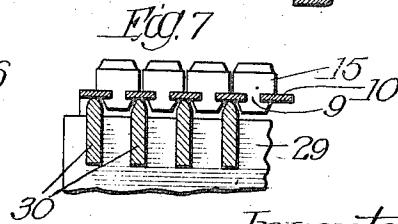
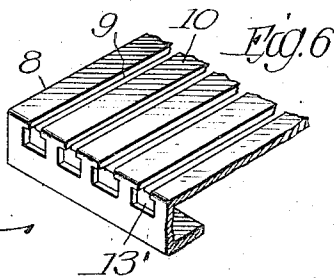
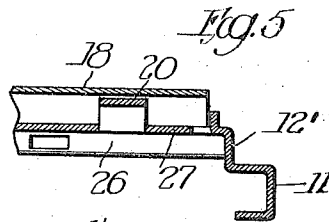
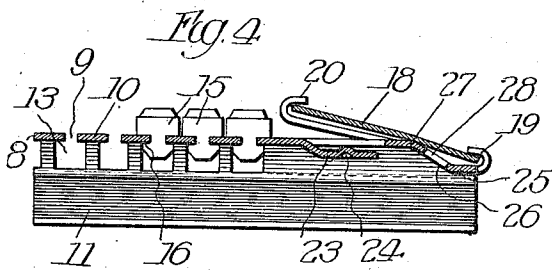
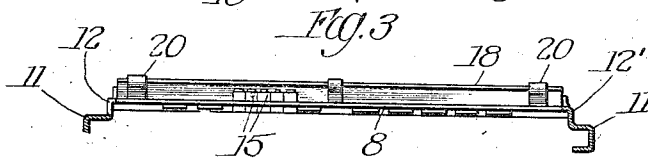
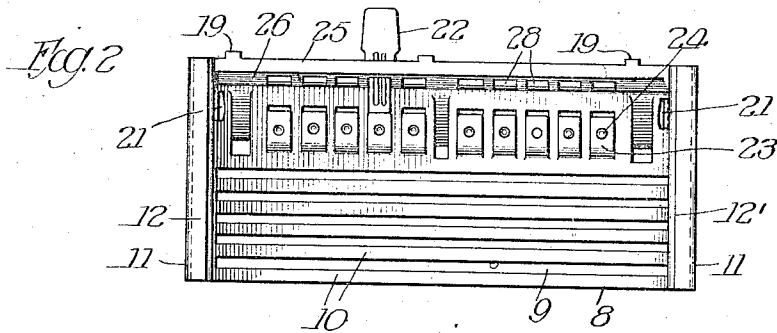
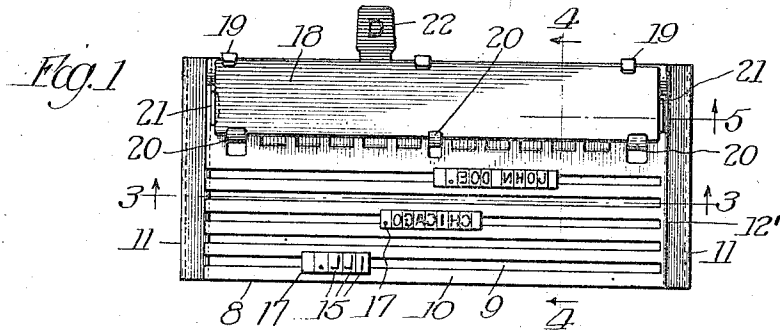


J. S. DUNCAN.
PRINTING DEVICE.
APPLICATION FILED SEPT. 18, 1911.

1,063,340.

Patented June 3, 1913.



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UNITED STATES PATENT OFFICE.

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PRINTING DEVICE.

1,063,340.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed September 18, 1911. Serial No. 649,788.

To all whom it may concern:

Be it known that I, JOSEPH S. DUNCAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Printing Devices, of which the following is a specification.

This invention relates to printing devices of that class which are adapted to be stored in accordance with a card index system and to be run through a suitable machine for printing an address or other matter on envelopes and the like, the form consisting of movable type or logotypes.

Heretofore, the form in such printing devices has been made generally of rubber type and these type have been made a little bit higher than would otherwise be necessary in order to compensate for variations in one thousandths of an inch in the metal and size of the frames which constantly occur in the run of the metal and in the manufacture and use of the frames, and also for such variations as occur by reason of the elasticity of the metal frame. The rubber type of extra height will yield sufficiently, when necessary, and will compensate for such variations, during the printing operation, and produce a clear, even and distinct impression. But metal type of which I propose to make the form for use in the printing device of this invention are inelastic and unyielding and hence they cannot be made of extra height like the rubber type to compensate for such variations, but other means must be provided to maintain the faces of all the type in proper alinement in a single plane, in order to produce a proper impression.

The primary object of my invention is to provide a one-piece metal frame of strong and substantial construction in which the metal type can be readily and easily set by inserting them in the frame at one end thereof and sliding them lengthwise of the frame into proper position.

A further object of the invention is to provide a frame of this character which is adapted to be engaged by a sectional bed of the printing machine in such a way as to support the form in position to give a full, clear and distinct impression. And a further object of the invention is to provide the frame with devices for supporting an information card thereon in a manner which will permit the card to be read while the

frame is stored with others in accordance with a card index system in a tray or drawer, and without interfering with the compact arrangement of the frames in the tray or drawer.

Other objects and purposes of the invention will appear hereinafter in the detail description of one embodiment of the invention which is illustrated in the accompanying drawings in which—

Figure 1 is a front elevation showing my invention; Fig. 2 is a rear elevation of the device; Fig. 3 is a sectional view on the line 3—3 of Fig. 1; Fig. 4 is an enlarged sectional view on the line 4—4 of Fig. 1; Fig. 5 is a detail enlarged view showing one end stop for the information card; Fig. 6 is a detail view showing another form of my invention; Fig. 7 is a detail sectional view illustrating diagrammatically the manner in which the sectional bed of the machine supports the type guides of the printing device.

Referring to the drawings, the frame 8 is stamped in one piece from a single sheet of metal provided with a plurality of type slots 9 and type guides 10, these slots and guides being alternately arranged in parallel relation. The spacing flanges 11, of any suitable form, are preferably located at the ends of the frame and in the form of the invention illustrated in Figs. 1 to 5, those parts 12, 12' of the frame which form the connection between the spacing flanges and the body of the frame are bent substantially at right angles to the spacing flanges and the body of the frame to reduce the length of the guides and slots and to avoid cutting the spacing flanges, which would to some extent reduce their strength. The part 12 above the spacing flange 11 is provided with openings 13 registering with the type slots to receive the lower part of the type when they are set in the frame. In Fig. 6 I have shown the top of the spacing flanges in the same plane with the top of the type guides, the type slots being extended through the top of the spacing flanges and the latter having the openings 13' therein to receive the lower part of the type when they are set in the frame. By following the construction illustrated in Figs. 1 to 5, I avoid cutting the spacing flanges in the manner illustrated in Fig. 6 and produce a thicker but stronger frame than that of Fig. 6 but for some purposes the latter will be sufficiently strong.

The type 15 are considerably wider than the type slots and they are provided with grooves 16 in their sides to receive the edges of adjacent guides as shown in Fig. 4. The type are inserted in the slots 9 at one end thereof through the openings 13 at the end of the frame and they are moved along in the slots lengthwise of the frame into proper position and secured therein by compressing soft metal slugs 17 in the slots at the ends of each line of type. Any other suitable means for securing the lines of type in their proper position in the frame may be employed.

At the upper part of the frame, I provide means for supporting an information card 18 in tilted position on the front of the frame between the upper type guide and slot and the top of the frame, these means comprising lips 19 at the upper edge of the frame and the hooked lugs 20 stamped out from the frame below the upper edge thereof, these lugs being projected outward at their lower ends sufficiently to sustain the card 18 in its proper tilted position. I prefer that the lips 19 should not be in alignment with the hooked ends of the lugs 20 but that they should be arranged in the manner shown in Fig. 1, each a little to the left of the lug immediately beneath it. This facilitates the insertion of the card for it permits the operator to insert the card in the hooked end of the first lug and to move the card forward lengthwise of the frame slightly before inserting the other corner at that end of the card beneath the first lip. In other words, it avoids the necessity of inserting both corners of the card beneath the hooked end of the lug and its adjacent lip at the same time, but permits this to be done in successive operations. End lugs 21 are stamped out of the frame to engage the end of the information card and prevent accidental endwise movement thereof. I also construct the frame to receive a detachable index tab 22 for the purpose of classifying the printing device alphabetically, geographically or otherwise as desired and to this end lugs 23 are stamped backward out of the frame above the upper type slot and guide and each provided with a protuberance, 24 to engage the tab. The frame is depressed at 25 and that part 26 between the shoulder 27 and the depressed part 25 is provided with openings 28 which align with the lugs 23. The tab is inserted through one of the openings 28 and engaged with the protuberance 24 on the aligned lug 23 and is held in this position against accidental displacement. The shoulder 27 forms a support for the card which assists in keeping it in proper position on the frame.

My invention is simple in character and it provides a strong and substantial frame for carrying a metal type form and is adapted for use in addressing and similar printing

machines. The frame may be and preferably is made of cold rolled steel which does not vary in thickness like tin and lighter metal, and possesses inherent strength. The slots and guides are so arranged that the setting operation can be rapidly accomplished and by reason of the inherent strength and the construction of the frame, there is little liability of it being sprung or forced out of shape in use.

In Fig. 7 I have indicated the manner in which the frame is supported during the printing operation for the purpose of making the present invention more fully understood but I do not wish to be understood as confining the use of my present invention to the particular form of bed herein shown, as this is selected merely for illustrative purposes in this application. The bed 29 comprises a plurality of sections 30 which are adapted to be projected up into engagement with the under side of the guides 10 and between the type held by the guides in the slots 9. The type are preferably wider above the grooves therein than they are below the grooves and at the front of the frame the lines of type in adjacent slots on the frame preferably nearly contact, while at the back of the frame the lines of type are separated sufficiently to permit the free movement of the sectional bed into and out of engagement with the back of the type guides and between the lines of type. Thus the sectional bed will form a firm and solid support for the type guides and the frame in general, and the type guides support and sustain the type in position with their faces in a single plane to produce a clear, even and distinct impression.

My invention provides a one piece frame in which metal type are adapted to be set by inserting them in type slots in the frame at one end thereof and sliding them to proper position lengthwise of the frame, and the lines of type may be arranged in the frame in substantial accordance with the standard typewriter line spacing, six lines to the inch. The operations of setting type in the frame and removing it therefrom are so easy that the work can be done by unskilled operators and the line spacing of the type in the frames to correspond with typewriting enables a close imitation of typewriter work to be produced.

I claim:

1. A printing device comprising a frame of sheet metal and having a type slot extending therethrough and open at one end to receive the type to be set in said slot, and spacing flanges extending transversely of the slot at opposite edges of the frame.

2. A printing device comprising a frame made of sheet metal and having a type slot extending therethrough, approximately from end to end of the device and open at

one end to receive the type to be set in said slot, and spacing flanges extending transversely of the slot at opposite edges of the frame.

5 3. A printing device comprising a frame made of sheet metal and having a plurality of parallel type slots therein, each of said slots being open at one end to receive the type to be set in the slots, and spacing
10 flanges extending transversely of the slots at opposite edges of the frame.

4. A printing device comprising a frame made of sheet metal and having a type slot therein open at one end to receive the type to
15 be set in said slot, guides at the sides of the slot to engage and support the type in the slot, and spacing flanges extending transversely of the slot at opposite edges of the frame.

20 5. A printing device comprising a frame made of sheet metal and having a plurality of parallel type slots and guides, each slot being open at one end to receive the type to be set in the slots, and spacing flanges extending transversely of the slots at the ends
25 of the frame.

6. A printing device comprising a plate having an edge flange, and provided with a type slot having one end intersecting the

flanged edge of the plate, the flange having
30 an opening communicating with and wider than that part of the slot which intersects the flanged edge of the plate to permit the introduction of type through the opening into
35 the slot, and a spacing flange of substantially U-shape in cross section carried by the first-mentioned flange.

7. A printing device comprising a frame made of sheet metal and having a type slot extending therethrough and open at one end
40 to receive the type to be set in said slot, and spacing flanges extending transversely of the slot at the ends of the frame depressed below the slot.

8. A printing device comprising a frame
45 made of sheet metal and having a plurality of parallel type slots therein, each of said slots being open at one end to receive the type to be set in the slots, guides at the sides of each slot to engage and support the type
50 in the slots, and spacing flanges extending transversely of the slots at the ends of the frame depressed below the guides.

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