H. DEGENER.

TYPE SETTING AND LINE CASTING MACHINE.

APPLICATION FILED JULY 21, 1910.

1,067,591. Patented July 15, 1913.

Fig. 1.

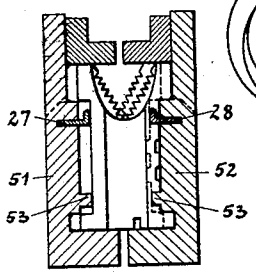


Fig. 2.

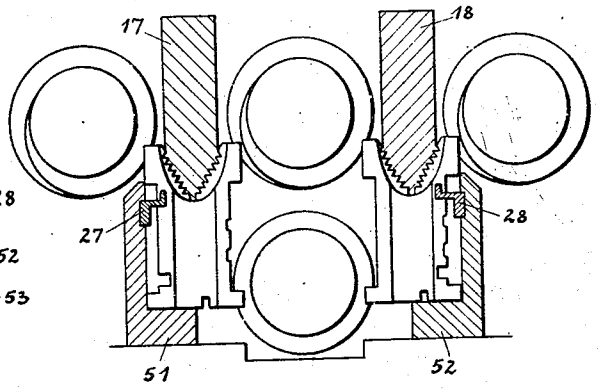


Fig. 3.

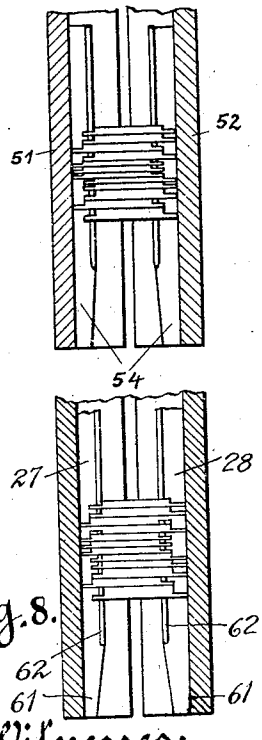


Fig. 4.

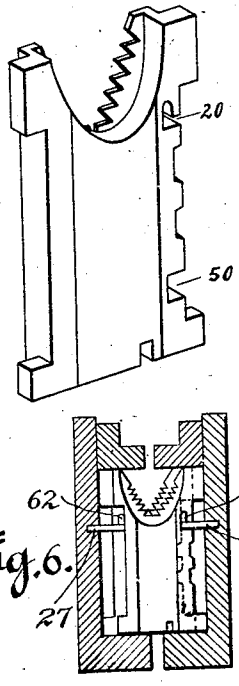


Fig. 5.

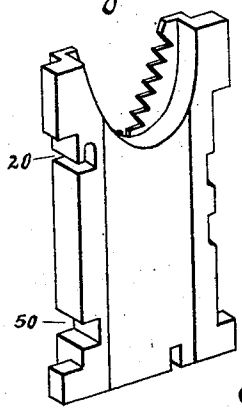


Fig. 7.

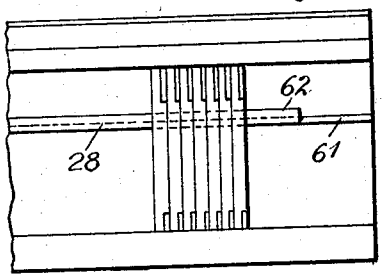


Fig. 8.

Witnesses:

Inventor:

UNITED STATES PATENT OFFICE.

HEINRICH DEGENER, OF BERLIN, GERMANY, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

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TYPE-SETTING AND LINE-CASTING MACHINE.

1,067,591. Specification of Letters Patent. Patented July 15, 1913.

Original application filed March 11, 1909, Serial No. 482,845. Divided and this application filed July 21, 1910. Serial No. 573,075.

To all whom it may concern:

Be it known that I, HEINRICH DEGENER, residing at 26 Hollmannstrasse, Berlin, German Empire, a subject of the Emperor of Germany, manager, having invented certain new and useful Improvements in or Relating to Type-Setting and Line-Casting Machines, do hereby declare that the following is an exact specification of the same.

This invention relates to a device for separating the matrices composed into a line from various magazines and bringing them back into the corresponding magazines, such as described in my United States application Serial No. 482845 of which this application is a division. The said application shows means for sorting the matrices after the line has been cast and the present application relates to other means for the same purpose.

The accompanying drawings illustrate, by way of example, in Figures 1–5 a construction of the separating mechanism for the matrices, namely Fig. 1 shows a cross-section through the sorting box, Fig. 2 is the same view after the pulling apart of the two portions of the box, Fig 3 is the plan of Fig. 1, Figs. 4 and 5 show each a perspective view of the two kinds of matrices. Figs. 6–8 show another construction of the matrix separating mechanism, in which, Fig. 6 is a cross-section through the sorting box, Fig. 7 side elevation of one half of the same and Fig. 8 the corresponding plan.

According to the means for separating the matrices, shown in Figs. 1–5, the matrices are provided with recesses 50 below the recesses 20 by means of which the matrices engage with the bars receiving them, In one kind of matrices the two recesses are on the face of the type and in the second on the back. For the purpose of sorting the matrices are pushed into a box consisting of two parts 51 and 52 which are opened in any suitable way for instance as shown in Figs. 11 and 12 in the application mentioned. Each of these parts is provided with a projection or sorting bar 53, provided with a sharpened portion or point 54 facing the pushing-in point. The width of the box between each lateral wall and the front edge of the projection 53 corresponds, in the closed position of the box, to the width of one matrix. On the matrices being pushed into the box, the oblique or cam portions 54 on the projection 53, engage with the grooves 50 of the matrices and push those matrices which have no groove on that side, to the other side. The two kinds of matrices are thus pushed laterally apart to the extent corresponding to the height of the projection 53. In being further pushed into the box, the sorted kinds of matrices engage with their recess 20 with the receiving bars 27, 28, this being now possible, owing to the lateral movement of the matrices. It is, however, also possible to leave out the bottom recesses 50 on the matrices and to push them apart by means of the upper grooves 20. This construction is shown in Figs. 6–8. The receiving bars 27, 28 are provided in this case in the beginning with outward oblique portions or bevels 61—the front beading 62 being omitted—the said oblique portions taking the place of the sharpened portions 54 of the preceding construction. As the grooves 20 of the two kinds of matrices are arranged on different sides, the pushing apart and therefore the sorting of the matrices will take place on the matrices being pushed into the box, owing to the engagement of the bar portions 61 with the said grooves. The sorting of the matrices is completed as soon as the matrices have reached the portion of the receiving bars 27, 28 provided with a beading. They are then at once pushed on the said bars and after that has been done, the pulling apart of the two portions of the box can be effected in the ordinary manner, for instance as shown in Figs. 7 and 8 of the application mentioned. The matrices are thereupon pushed on the sorting bars 17 and 18 and distributed in the well known manner.

Having thus particularly described and ascertained the nature of my invention and in what manner the same is to be performed, what I desire to secure by Letters Patent of the United States is:

1. In a matrix setting and line casting machine in combination several fonts of matrices, the matrices of each font adapted to be stored in a separate magazine and being provided with recesses on different sides of different fonts, a sorting mechanism having beveled surfaces dividing the matrix line into different fonts and a distributing

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mechanism containing receiving bars, one for each font of matrices, engaging with matrix recesses and distributing bars, one for each font of matrices, said sorting mechanism acting with said beveled surfaces upon the side faces of the matrices thereby separating them so that recesses of the matrices on the opposite side are enabled to engage with the receiving bars.

2. In a matrix setting and line casting machine in combination several fonts of matrices, the matrices of each font adapted to be stored in a separate magazine and being provided with recesses on the opposite sides, a sorting mechanism dividing the matrix line into different fonts and a distributing mechanism containing receiving bars, one for each font of matrices, engaging with matrix recesses and distributing bars, one for each font of matrices, said sorting mechanism containing beveled surfaces acting upon the side faces of the matrices and entering recesses of the matrices on the side opposite to said side faces, thereby separating the matrices.

3. In a matrix setting and line casting machine comprising a plurality of fonts of matrices and font distributing mechanism, the matrices of each font adapted to be stored in a separate magazine and being formed with recesses, bars to divide the matrix line into different fonts, the said bars consisting of receiving bars, one for each font of matrices, to engage with the matrix recesses, and of sorting bars, one for each font of matrices, the said receiving bars being formed as continuations of the said sorting bars.

4. In a matrix setting and line casting machine comprising a plurality of fonts of matrices and font distributing mechanism, the matrices of each font adapted to be stored in a separate magazine and being formed with recesses, bars to divide the matrix line into different fonts, the said bars consisting of receiving bars, one for each font of matrices, to engage with the matrix recesses, and of sorting bars, one for each font of matrices, the said receiving bars being beaded and being provided at their front ends with outward oblique portions or bevels, the said beading being omitted on said oblique portions, and thus constituting the sorting bars.

5. In a typographical composing machine comprising font distributing mechanism, the combination of a plurality of sorting devices formed with beveled surfaces and a plurality of distributing devices provided with matrix receiving means, the corresponding beveled surfaces and matrix receiving means being located horizontally opposite to each other, and the said beveled surfaces acting to move matrices of different fonts toward and into engaging position with the corresponding receiving means.

6. In a typographical composing machine comprising font distributing mechanism, the combination of a plurality of sorting devices formed with oppositely located beveled surfaces and a plurality of distributing devices provided with oppositely located matrix receiving means, the corresponding beveled surfaces and matrix receiving means being located horizontally opposite to each other, and the said beveled surfaces acting to move matrices of different fonts in opposite directions toward and into engaging position with the corresponding receiving means.

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

HEINRICH DEGENER.

Witnesses:
HENRY HASPER,
WOLDEMAR HAUPT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."