Feb. 21, 1933. W. T. GOLLWITZER 1,898,362

PRINTING MACHINE

Original Filed April 30, 1929

Fig. 1

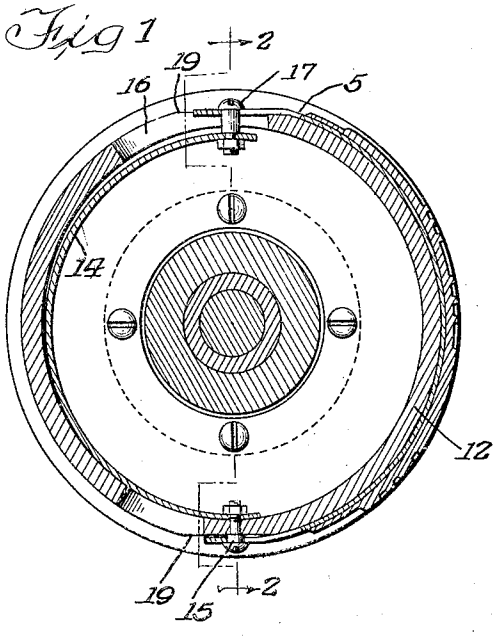


Fig. 2.

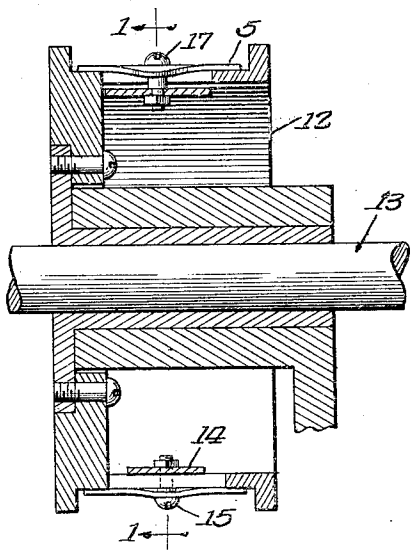


Fig. 3

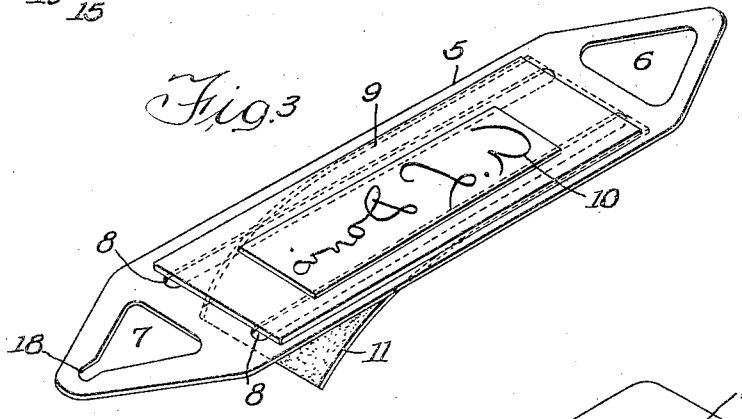
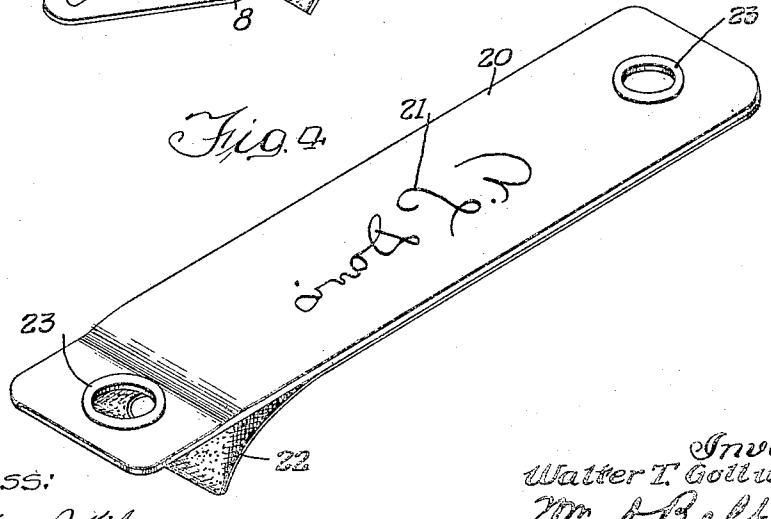


Fig. 4



Witness:
William P. Milroy

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

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1,898,362

UNITED STATES PATENT OFFICE

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

PRINTING MACHINE

Original application filed April 30, 1929, Serial No. 359,197. Divided and this application filed May 31, 1930. Serial No. 457,834.

This application is a division of my application Serial No. 359,197, filed April 30, 1929.

This invention relates to machines for printing letters and the like and one of the objects is to provide a flexible printing form that may be easily mounted in the machine for printing a signature on the letter, or the like.

Another object of the invention is to provide a flexible printing form that may be secured on one side of a flexible supporting plate for detachably mounting the printing form in usable position.

A selected embodiment of the invention is illustrated in the accompanying drawing and, therein:

Fig. 1 is a sectional view taken on the line 1—1 of Fig. 2;

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of the signature device with the backing partly pulled away for better illustration of the construction; and

Fig. 4 is another form of the signature device.

The signature form shown in Fig. 3 comprises an elongated flexible plate 5 preferably made of sheet spring steel provided with tapered openings 6 and 7 in its end portions, which openings may be of triangular shape. The plate is provided with openings 8 between its end portions, and these openings are conveniently made in the form of elongated parallel slots. The signature form is made of rubber or other suitable material and is mounted on the plate 5 over the openings 8. The form preferably comprises a strip 9 of rubber having the printing characters 10 embossed thereon. A backing 11 of cloth or suitable material is cemented to the back of the plate 5 and to the signature form through the openings 8 and, thus, the form is securely held in place on the metal plate. A roll 12 is adapted to be suitably mounted on an operating shaft 13. A flat spring 14 is fastened at one end by a screw 15, or other suitable fastening device, to the roll and its other end projects across an opening 16 and carries a screw 17 or other suitable fastening device which projects through said opening. The spring 14 is curved to fit more or less snugly against the inner face of the wall of the roll under normal conditions when the roll is not carrying a signature form, but when a signature form is mounted on the roll the spring is tensioned sufficiently to hold the signature form in proper position on the roll.

The signature form is readily applied to the roll by engaging the reduced extension 18 of the opening 7 with the stationary screw 15 and engaging the edges of the opening 6 with the movable screw 17, these screws constituting the retaining devices for holding the signature form on the roll. To facilitate engagement of the signature form with the screw 17 pressure should be applied upon the spring 14 by inserting the thumb through the opening 16 to depress the spring which will have the effect of moving the screw to the right, Fig. 1, so that it will more easily enter the opening 6. After pressure on the spring is released the head of the screw will engage the edge of the opening 6 as the spring moves back toward normal position to thus snugly and securely hold the form in place on the roll. To remove the signature form it is only necessary to apply pressure by the thumb through the opening 16 against the spring to move the screw to the right, Fig. 1, thus freeing it from the edges of the opening 6, whereupon the juxtaposed end of the signature plate will spring outwardly and thus the signature form is released from the roll. The wall of the roll 12 is preferably flattened on its faces 19—19 so that the screws 15 and 17 will hold the ends of the signature form plate 5 out of contact with the work.

In Fig. 4 I have shown another signature form comprising an elongated rubber strip 20 having printing characters 21 embossed thereon and provided with a fabric backing 22. This form has eyelets 23 that are engaged with the screws 15 and 17 to secure the form on the roll.

The invention provides a novel and simple detachable printing form which is adapted to be easily and quickly mounted on the roll

in a printing machine without requiring the removal of any parts of the machine. This makes it possible to change the signature form frequently, if desired, without materially interrupting the operation or limiting the capacity of the machine. Also, new signature forms may be supplied as frequently as may be required to replace worn or damaged forms and secure the best impression results.

While I have shown the preferred form of construction of my invention I do not restrict it to the precise structure set forth but reserve the right to adapt it for and embody it in any printing machines in which it may be used and to make changes in the form, construction and arrangement of parts within the scope of the following claims.

I claim:

1. A printing device for use in a printing machine and comprising an elongated strip of rubber having a longitudinally extending group of printing characters embossed on one face thereof, and reenforcing means on the other face of said strip and adhesively joined thereto, said printing device having an enlarged opening at each end thereof, said openings being aligned with each other and the group of printing characters and being adapted to receive connecting means freely passed thereinto to be engaged with an outer edge of each opening to retain said printing device on the mounting therefor in a printing machine with the group of printing characters under tension to insure uniform printing thereby.

2. A printing device for printing machines comprising a metal plate having a pair of co-extensive elongated slots therein, a printing form applied to one side of said plate over said slots, and a backing on the other side of said plate adhesively secured to said form through said slots.

3. A printing device for printing machines comprising a flexible metal plate having co-extensive openings therein along opposite edges thereof, a printing form on one side of said plate over said openings, and a fabric backing adhesively secured to the other side of said plate and to the form through said openings.

4. A printing device for printing machines comprising a flexible sheet metal support having openings therein, a flexible rubber printing form on one side of said support, a fabric backing adhesively secured on the other side of said support and joined to said printing form through said openings, said support having enlarged openings therein at the ends thereof through which securing means on a mounting for said printing device may be freely passed and subsequently engaged with the edges of said openings to retain said device on said mounting.

5. A printing device for printing machines comprising a flexible sheet metal support having openings therein, a flexible rubber printing form on one side of said support, a fabric backing adhesively secured on the other side of said support and joined to said printing form through said openings, said support having substantially triangularly shaped openings therein at the ends thereof with one of the edges of said openings extending transversely of the printing device whereby securing means on a mounting may be freely passed through said openings and engaged with the apices thereof opposite said transversely extending sides to retain said printing device on said mounting.

6. In a printing device for use in a printing machine and comprising an elongated rubber strip having printing characters embossed on one face thereof, a reenforcing member on the other face of said strip and adhesively joined thereto, said strip and reenforcing member having openings therein at the ends thereof, and eyelets in said openings for reenforcing the portions of the rubber strip and said reenforcing member adjacent said openings whereby said printing device may be effectively retained on the mounting therefor in the printing machine by retaining means passed through said eyeletted openings.

WALTER T. GOLLWITZER.