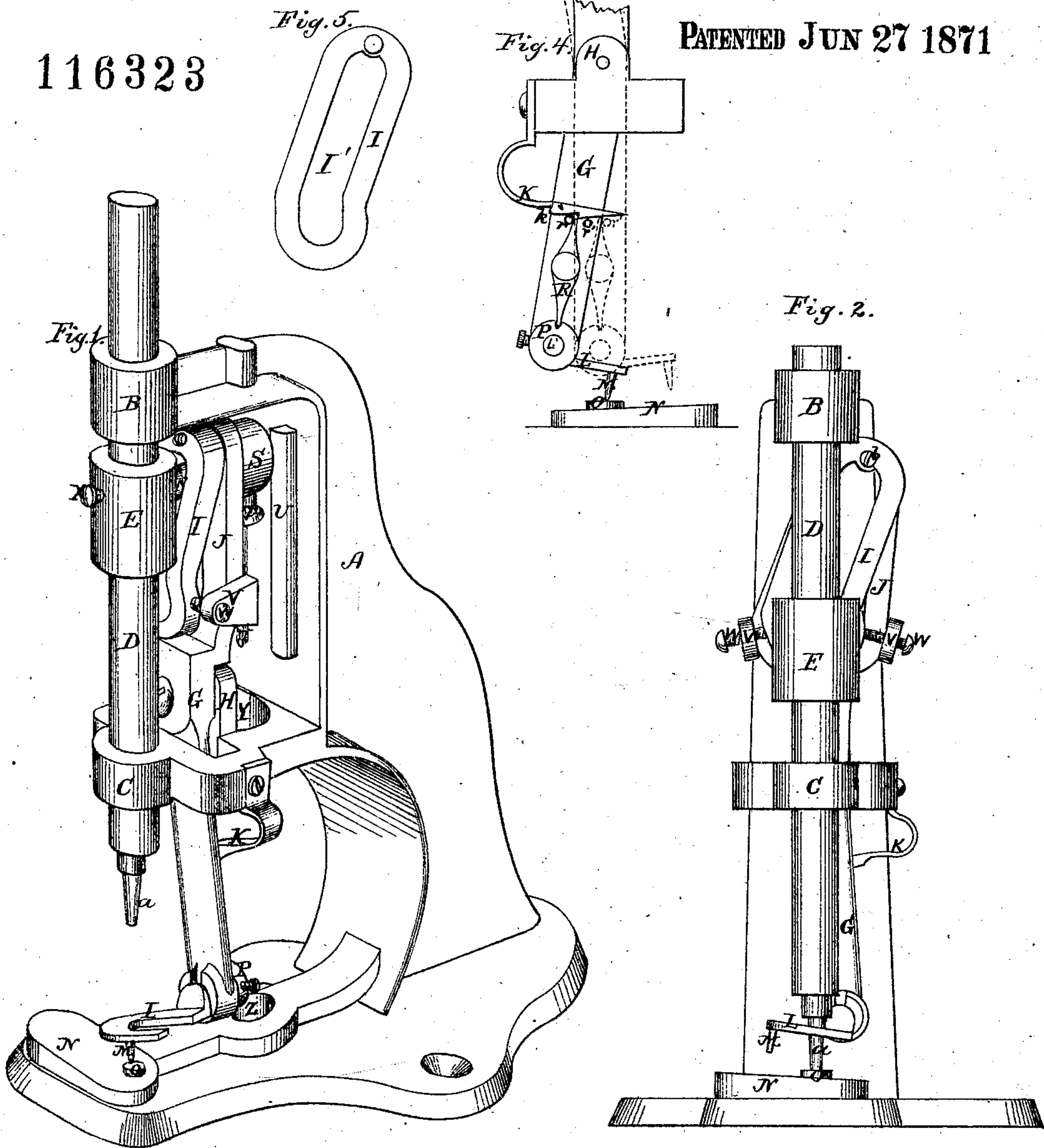


Chas. Keniston's

Device for Feeding Punching Machines.

PATENTED JUN 27 1871

116323



Witnesses.

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UNITED STATES PATENT OFFICE

CHARLES KENISTON, OF SOMERVILLE, ASSIGNOR TO HIMSELF, C. E. WOODMAN
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IMPROVEMENT IN PUNCHING-MACHINES.

Specification forming part of Letters Patent No. 116,323, dated June 27, 1871.

To all whom it may concern:

Be it known that I, CHARLES KENISTON, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Feeding Punching-Machines, of which the following is a specification:

Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a front elevation. Fig. 3 is a section through line *xx*, Fig. 2; and Figs. 4 and 5, views of parts in detail.

This invention consists of an arm pivoted at the center, and provided with a diagonal slot at its upper end and a projecting finger at its lower end, said arm being operated by a lug on the vertically-reciprocating plunger or shaft of a punching-machine, said lug projecting through said diagonal slot in such manner as to impart a vibratory motion to the arm and finger at the lower end thereof, which finger enters the hole previously cut by the punch in the material and pushes the same along while the plunger is descending, leaving the material in the proper position for the next insertion of the punch. It also consists of a spring arrangement for raising and depressing said finger, and other details of construction which will be more fully described hereinafter.

In the drawing, A represents the standard, in which the parts are located, which standard is provided with the projections B C, through which passes the vertical plunger or shaft D, on the lower end of which is located the punch *a*. G represents an arm, pivoted to the ear H, which forms a part of projection C. J represents a slotted plate which constitutes the upper end of arm G, to which plate is attached another slotted plate, I, by the screw *b*. The plate I is bent near its lower end, the upper portion thereof, with its slot I', being inclined, as shown in Fig. 5. V V represent lugs attached to plate J, through which lugs pass screws W, which bear on the lower portion of plate I, as shown in Fig. 2. E represents a ring attached to plunger D by set-screw X. From the ring E projects a lug, F, which passes through the slotted plates I J and terminates at the standard A, between the vertical guides U. The lower end of arm G is provided with a slotted plate or arm, L, on the lower side of which is a projection or finger, M. The plate L is attached to a shaft, L', which passes through the arm G, and is provided on the opposite side of the same

with a disk, P, on the periphery of which is a notch, with which engages the lower end of the pivoted catch or pawl R, the upper end of which is confined between pins *r r'*. K represents a spring-catch which is attached to the projection C of standard A, and is provided with notches *k*, which engage with the upper end of pawl R. S represents a ring located on the end of lug F, and provided with a socket, T, for the reception of the upper end of a rod connecting the same with the driving mechanism, said rod passing downward through orifices Y Z. N represents a raised bed with an inclined surface, on which is smaller circular bed O, directly under the punch *a*.

When the plunger D is raised the lug F, being in the upper end of the inclined slot I', holds the arm G in the position shown in Fig. 1, the finger M being directly over the bed O and in contact therewith; but when said plunger descends the lug F, in traversing down the slot P, forces the plates I J outward, thereby imparting a reverse motion to the lower end of arm G and causing the finger M to move along over the bed N, thus allowing the punch *a* to pass through the slot of the plate L in its descent and perforate the leather or other material which rests on the bed N, at which point the parts are in the position shown in Fig. 2. When the plunger D is elevated, the arm G being swung outward to its utmost extent, the spring K, bearing upon the pawl R, holds the disk P and plate L in the position shown in Figs. 1 and 4, the upper end of said pawl bearing against pin *r*; and when said plunger descends the arm G, swinging inward, forces the pawl R out from the notch *k* of the spring K and under the end of said spring, which, as the plunger strikes the bed, forces the pawl R against the pin *r'*, thereby slightly turning the disk P and elevating the plate L and finger M, as shown in Fig. 2 and in dotted lines in Fig. 4.

The operation of the plunger D, arm G, and plate L with its finger M being understood, it will be readily seen that when the plunger rises from the bed O the arm G swings outward and the finger M drops into the orifice made in the material by the punch, and when the plunger again descends the arm G swings inward and the finger M propels the material along the bed N, thus preparing the material for the next insertion of the punch *a*, the plate L and finger M swinging up

ward and freeing the latter from the material just before the plunger completes its downward stroke.

This arrangement constitutes an efficient feeding device which works with the utmost certainty. The throw of the arm G and finger M can be adjusted by varying the incline of the plate I by means of the screws W, said plate being attached to plate J only at the top by screw b.

The vital point in this invention is the method of feeding the material under the punch, and I claim to have produced the simplest means of effecting this operation, while the feed itself is perfectly positive and invariably even. The independent finger, which secures the result I have sought, may be operated by any suitable mechanical contrivance; but the means described illustrate the principle of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The pivoted arm G with its slotted plate J, provided with lugs V and adjustable slotted plate I, in combination with plunger D and lug F, substantially as described.

2. In combination with the subject-matter of the first clause, the slotted plate L, finger M, notched disk P, pawl R, pins r, and spring K, substantially as described.

3. The pivoted vibrating arm G, having the slotted plate L, finger M, notched disk P, and pawl R, in combination with spring K, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES KENISTON.

Witnesses:

C. E. WOODMAN,

C. F. BROWN.