No. 765,365. PATENTED JULY 19, 1904.

P. J. LAMP'L.

APPARATUS FOR MOLDING AND CASTING PRINTING TYPE.

APPLICATION FILED SEPT. 23, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

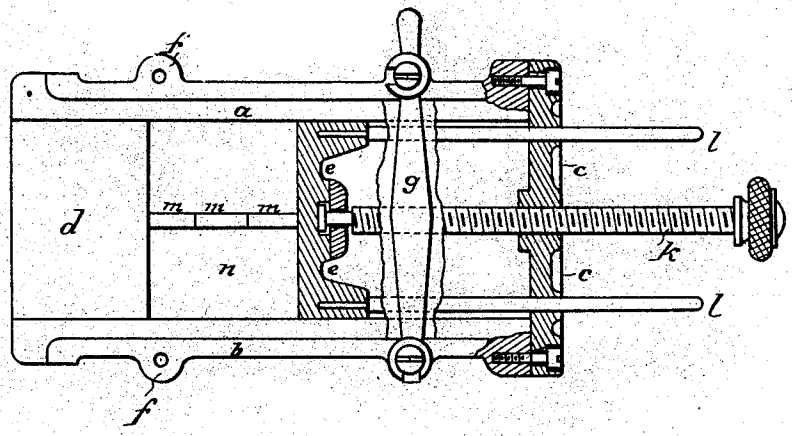


Fig. 2.

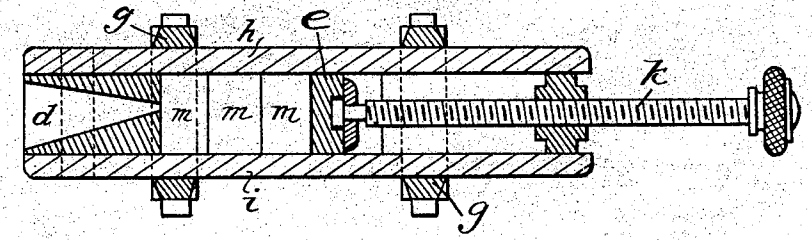


Fig. 3.

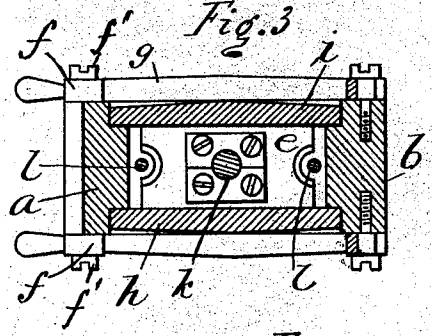


Fig. 4.

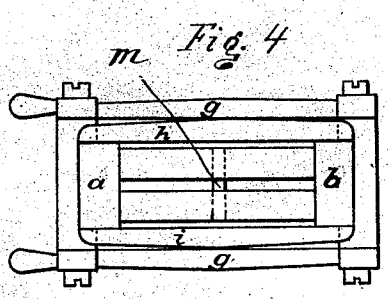
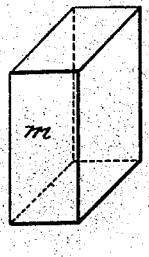


Fig. 5.



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No. 765,365. PATENTED JULY 19, 1904.

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APPARATUS FOR MOLDING AND CASTING PRINTING TYPE.

APPLICATION FILED SEPT. 23, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 6.

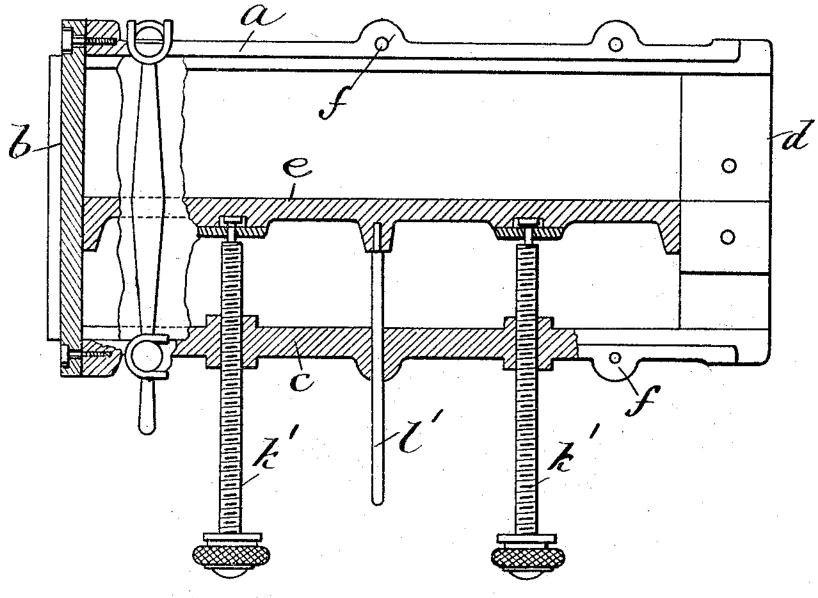


Fig. 7

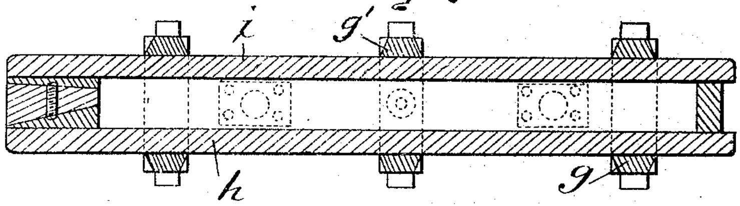


Fig. 8

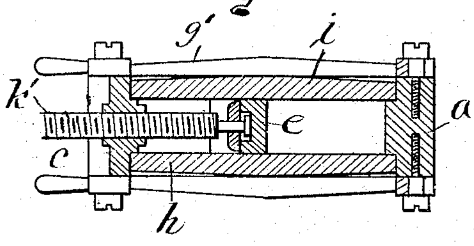


Fig. 9

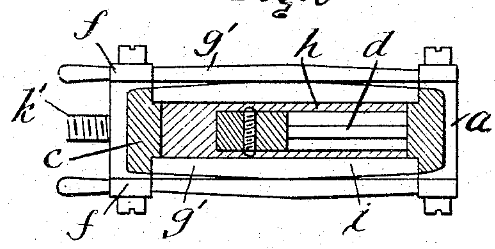
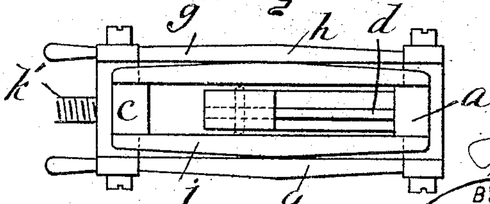


Fig. 10



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No. 765,365. Patented July 19, 1904.

UNITED STATES PATENT OFFICE.

PAUL JULIUS LAMP'L, OF WIESBADEN, GERMANY.

APPARATUS FOR MOLDING AND CASTING PRINTING-TYPE.

SPECIFICATION forming part of Letters Patent No. 765,365, dated July 19, 1904.

Application filed September 23, 1902. Serial No. 124,541. (No model.)

To all whom it may concern:

Be it known that I, PAUL JULIUS LAMP'L, a subject of the Emperor of Germany, residing at Wiesbaden, in the Province of Hesse-Nassau, Kingdom of Prussia, and Empire of Germany, have invented a new and useful Apparatus for Molding and Casting Printing-Types, of which the following is a specification.

My present invention relates to an improved forming and casting apparatus for reproducing type-setting material; and the object of the invention is to provide an apparatus by which a printer may easily and without special knowledge easily reproduce from any ordinary type-set material, such as words, ornamental printing, and the like.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view with parts broken away and parts removed. Fig. 2 is a central longitudinal vertical section. Fig. 3 is a transverse section with the types represented as in inverted position. Fig. 4 is an end view looking from the left of Fig. 2. Fig. 5 is a detail view showing one of the blocks used for filling purposes. Fig. 6 is a view similar to Fig. 1, but showing a modified form. Fig. 7 is a longitudinal sectional view. Figs. 8 and 9 are transverse sectional views, and Fig. 10 is an end view looking from the right of Fig. 6.

Referring by reference characters to these figures, it will be seen that the device includes two side pieces *a b*, which are rigidly though detachably connected together by an end plate *c*, secured to the plates *a b*, preferably by set-screws, as shown. The opposite edges of the plates *a b* are rabbeted, as indicated more clearly in Fig. 3, to form seats to receive the edges of the face-plates *h i*. These plates are held removably on the seats and are adapted to be held in position during the casting operation by cross bars or arms *g*, pivotally connected by means of screws, as shown, to one of the side plates, as *b*, and having recess portions *f*, adapted to be engaged with and disengaged from corresponding screws *f'*, carried by the plate *a*. A set-screw *k* passes through the end plate *c* and has a swiveled connection at its inner end with a movable wall or follower *e*, a screw being provided at its outer end with a suitable head or handle. In the opposite end of the device is located a block or blocks *d*, recessed to form the sprue-hole. It will be noticed that the smaller end of this sprue-hole is located nearer to the plate *h* than it is to the plate *i*.

At *m*, Fig. 5, I have shown an enlarged view of one of the filling-blocks, which are shown in position in Figs. 1 and 2. In order to guide the follower *e* more effectually and hold it in proper alinement, I provide rods *l*, which are secured to firmly-extended portions of the follower and passing through suitable openings in the end plate *c*.

In the form shown in Figs. 6 to 10, both inclusive, owing to the increased length of the device I prefer to provide two set-screws *k'* for the follower and but a single guide-rod *l'*, and it is desirable in this form to provide an additional set of clamping arms or bars *g'* between the others, as indicated in Fig. 7. As this form is in other respects substantially the same, further and more detailed description thereof is deemed unnecessary.

In using the apparatus it will be understood that plate *i* is removed by putting aside the holding-arms *g*, and a type-set material is inserted either in the corner formed by side *a* and end *d* or in the corner formed by side *b* and end *d*, supposing that the set material does not occupy the entire space within the casting device. The spacing-blocks *m* are then placed alongside of the free side edge of the type-set material. The follower is moved up to clamp the material and the blocks *m* rigidly in position. It will thus be seen that a space is provided above the face of the type-set material, which is bounded, say, by the wall *a*, which is back of the type-set material, the inner face of the block *d*, the face of the blocks *m*, and the inner face of the follower. This space over the type-set material is then filled up slightly above the side walls thereof with a proper molding material, such as gypsum or the like, and after the mass has become hard all the material which projects above the side walls is removed. The formed matrix

and the type-set material are then removed from the apparatus, and instead of the type-set material the matrix is again replaced with its face pointing upward. The apparatus is then adjusted in the same manner as before, and finally plate *i* is applied in place and the apparatus is ready to receive the casting. This of course is done by supporting the apparatus in a vertical position with the sprue-hole uppermost and pouring in the casting material. In order to take the casting out of the apparatus, it is placed with the facing-plate *i* downward. The plate *h* is then removed, and as the matrix rests on top of the casting it may be easily removed without damage after the set-screw *k* and the inserted pieces *m* and *n* have been loosened.

Having thus described my invention, what I claim is—

1. Forming and casting apparatus for reproducing type-set material comprising a rigid frame with movable facing-walls and inserted pieces and having a sprue-hole located in one end and in a plane nearer to one facing-wall than the other, substantially as described.

2. A forming and casting apparatus for the reproduction of type-set material comprising a rigid frame with side walls and inserted pieces, top and bottom facing walls or plates, and means for securing said plates removably in position, substantially as described.

3. In combination, the rigid frame, a movable partition, removable spacing-blocks, removable top and bottom plates and means closing the open end of the frame, said means having a sprue hole or opening located to one side of the central plane of the frame.

4. In combination, the side plates, the end plates rigidly connecting the same, the facing-plates situated in rabbets in the edges of the side plates, locking arms and screws for holding said facing-plates in place, and a follower confined between said side facing-plates, and an operating-screw connected with said follower and passing through the end plate, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

PAUL JULIUS LAMP'L.

Witnesses:

JEAN GRUND,

CARL GRUND.