5 Sheets—Sheet 1.

J. WATSON & J. L. De HUFF.

OSCILLATING PRINTING-PRESS.

No. 169,605. Patented Nov. 2, 1875.

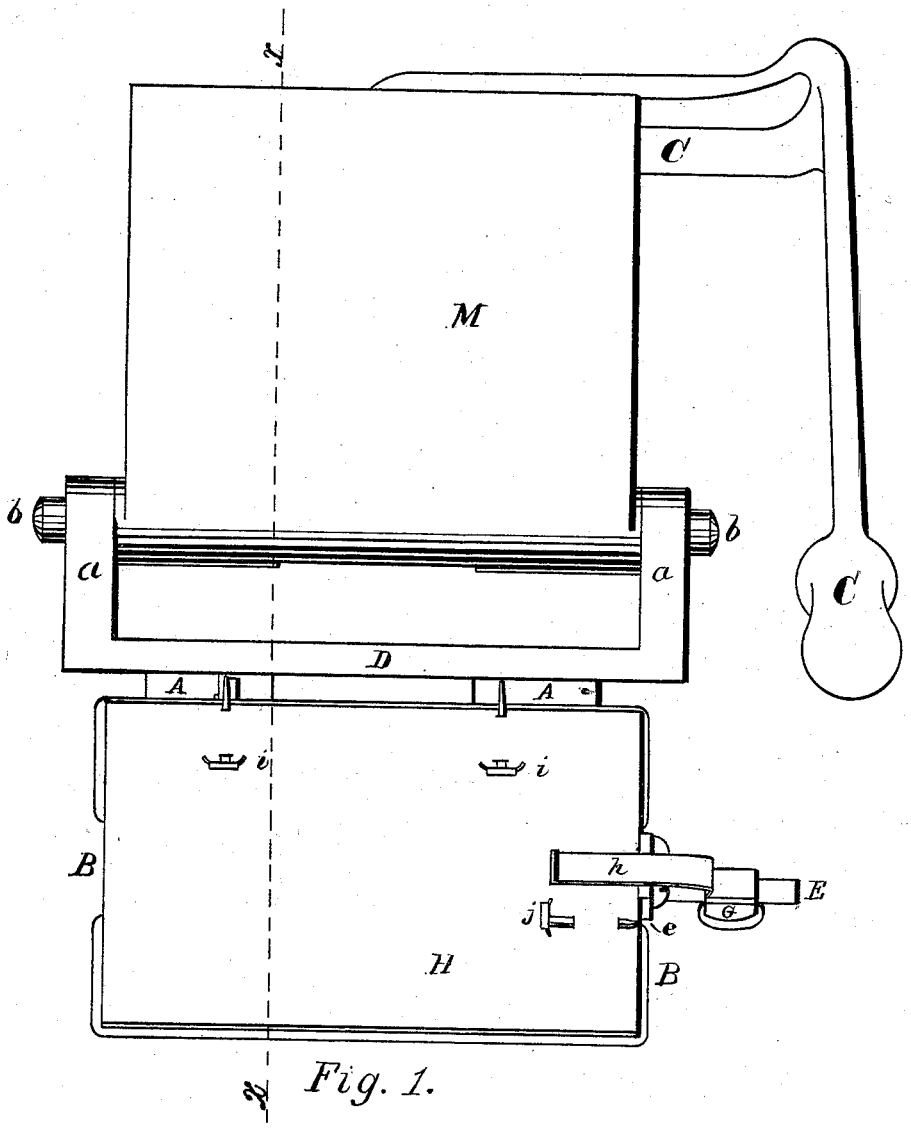

Fig. 1.

Witnesses.

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J. WATSON & J. L. De HUFF.

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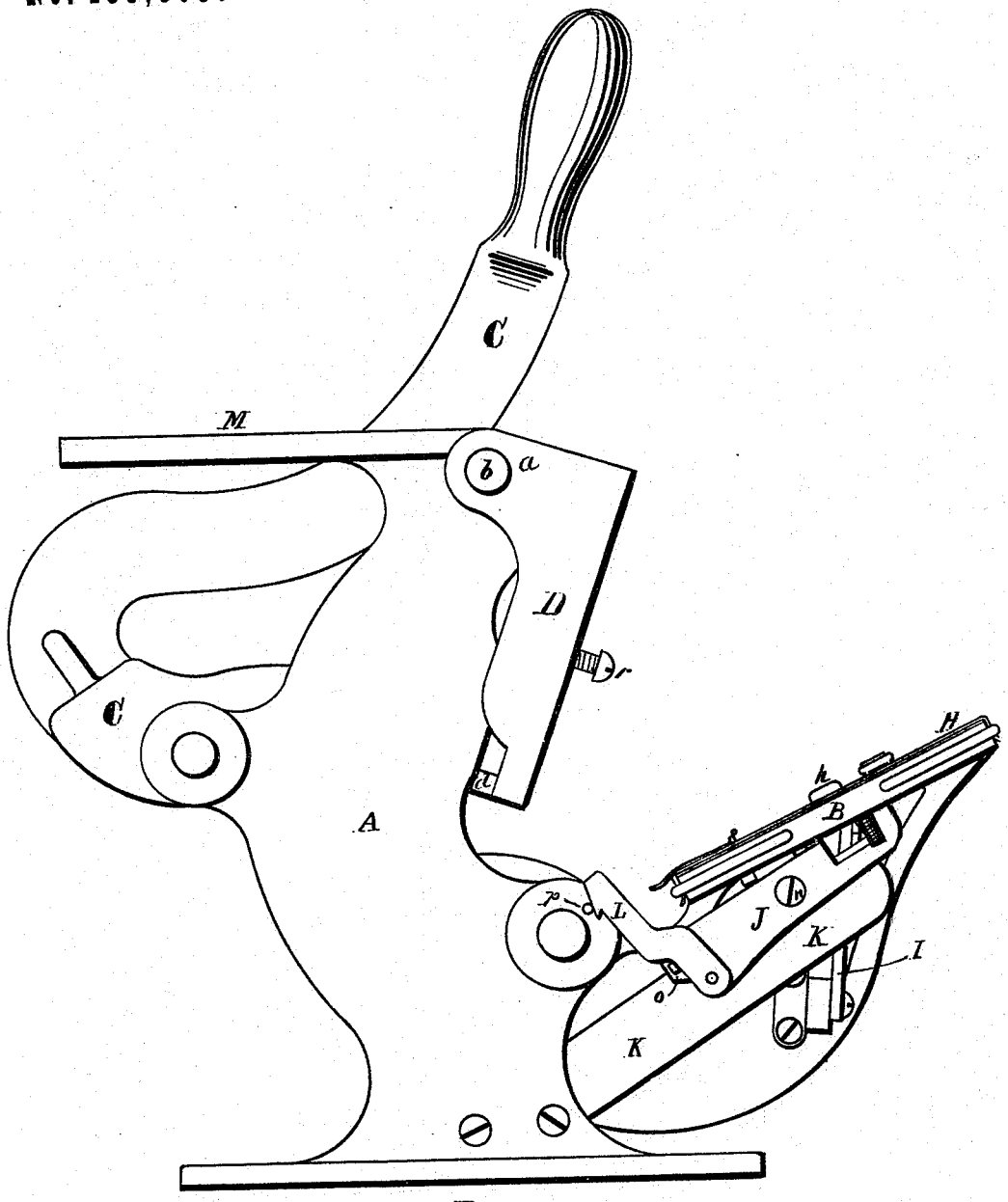

Fig. 2.

Witnesses.

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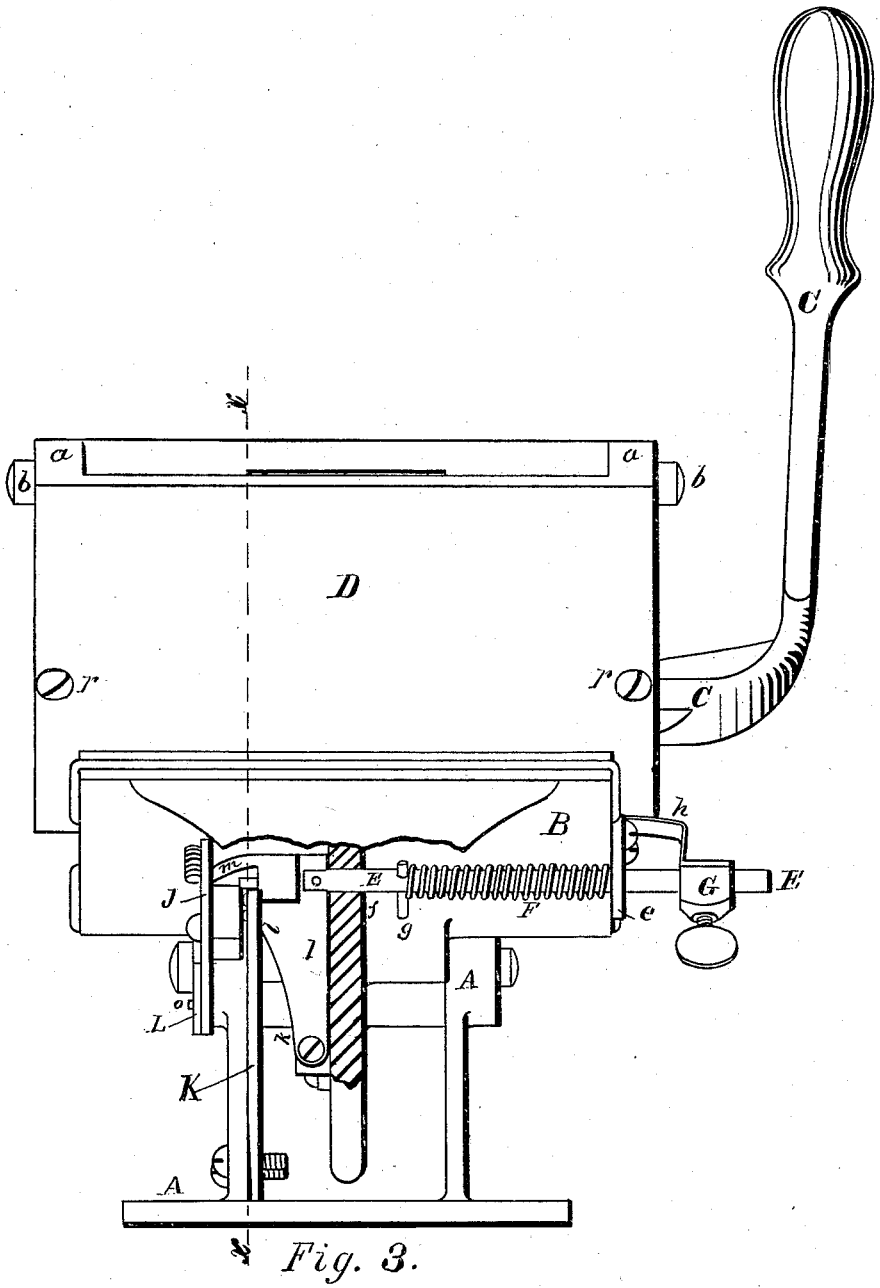

Fig. 3.

Witnesses.

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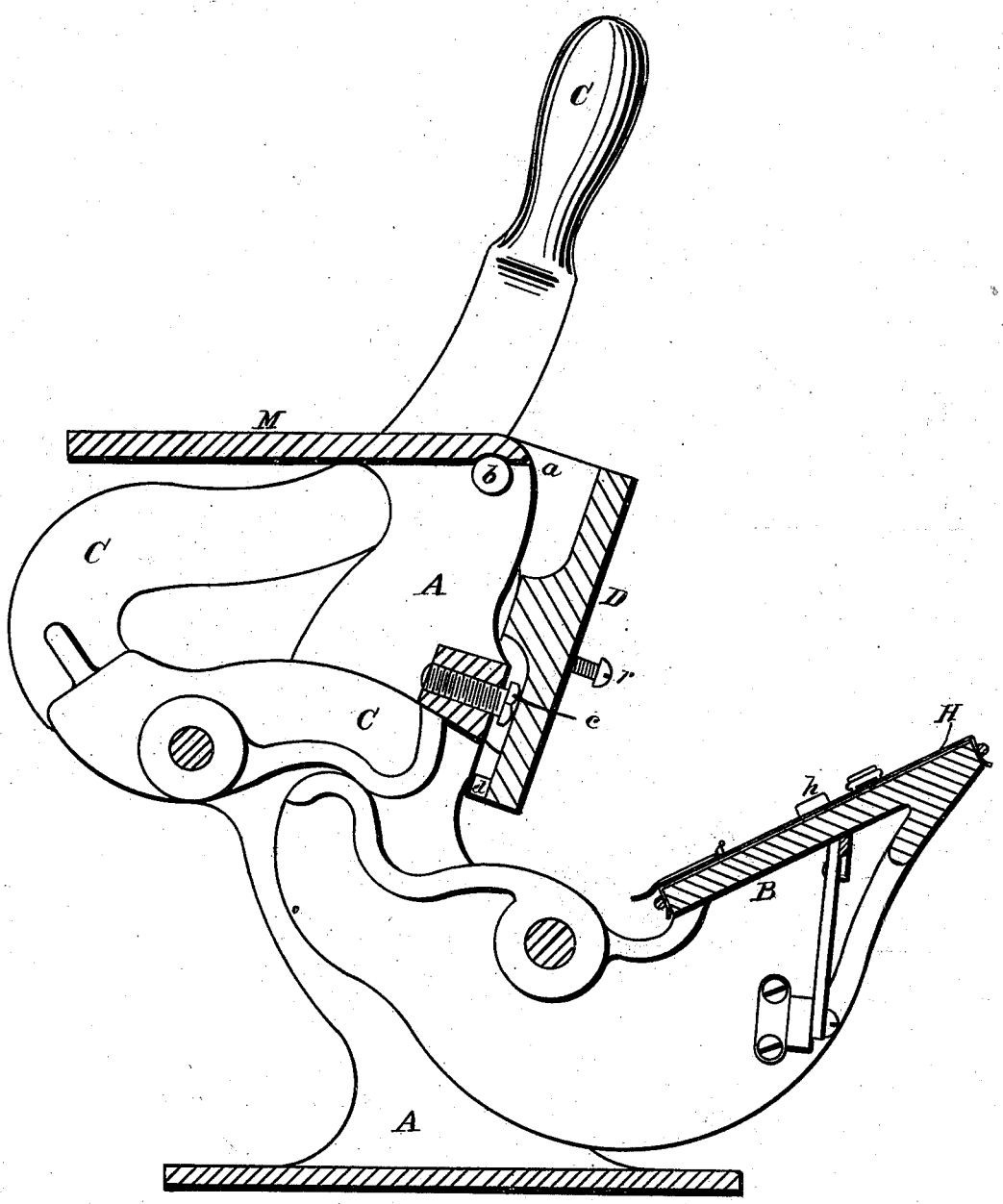

Fig. 4.

Witnesses.

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5 Sheets—Sheet 5.

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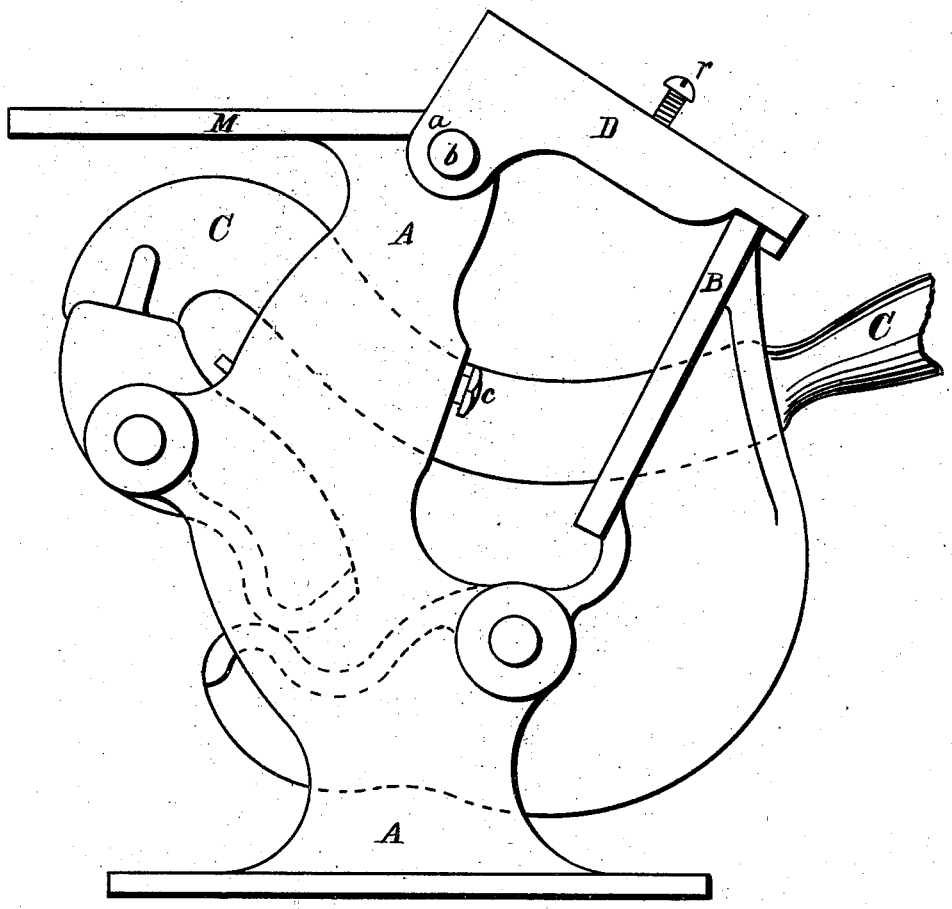

Fig. 5.

Witnesses.

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UNITED STATES PATENT OFFICE.

JOSEPH WATSON, OF EVERETT, AND JOHN L. DE HUFF, OF WOBURN, MASS.; SAID DE HUFF ASSIGNOR TO SAID WATSON.

IMPROVEMENT IN OSCILLATING PRINTING-PRESSES.

Specification forming part of Letters Patent No. **169,605**, dated November 2, 1875; application filed August 26, 1875.

To all whom it may concern:

Be it known that we, JOSEPH WATSON, of Everett, and JOHN L. DE HUFF, of Woburn, both in the county of Middlesex and State of Massachusetts, have jointly invented certain new and useful Improvements in Printing-Presses, of which the following, taking in connection with the accompanying drawings, is a specification.

The first part of our invention relates to the manner of constructing and hanging the type-bed; and it consists in pivoting the bed to the frame at a point near its upper edge, but in the rear of its face upon which the type are to rest, in such a manner that the bed may be swung up into a position nearly at right angles to its position when an impression is taken, to make the type-form more conveniently accessible for making changes, corrections, &c., without the necessity of removing the chase from the press to an imposing-stone, and so that the bed, when not supported in such elevated position, will fall, and be retained in proper position for taking an impression by the force of gravity. It further consists in the combination, with a type-bed pivoted as above described, of one or more adjustable bearing-points, against which the lower portion of the back side of the bed rests when in position for taking an impression.

The second part of our invention relates to a device for throwing off the card or envelope after the impression has been taken; and it consists in the use of a knock-off finger resting on the upper surface of the tympan-sheet, and attached to a rod or bar mounted in suitable bearings on the under side of the platen, and having a spring connected therewith in such a manner that the tension of said spring tends to move the rod and knock-off finger toward the card or envelope, for the purpose of knocking the card or envelope off from the platen; and suitable devices for moving back said rod and knock-off finger, and locking the same, and a device for releasing the lock, so as to allow the spring to act at the proper time, as will be further described.

In the drawings, Figure 1 is a plan, Fig. 2 a side elevation, Fig. 3 a front elevation, with a portion of the ribs on the platen broken away, and Fig. 4 a vertical section on line *x x* on Figs. 1 and 3, all illustrating a press embodying our invention. Fig. 5 is a side elevation, showing the type-bed thrown up in position for locking up a form or making corrections, the knock-off devices being removed.

A is the frame; B, the platen, constructed, arranged, and operated substantially as described in a pending application of John L. De Huff, filed June 29, 1875; C, the operating hand-lever, and D the bed. The bed D is provided with ears *a a*, by which, and the wrist-pins *b b*, it is pivoted to the frame A at a point in the rear of the upper edge of said bed, as shown.

The bed D naturally hangs in the position shown in Figs. 2 and 4, with the rear side of its lower portion resting against the adjusting-screws *c c*, in which position it is retained by force of gravity.

The bed D is also provided with a projecting lug, *d*, on its back side, near the lower edge, which serves to hook over the upper edge of the platen B when the bed is thrown up into the position seen in Fig. 5. This arrangement of the type-bed is a very great convenience, in that it saves a great deal of labor and a great many steps for the operator, it being very much less labor to swing the bed up into the position shown in Fig. 5, and make the corrections or adjustments of the form on the bed, than it is to take out the chase, carry it to an imposing-stone, make the corrections and changes, and replace the chase on the bed again. E is a rod or bar, mounted in suitable bearings *e f* on the under side of the platen B, in a position about under the center of the width of the platen, and parallel with the face of the platen and the axis about which the platen vibrates to give the impression. F is a spiral spring surrounding the rod E, one end of which bears against the bearing *e* and the other against the pin *g* set in the rod E. The rod E projects beyond the end of the platen on the right, and has adjustably secured thereto the hub or boss G, to the upper side of which is secured the light spring-finger or knock-off plunger *h*, of the form shown, arranged to rest in close contact with the upper surface of the tympan-sheet H, with its end

just back of the line of the end of a card or envelope resting against the gage-pins *i i* and *j*. The left-hand end of the bar or rod E is pivoted to the upper end of the radius-arm I, the outer edge of which is made curved or cam-shaped, as shown, from *k* to *l*, and has formed on or secured to its upper end, the projecting toe *m* arranged to engage with the pivoted latch J when the rod E is forced back by the cam-edge of the radius-arm I coming in contact with the stationary arm K during the last part of the downward motion of the platen. The latch J is pivoted at *n* to a stand or ear cast upon or secured to the under side of the platen, as shown, and has pivoted to its lower end the pawl-hook L, held in a position nearly at right angles to the latch J by the stop-pin *o*, set in said latch, and adapted to engage by its hook with a pin, *p*, set in a fixed position in the frame A.

The operation of our improved device for discharging the card or envelope from the platen after it has been printed is as follows: The parts being in the positions shown in Figs. 1, 2, 3, and 4, the radius-arm I has been thrown back by coming in contact with the fixed arm K and carried with it, the bar or rod E compressing the spring F and moving the knock-off finger or plunger *h* back, so that its inner end is outside or to the right of the gage-pin *j*. The card or envelope to be printed is now placed on the platen, with its lower edge resting against the gage-pins *i i*, and its right-hand end against the gage-pin *j* in a well-known manner.

The operator now gives the impression by moving the hand-lever C toward the front of the machine, and downward, the upward motion of the platen, and the parts attached thereto, causing the hook of the pawl L to pass over the pin *p*.

When the impression is completed and the operator begins to raise the hand-lever C, and as soon as the platen has descended far enough to release the card or envelope from the grasp of the holding-nippers, (if such are used,) the hook of the pawl engages with the pin *p*, and by stopping the motion of the lower end of the latch J while its fulcrum continues to move, causes its upper end to be disengaged from the toe *m*, when the expansion of the spring F causes the rod E and knock-off finger *h* to be suddenly moved to the left, the finger *h* striking the edge of the card or envelope a sudden sharp blow, and throwing it off from the platen toward the left.

A continuation of the downward motion of the platen causes the cam-edge of the radius-arm I to be brought in contact with and pass down by the arm K, throwing back the rod E and finger *h*, compressing the spring F, and withdrawing the toe *m* from the path of the latch-lever, the upper end of which is thrown in front of toe *m* by the preponderance of weight in its lower end; thus holding the finger *h* back until again tripped by the pawl L coming in contact with the pin *p*, as before described.

M is the ink-distributing plate, and *r r* are the holding-screws for securing the chase to the bed.

What we claim as new, and desire to secure by Letters Patent of the United States, is—

1. A type-bed of a printing-press, pivoted, at or near its upper edge, to the frame, and adapted to be raised and held in position, with its face-surface upward, substantially as and for the purposes described.

2. The combination of a type-bed, pivoted as set forth, and provided with a lug, *d*, with a vibratory platen adapted to engage with said bed, and lug to hold the bed in position, with its face-surface uppermost, substantially as described.

3. The combination of a type-bed, pivoted as set forth, and one or more adjustable bearing or regulating screws, *c c*, arranged to operate substantially as described.

4. The knock-off finger *h*, rod E, spring F, radius-arm I, provided with the toe *m* and cam *k l*, the latch J adapted to engage with the toe *m*, and stationary arm K, for retracting the rod E and spring F, and mechanism, substantially as herein set forth, for tripping the latch J, all constructed, combined, and operated substantially as described.

5. The combination of the finger *h*, rod E, spring F, radius-arm I, toe *m*, latch J, hook-pawl L, pin *p*, and stationary arm K, all constructed, arranged, and operating substantially as described.

6. The knock-off finger *h*, adapted to be moved in one direction by the spring F, the cam-shaped radius-arm I, the latch J, provided with the pawl-hook L, all attached to and moving with a vibrating or swinging platen, in combination with a fixed pin, *p*, and arm K, when said parts are so arranged that the movement of the platen away from the type-form shall release the toe *m* from the latch J, allowing the spring F to operate the finger *h*, to knock off the card, and then retract the finger *h*, cause the latch J to again engage with the toe *m*, and retain them in such position till another impression has been made, substantially as described.

Executed at Boston, Massachusetts, this 23d day of August, 1875.

JOSEPH WATSON,
JOHN L. DE HUFF.

Witnesses:
N. C. LOMBARD,
WM. P. EDWARDS.