

(No Model.)

W. GROTHE.
ADJUSTABLE TYPE FOUNDING APPARATUS.

No. 501,934.

Patented July 25, 1893.

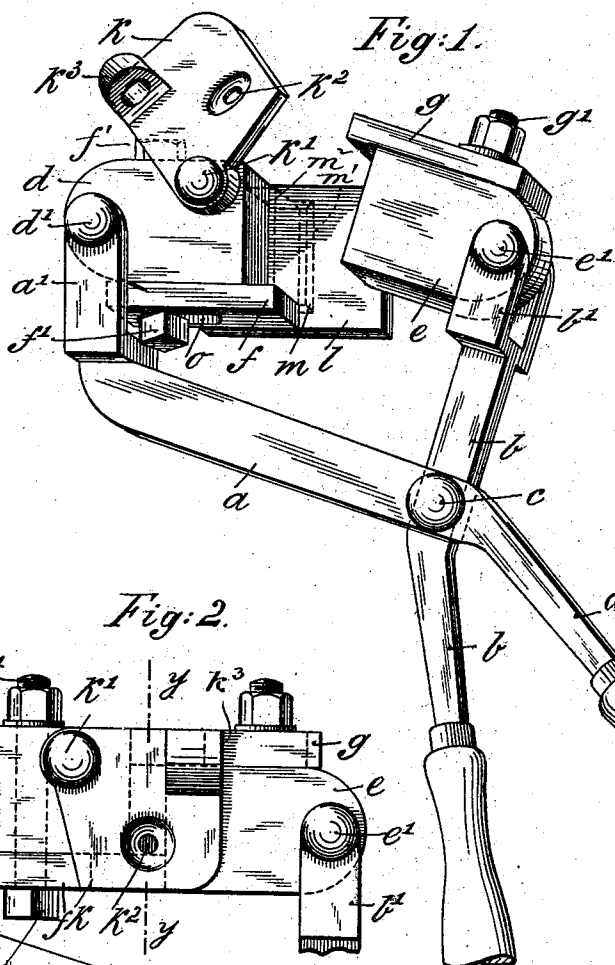


Fig. 4.

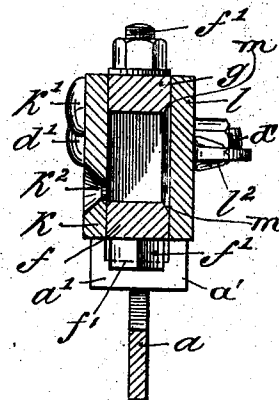


Fig. 2.

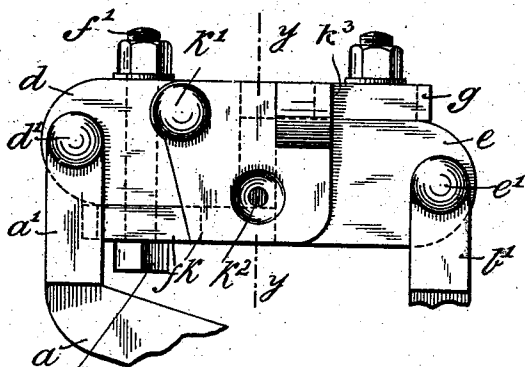


Fig. 3.

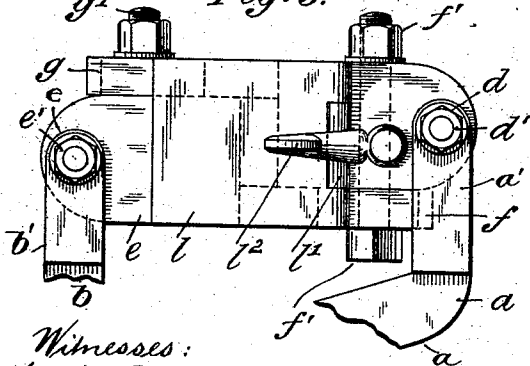
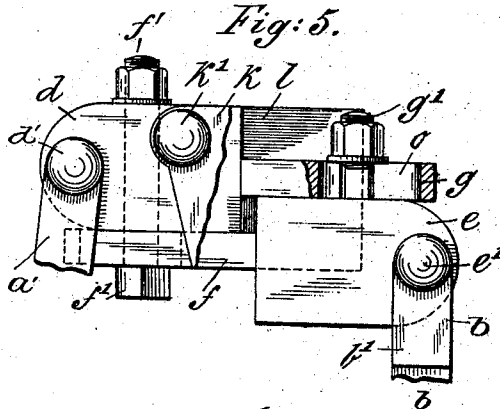


Fig. 5.



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UNITED STATES PATENT OFFICE.

WALDEMAR GROTHE, OF BERLIN, GERMANY.

ADJUSTABLE TYPE-FOUNDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 501,934, dated July 25, 1893.

Application filed April 14, 1892. Serial No. 429,239. (No model.) Patented in Germany September 12, 1891, No. 62,787.

To all whom it may concern:

Be it known that I, WALDEMAR GROTHE, a subject of the Emperor of Germany, residing at the city of Berlin, Germany, have invented certain new and useful Improvements in Adjustable Type-Founding Apparatus, (for which I obtained German Letters Patent No. 62,787, of September 12, 1891,) of which the following is a specification.

In practice it frequently happens that the compositors set up all the type of a particular letter or character contained in the fonts of type belonging to a printing establishment, and under such circumstances it becomes necessary to obtain additional fonts of type from the type founder in order to supply such deficiency thus entailing loss of time and incurring expense.

The principal objects of my present invention are first, to provide a simple, durable, reliable and comparatively inexpensive apparatus adapted for use by compositors, printers and others as a means for founding or casting types; and second, to construct and arrange the parts of such type founding apparatus in such manner that the same may be employed for casting or founding types of any required size.

My invention consists of a type founding device comprising a pair of pivotal levers provided respectively with jaws having adjustable end and pivotal side plates and one of them provided with a pour hole or gate.

My invention further consists of a type founding device comprising a pair of pivotal levers provided respectively with jaws having adjustable end plates and pivotal side plates; and my invention further consists of the improvements in type founding devices hereinafter described and claimed.

The nature, characteristic features and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof; and in which—

Figure 1, is a perspective view of an adjustable type founding device embodying features of my invention and showing the jaws and one of the side plates in open position, and also showing the parts of the device arranged to make the largest type. Fig. 2, is a front view of the upper portion of the device

illustrated in Fig. 1, showing the jaws and side plate in closed position and also showing the gate or pour-hole of the mold. Fig. 3, is a rear view of the upper portion of the device illustrated in Fig. 1, showing a catch for normally maintaining the other side plate in closed position. Fig. 5, is a front view of the device illustrated in Fig. 1, showing the side plate thereof broken away and also showing the parts in position for making the smallest type; and Fig. 4, is a sectional view taken on the line $y-y$ of Fig. 2, and illustrating a space for the reception of the papier-maché that constitutes the matrix.

In the drawings a and b , are hand-levers pivoted together as at c , and provided with bifurcated upper extremities a' and b' , to which the jaws d and e are pivotally connected by means of bolts and nuts d' and e' .

f and g , are end plates provided with oblong slots, Figs. 1 and 2, for the reception of binding-screws f' and g' , suitably connected with the jaws d and e , so that the end plates f and g , may be shifted endwise in respect to the jaws d and e , for purposes hereinafter explained and then clamped to place by means of binding-screws f' and g' .

k , is a side-plate pivoted as at k' , to the jaw d , and provided with a pour-hole or gate k^2 , having sharp edges and with an eye k^3 , for purposes to be presently described.

l , is another side-plate pivotally connected with the jaw d , by means of a hinge l' , as illustrated in Fig. 3.

l^2 , is a latch or button for maintaining the plate l , normally in closed position and for permitting the same to be opened. The edges of the jaws d and e , are beveled off as at m , in order to form a space for the reception of the mass of papier-maché m' , or other analogous material that is employed as the matrix.

The mode of operation of the hereinabove described device, is as follows:—The type constituting the pattern, for example, the type m^2 , shown by dotted lines in Fig. 1, is inserted between the jaws d , and e , and the end plates g and f , whereupon the working faces of the jaws d and e , are fitted to the sides of the type m^2 , by means of the set-screws f' and g' , and by turning the jaws about their pivots e' and d' . These jaws are then clamped to the

levers *a* and *b*, by means of the bolts and nuts *d'* and *e'*, and the end plates *g* and *f*, are clamped to the jaws by means of the setscrews *f'* and *g'*. The pattern type *m*², is then removed and a mass of papier-maché *m'*, Fig. 1, is applied to the side-plate *l*, and is held to place by means of the beveled edges *m*, of the jaws as illustrated in Fig. 4. An impression of the character of the pattern type *m*², is then obtained in the papier-maché *m'*, whereupon the device is closed, as illustrated in Fig. 2, and the interior space or mold included by the ends of the jaws *d* and *e*, the end plates *g* and *f*, the side plate *k*, and the papier-maché matrix *m'*, is filled with melted type metal that is introduced through the gate or pour-hole *k*². After the molten type metal has set the side-plate *k*, is opened by means of a rod, not shown, that may be inserted in the eye *k*³. During this operation the sharp edge of the gate *k*², severs the metal that may have cooled therein, or in other words, the lug from the cast type. The finished type may then be removed from the mold by slightly opening the jaws *d* and *e*, and permitting it to fall out. The repetition of the hereinbefore described operation results in the production of similar type. Whenever it becomes necessary or desirable to remove the papier-maché matrix *m'*, the button or latch *l*², is turned to one side and the side-plate *l*, is opened around its hinge *l'*, whereupon the matrix *m'*, may be readily removed from the device.

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

1. A type founding device, comprising a

pair of pivotal levers provided with jaws having adjustable end plates and pivotal side plates and one of them provided with a pour hole or gate, substantially as and for the purposes set forth.

2. A type founding device, comprising a pair of pivotal levers provided with pivotal jaws having adjustable end-plates and a pair of side-plates, whereof one is pivotally supported and provided with a pour-hole or gate, substantially as and for the purposes set forth.

3. A type founding device, comprising a pair of pivotal levers provided with pivotal jaws having adjustable end-plates, a pivotal side-plate having a gate or pour-hole, a hinged side-plate for supporting a matrix, and a button or latch for engaging the hinged side-plate, substantially as and for the purposes set forth.

4. A type founding device comprising a pair of pivotal levers provided with jaws having end-plates and beveled edges, a side-plate hinged to one of said jaws and constituting with the beveled edges of the jaws a support for a matrix, means for maintaining said side-plate in closed position, and a second side-plate pivoted to one of said jaws and provided with a pour-hole or gate, substantially as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WALDEMAR GROTHE.

Witnesses:

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W. HAUPT.