

(No Model.)

2 Sheets—Sheet 2.

J. M. HAWKES.
METALLIC PRINTING BLOCK.

No. 369,521.

Patented Sept. 6, 1887.

Fig: 4.

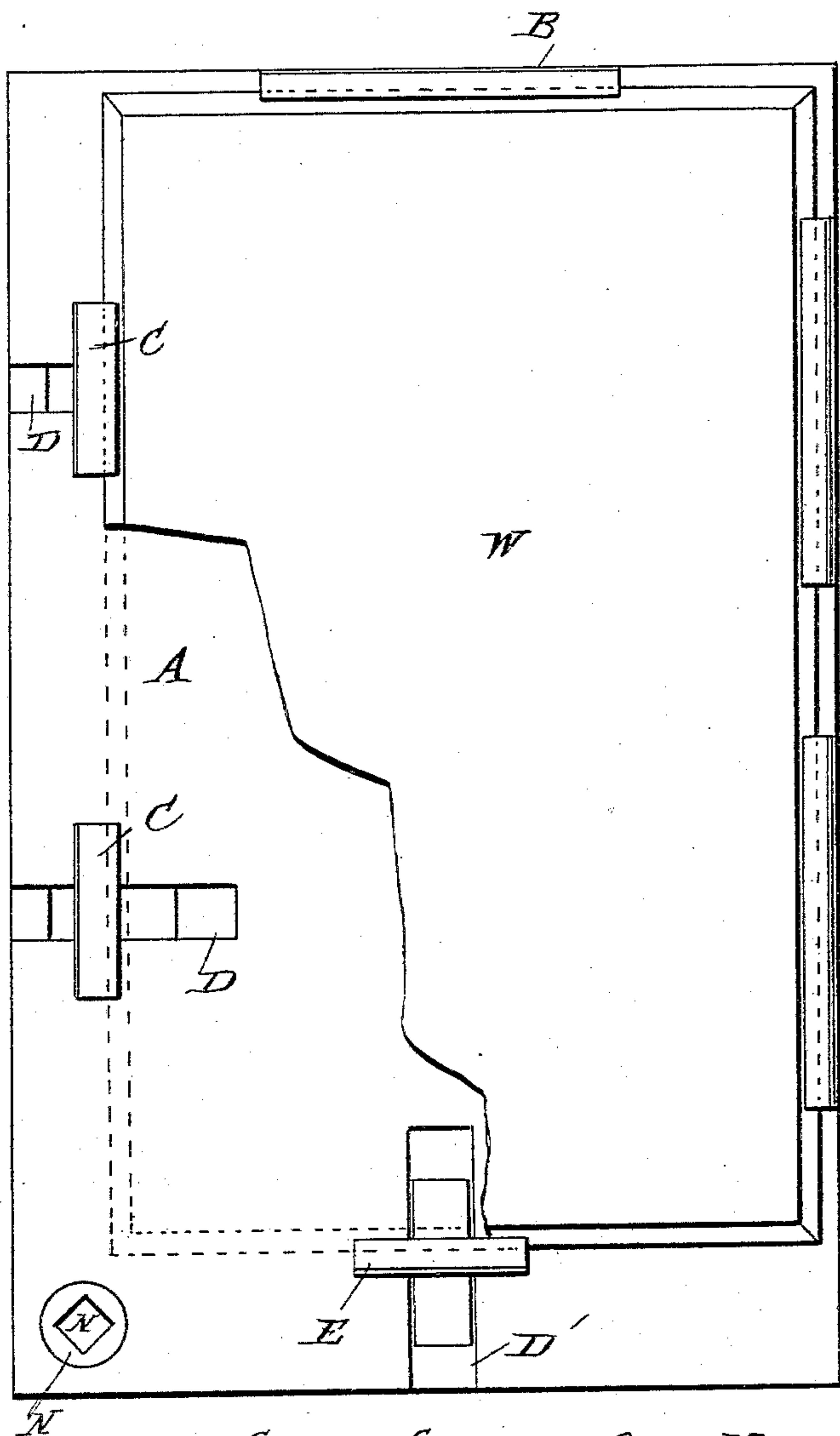
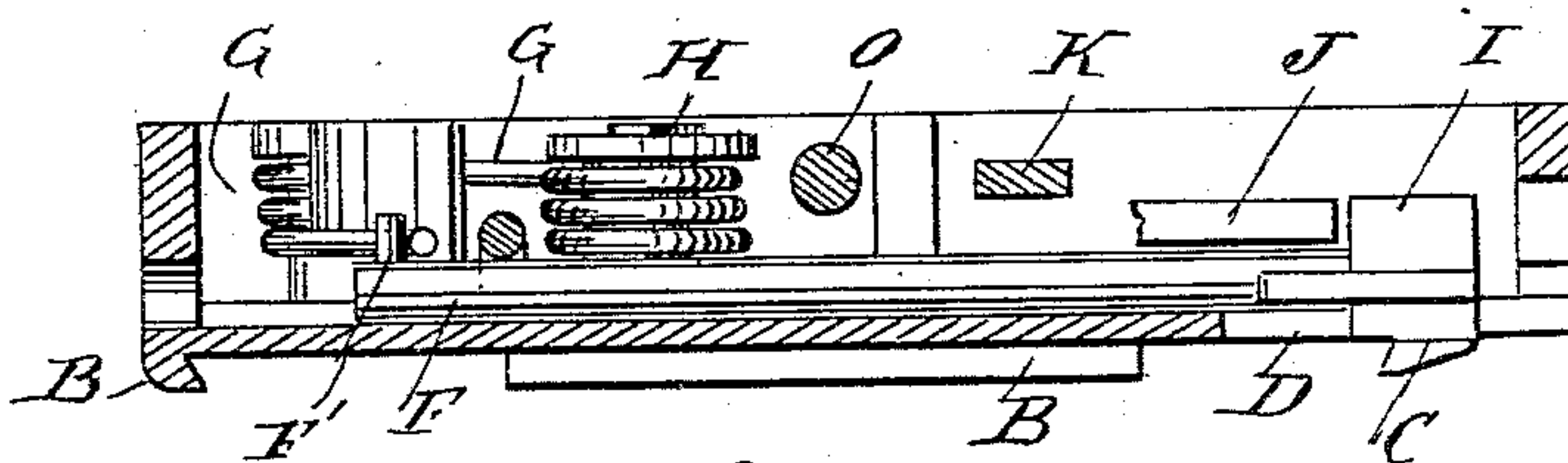
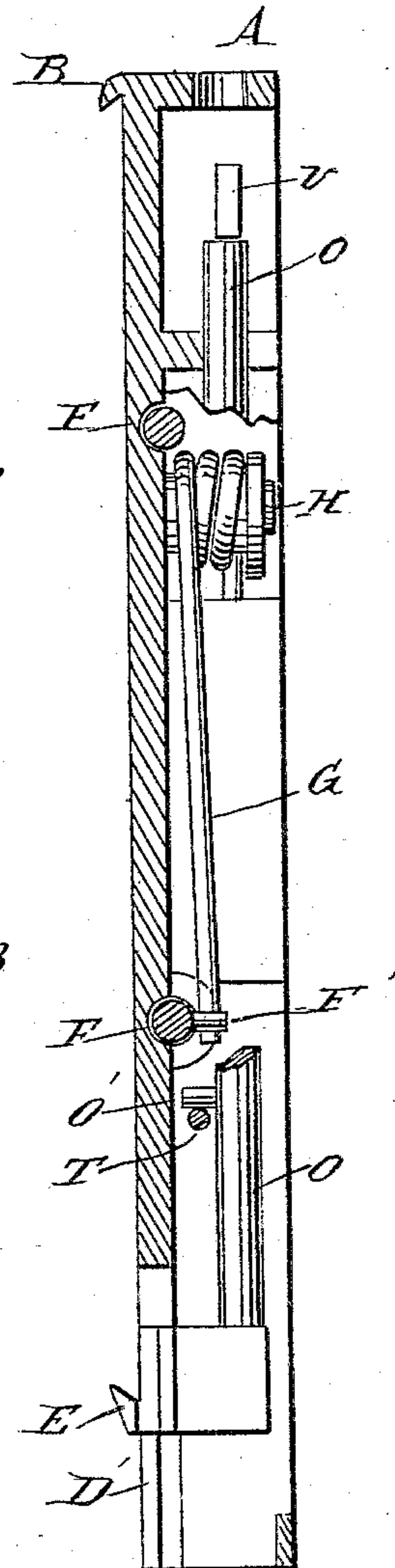


Fig: 5.



WITNESSES:

Chas. Nida
W. Sedgwick

Fig: 6.

INVENTOR:

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BY

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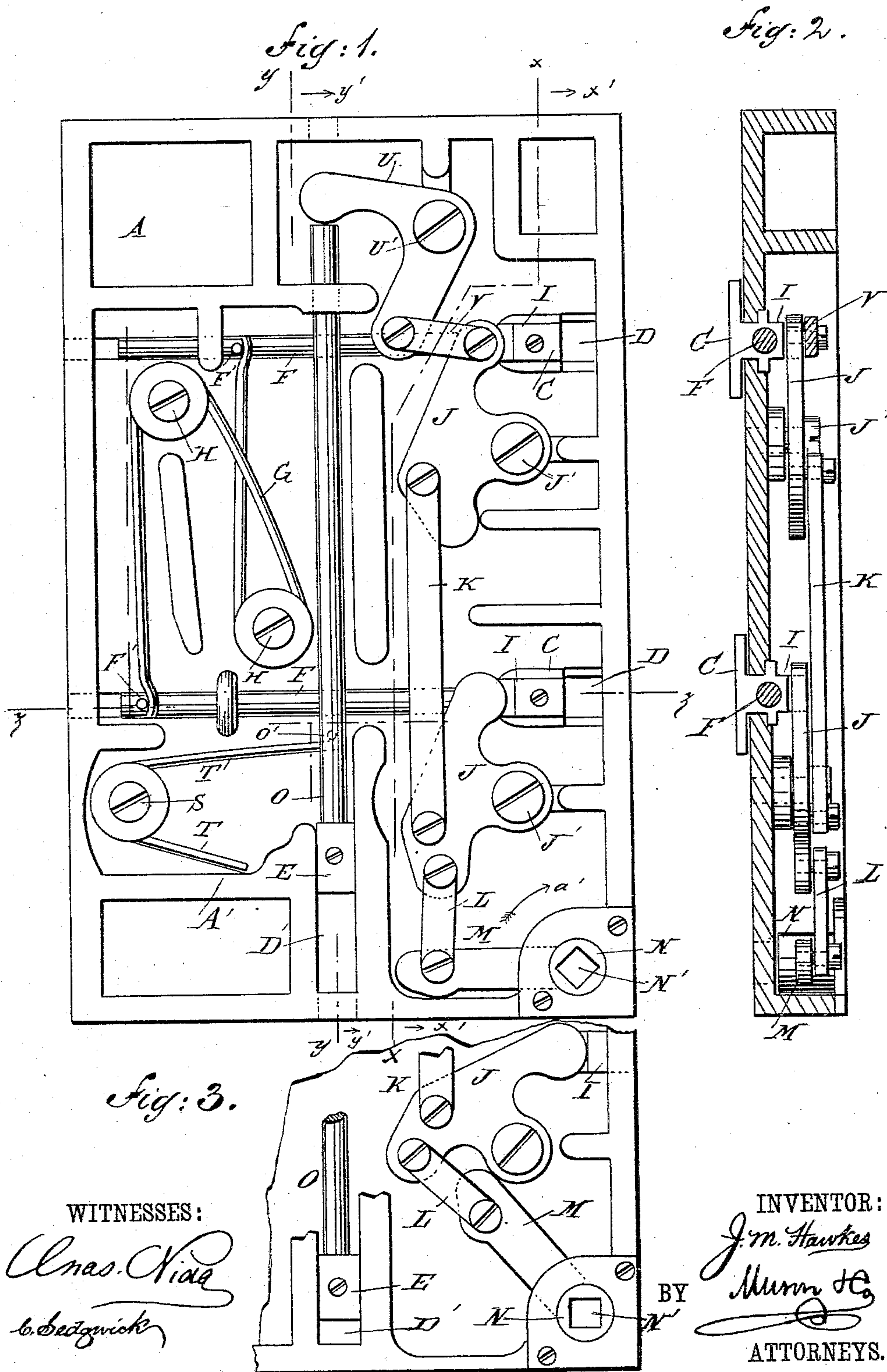
(No Model.)

2 Sheets—Sheet 1.

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UNITED STATES PATENT OFFICE.

JOHN M. HAWKES, OF NEW YORK, N. Y.

METALLIC PRINTING-BLOCK.

SPECIFICATION forming part of Letters Patent No. 369,521, dated September 6, 1887.

Application filed December 17, 1886. Serial No. 221,847. (No model.) Patented in Canada February 12, 1887, No. 25,987.

To all whom it may concern:

Be it known that I, JOHN M. HAWKES, of the city, county, and State of New York, have invented a new and Improved Metallic Printing-Block, (for which Canadian Letters Patent No. 25,987, dated February 12, 1887, have been granted me,) of which the following is a full, clear, and exact description.

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, and which is an improvement on the block for which Letters Patent No. 356,993 were granted February 1, 1887.

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

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 printing-block provided with my improvement, and showing the same in a locked position. Fig. 2 is a sectional side elevation of the same on the line xx of Fig. 1, looking in the direction of the arrow x' . Fig. 3 is a bottom view of part of a printing block, showing the parts in an open position. Fig. 4 is a face view of the printing-block, showing the electroplate in position, with parts broken out. Fig. 5 is a sectional side elevation of the same on the line yy of Fig. 1, looking in the direction of the arrow y' ; and Fig. 6 is a sectional end elevation of the same on the line zz of Fig. 1.

The printing-block A, of suitable size and form, is provided on its upper face (see Fig. 4) on one side and on one end with one, two, or more fixed clamps, B, and on the other side of the block A with one, 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, and on the other end are placed one or more movable clamps, E, which are of similar construction to the clamps C, and move in the grooves D' of the block A.

The movable clamps C are each secured to one end of a rod, F, adapted to slide in suitable

bearings formed below the face of the block A, and from the rod F, near its other end, projects a pin or lug, F', against which rests one end of the spring G, formed of one piece of spring-wire coiled around suitable bolts, H, held on the bottom of the block A. Each of the movable clamps C is provided with a downwardly-extending lug, I, against which rests one end of the bell-crank lever J, pivoted at J' to the bottom of the block A, and pivotally connected with a bar or rod, K, which connects the bell-crank lever J on one clamp C with the other bell-crank lever of the next following clamp C.

To one of the bell-crank levers J is pivotally attached a link, L, which connects with the arm M, secured to a post, N, placed in one corner of the block A, and provided with a square recess, N', into which fits a key having a handle, and inserted into the said square recess N' from the face of the block A.

The clamp E is secured to one end of a rod, O, sliding in suitable bearings formed on the bottom of the block A, and provided with a pin, O', against which rests one end of the spring T, coiled around the bolt S, held on the bottom of the block A, and the other end of the said spring T rests against the rib A' of the block A. The other end of the rod O operates one arm of the bell crank lever U, pivoted at U' to the bottom of the block A, and connected by its other arm by means of a link, V, with one of the bell-crank levers J.

The operation is as follows: In the position shown in Fig. 4 the movable clamps C and E are in an inner position, holding the plate W firmly on the face of the block A. If it is desirable to release the plate W from the clamps C and E, then the operator inserts the key into the square recess N' in the post N and turns the latter in the direction of the arrow a' until its arm M rests against the first bell-crank lever J, as shown in Fig. 3. This motion of the arm M forces the bell-crank levers J to swing outward by the action of the connecting-links L and K, and the outer ends of the levers J, pressing against the lugs I, cause the clamps C to slide outward, and thereby release the plate W at one side. At the same time that the clamps C commence to move, the clamp E also moves outward by the action of the bell-crank lever U on the rod O, carrying the said clamp

E, and the said bell-crank lever U being set in motion by the link V, connecting the said bell-crank lever U with one of the moving bell-crank levers J. It will be seen that by the simultaneous outward movement of the clamps C and E the springs G and T, respectively, are compressed, and as the link L is thrown beyond its center line, as shown in Fig. 3, the tension of the said springs is indirectly exerted against the arm M in the direction of the arrow α' , so that when the operator removes the key from the posts N the clamps C and E remain in their outer position. When the clamps C and E are opened, the plate W can be easily removed from the face of the block A, and when the plate W is to be locked in position then the operator turns the post N by means of the key in the inverse direction of the arrow α' until link L has passed its center line with the posts N. The springs G and T then commence to act and force the clamps C and E inward in contact with the plate W, which is thus securely held on the face of the block A.

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

1. In a metallic printing-block, the combination, with the post N, having the arm M, of the link L, connecting the said arm M with the lever J, the lever J, pivoted on the block A, the clamp C, having the projection I, and the rod F, operating against the spring G, substantially as shown and described.

2. In a metallic printing-block, the combination, with the levers J, actuated from the post N, of the link K, connecting the said bell-crank levers J with each other, the clamps C, each having a projection, I, the rods F, each provided with a pin, F', and the spring G, acting on the said pins F', substantially as shown and described.

3. In a metallic printing-block, the bell-crank lever J, the link V, and the bell-crank lever U, in combination with the rod O, provided with the pin O', the spring T, acting on the pin of the said rod O, and the clamp E, held on the said rod O, substantially as shown and described.

4. In a metallic printing-block, the movable clamps C and E, the rods F and O, carrying the said clamps C and E, respectively, and the springs G and T, operating on the said rods F and O, in combination with the bell-crank levers J and U, the link K, connecting the said levers J with each other, the post N, having the arm M, the link L, connecting one of the levers J with the said arm M, and the link V, connecting the other lever J with the said bell-crank lever U, substantially as shown and described.

5. In a metallic printing-block, the combination, with the block A and the stationary clamps B, formed on the face of the said block A, of the movable clamps C and E, sliding in grooves in the said block A, the rods F and O, carrying the said clamps C and E, the springs G and T, operating on the said rods F and O, the bell-crank lever U, operating on the said rod O, the bell-crank levers J, operating on the said clamps C, the link K, connecting the said bell-crank levers J with each other, the link V, connecting one of the bell-crank levers J with the said bell-crank lever U, the link L, pivotally connected to one of the bell-crank levers J, the arm M, pivotally connected with the said link L, and the post N, carrying the said arm M and mounted on the said block A, substantially as shown and described.

JOHN M. HAWKES.

Witnesses:

EDWARD HOLMES,
LABAN S. CUTLER.