

C. W. COLLYER.

Beating out Machines for Boot and Shoe Soles.

No. 149,723.

Patented April 14, 1874.

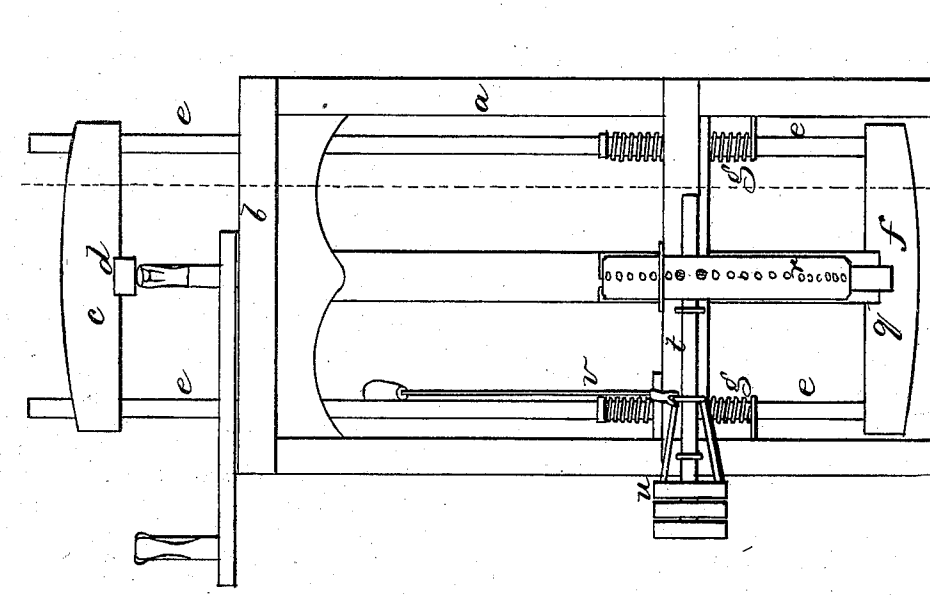


Fig. 2.

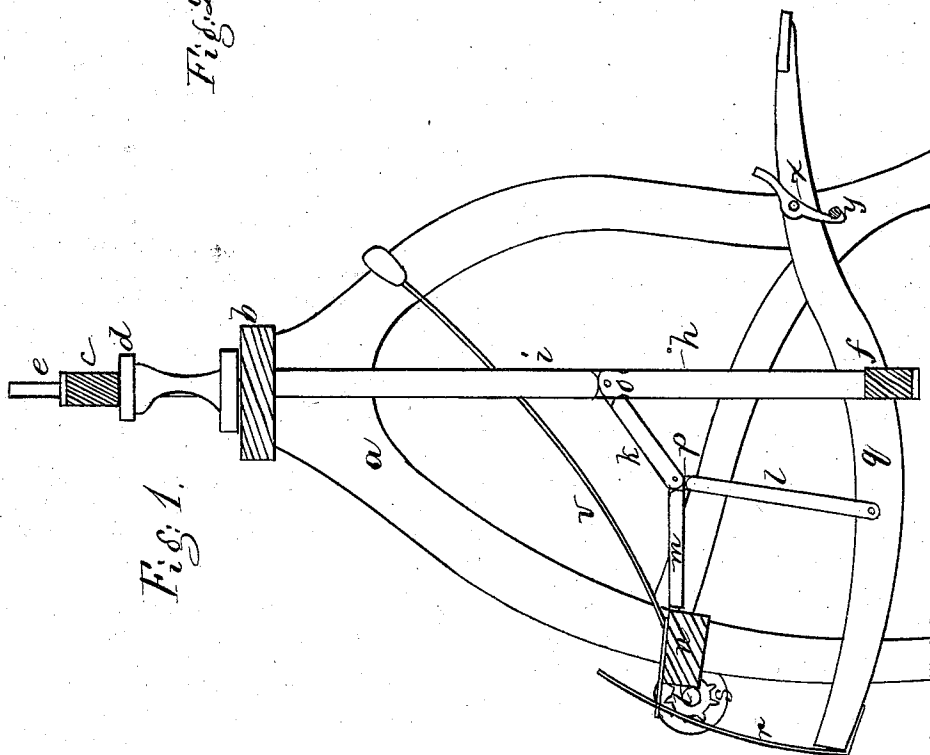


Fig. 1.

Witnesses.
 W. W. Frothingham.
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UNITED STATES PATENT OFFICE.

CHARLES W. COLLYER, OF MARBLEHEAD, MASSACHUSETTS.

IMPROVEMENT IN BEATING-OUT MACHINES FOR BOOT AND SHOE SOLES.

Specification forming part of Letters Patent No. **149,723**, dated April 14, 1874; application filed March 6, 1874.

To all whom it may concern:

Be it known that I, CHARLES W. COLLYER, of Marblehead, in the county of Essex and State of Massachusetts, have invented an Improvement in Beating-Out Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In the ordinary beating-up machine, which is used to bring the outer sole of a boot or shoe to its ultimate shape upon the last, and to lay and compress the channel-flaps, there is a complicated compound mechanism employed to connect the pedal-lever with the driving-shaft, so that by the "power" the main toggle-levers shall be straightened to bring the platen-former down upon the sole of the boot supported by the stationary bed, the workman having often to repeatedly exert his weight upon the pedal, and a great outlay of strength, before he can bring the parts into connection for the shaft to operate.

In my invention I obviate entirely this defective construction, by combining with the main lever, and jointed to its end, a hinged gear-plate or perforated plate, into which engages a gear-pinion or star-wheel on the driving-shaft, and a friction-wheel operated by a hand-lever, to move a clutch-wheel and bring the shaft-pulley into connection therewith, the main lever being connected with the lower cross-head of the platen by a system of toggle-joints. When the boot or shoe is in position, the clutch-lever is moved by the operator to throw a belt-pulley into connection with a pulley fast on the shaft, and the shaft will then be turned, its pinion in turning forcing up the gear-plate with which it engages, thereby operating the toggle-levers to draw down the platen, the operator having to use no force to bring the parts into connection. My invention consists in the combination thus generally described.

The drawing represents a construction embodying my invention.

Figure 1 shows the machine in sectional elevation. Fig. 2 is a front elevation of the same. *a* denotes the frame of the machine; *b*, the

bed upon which the shoe-holding last and last-plate are supported, and over which is the movable platen-head *c*, carrying the mold *d*, by which the last is to be compressed. The head *c* is fixed to two vertical rods, *e*, extending through the bed, and down through the frame, said rods being connected at their bottom ends by the cross-head *f*. Springs *g* raise the platen to its normal position; and, connecting the cross-head *f* with the frame or stationary bed, is a series of toggle-links, *h i k l m*, the link *i* being jointed at one end to the stationary bed, and the link *m* at one end to a cross-beam, *n*, the links *h i k* being jointed together at *o*, the links *k l m* at *p*, and the link *l* being also jointed at its opposite end to a lever, *q*. At the front end of this lever is jointed the gear-plate or bar *r*, having teeth or perforations engaging with the teeth of a pinion, *s*, on the shaft *t*, the rotation of the shaft in one direction straightening the toggle-links to bring the platen down, and its movement in the opposite direction raising the platen. This shaft carries a fast pulley and a loose belt-pulley, which are made as clutch-pulleys, and, to bring them into engagement, a friction-pulley, *u*, slides on the shaft, this friction-pulley being connected to a hand or clutch lever, *v*, extending through the frame and up to position to be accessible to the operator, who, by moving it, readily brings the belt-pulley into connection with the shaft-pulley or disengages them. When the pulleys have been clutched and the platen thereby drawn down, the platen may be held by a hook, *x*, hooking upon a cross-rod, *y*.

By this method of construction and operation, all the real work is effected by the machine without drawing upon the strength of the operator.

I claim—

In combination with the platen, toggle-links and lever *x*, the gear-plate *r*, pinion *s*, shaft *t*, clutch-pulley *u*, and clutch-lever *v*, all combined and operating substantially as shown and described.

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Witnesses:

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