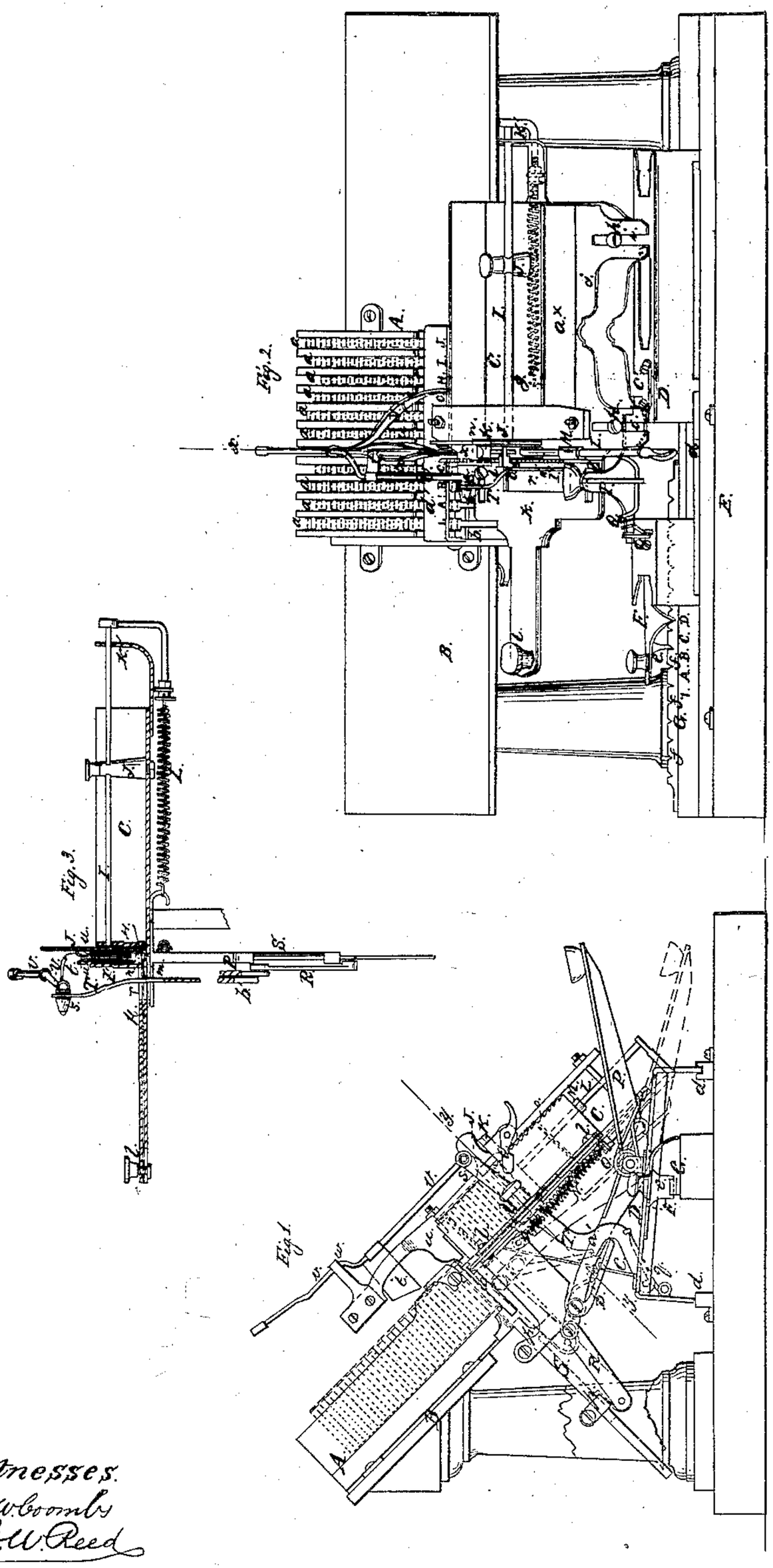
O. L. BROWN.

MACHINE FOR SETTING UP TYPES.

No. 36,991. Patented Nov. 25, 1862.



Witnesses.
J. W. Coombs
G. W. Reed

Inventor.
O. L. Brown
per Munn & Co.
attorneys

UNITED STATES PATENT OFFICE.

ORREN L. BROWN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR SETTING UP TYPES.

Specification forming part of Letters Patent No. 36,991, dated November 25, 1862.

To all whom it may concern:

Be it known that I, ORREN L. BROWN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Machine for Setting Up Types in Sticks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention. Fig. 2 is a front view of the same. Fig. 3 is a detached longitudinal section of the stick, taken in the line *y y*, Fig. 1. Fig. 4 is a side sectional view of the type case and stick, taken in the line *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved machine for "setting up" types—that is to say, for depositing them in the "stick" preparatory to placing them in the "galley," from which they are taken and locked up in the form.

The object of the invention is to obtain a simple device for the purpose specified, and one which may be operated or manipulated correctly by almost any person with but very little practice.

The invention consists in placing the type in a "case" formed of cells, each of such a width as to admit of a single row of type, and using in connection therewith a sliding stick, and certain mechanism arranged in such a manner that the stick may be shoved along below the case and brought in a proper relative position with any of the rows of type in the case and the type discharged from the case and properly deposited in the stick.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the type-case, which is placed in an inclined position on a suitable stand or support, B, and is formed of a series of narrow cells, *a*, each of which contains a single row of types, a sufficient number of cells being in the case to contain the letters of the alphabet, quads, &c., which are generally contained in the ordinary type-cases. The cells *a* are all parallel with each other, and they extend from the top to the bottom of the case, the lowermost type of each cell resting or bearing against cleats *b* at the lower end of the case, and which leave a portion of the lower ends of the types exposed, for the purpose hereinafter shown.

The case A is permanently attached to the stand or support B, and is inclined at an angle of about forty-five degrees, so that the type will have a tendency to fall or settle down against the cleats *b* by their own gravity, as will be fully understood by referring to Figs. 1 and 4.

C represents the stick into which the types are discharged from the case A. This stick is of rectangular form, like the ordinary ones in use, and it has an inclined position corresponding with the inclination of the case A. The stick rests on supports *c*, which are attached to a slide, D, placed on ways *d d*, secured to the base E, parallel with the support B of the case A, and this slide has an elastic plate, F, attached to one end of it, said plate having a pendent projection, *e*, near its outer end, which catches into any of a series of notches, *f*, in a bar, G, secured to the base E between the ways *d d* and parallel therewith. The lower side, $a^{\times}$, of the stick C is adjustable, it being attached to the bottom plate, *g*, by means of set-screws *h*, which pass through slots *i i* in a flange, *j*, at the bottom of said side $a^{\times}$. (See Fig. 2.) By this arrangement the width of the stick may be regulated to suit the length of the lines of type to be deposited in it. Within the stick there is placed a follower or sliding plate, H, which extends the whole width of the stick and is attached to a rod, I, which passes through a bearing, J, and also through a guide, K′. The outer end of this rod has a spiral spring, L, attached to it, as shown in Fig. 3, and this spring has a tendency to keep the plate H forced inward or toward the inner end of the stick, as will be fully understood by referring to Fig. 3. The inner end plate, I′, of the stick C is also adjustable, it having a flange, *k*, at its bottom, which is slotted for set-screws *l* to pass through, as shown in Fig. 2.

J is a slide, which is fitted in the stick C between the plate H and a ledge or shoulder, *m*, on the bottom plate, *g*, of the stick, as shown in Fig. 3, and K is a sliding or adjustable bar which is fitted in the space between the end plate, I′, and the slide J. This bar K has a rod, L, attached to it, which rod passes through an eye or guide, M, secured to the plate I′. The outer end of the rod L has a spiral spring,

N, connected to it, which spring has a tendency to keep the bar K shoved or pressed upward within the space *n* between the end plate, I′, of the stick and the slide J. The bar K is retained at any desired point within the space *n* by means of a pawl, O, which is attached to bar K and catches into a rack, *r*, at the upper edge of plate I′.

P is a lever which is attached to the slide D, on which the stick C is supported. This lever P has a spring, Q, connected to it and arranged in any proper way so as to keep the outer end of said lever elevated. The inner end of the lever P is connected by a link, R, with a slide, S, which is fitted and works within suitable guides, *p p*. The slide S is in line with the lower exposed ends of the type in the case A.

T is a lever, which is also attached to the slide D at the back part of the latter, and has a spring, *q*, connected with it, and so arranged as to keep the upper end of said lever forced upward or toward the upper end of a slot, *r*, in the flange *k* of the end plate, I′, and bottom plate, *g*, of the stick C, and to the upper end of the lever T there is attached, by a pivot or joint, *s*, a rod, U, which has a pendent plunger, *t*, secured to it, and which works between two pendent elastic plates, *u u*, connected to an arm, V, that is secured to the upper side of the stick C. The upper end of the rod U has an arm, *v*, connected to it, which works through a guide, *w*, on the arm V.

The lever T is provided with a notch, *a′*, which, when the front end of the lever P is depressed, receives the end of a pawl, *b′*, which is attached to lever P, and is thrown in contact with the notch *a′* by means of a spring, *c′*.

At the upper surface of the case A there is secured a plate, *d′*, which has the letters of the alphabet and other signs engraved or printed upon it, corresponding with the type in the cells *a* of the case. (See Fig. 2.)

The notches *f* in the bar G serve to prevent the slide D and stick C from casually moving in consequence of the pendent projection *e* of the plate F engaging with them, and these notches are so arranged or disposed as to hold the space *n* between the end plate, I′, of the stick and the slide J in line with the cells *a* of the case A, and said space may be brought in line with any of the cells by shoving the slide along on the ways *d d*, the notches *f* being all lettered in front, in order to enable the operator to adjust the stick properly to receive the type.

The operation is as follows: The case A has its cells *a* filled with the type, quads, and other signs used in typographical printing, and the slide D is moved along on the ways *d d*, so as to bring the space *n* in line with the cell *a* that contains the desired type to be discharged into said space. The operator then presses down the outer end of lever P, and thereby forces up the slide S, which as it rises pushes the lowermost type in the cell upward between the elastic plates *u u*, which hold the type in line with the space *n*, and when the operator withdraws his finger from the lever P the spring Q forces the outer end of said lever upward to its former position, the inner end of course falling at the same time, and the pawl *b′* catches into the notch *a′* of the lever T, and as the inner end of lever P falls forces outward the upper part of lever T, and the plunger *t* is forced down between the two elastic plates *u u*, and the type driven down into the space *n*, the plunger *t* ascending to its original position as soon as the pawl *b′* is disengaged from the notch *a′* under the action of the spring *q*, which forces back the lever T to its original position. The bar K serves as a support for the types in the space *n*, and said bar is forced down the thickness of a type each time the plunger *t* descends, and is held by the pawl O and rack *o*. The types are thus set up in the space *n* of the stick, and when said space is filled the end plate, I′, by relaxing or unscrewing the outer set-screw *l*, (the other set-screws *l* being merely guides) is shoved to the right, and the line of type is forced into the body of the stick C and also the slide J, which is then withdrawn from the stick and inserted at the left of the line of type in its former position. The plate H yields in consequence of the spring L being attached to its rod I, and said plate is made to form a bearing for the type within the stick. The end plate, I′, is then moved back and secured in its former position, another line of type discharged into the space *n*, and so on until the stick is filled. The plate *a′* serves to prevent more than one type being forced upward at once from the case A. The plate H is prevented from casually sliding in the stick C by means of a set-screw, C′, which is fitted in the bearing J of the rod I, and is made to clamp the rod each time after the plate H is forced back in the stick, the screw *c′* being turned to free the rod I previous to each adjustment of the end plate, I′. By adjusting the end plate, I′, nearer to or farther from the sides of the stick C, the space *n* may be made of a greater or less width, to suit different-sized types.

It will be seen from this description that the type may be set up within the stick with but very little practice.

The ordinary mode of setting up type requires a great deal of practice. A person must become familiar with the compartments within the case in order to take the types therefrom with facility, and even with old and experienced compositors many errors occur.

My invention may be constructed at a very moderate cost, so as to be within the reach of small printing-offices, and, if properly constructed, there will be no parts liable to become deranged by use, so as to render its operation imperfect.

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

1. The employment or use of a type-case, A, provided with a series of type-cells, *a*, in

combination with a sliding stick, C, provided with a plate, H, plunger *t*, and slide S, so arranged that the stick may be moved along and its space *n* adjusted in line with any of the type-cells *a* in the case A, and the type discharged from the case into the stick, substantially as herein set forth.

2. Operating the slide S and plunger *t* through the medium of the lever P, provided with a spring, Q, a pawl, *b'*, and a lever, T, provided with a notch, *a'*, and having the plunger-rod U attached to its upper end, all arranged as shown, whereby the types are forced upward and out from the cells *a* of the case A and into the space *n* of the stick, as set forth.

3. Providing the stick C with an adjustable side, $a^{\times}$, and an adjustable end plate, I', in connection with a self-adjustable bar, K, placed in the space *n*, and secured in position by the pawl O and rack *o*, whereby the stick may be adapted for receiving lines of types of greater or less length and width, as may be required, and the lines of type, when set up, forced into the stick, as herein described.

ORREN L. BROWN.

Witnesses:
EBENEZER GAY,
JOHN S. HUMBERT.