April 7, 1931. W. T. GOLLWITZER 1,799,417

PRINTING DEVICE

Filed May 3, 1928 2 Sheets-Sheet 1

Fig. 1

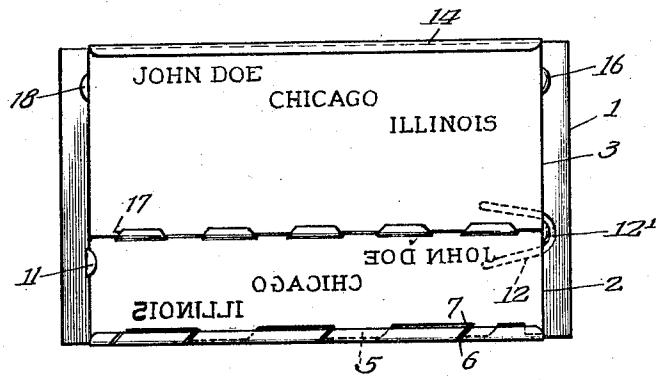


Fig. 2

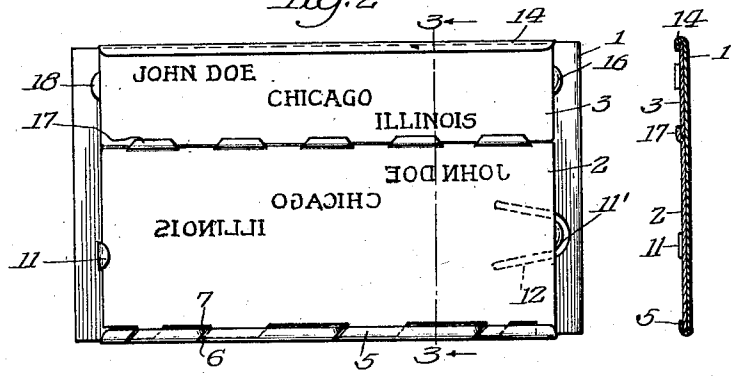


Fig. 3

Fig. 4

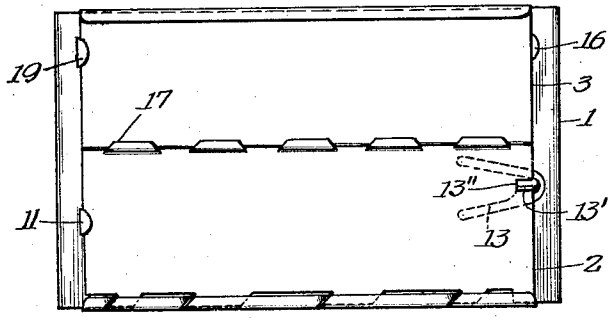
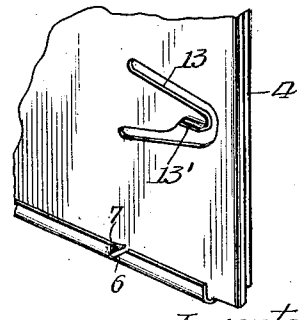


Fig. 5



Inventor

Walter T. Gollwitzer

By Wm. O. Bell Atty.

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PRINTING DEVICE

Filed May 3, 1928 2 Sheets-Sheet 2

Fig. 6

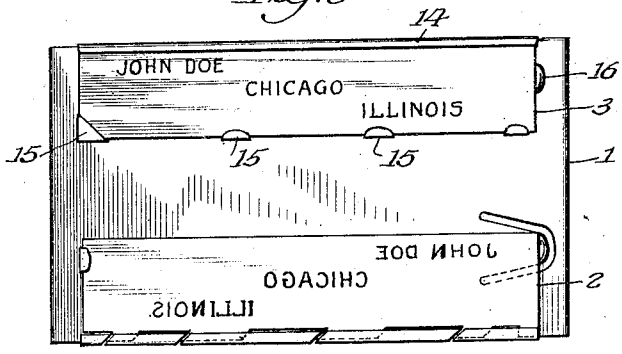


Fig. 7

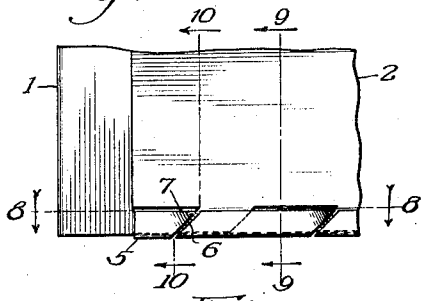


Fig. 8

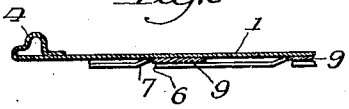


Fig. 9

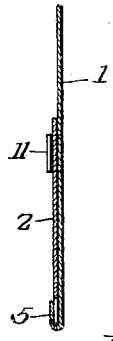


Fig. 10

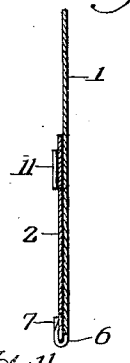


Fig. 11

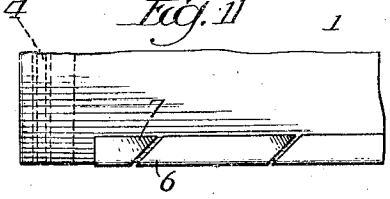


Fig. 12

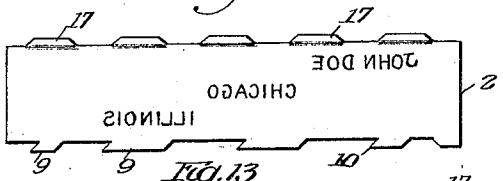


Fig. 13

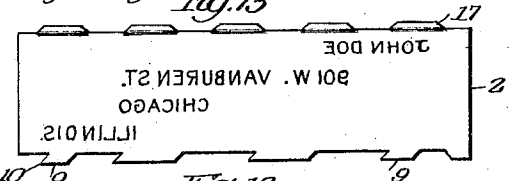


Fig. 14

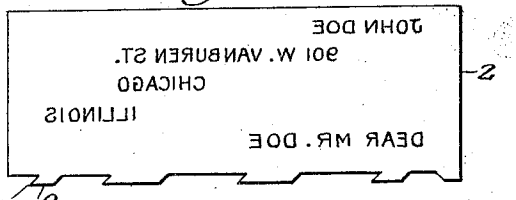


Fig. 15

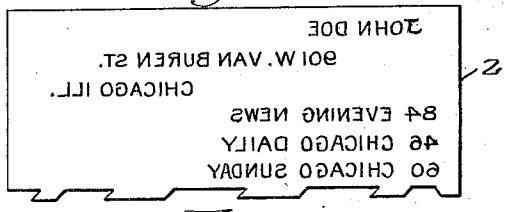
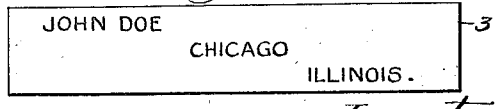


Fig. 16



Inventor:
Walter T. Gollwitzer
By Wm. O. Bell Atty.

Patented Apr. 7, 1931 1,799,417

UNITED STATES PATENT OFFICE

WALTER T. GOLLWITZER, OF CHICAGO, ILLINOIS, ASSIGNOR TO ADDRESSOGRAPH COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE

PRINTING DEVICE

Application filed May 3, 1928. Serial No. 274,733.

This invention relates to printing devices of that class which comprise a frame, a printing plate bearing printing characters and an information card detachably mounted on the frame, the complete device adapted to be stored in accordance with a card index system or in a stack and to be run through an addressing or other suitable machine for taking impressions from the form on the plate. It has been customary in the past to provide the frame with retaining devices for holding a plate of a certain size and a card of a certain size.

The primary object of this invention is to enable plates and cards of different widths to be used in a standard frame so that a variety of plates and cards may be interchangeably used in the same frame.

The invention also has for its object to provide simple and novel means for detachably securing a plate in the frame and for holding the plate rigidly in place in the frame.

And a further object is to provide the plate with simple and novel means for holding a card in the frame.

With these and other objects in view I have shown the invention in selected embodiments in the accompanying drawings in which—

Fig. 1 is a front elevation of a printing device embodying the invention and showing a narrow plate and a wide card;

Fig. 2 is a similar view embodying the same construction as shown in Fig. 1 except that the plate is wide and the card is narrow;

Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a front elevation of a printing device showing novel means for locking the plate in the frame.

Fig. 5 is a detail enlarged perspective view of the locking devices shown in Fig. 4.

Fig. 6 is an elevation of a printing device wherein provision is made for plates of different widths and a card of standard width.

Fig. 7 is a detail enlarged view of a portion of one of the frames to show more clearly the means for engaging the plate and the frame.

Fig. 8 is a sectional view on the line 8—8 of Fig. 7.

Figs. 9 and 10 are sectional views on the lines 9—9 and 10—10 respectively of Fig. 7.

Fig. 11 is an enlarged detail view similar to Fig. 7 but omitting the plate.

Fig. 12 shows a plate like that shown in Fig. 1.

Fig. 13 shows a plate like that of Fig. 12 except that it is wider.

Figs. 14 and 15 show plates of different widths without the card retaining devices at the upper edge thereof.

Fig. 16 shows a narrow card.

Referring to the drawings 1 is a frame preferably made of thin sheet metal cut and stamped to provide retaining devices for the plate 2 and the card 3. Spacing and stiffening flanges 4 are preferably provided by bending the end portions of the frame in a suitable manner. A bead 5 is provided at the lower edge of the frame and on the front thereof, and this bead has a plurality of parallel inclined spaced slits or cuts 6 with the upper corners 7 formed by said cuts inturned to engage or to lie in close proximity to the body of the frame. The printing plate is a flat strip of sheet metal having printing characters embossed thereon and it is adapted to lie flat against the body of the frame and be detachably engaged with the frame. The printing plates are provided at their lower edges with inclined teeth or projections 9 corresponding in size and location with the sections of the bead 5 located between the slits 6 so that the toothed edge of a plate will engage the slitted bead at the bottom of a frame with the pointed end 10 of each tooth engaging an inturned or inbent corner 7. This engagement of the toothed edge of the plate with the slitted bead of the frame will

hold the plate against lateral movement to the left, Fig. 1, downward movement, upward movement and forward movement. A lip 11 may be provided on the frame to engage the left end of the plate and a movable locking device is preferably provided on the frame to engage the right end of the plate. This locking device holds the plate in engagement with the bead and with the lip 11 and thereby locks the plate in the frame. The locking device may be in the form of a tongue 12 having a stop 12′ to engage the edge of the plate, Figs. 1–2, or it may be in the form of a tongue 13 having a stop 13′ to engage a notch 13″ in the plate, Figs. 4, 5. This construction provides a novel and simple means whereby the plate may be readily engaged with and disengaged from the frame; the toothed engagement of the plate with the frame holds the plate in rigid position on the frame throughout its length, the lip 11 holds the left end of the plate flat against the body of the frame and also acts as a fixed stop against endwise movement of the plate to the left in the frame; and the stop 12′ constitutes an effective lock to hold the plate in engagement with the bead and the lip of the frame. The locking tongue is preferably stamped out of the body of the frame and it will yield to slight pressure to permit insertion and removal of the plate. Interlockingly engaging the lower edge of the plate with the frame and holding it in this engagement as described enables the use of plates of different widths in a standard frame without specially constructing the plate, as shown in Figs. 1, 2 and 3, but if the locking device of Figs. 4 and 5 is employed the plates must be specially provided with a notch 13″ at a fixed position to engage the locking stop 13′.

If the printing device is made for a standard narrow card, the frame will be provided with a bead 14 at its upper edge with lips 15 and a stop 16 to receive and hold the card 3, Fig. 6. But it is desirable to enable the use of the widest possible card with each plate and for this purpose I provide the plate with projections 17 at its upper edge to receive and support and hold the lower edge of the card, Figs. 1–4. These projections 17 are preferably shouldered, as shown in Fig. 3, to support the card at its lower edge and to overlie the lower edge portion of the card. When plates with projections 17 are used the frame need not be provided with the lips 15, Fig. 6, but these may be omitted and an end stop 18 used similar to the end stop 16, Figs. 1–2, or I may substitute a lip 19 for the end stop 18, Fig. 4. By providing the plate with projections to receive and support and hold the lower edge of the card enables the use of a card as wide as the plate will permit in a standard frame. Thus a wide card will be used with a narrow plate and a narrow card with a wide plate. The card can be easily inserted in place in the frame before or after the plate is inserted and it can be removed from the frame without removing the plate or after the plate is removed.

This invention contemplates the use of a toothed plate and a slitted bead on the frame in all constructions of plates and frames, but I have indicated in the drawings that provision may be made for using a standard card in all frames, Fig. 6, or for constructing the plates to engage the cards so that cards of varying widths may be used in a standard frame, Figs. 1–4. The number and spacing of the projections 17, as well as the number and spacing of the slits 6 and the teeth 9, may be varied as found desirable. I also reserve the right to make any other changes in the form, construction and arrangement of parts as fall within the scope of the following claims.

I claim:

1. A printing device comprising a frame and a plate having printing characters thereon, and interengaging means at the lower edges of the frame and plate to prevent forward, downward, upward and lateral movement in one direction of the plate on the frame.

2. A printing device comprising a frame and a plate having printing characters thereon, interengaging means at the lower edges of the frame and plate, and means for holding the plate on the frame with said interengaging means interlocked.

3. A printing device comprising a frame and a plate having printing characters thereon, interengaging means at the lower edges of the frame and plate to prevent forward, downward, upward and lateral movement in one direction of the plate on the frame, and means on the frame for holding the plate on the frame with said interengaging means interlocked and for preventing lateral movement of the plate in the opposite direction on the frame.

4. A printing device of the character described comprising a frame, a plate having printing characters thereon, and mounted on the frame flatly against the face thereof, said plate having teeth projecting at its lower edge and said frame having means intersecting the plane of the teeth to interlockingly engage said teeth.

5. A printing device of the character described comprising a frame, a plate having printing characters thereon, and mounted on the frame flatly against the face thereof, said plate having inclined teeth at its lower edge and said frame having means intersecting the plane of the teeth to interlockingly engage said teeth.

6. A printing device comprising a frame having a bead at its lower edge, said bead being slitted to divide it into sections and portions of said sections being inwardly directed,

and a plate having printing characters thereon and teeth at its lower edge to engage said bead and interlockingly engage said inwardly directed portions.

7. A printing device comprising a frame having a bead at its lower edge, said bead having inclined slits dividing it into sections and portions of said sections being inwardly directed, and a plate having printing characters thereon and inclined teeth at its lower edge to engage said bead and interlockingly engage said inwardly directed portions.

8. A printing device comprising a frame having a bead at its lower edge, said bead having slits dividing it into sections and corners of said sections being inturned, and a plate having printing characters thereon and having teeth at its lower edge to engage said bead and interlockingly engage said inturned corners.

9. A printing device comprising a frame having a bead at its lower edge, said bead having inclined slits dividing it into sections and corners of said sections being inturned, and a plate having printing characters thereon and having inclined teeth at its lower edge to engage said bead and interlockingly engage said inturned corners.

10. A printing device comprising a frame having a bead at its lower edge, said bead having inclined slits dividing it into sections and corners of said sections being inturned, and a plate having inclined teeth at its lower edge to engage said bead and interlockingly engage said inturned corners, said frame having a lip to engage one end of the plate and a stop to engage the other end of the plate.

11. A printing device comprising a frame, a plate having printing characters thereon and mounted on the frame flatly against the face thereof, means for interlockingly engaging the frame and plate at their lower edges to prevent forward, downward, upward and lateral movement in one direction of the plate on the frame, and said plate having a notch and said frame having a yielding projection to engage said notch to prevent movement of the plate on the frame in the opposite direction.

12. A printing device comprising a frame, a separate plate having printing characters thereon, and a card, said frame having devices for detachably retaining the plate and card thereon and said plate having means for engaging and retaining an edge of the card.

13. A printing device comprising a frame, a separate plate having printing characters thereon, and a card, said frame having devices for detachably retaining the plate and card thereon and said plate having projections at its upper edge to engage the card.

14. A printing device comprising a frame, a separate plate having printing characters thereon, and a card, said frame having devices for detachably retaining the plate and card thereon and said plate having shouldered projections at its upper edge to engage and support the lower edge of the card and overlie the lower edge portion of the card.

15. A printing plate for printing devices and having printing characters thereon, said plate having a plurality of spaced apart relatively wide projections at its upper edge extending forwardly from the face of the plate and upwardly.

WALTER T. GOLLWITZER.