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PRINTING DEVICES

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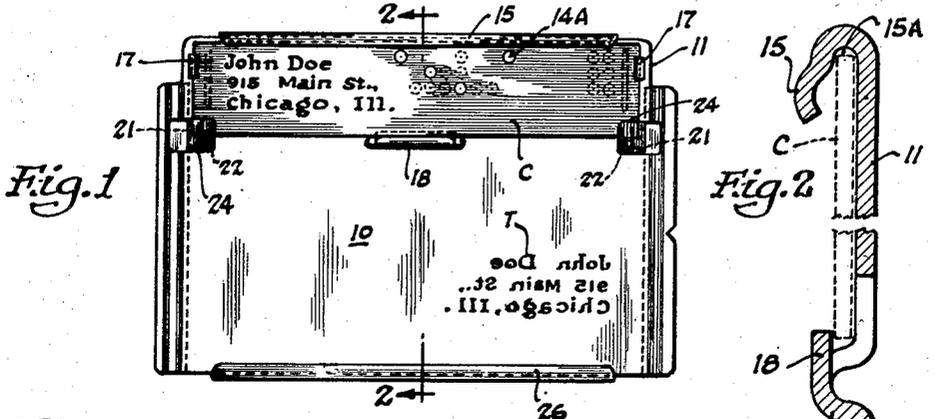


Fig. 1

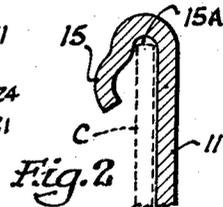


Fig. 2

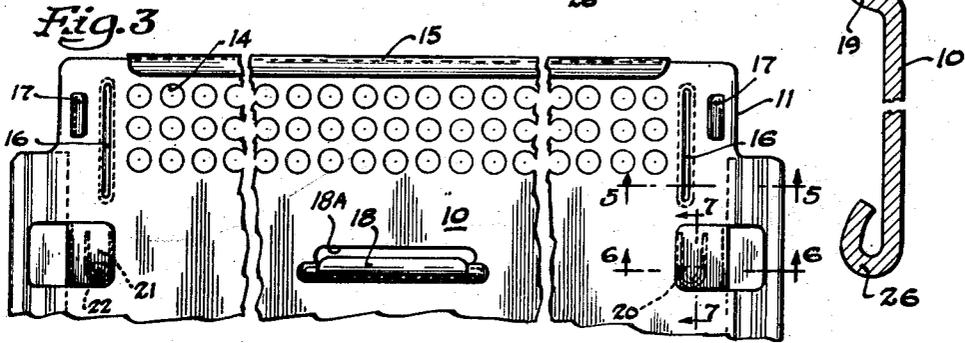


Fig. 3

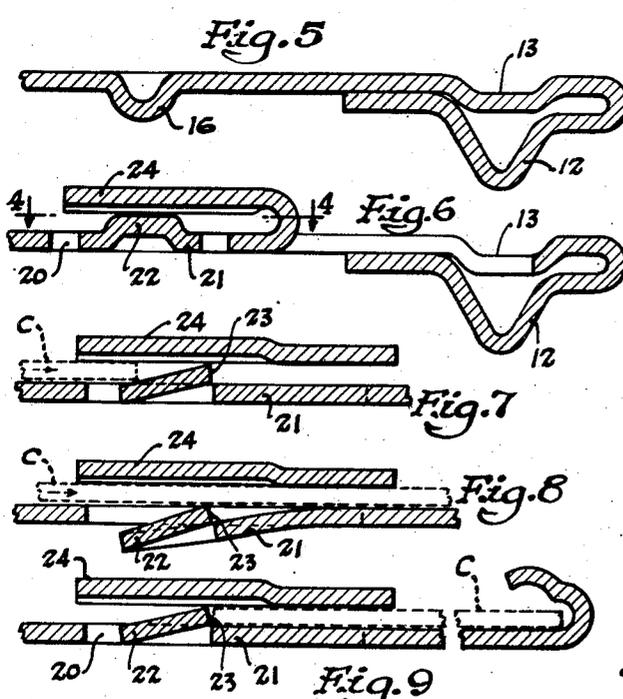


Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

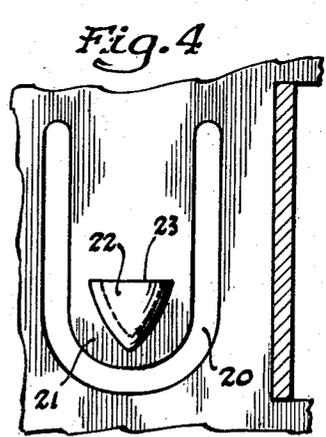


Fig. 4

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PRINTING DEVICES

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2 Claims. (Cl. 101—369)

This invention relates to printing devices of the kind adapted to be sequentially passed through printing machines to have impressions made therefrom onto sheets or the like passed through the machines.

It has been proposed heretofore to provide a printing device including a body on which type characters could be embossed to have impressions made therefrom, but such devices heretofore have had somewhat limited application because it has not been possible to impart a wide variety of different characteristics to such devices. Thus, printing devices of the aforesaid kind are usually arranged so that sensing means, in the printing machines through which they are passed, may cooperate therewith to determined, for example, whether or not an impression is to be made from the particular device, and this will be determined by the particular characteristics imparted to the device. It has been common heretofore to impart such characteristics to printing devices by providing sockets along one of the edges thereof into which the stem portions of tabs could be inserted and by disposing the tabs in predetermined sockets, predetermined characteristics were imparted to the printing devices.

In view of the foregoing, it is an important object of our invention to provide a printing device on which type characters may be embodied and which will be so arranged that a wide variety of characteristics may be selectively imparted to the devices, and an object ancillary to the foregoing is to afford fields of perforations on the printing device and to associate with such perforations means which will be effective to impart particular characteristics to a particular printing device.

Another object of this invention is to afford an extension along an edge of a printing device of the aforesaid character so that perforations may be formed in such an extension and in the body of the printing device adjacent to such extension, and a related object is to so reinforce an extension of this character that distortion thereof will be avoided in the course of use of the printing device and especially in the course of cooperation of the printing device with sensing means in the printing machine through which the device is passed.

Further objects are to afford a printing device embodying a novel arrangement for retaining a card over a field of perforations, and objects ancillary to this are to so form the printing device that the card may be easily installed in its position of use and yet be firmly held against displacement from the printing device; and to afford retractable means over which the card may be passed to assume its position of use and to equip such yieldable means with members effective to prevent displacement of the card from the printing device.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawing which, by way of illustration, shows a preferred embodiment of the present invention and the principle thereof and

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what we now consider to be the best mode in which we have contemplated applying that principle. Other embodiments of the invention embodying the same or equivalent principle may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings:

Fig. 1 is an elevational view of a printing device embodying our invention;

Fig. 2 is a sectional detailed view, drawn to an enlarged scale and taken substantially on the line 2—2 on Fig. 1;

Fig. 3 is a fragmentary elevational view of the upper part of the printing device shown in Fig. 1, Fig. 3 being drawn to a larger scale than Fig. 1;

Fig. 4 is a plan view drawn to a still larger scale and illustrating one of the yieldable card retaining members afforded in our novel printing device;

Figs. 5 and 6 are sectional detail views taken substantially and respectively on the lines 5—5 and 6—6 on Fig. 3;

Fig. 7 is a detail sectional view of the yieldable card retaining element afforded in our novel printing device and wherein the card is shown in position to be inserted into its position of use on the printing device;

Fig. 8 is a view similar to Fig. 7 showing the card partially inserted into its position of use; and

Fig. 9 is a view similar to Figs. 7 and 8 but showing the card in its final position of use and also showing the manner in which the yieldable means afforded in our printing device are effective to prevent displacement of the card.

Our novel printing device, as illustrated in the accompanying drawing, is substantially rectangular in outline and is formed from sheet metal or like material. An extension 11 is provided along one of the longer edges of the body 10 of our printing device and such an extension is terminated inwardly of the shorter edges of the body 10, as shown in Figs. 1 and 3. The material along the shorter edges of the body 10 is folded upon itself to provide a substantially V-shaped projection 12, known in the art as a spacing flange and which is effective to maintain the printing devices spaced one from the other when they are stored in drawers or the like and when the printing devices are stacked one upon the other in the magazine of a printing machine through which the devices are to be passed. In order to facilitate nesting of the printing devices one with another, a groove 13 is formed in the upper face of the printing device in alignment with the free edge of the adjacent spacing flange 12. This enables the spacing flange of one printing device to be seated in the groove 13 of an underlying printing device, and this serves in a measure to interlock the printing devices and facilitates handling thereof.

In order that individual characteristics may be imparted to the printing devices, perforations as 14 are formed in the extension 11 and the adjacent portion of the body 10. In the present instance three transverse rows of perforations are provided, but it will be understood that a greater or fewer number of perforations might be provided without departing from the purview of our invention. In order to reinforce the extension 11, a bead 15 is formed along the longer free edge thereof, and this bead terminates in spaced relation with the free ends of the extension 11. As best shown in Fig. 2, the free marginal portion of the bead 15 is spaced from the adjacent face of the extension 11 so as to enable the marginal portion of a card to be passed therebelow. The bead 15 is afforded by folding the free marginal edge of the extension 11 back upon the extension and in so doing

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a socket 15A, Fig. 2, is afforded and one marginal edge of a card is disposed therein when a card C is in its position of use on the printing device. The bead 15 therefore constitutes a part of the card retaining means of our printing device, as well as serving as a reinforcement of the extension 11. In order to further reinforce the extension 11, and prevent deformation thereof in the course of use of the printing device, ribs 16 are formed in the extension 11 and in the adjacent portion of the body 10, such ribs being afforded by pressing a portion of the material of which the printing device is made downwardly as illustrated in Fig. 5. The ribs 16 are located inwardly of the free ends of the extension 11, and the aforesaid perforations 14 are located between these ribs.

Intermediate the ribs 16 and the adjacent ends of the extension 11 retaining clips 17 are formed, such retaining clips including upstanding portions against which the marginal edges of a card may bear and these clips terminate in end portions that are disposed to overlie the marginal edges of the card. Thus the retaining clips 17 are effective to prevent transverse movement of the card when it is disposed in its position of use, and the end portions of such clips are effective to prevent face-to-face separation of the card and the underlying portion of the extension 11.

Another fixed retaining clip 18 is formed in the body 10 adjacent to the lower portion of the area whereat perforations as 14 are afforded. This clip, as best shown in Figs. 2 and 3, is formed by striking upwardly a portion of the body 10 and the clip includes a free marginal edge which is adapted to overlie the marginal edge of a card C disposed over the perforations 14 to prevent face-to-face separation of the card and the underlying portions of the body 10. The portion of the clip 18 faced away from the extension 11 is of rounded configuration, as indicated at 19, so that the leading edge of a card as C may be freely passed thereover when such a card is to be disposed over the perforations 14. In forming the clip 18 more metal is removed from the body 10 than is incorporated in the clip and so to do affords an enlarged opening 18A adjacent to the clip 18 and into which opening the marginal edge of the card may be depressed to facilitate disposing such edge beneath the clip.

When a card as C is disposed in its position of use, one marginal edge is disposed in the socket 15A and the opposite marginal edge is disposed adjacent to the upstanding marginal portion of the clip 18. The other opposite marginal edges of the card respectively engage the upstanding portions of the clips 17. However, the clip 18 is insufficient to accurately retain the card in its position of use and against relative movement with respect to the body 10 and extension 11. Therefore we have provided additional card retaining devices in our novel printing device. Thus, referring to Fig. 3 it will be seen that a substantially horseshoe-shaped slot 20 is formed in the body 10 in spaced relation with the inner end of a rib as 16, the closed end of this slot being faced toward the extension 11. The slot 20 formed therefrom defines a tongue 21. The body of the tongue 21 adjacent to the free end thereof is struck upwardly to provide a stop member 22 that includes a flat upstanding stop edge 23 that faces toward the extension 11. A portion of the material of the body 10 is struck therefrom and is bent inwardly to provide a flange 24 that overlies the tongue 21. By referring to Figs. 1 and 3 it will be noted that a tongue 21 of the aforesaid nature is associated with each rib 16.

When a card C is to be inserted into the retaining devices provided therefor on our novel printing devices, it is passed over the body 10 to have the leading marginal edge thereof disposed beneath the flange 24, as shown in Fig. 7, and at this time the medial portion of the leading marginal edge of the card C will overlie the clip 18, the rounded edge 19 facilitating guiding the card

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into this position. As the card C is advanced toward the retaining bead 15 beneath the flanges 24, it moves into engagement with the rounded guideway portion 25 of the stop member 22 on each tongue 21 and as the card advances over the stop members the tongues 21 are forced downwardly, as shown in Fig. 8. When the leading marginal edge of the card C is disposed in the socket 15A, the trailing edge of the card will have disengaged the stop member 22, and this will enable the yieldable tongue 21 to resume its normal position. When this occurs the stop edge 23 on the stop member 22 moves into engagement with the trailing edge of the card and is therefore effective to prevent movement of the card away from the socket 15A. By the time the stop edges 23 on the clips as 21 engage the edge of the card as aforesaid, the medial portion of the card will have passed over the free edge of the clip 18 to be disposed therebeneath in the manner shown in Fig. 2. Furthermore, as the card advances past the tongues 21 in the movement thereof toward the bead 15, the opposite side edges of the card pass beneath the end portions of the clips 17 to be retained thereby as aforesaid.

It will be apparent from the foregoing that the inner faces of the upstanding portions of the clips 17 are spaced one from the other in an amount equal to one dimension of the rectangular card C to be engaged therewith. Furthermore, the inner end of the socket 15A is spaced from the stop edges 23 on the tongues 21 in an amount equal to the other dimension of the card C to be engaged therewith. Consequently when the card is engaged with these retaining means therefor it is effectively held against movement on the face of the printing device. Moreover, it will be apparent from the foregoing that the card may be disposed in its position of use without any substantial deformation thereof and because of this it is possible to securely return the card on the printing device.

The bead 15 and the rib 16 serve as reinforcements in our printing device as do the spacing flanges 12. Further reinforcement is afforded in the printing device by forming a bead 26 along the marginal edge of the body 10 opposite the extension 11, such bead preferably terminating in spaced relation with the shorter ends of the printing device.

In order to impart particularity to our novel printing devices, openings 14A are formed in the card C at selected positions which are respectively in alignment with one of the underlying perforations 14. Thus where aligned perforations 14 and 14A are provided, a sensing pin or the like may pass therethrough. However, where a perforation 14A is not afforded, the body of the card C will overlie the perforations 14 and in this instance a sensing pin brought into association with the card will be arrested and prevented from moving on through the printing device. Inasmuch as a large number of aligned perforations 14 and 14A may be provided, it is manifest that a wide variety of different characteristics may be imparted to our novel printing device. Furthermore, aligned perforations 14 and 14A may be utilized to represent numerical data or the like, if so desired.

Type characters as T are embossed in the body 10 of the printing devices to extend upwardly from the face of the body 10 opposite that on which the spacing flanges 12 are formed. If desired, and as shown in Fig. 1, an impression may be made from the type characters T onto the card C prior to the time the card is installed on the printing device, and this facilitates reading the matter that may be printed from the type characters T.

It will be manifest from the foregoing description that we have provided a novel printing device that enables the hereinabove set forth and kindred objects of this invention to be realized and while we have illustrated and described the preferred embodiment of our invention, it is to be understood that this is capable of variation and modification, and we therefore do not wish to be limited

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to the precise details set forth, but desire to avail ourselves of such changes and alterations as fall within the purview of the following claims.

We claim:

1. A printing device comprising a flat body adapted to bear embossed type characters in a lower area thereof and including a second area adjacent the top thereof whereat a flat flexible card or the like bearing identifying data may be positioned and retained, a relatively long retaining clip in the form of a bead along the top edge of said second area including a vertical portion and an overhanging horizontal portion above the plane of said body extending in the direction of the lower edge of said body to afford an inwardly facing retaining socket for the top edge of the card, at least a retaining clip at either side of said second area each including a vertical portion and an overhanging horizontal portion above the plane of said body affording inwardly facing sockets for corresponding side edge portions of said card to prevent lateral shifting movement of said card on the body, a retaining clip in the form of a relatively short bead along the lower marginal edge of said second area including a vertical portion engageable with the lower edge of said card when mounted fully within said second area to prevent relative displacement thereof away from the retaining clip for the top edge thereof, a yieldable tongue adjacent either lower corner of the said second area normally in the plane of said body and adapted to yield downwardly, said tongues each including a struck-up portion in the upper face thereof affording spaced apart abutments for the lower edge of said card adjacent the

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opposite corners thereof and each normally projecting above the plane of said body enabling said tongues to be depressed by the leading edge of said card when moved along said body in the direction of said second area thereof, said tongues being released to normal position with said struck-up portions thereof engaging the lower edge of said card as aforesaid when the card is fully positioned as aforesaid within said second area, and inwardly bent flanges overhanging said tongues in spaced vertical relation with respect to said struck-up portions serving to prevent upward displacement of the lower corners of a card fully positioned as aforesaid with respect to said struck-up portions on the tongues.

2. A printing device according to claim 1 in which the retaining clip for the lower marginal edge of said card is formed with a rounded back to facilitate movement of the card into said second area.

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