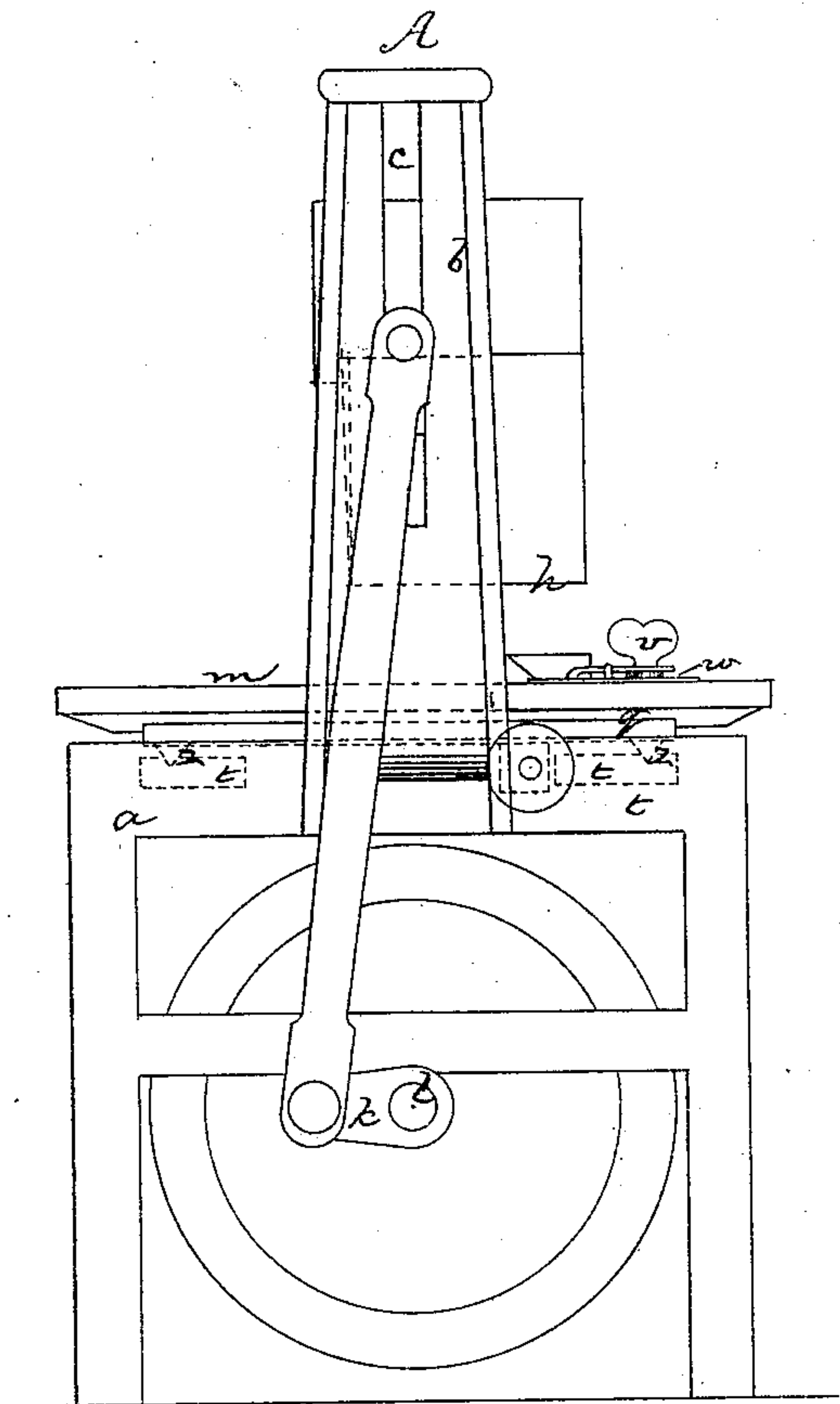


BENJAMIN MILLETT.

Machine for Cutting Out Boots.

No. 127,630.

Patented June 4, 1872.



w *D*

HEEL SCALE		FOOT SCALE.											
3													
2													
1													
14													
<i>x</i> 3													
2													
1													
<i>a</i> 13		1 2 3 8 1 2 3 9 1 2 3 10 1 2											
3		5	1	2	3	4	5	6					
2		6		1	2	3	4	5	6				
1		7			1	2	3	4	5	6			
12		8	<i>y</i>			1	2	3	4	5	6		
3		9					1	2	3	4	5	6	
2		10						1	2	3	4	5	6
1		11							1	2	3	4	5
11										1	2	3	4

WITNESSES

M. W. Frothingham.
J. B. Kidder.

INVENTOR:

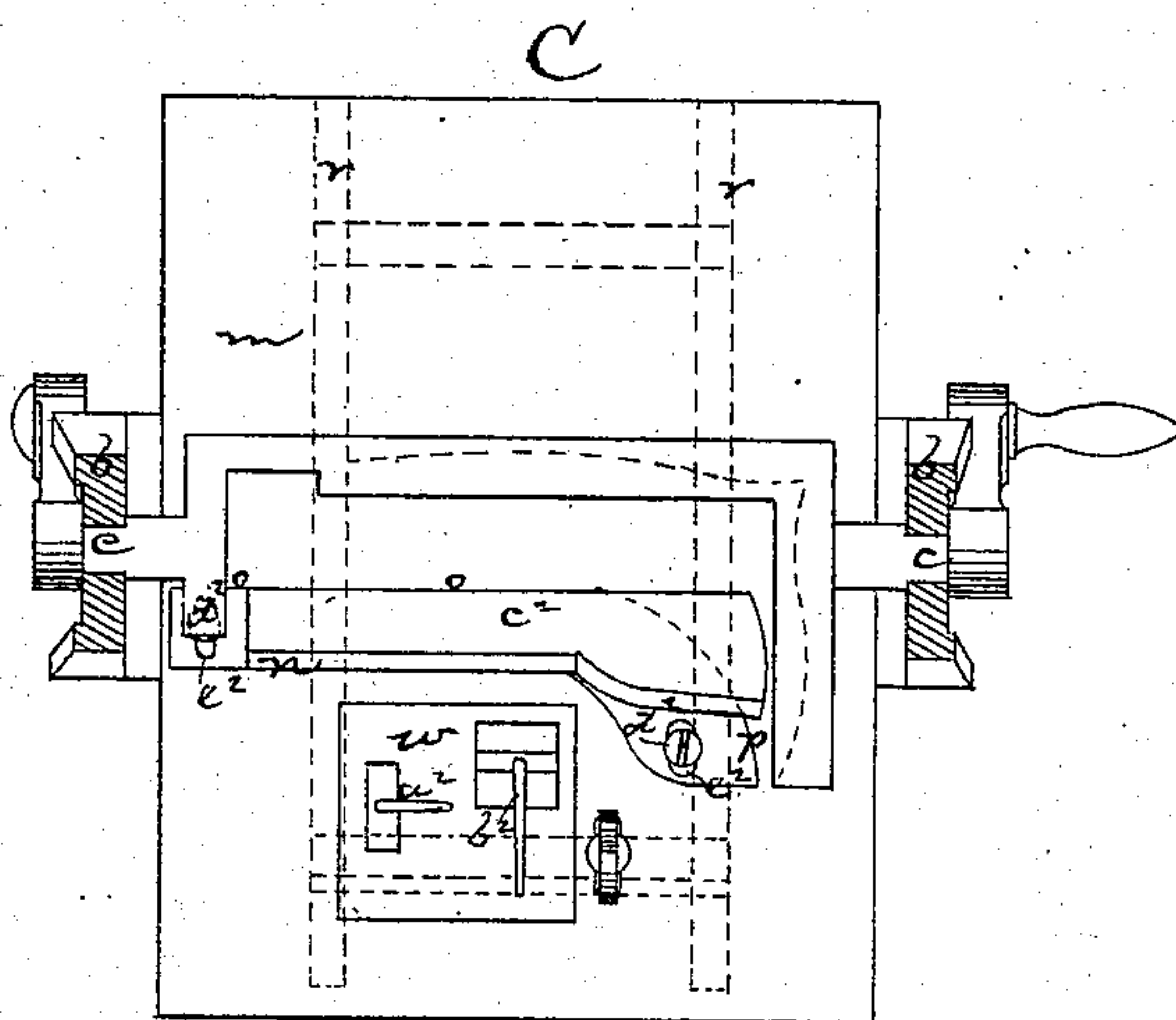
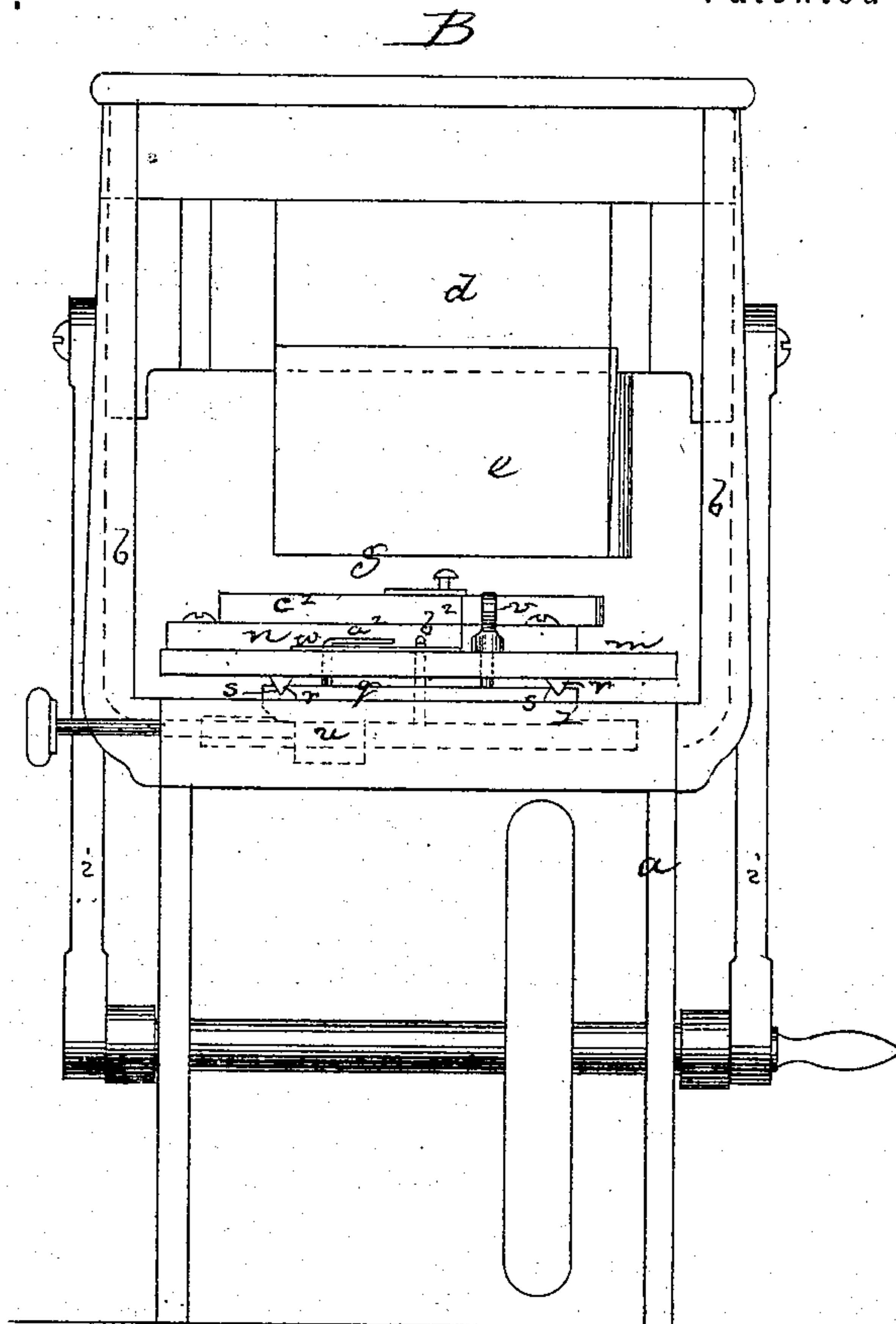
Benjamin Millett.
By his Atty.
Crosby & Gould

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WITNESSES.

Mo. W. Frothingham.
J. B. Hilder.

INVENTOR.

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UNITED STATES PATENT OFFICE.

BENJAMIN MILLETT, OF WOBURN, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR CUTTING OUT BOOTS.

Specification forming part of Letters Patent No. 127,630, dated June 4, 1872.

To all whom it may concern:

Be it known that I, BENJAMIN MILLETT, of Woburn, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Cutting Out Boots; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to a new method of cutting out the leg and upper pieces of long-legged boots.

The common practice is to cut the leather into shape by hand, using straps, measurements, and patterns, and cutting one piece at a time, the operation being both slow and laborious.

In my method I make a machine with a vertically-reciprocating knife or cutter that is of bent form to cut the side edges of either the back or front pieces and the bottom edges of the front and foot pieces, and under this knife or cutter is a bed or table which carries a gauge, said bed being adjustable laterally in both directions, or both with respect to the leg-cutting edge of the knife and to the foot-cutting edge of the knife, these adjustments being made with reference to suitable scales, and being for the purpose of determining the sizes or measurements of the work to be cut. The gauge may be made adjustable upon the table for different styles of boots, but the adjustments for variations in size are entirely made by movement of the table.

My invention consists in combining with the bent knife or cutter having a fixed vertical reciprocating movement a table provided with a leg and foot gauge, and having provision for adjustment in each direction with reference to the cutter and with reference to scale-divisions, by which the adjustable movements of the table and its gauge may be made in accordance with required variations of size in the boots to be cut.

The drawing represents a machine embodying my invention. A shows the machine in end view. B is a front elevation of it. C is a sectional plan on the line $x x$. D is an enlarged view of the scale-plate.

a denotes a frame having suitable standards b , in which standards are vertical way-grooves

c for receiving and guiding a slide or cutter-head, d , to the bottom of which is fixed a bent knife or cutter, e . This knife or cutter has a horizontal cutting-edge, $g h$, the edge g being shaped to cut the two edges of the front or back piece of the leg or the edges of the front and back pieces, which, when stitched together, form the tubular leg of the boot, while the edge h cuts the edges of the foot-piece or upper. The opposite ends of the cutter-head d are jointed to the upper ends of two pitmen or connecting-rods, i , the lower ends of which are jointed to two cranks, k , of a driving-shaft, l , this shaft and its connections with the cutter-head causing the knife or cutter to move to and from a table, m , on which table is laid the leather to be cut or trimmed. On this table is a gauge, n , against which the fold or center of the piece to be cut is laid, said gauge having a face, o , for the leg and a face, p , for the upper, the faces being so formed that when the gauge is in position and the doubled leather is against the gauge the knife will cut the foot and front leg-piece. The table m rests immediately on a frame, q , and has guide-strips r , which slide in grooves s on top of said frame, the table being capable of movement by said strips and grooves to carry the gauge up toward or away from the path of vertical movement of the cutting-edge. This frame q has bottom strips z resting and moving in grooves on top of cross rails or beams t of the frame a . The frame and the table resting upon it are both movable by means of the grooves and rails, and by their movements carry the table-gauge up toward or away from the cutter. The latter movements of the table and its gauge are preferably effected by a screw that works with a nut-thread in a tail-piece, u , extending down from the slide-frame q , the frame being held in position by the screw; and the movements of the table m upon the frame q may be similarly effected, or may be effected by hand, a clamp-screw, v , serving to confine the table in position. On the table m is fixed a scale-plate, w , having divisions $x y$ running in opposite directions upon the plate, and opposite each set of these divisions is a pointer, a^2 or b^2 , so located as to show the divisions beneath them, the pointer a^2 being over one set of divisions and the pointer b^2 over the other set.

The scale x indicates the sizes of and frac-

tions of sizes of the leg, and by pressing the table up toward the cutting-edge g or drawing it back therefrom the pointer a^2 may be brought opposite to the number corresponding to the size of the boot-leg to be cut, the gauge being in position to determine and insure the cutting of a corresponding size. When the table is moved in the other lateral direction the size of the foot is determined as may be required, the pointer showing upon alternate figures sizes for the instep, ball, &c. By means of these respective scales and the movements of the gauge relative thereto all variations in size may be designated and the boots cut in accordance therewith without any measurements whatever, the gauge being set by the figures of the scales, and the boot-legs placed in position with the fold of the leg against the face o and the fold of the foot against the face p . A pile of fronts being cut in this way, a back gauge, c^2 , is laid upon the front and foot gauge, and the straight fold of the heel and back piece is set against it, upon the tops of the fronts, and the cutter will then similarly cut to shape said back and heel pieces. The cut

of the edges $g h$ is the same for both the front and back pieces, and the pieces for both parts may be simultaneously cut by piling them up against the gauges, first piling up to the top of the gauge n with the front and foot pieces and then piling on top of them the back and heel pieces.

By these means it will be obvious that boot legs and uppers can be very rapidly, easily, and accurately cut, at a great saving of labor and time, and with more perfect results than can be obtained by hand-cutting.

The gauge n may be made adjustable by screws d^2 and slots e^2 .

I claim—

The combination of the vertically-reciprocating knife or cutter e , the gauge or gauges, adjustable in both directions or with respect to both cutting-edges, $g h$, and the scales and pointers, all combined and arranged substantially as shown and described.

BENJAMIN MILLETT.

Witnesses:

FRANCIS GOULD,
M. W. FROTHINGHAM.