the latter rises it comes in contact with and is tripped by a collar, V, which is clamped on the hammer by means of a set-screw, and thus adapted for vertical adjustment to vary the height from which the hammer may drop. When the lever M' is thus tripped it tilts the elbow-lever M and throws back the gears D' D<sup>2</sup>, so that the hammer H is left free to descend; but this cannot take place until the hammer is released by the spring-catch P, which is retracted by a hand-lever, P'. These parts P P' are attachments of the guide G'. As the hammer rises the beveled end of such catch P slides over the rack-teeth, but locks therewith when the hammer comes to rest. The nails for securing the heels to the boots or shoes are driven into the heels preparatory to the action of the hammer thereon. The blow of the latter is delivered upon a block or follower, a, having a shank which fits loosely in a bush, X, that is secured in the guide G' by means of a clamp-screw. In some cases shoes are lasted out of center, and the nail-block a will hence require to be adjusted laterally in order to bring it into exact coincidence with the heel. To enable this to be done the block a, Fig. 4, is made in two parts dovetailed together, and the lower one adapted to slide on the other, so that it may be adjusted laterally by means of a screw, q, having a crank-handle, as shown. The upper guide, G, is fixed; but the lower guide, G', is made adjustable vertically, being for this purpose adapted to slide on V-shaped guides.



The means for raising are a pinion, T, and rack W, the latter being formed on the standard A', and the other (T) mounted on a journal projecting from the guide G'. The latter  
 5 requires to be adjusted so that at the proper time the block *a* will press the heel firmly on the shoe-sole and the sole upon the last. This adjustment may be made by rotating the disk *c* by hand, and then the disk *c* and cam-grooved  
 10 disk E are connected by the rod Y, which is so constructed as to be adjustable in length, and has a pin fixed in its upper end and working in the groove of said disk E. Said rod has a slot that receives the extended axis of disk E,  
 15 and thus serves as a guide. When the machine is put in operation, the guide G' is moved down until the block *a* rests on the nails of the heel, and the hammer H then descends and drives the nails through the sole and clinches  
 20 them on the iron last. Directly the blow has been given the hammer rises again; but the heads of the nails still project, and to blind them a finishing piece of leather is placed on them and the hammer caused to deliver a sec-  
 25 ond blow, which completes the heeling operation. The table L is then rotated to bring the next shoe under the hammer, and the operation is repeated.

Having thus described my invention, what I  
 30 claim as new is—

1. The combination, in a machine for heeling boots and shoes, with the vertically-movable hammer having rack-teeth, as specified, of gears driven by a suitable motor, and adapt-

ed to be thrown out of engagement with said 35 hammer, and a device for tripping the latter, substantially as shown and described.

2. The combination, with the hammer working vertically and provided with rack-teeth, of the pivoted elbow-lever carrying the gear D' 40 and pinion D<sup>2</sup>, as specified, and a gear, D, on the driving-shaft, and treadle mechanism for shifting said lever to bring the gearing into or out of coaction with the hammer, as shown and described.

3. The combination, with the vertically-working hammer, of its vertically-adjustable guide G', and the nail-block adapted for use there- 45 with, substantially as shown and described.

4. The combination, with the hammer adapted to work vertically, of the movable guide G', the pinion T and fixed rack W, the disk *c*, rod Y, and cam-wheel C, all as shown and described. 50

5. The combination, with the horizontal rotatable table L, adapted for carrying a number of lasts, the spring-catch for locking it, and 55 friction-wheel O and belt-pulley P, mounted on a swinging shaft, and treadle mechanism for raising said shaft, as specified.

6. The combination of the screw provided 60 with a crank-handle and the nail-block *a*, made in two parts, one adapted to slide on the other, as shown and described.

JOSEPH SPERRY.

Witnesses:

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 WILLIAM SPERRY.