(No Model.)

2 Sheets—Sheet 1.

J. G. PAVYER.

MACHINE FOR DRESSING TYPE MATRICES.

No. 306,855. Patented Oct. 21, 1884.

Fig. 1.

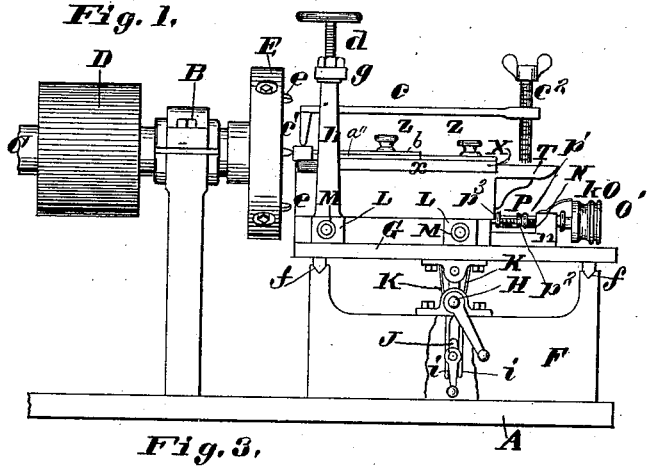


Fig. 2.

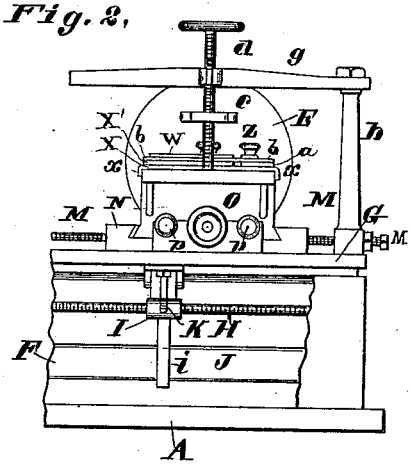


Fig. 3.

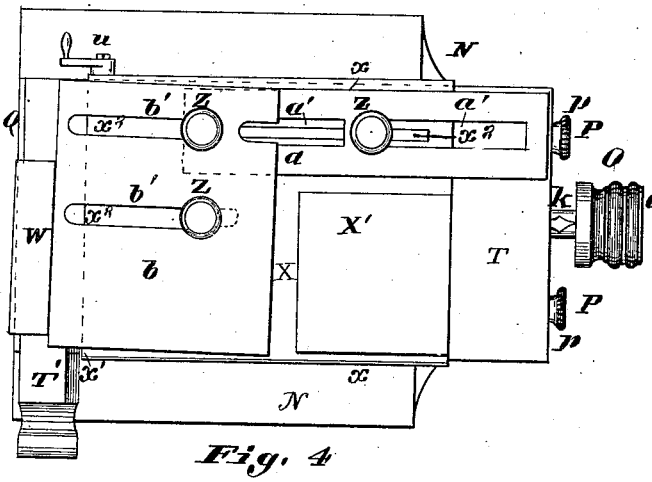


Fig. 4

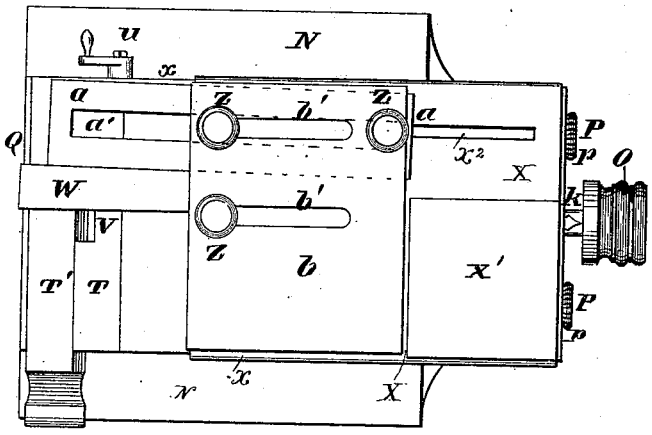


Fig. 5.

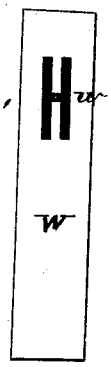


Fig. 7

Fig. 6.

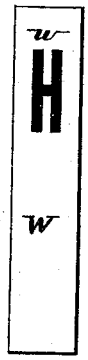


Fig. 8.

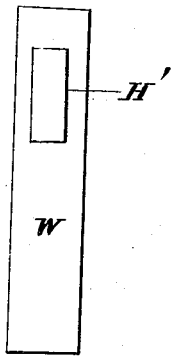
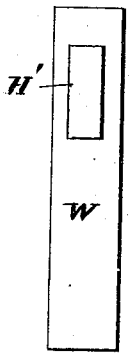


Fig. 9.



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(No Model.) 2 Sheets—Sheet 2.

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MACHINE FOR DRESSING TYPE MATRICES.

No. 306,855. Patented Oct. 21, 1884.

Fig. 10

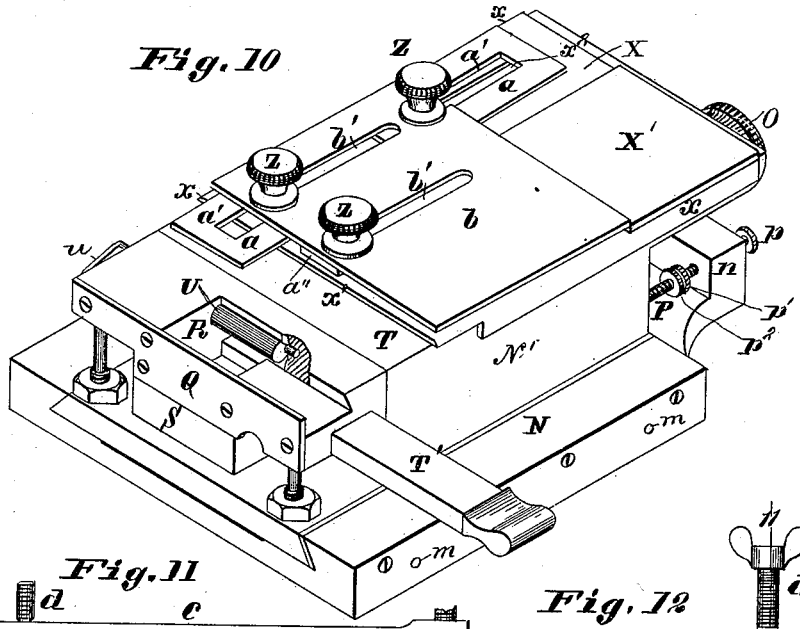

Fig. 11

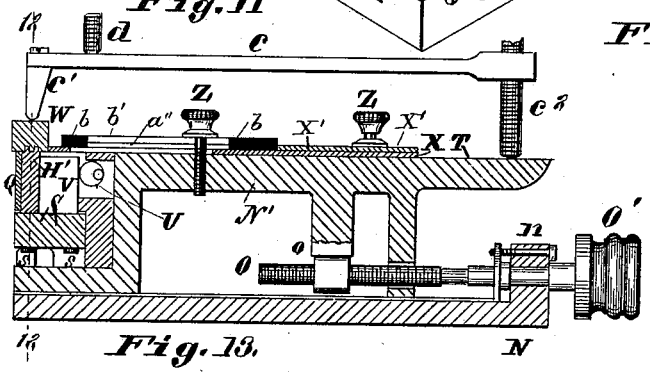

Fig. 12

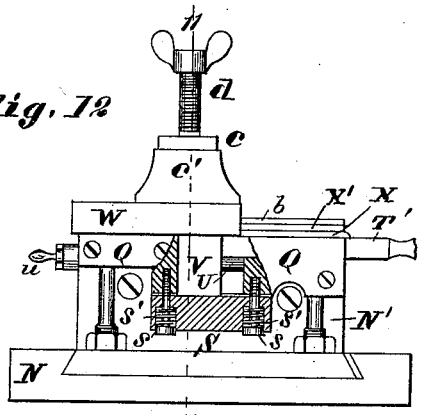

Fig. 13.

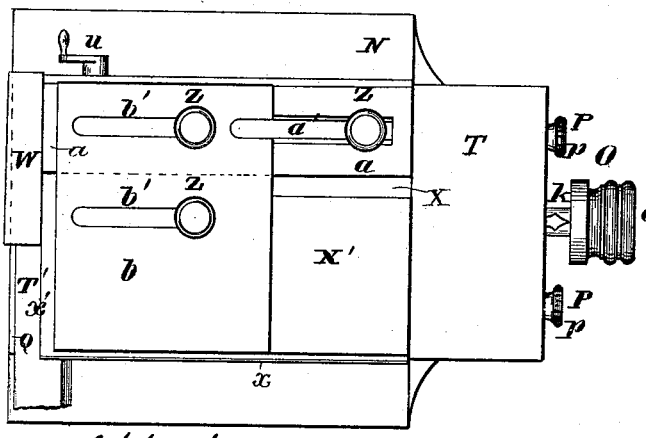

Fig. 14

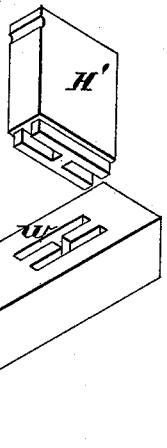

Fig. 15

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UNITED STATES PATENT OFFICE.

JAMES G. PAVYER, OF ST. LOUIS, MISSOURI.

MACHINE FOR DRESSING TYPE-MATRICES.

SPECIFICATION forming part of Letters Patent No. 306,855, dated October 21, 1884.

Application filed September 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. PAVYER, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Machine for Dressing Type-Matrices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This is a machine for dressing off the end and sides of a matrix perfectly parallel with the type-cavity.

In the drawings, Figure 1 is a side view, part broken out. Fig. 2 is an end view, with part broken away. Fig. 3 is a top view (enlarged) showing an undressed matrix in position for dressing one side, and Fig. 4 is a similar view showing the matrix in position for the dressing of the end. Figs. 5 and 6 are face views of the matrix in dressed and undressed condition, respectively. Fig. 7 is a face view of a type. Figs. 8 and 9 are respectively face views of the matrix in dressed and undressed condition, with a type inserted in the cavity in the position it occupies when the matrix is being dressed. Fig. 10 is a perspective view of the matrix-holder. Fig. 11 is a longitudinal section at 11 11, Fig. 12. Fig. 12 is an end view, part in transverse section at 12 12, Fig. 11. Fig. 13 is a top view of the holder, showing the matrix in position for the dressing of one side after the other side has been dressed true. Fig. 14 is a perspective view of a type. Fig. 15 is a perspective view of a matrix.

A represents a bed or table; B, the head-stock giving bearing to the spindle C, upon which is a drive-pulley, D, and a cutter-head, E, with cutters *e*.

Upon the table A stands the shears F, having guide-channels at *f* for the carriage G, which moves in a direction parallel with the face of the cutter-head E. The carriage is moved by a feed-screw, H, having bearing in the shears and working in a split nut, I. Each member of the nut has a finger, *i*, extending downward upon opposite sides of a cam, J, by the turning of which the members of the nut are spread out to disengage the feed-screw, so that the carriage may be moved backward or forward by direct action of the hand. The members of the nut are forced together by springs K, (to engage the feed-screw.) Upon the carriage are lugs L, through which pass screws M, whose points engage in recesses *m* in the sides of the matrix-holder frame N.

N′ is the matrix-holder, made to slide longitudinally in the frame N, to bring it into more or less distant relation to the cutter-head E. In this adjustment it is moved by a screw, O, that has bearings in the frame, and which works in a screw-threaded lug, *o*, beneath the holder. (See Fig. 11.) The longitudinal movements of the holder are limited by screws P, which are screwed into the rear end of the holder, and extend through a rib, *n*, of the holder-frame. The movement of the holder toward the cutter-head is limited by the head *p* of the screws, while the movement of the holder away from the cutter-head is limited by a nut, *p′*, upon the screw. p^2 and p^3 are jam-nuts, acting, respectively, to secure the screws P firmly in the holder, and to secure the nuts *p′* firmly upon the screws.

The principle on which the machine acts is this: that the type shall be locked in such a position in the holder that when the matrix is fitted to the type it shall be so presented to the cutters as it passes in front of them that its sides or end, as the case may be, will be made perfectly true with the type-recess of the matrix-plate.

Q is a hard steel plate that is fitted upon the end of the holder nearest to the cutter-head.

At R is a rectangular recess in the top of the holder, the inner side of the plate Q forming one side of said recess. The recess is made of sufficient size to receive the largest type whose matrix the machine is suited to dress, and the recess is made of such depth that when the type is in position only the projecting letter will be above the level of the top surface of the holder. To accommodate the recess to types varying somewhat in length, the recess is made with a spring-bottom, S, supported by means of screw-studs *s* and spiral springs *s′*. (See Figs. 11 and 12.)

T′ is a slide block working transversely in the holder, and whose end is made exactly perpendicular to the plate Q. The end of this slide is forced into contact with one side of the type when the latter is in position, and thus the type is held parallel with the sides and

ends of the recess. To hold the type H′ in hard contact with the plate Q, I use an eccentric, U, with an interposed block or quadrat, V. The eccentric is turned by a thumb-piece or handle, *u*. The matrix is shown at W, having a recess, *w*, in which the letter of the type exactly fits. The letter-recess is made in the matrix before its sides are finished up, so as to insure the sides (and one end) being exactly parallel with the recess. To accomplish this is the purpose of the machine.

The type H′ is first put in position in the recess R, and before it is made fast the matrix W is fitted on the type and pressed down until it lies flat upon the flat top T of the holder and the slide T′. Then the type is locked fast, which adjusts the matrix in exact position. The matrix is held in position by the following means:

X is a plate with downturned edges *x*, sliding on the parallel sides of the holder. The edge *x*′ of this plate, which is nearest to the type, is exactly perpendicular to the sides of the holder and parallel with the plate Q. The plate is slotted at x^2, for the passage of set-screws Z, by which it may be held in position.

Upon the plate X is another plate, *a*, that is adjustable, so that it may be placed with its edge against the side or end of the matrix, either before or after it may have been made true, thus giving side or end support to it, as the case may be. (See Figs. 4 and 3.) The plate *a* is held in position by set-screws Z, which pass through a slot, *a*′, in the plate, the slot being made sufficiently long and wide to admit of the required adjustment of the plate to the matrix.

b is another movable plate with slots *b*′, through which pass set-screws Z, that also pass through longitudinal slots of the plate X and into the table T.

a″ is a plate secured to the under side of plate *b*, to support it at sufficient height to play over the plate *a*.

X′ is a plate secured on the top of the plate X, forming a stop to the plate *b* to square it up.

The matrix is held down by a pressure-bar, *c*, having at one end a turnable foot, *c*′, resting upon the matrix, and at the other a screw, c^2, whose end rests on the table T. The pressure-bar is held down by a screw, *d*, turning in a cross-bar, *g*, above, supported on posts *h*.

k is a pointer indicating the position of the holder-table relatively to the cutter-head by an index or other marks upon the head O′ of the screw O.

Thus secured in place the matrix is moved along against the cutters *e*, which trim the side or end, according as the one or the other is presented to them. When one side of the matrix has been dressed and is reversed to dress the other side, the edge *x*′ of the sliding plate X is brought in contact with the dressed side to assist in holding the matrix in place.

I claim herein as of my invention—

1. The combination of movable holder N′, having a type-clamping device and flat matrix-table, the plate S, forming the bottom of the type-recess R, and springs for supporting said plate, substantially as described.

2. The combination, with a holder having a flat table for the matrix to rest on, and a recess to receive a type, of a spring-support within the recess, and the device for clamping the type, as set forth.

3. The combination, with a holder having a type-recess, of a plate to slide on the holder, having plates adjustable thereon to form side and end support to a matrix, as set forth.

4. The combination, with the type-holder N′, having table T, of the sliding plate X and adjustable plates *a* and *b*, substantially as set forth.

JAS. G. PAVYER.

Witnesses:
SAML. KNIGHT,
JOS. A. M. GRABLE.