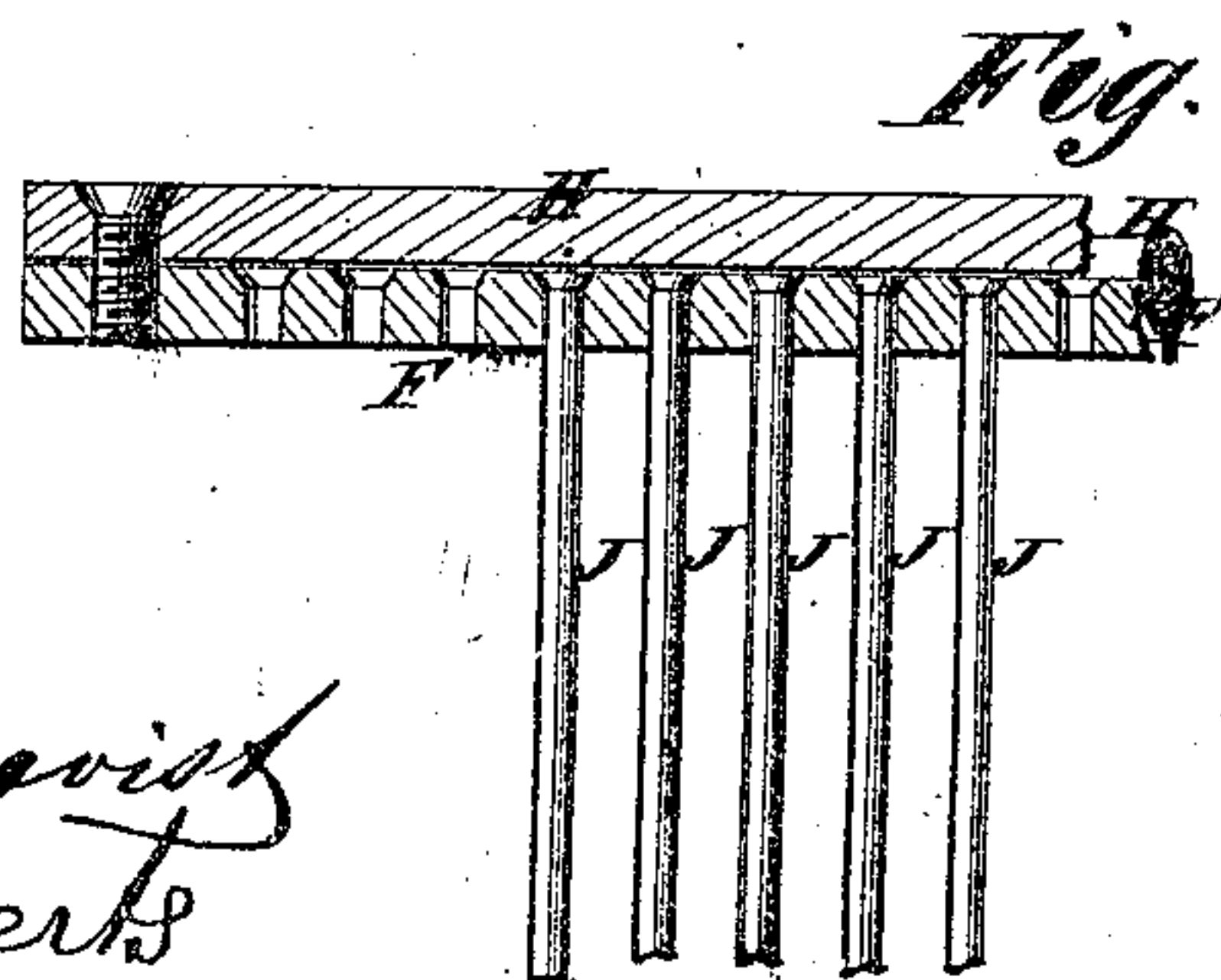
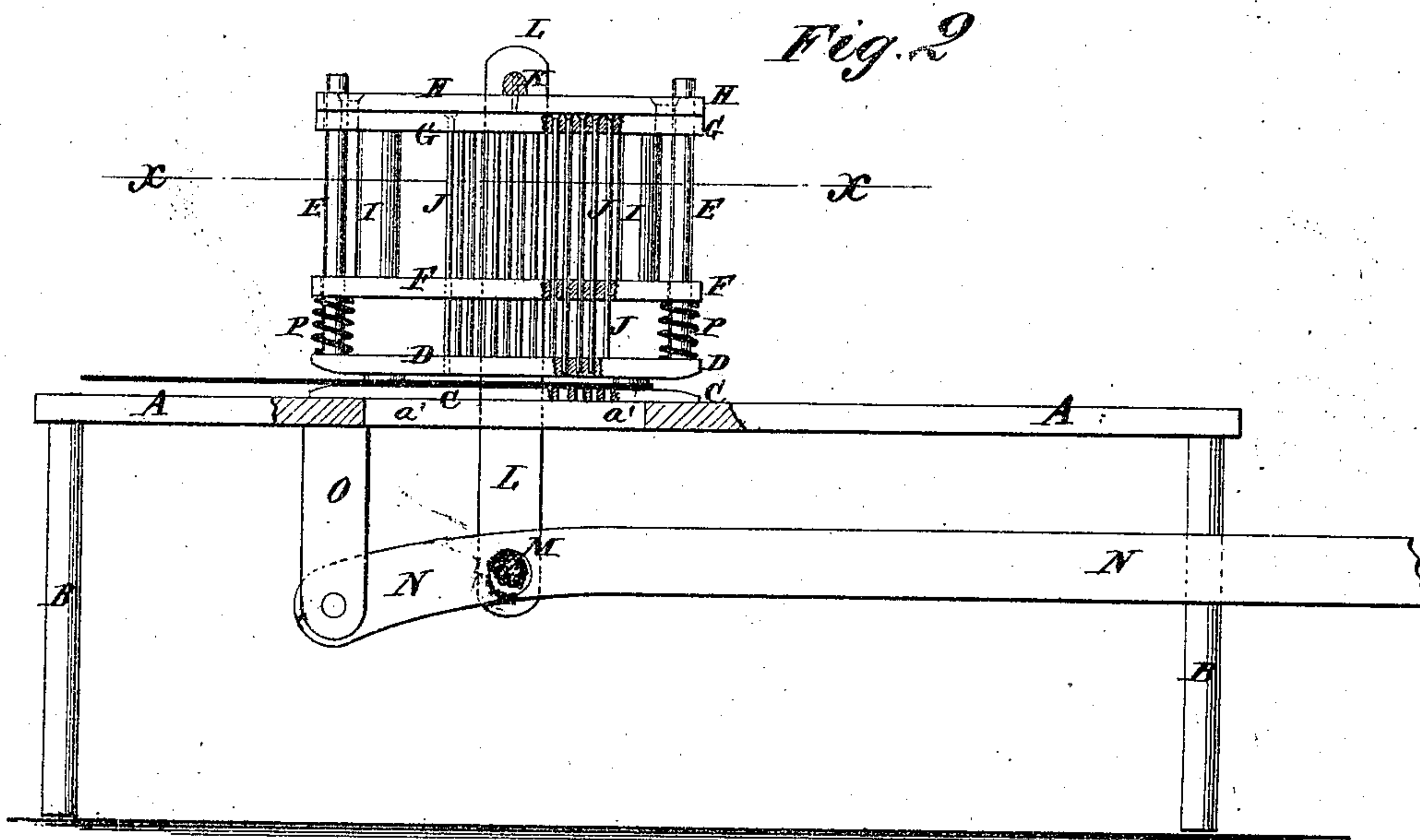
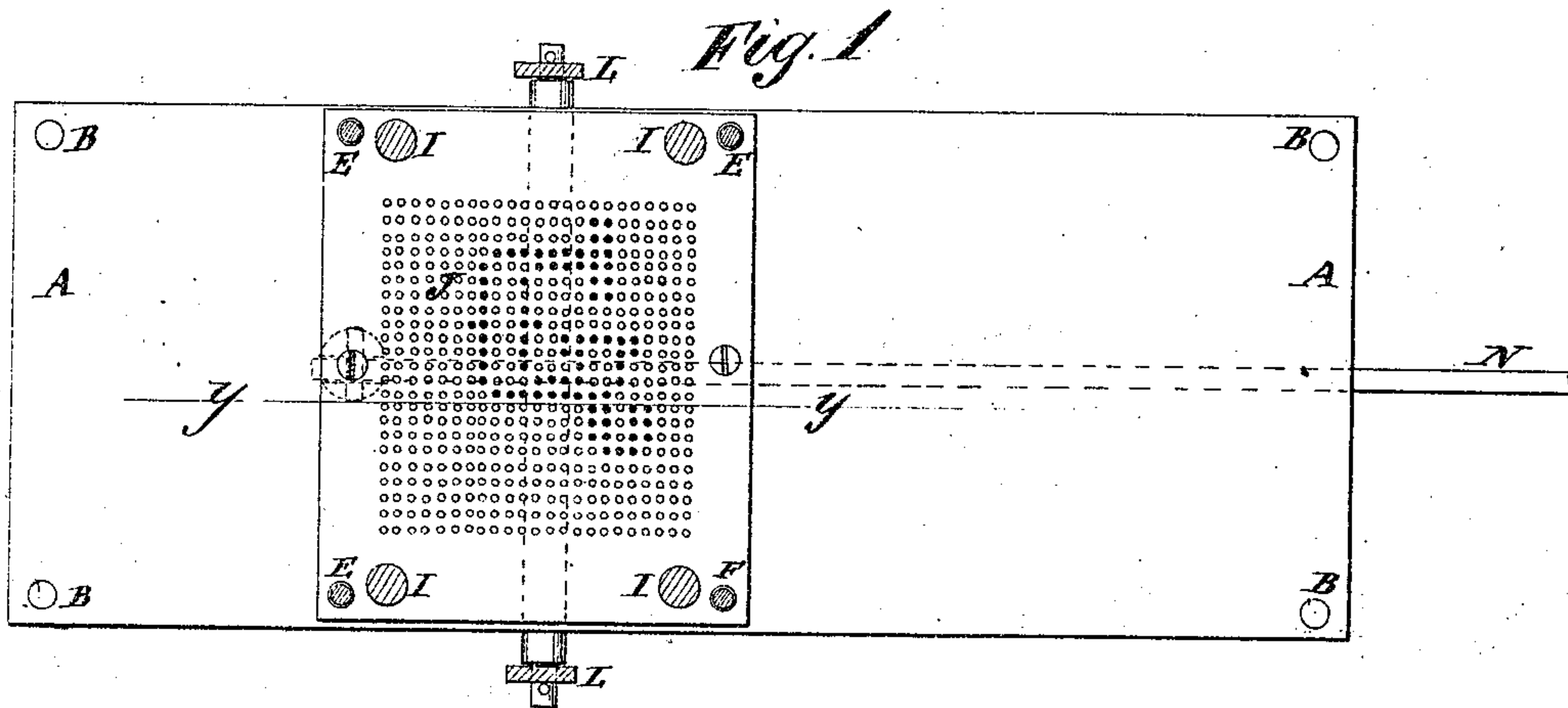


W. C. ROBERTSON & F. PEARCE.
MACHINES FOR FORMING PERFORATED-LETTERS.
No. 173,062. Patented Feb. 1, 1876.



WITNESSES:
A. W. Almqvist
Alex. F. Roberts

INVENTOR:
W. C. Robertson
BY *F. Pearce*
Mum
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM C. ROBERTSON AND FREDERICK PEARCE, OF NEW YORK N. Y.

IMPROVEMENT IN MACHINES FOR FORMING PERFORATED LETTERS.

Specification forming part of Letters Patent No. 173,062, dated February 1, 1876; application filed December 11, 1875.

To all whom it may concern:

Be it known that we, WILLIAM C. ROBERTSON and FREDERICK PEARCE, of the city, county, and State of New York, have invented a new and useful Improvement in Machine for Forming Perforated Letters, &c., of which the following is a specification:

Figure 1 is a horizontal section of our improved machine, taken through the line *x x*, Fig. 2. - Fig. 2 is a side view of the same, parts being broken away to show the construction. Fig. 3 is a detail section of the top plates, taken upon the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for forming perforated letters and other designs in card-board, thin sheet metal, and other suitable substances easily and quickly, and which may be readily adjusted to form different letters and designs, as may be desired.

The invention consists in the combination of the detachable top plate, the perforated holding-plate, the movable perforated guide-plate, the stationary perforated guide-plate, the perforated bed-plate, and the detachable pins with each other, as hereinafter fully described.

A represents the table of the machine, which is made of convenient length and breadth, and is supported upon legs B, of such a length as to raise the machine to a convenient height.

To the table A, directly over a large hole, *a'*, formed in said table, are secured two plates, C D, which are kept at the proper distance apart to receive between them the strip to be perforated by thin blocks or washers interposed between their corners or ends, as shown in Fig. 2.

To the corners of the upper plate D are attached the lower ends of four studs, E, which pass up through holes in the corners of the three plates F G H.

The two lower plates, F G, are rigidly connected and held at the proper distance apart by studs I, interposed between and secured to their ends.

The plates C D F G are perforated with numerous small holes, arranged in perfect check-row, and in such a way that the corresponding holes of the four plates C D F G may be exactly in the same vertical line.

The upper ends of the holes through the

plate G are countersunk to receive the heads of the pins J, which pins J are kept in place by the plate H, which is secured to the plate G by screw-bolts or other suitable means, so that it may be conveniently detached when desired, to allow the pins J to be rearranged.

To the middle part of the top plate H is attached a cross-bar, K, the ends of which project a little, and from them are hung the upper ends of two connecting-bars, L.

The bars L pass down at the opposite side of the table A B, and their lower ends are connected with the ends of a cross-bar, M, to the center of which is pivoted the lever N.

One end of the lever N is pivoted to the lower end of a hanger, O, the upper end of which is attached to the lower side of the table A. The other end of the lever N projects into such a position that it may be operated by the workman with his hand or foot.

By this construction, by forcing down the free end of the lever N the plates F G H will be drawn down, forcing the pins J down through the plates D C, and through the strip interposed between said plates D C. As the free end of the lever N is released from the pressure the plates F G H are raised by the spiral springs P, coiled around the studs E, between the plates D F, and by their upward movement draw the pins J out of the plate C, out of the perforated strip, and out of the plate D so far that their lower ends may be above the lower surface of said plate D, so that they may not interfere with the putting in and taking out of the strip to be perforated.

By this construction, by removing the plate H the pins J may be adjusted to form any desired letter or any desired device.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination of the detachable top plate H, the perforated holding-plate G, the movable perforated guide-plate F, the stationary perforated guide-plate D, the perforated bed-plate C, and the detachable pins J with each other, substantially as herein shown and described, and for the purpose set forth.

WILLIAM C. ROBERTSON.
FREDERICK PEARCE.

Witnesses:

JAMES T. GRAHAM,
ALEX. F. ROBERTS.