(No Model.) 2 Sheets—Sheet 1.

J. C. CUTCHEON & C. S. JOHNSON.

SOLE BEATING-OUT MACHINE.

No. 454,258. Patented June 16, 1891.

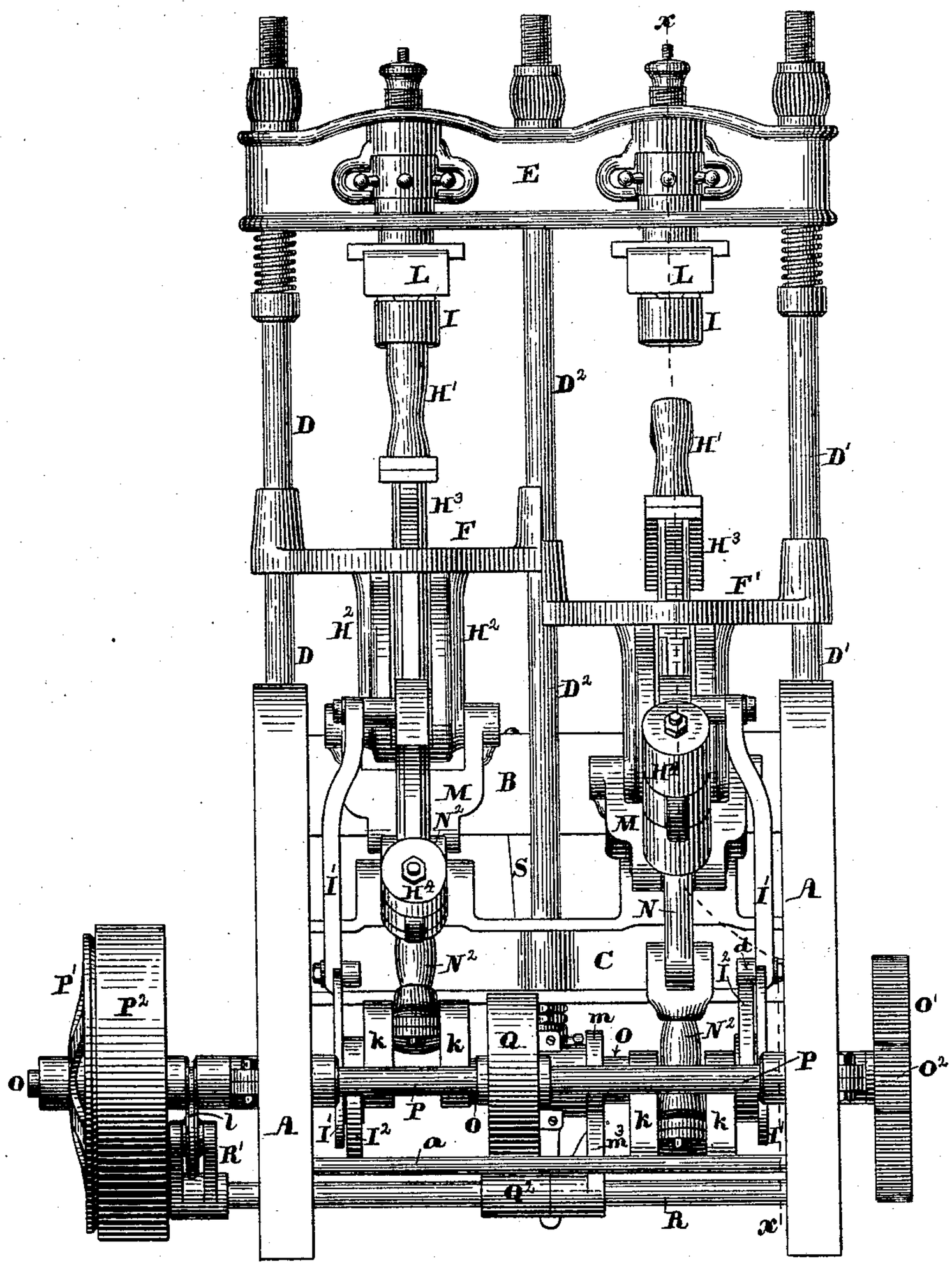

Fig. 1.

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Geo. E. Tregurtha

Inventors:
James C. Cutcheon,
Charles S. Johnson,
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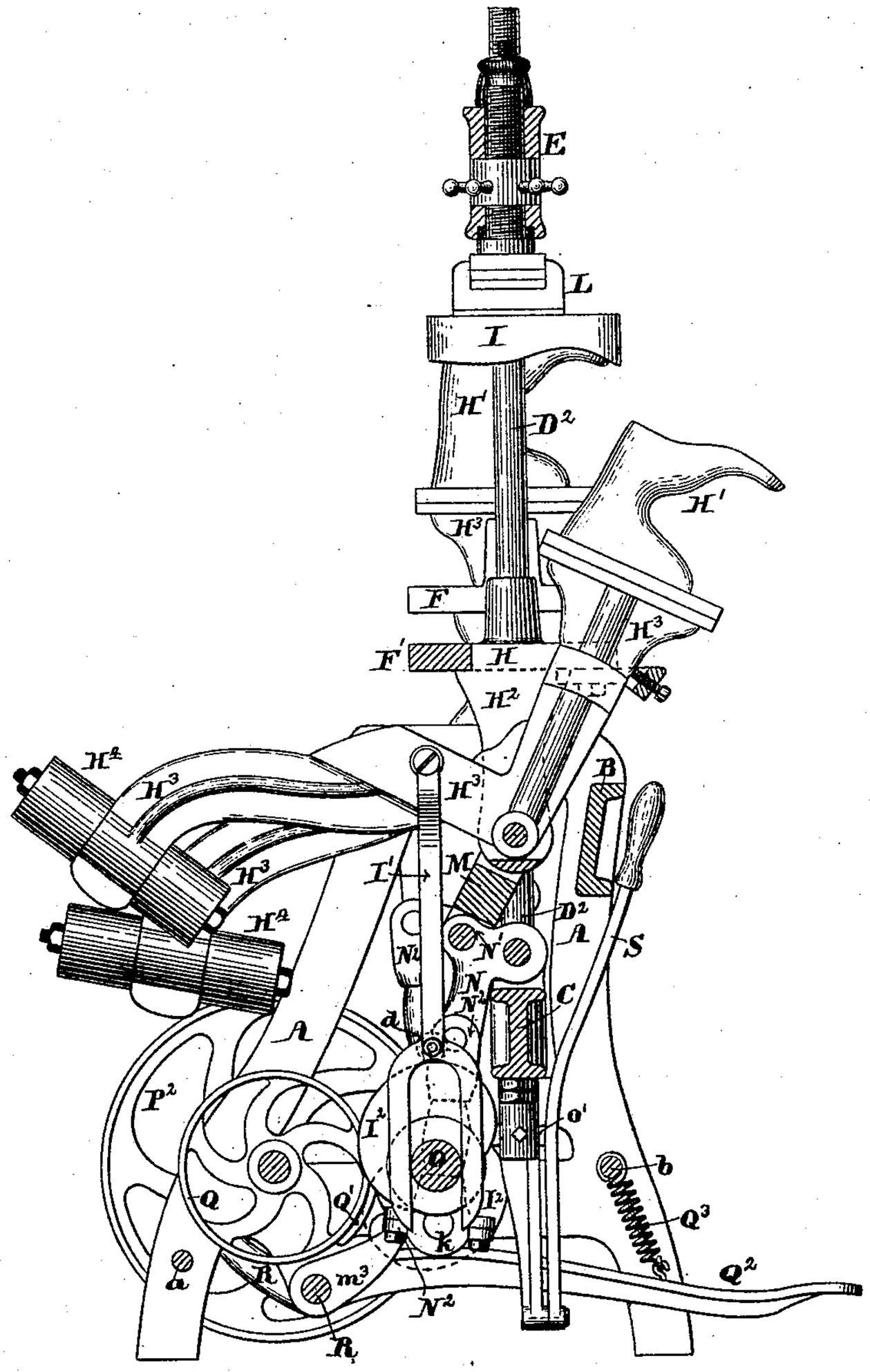

Fig. 2.

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UNITED STATES PATENT OFFICE.

JAMES C. CUTCHEON AND CHARLES S. JOHNSON, OF LYNN, MASSACHUSETTS.

SOLE-BEATING-OUT MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,258, dated June 16, 1891.

Application filed March 26, 1891. Serial No. 386,449. (No model.)

To all whom it may concern:

Be it known that we, JAMES C. CUTCHEON and CHARLES S. JOHNSON, both of Lynn, in the county of Essex and State of Massachusetts, have jointly invented certain new and useful Improvements in Beating-Out Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

Our invention relates to machines for beating out the soles of boots and shoes, is an improvement upon the machine shown and described in the Letters Patent No. 384,893, granted to James C. Cutcheon June 19, 1888; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the drawings, and to the claims hereinafter given, and in which our invention is clearly pointed out.

Figure 1 of the drawings is a rear elevation of a machine embodying our invention; and Fig. 2 is a sectional elevation, the cutting-plane being on line $x\,x$ of Fig. 1.

In the drawings, A A are the side frames of the machine, connected together by the girt B and the tie-rods a and b, and having set therein two upright rods D and D′, upon the upper ends of which is secured the cross-head E, and to their lower ends is in like manner secured another cross-head C, and a third upright rod D^2 connects said two cross-heads at the centers of their lengths, as shown.

Upon the rods D, D′, and D^2 are mounted, so as to be movable vertically thereon, the two jack-supporting tables F and F′.

I I are the molds or dies secured to the under side of the cross-head E, so as to be adjustable endwise in the vertically-adjustable blocks L L.

O is the crank-shaft, provided with two opposing cranks $k\,k$.

M and N are the toggle-links, and N^2 is the link or rod connecting the end of the arm N′ of the link M with a crank k, and O′ is a gear-wheel secured upon the end of the shaft O, which engages with the pinion O^2 upon the end of the driving-shaft P, upon the opposite end of which is firmly secured the friction-wheel P′ and loosely mounted the driving-pulley P^2, which is made to engage with the wheel P′, and thus cause the shaft P to be revolved by being moved endwise of the shaft by depressing the treadle Q^2, mounted upon the rocker-shaft R, which carries at its end the forked lever R′, carrying the beveled roll l, which, when said treadle is depressed, is forced against the beveled inner end of the hub of the loose pulley, thereby forcing said pulley into contact with the friction-wheel P′.

Q is a brake-wheel firmly secured upon the shaft P, and Q′ is a brake-shoe pivoted to the treadle-lever Q^2 and firmly pressed into contact with the brake-wheel by the tension of the spring Q^3, connecting the treadle Q^2 and the tie-rod b.

The treadle-shaft R has firmly secured thereon the stop-pawl m^3, the free end of which co-operates with the cam-surfaces and stop-shoulders of the sleeve-like collar m, to insure an arresting of the motion of the crank-shaft at the completion of each half-revolution thereof.

S is a shipper-lever, having secured thereto the forked arm o', which engages with a groove in the sleeve-like collar m, and by which said collar may be moved endwise upon its shaft to disengage the cam-surfaces and stop-shoulders of said sleeve from the stop-pawl m^3.

So far the machine is constructed and operates precisely as shown and described in the before-cited Letters Patent, and therefore the parts heretofore mentioned, except the tables F and F′, need not be described more in detail here. In said prior patent the tables F and F′ were provided with horizontal slides, upon which the shoe-holding jacks were mounted, which slides had to be moved to and from their positions beneath the molds by hand. In our present invention said slides are dispensed with. The tables F and F′ each has formed centrally therein a slot H, and is also provided with a pendent hanger H^2, also slotted for the greater part of its length, and has pivoted thereto near its lower end the shoe-supporting jack, consisting of the last H′ and the two-armed lever H^3, the rear arm of which lever has secured thereto a counter-weight H^4 H^4, as shown. The upper end of the toggle-link M is pivoted to the pendent hanger H^2 by the same pin that forms

the fulcrum of the jack-lever H^3, and the rear arm of said lever has pivoted thereto the upper end of the rod I′, the lower end of which is slotted or forked, so as to embrace the crank-shaft O, and has mounted upon a suitable stud set therein the roll or truck *d*, upon which the cam I^2, secured upon the shaft O, acts to lift the weighted arm of the lever H^3 and cause said lever to be moved about its fulcrum-pin and remove the last H′ from beneath the mold I, as shown in Fig. 2, said cams I^2 being so set on the shaft O relative to the cranks *k k* that the vibration of the jack-levers in both directions takes place when the lasts have been moved downward from contact with the molds I, and the relative positions of the two cranks *k k* and cams I^2 are such that one last is in the position to remove the boot or shoe therefrom and place another thereon while the shoe on the other last is being subjected to pressure, the movements of the jacks being entirely automatic.

The operation of our invention will be readily understood from the foregoing without further description here.

What we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a machine for beating out the soles of boots and shoes, the combination of a mold or die, a vertically-movable table provided with a pendent slotted hanger, a jack-lever pivoted to said slotted hanger and projecting upward through a slot in said table, a cam for moving said jack about its pivot in one direction, a weight for moving it in the opposite direction, a pair of toggle-links for moving said table and jack toward and from said mold, a crank, a connecting-rod connecting said crank with said toggle, and a revoluble shaft for operating said crank.

2. In a machine for beating out the soles of boots and shoes, the combination of a pair of molds or dies, a pair of slotted tables, each provided with a slotted pendent hanger and movable independently of each other, two pairs of toggle-links for moving said tables and the shoe-supporting jacks toward and from said molds or dies, a crank-shaft provided with two opposing cranks, a rod or link connecting each of said cranks with one of said toggles, a pair of shoe-supporting jacks pivoted one to each of said pendent hangers, and a pair of cams arranged with their throws in opposition to each other and constructed and arranged to act one upon each of said jacks to vibrate it about its pivotal axis, substantially as described.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, on this 20th day of March, A. D. 1891.

JAMES C. CUTCHEON.
CHARLES S. JOHNSON.

Witnesses:
N. C. LOMBARD,
WALTER E. LOMBARD.