(No Model.) 2 Sheets—Sheet 1.

J. FAHNESTOCK.

METALLIC PRINTING BLOCK FOR ELECTROTYPE AND STEREOTYPE PLATES.

No. 356,993. Patented Feb. 1, 1887.

Fig: 2

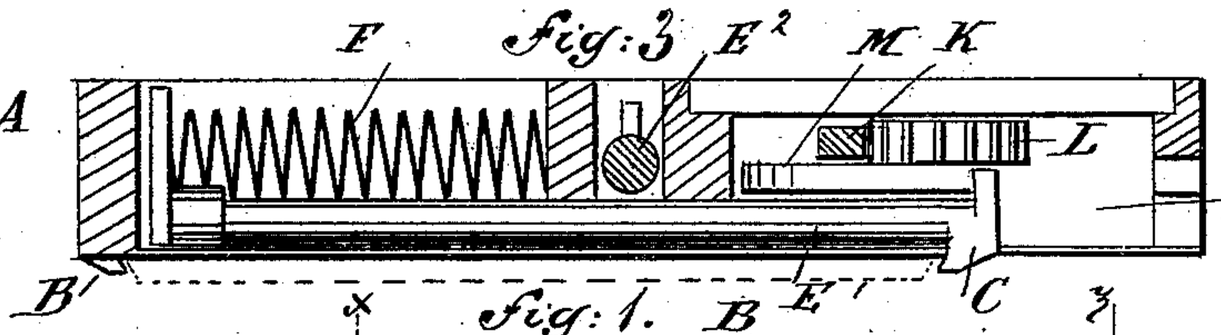

Fig: 3

Fig: 4.

Fig: 1.

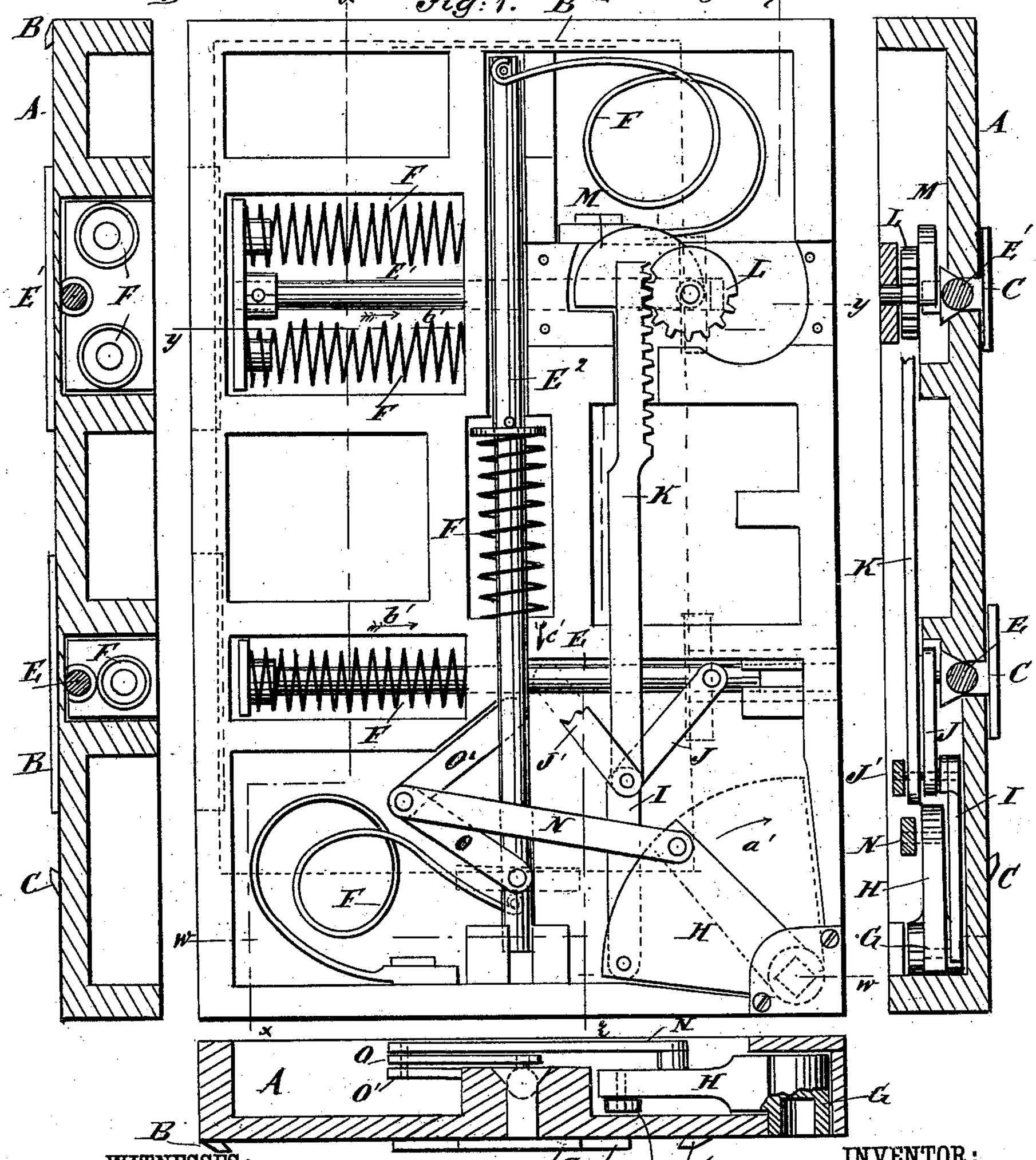

Fig: 5.

WITNESSES:

Chas. Nida

C. Bedgwick

INVENTOR:

J. Fahnestock

BY Munn & Co.

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

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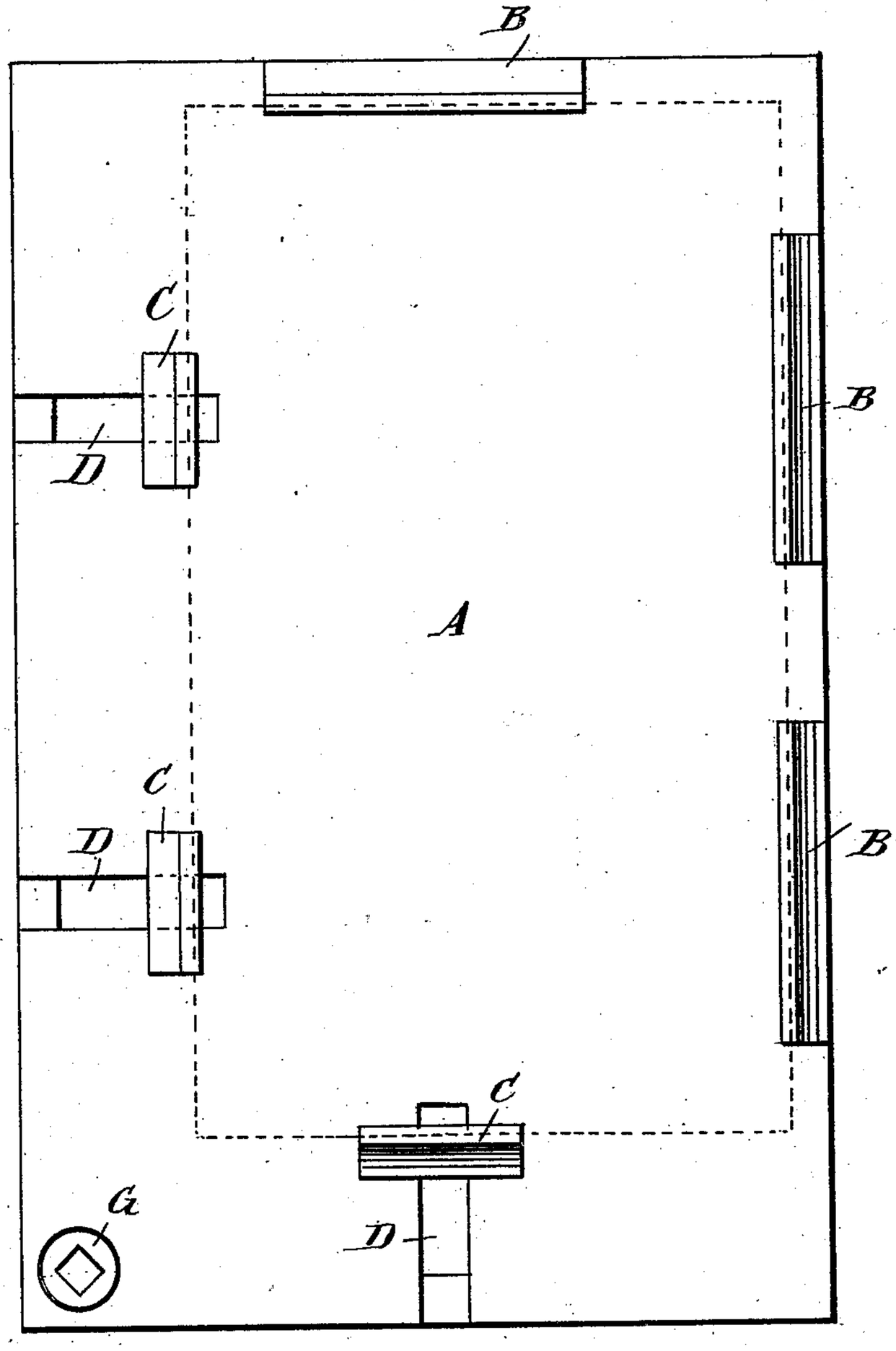
Fig: 6.



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Chas. Nida

C. Sedgwick

INVENTOR:

J. Fahnestock

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN FAHNESTOCK, OF BROOKLYN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO JOHN M. HAWKES, OF NEW YORK, AND JAMES H. FERGUSON, OF BROOKLYN, N. Y.

METALLIC PRINTING-BLOCK FOR ELECTROTYPE AND STEREOTYPE PLATES.

SPECIFICATION forming part of Letters Patent No. 356,993, dated February 1, 1887.

Application filed August 27, 1885. Serial No. 175,453. (No model.)

To all whom it may concern:

Be it known that I, JOHN FAHNESTOCK, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Metallic Printing-Blocks for Electrotype and Stereotype Plates, of which the following is a specification.

The object of my invention is to provide a new and improved metallic printing-block in which electrotype and stereotype plates can be firmly locked in position or released from the same at the will of the operator.

The invention consists of clamps fixed on the block, and of movable clamps which are simultaneously actuated by a key applied to a post mounted in the said block.

The invention also consists of various parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a bottom view of a duodecimo-block provided with my improvement. Fig. 2 is a sectional side view of the same on the line *x x* of Fig. 1. Fig. 3 is a sectional end view of the same on the line *y y* of Fig. 1. Fig. 4 is a sectional side view of the same on the line *z z* of Fig. 1. Fig. 5 is a sectional end view of the same on the line *w w* of Fig. 1, and Fig. 6 is a plan view of the block.

The printing-block A, of suitable size and form, is provided on its upper face, on one side and on one end, with two, three, or more fixed clamps, B. On the other side and the other end of the block A are placed two or more movable clamps, C, which project above the upper surface of the block and move in grooves D, cut in the said block A. The movable clamps C are attached to one end of the rods E, E′, and E², respectively, which are adapted to slide in suitable bearings in the block A, and are each provided with one or more springs, F, which have the tendency to move the clamps C, with their respective rods E, E′, and E², inward. The springs F are attached in various ways to the said rods E, E′, and E², as shown in the drawings. The rods E, E′, and E² receive a simultaneous movement by means of a key, which turns a post, G, placed, preferably, in one corner of the block A, and provided with an arm, H, which is pivotally connected with the pitman I, provided with a toggle-joint, of which the arm J is pivoted to the rod E, while the other arm, J′, is pivoted to the block A. With the pitman I is also connected a rack-bar, K, which meshes into the pinion L, suitably mounted in the block A and actuating a cam, M, which imparts a sliding motion to the rod E′. The arm H is also pivotally connected with the pitman N, provided with a toggle-joint, of which the arm O is pivotally connected with the rod E², while the other arm, O′, is pivoted to the block A.

The key employed for operating the clamps C is preferably a square standard having a cross-handle fitting into a square recess in the post G.

The operation is as follows: In the position shown in the figures the movable clamps are in their inner or closed position, holding the plate firmly in place on the face of the block A. If the key is now inserted in the square aperture of the post G from the face of the block and is turned, the arm H swings in the direction of the arrow *a′*, whereby the rods E and E′ are moved sidewise in the direction of the arrow *b′* by the action of the pitman I and the arm J of the toggle-joint connected with the rod E, and by the rack-bar K turning the pinion L, which causes the cam M to act on the rod E′. The swinging of the arm H also causes the rod E² to move lengthwise in the direction of the arrow *c′* by the action of the pitman N on the arms O and O′ of the toggle-joint connected with the said rod E², and this simultaneous movement of the rods E, E′, and E² compresses their respective springs F. The key is turned until one edge of the arm H rests on the side of the block A, as shown in dotted lines in Fig. 1, so that the arm H by its pitman I throws the arms J J′ of the toggle-joint apart beyond their center line, and a similar motion is imparted to the arms O and O′ of the toggle-joint by the pitman N, so that the compressed springs F cannot force the arm H back to its former position, but, on the con-

trary, presses on the arm H in the direction of the arrow *a'*, thereby leaving the clamps C in an open position, even if all pressure on the key and post G ceases. The clamps C are now in their outermost position, near the edges of the block A, and the electrotype-plate can now be placed on the face of the block, and when the key is turned in the opposite direction, so as to cause the arm H to swing in the inverse direction of the arrow *a'* until the arms J and J' and O and O' of the toggle-joints pass their center line again, the springs F will force the respective rods E, E', and E² back to their former position in the inverse directions of the arrows *b'* and *c'*, and thereby the movable clamps C will be caused to grip the plate and hold the same tight against the stationary clamps B, as indicated in Fig. 6.

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

The combination of a metallic printing-block and its movable clamps with a post mounted on the said block, and attached arms, pitmen, and connections, whereby all the movable clamps are simultaneously actuated by a key applied to the said post, substantially as shown and described.

JOHN FAHNESTOCK.

Witnesses:

CHAS. C. SMITH,

C. W. PERRY.