

Feb. 29, 1944.

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2,342,698

PRINTING MACHINE

Original Filed Oct. 10, 1940 2 Sheets-Sheet 1

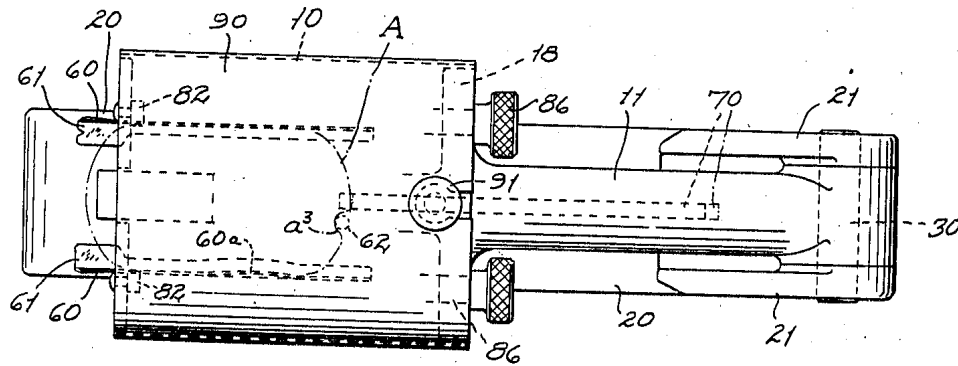


Fig. 1

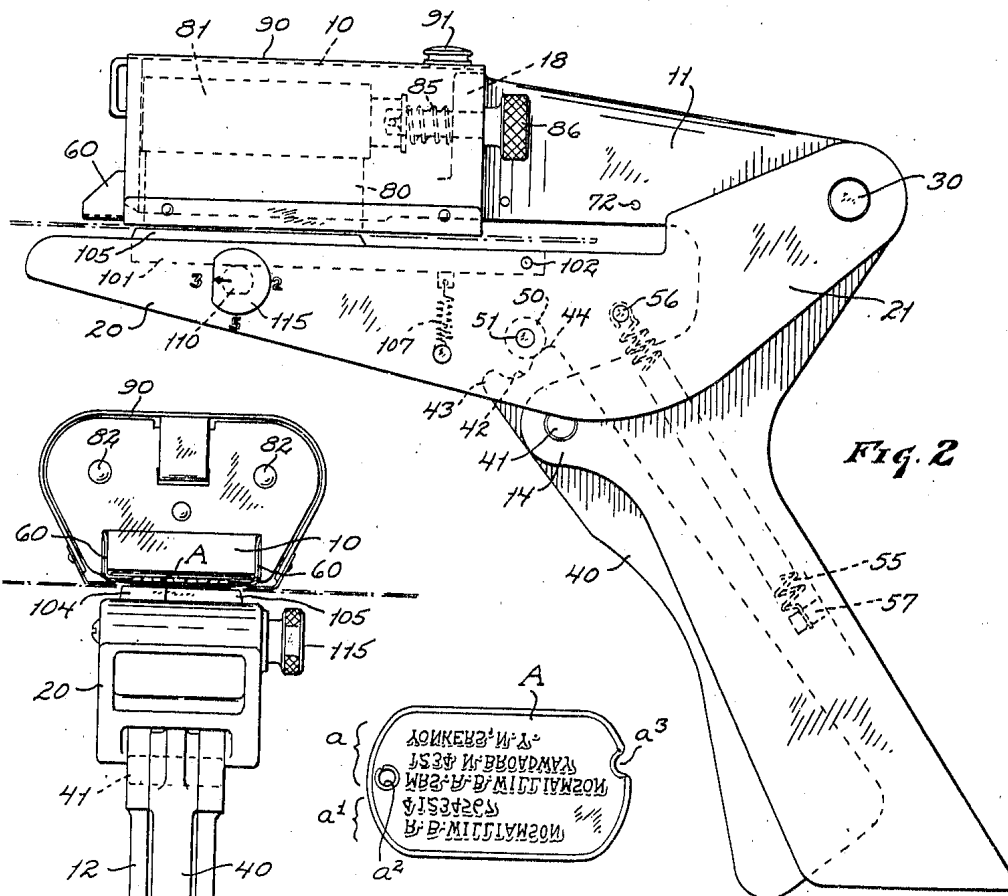


Fig. 2

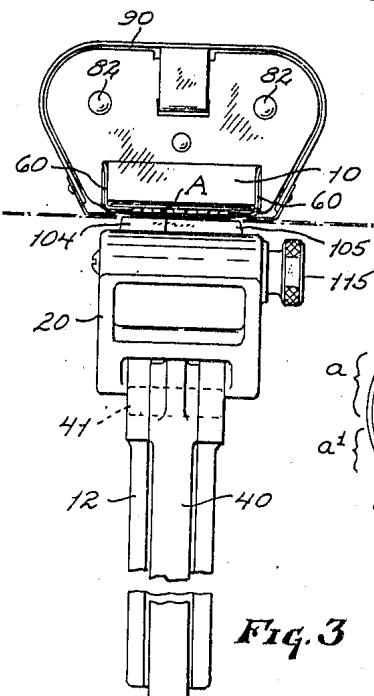


Fig. 3

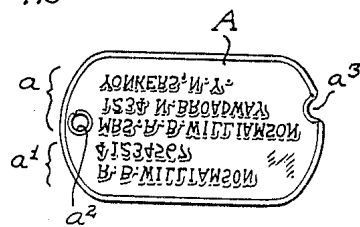


Fig. 4

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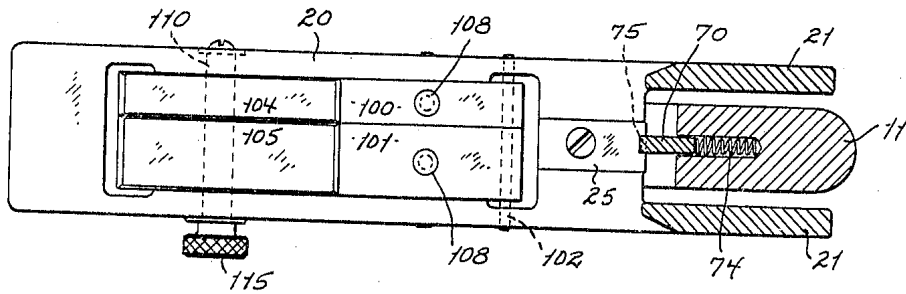


Fig. 5

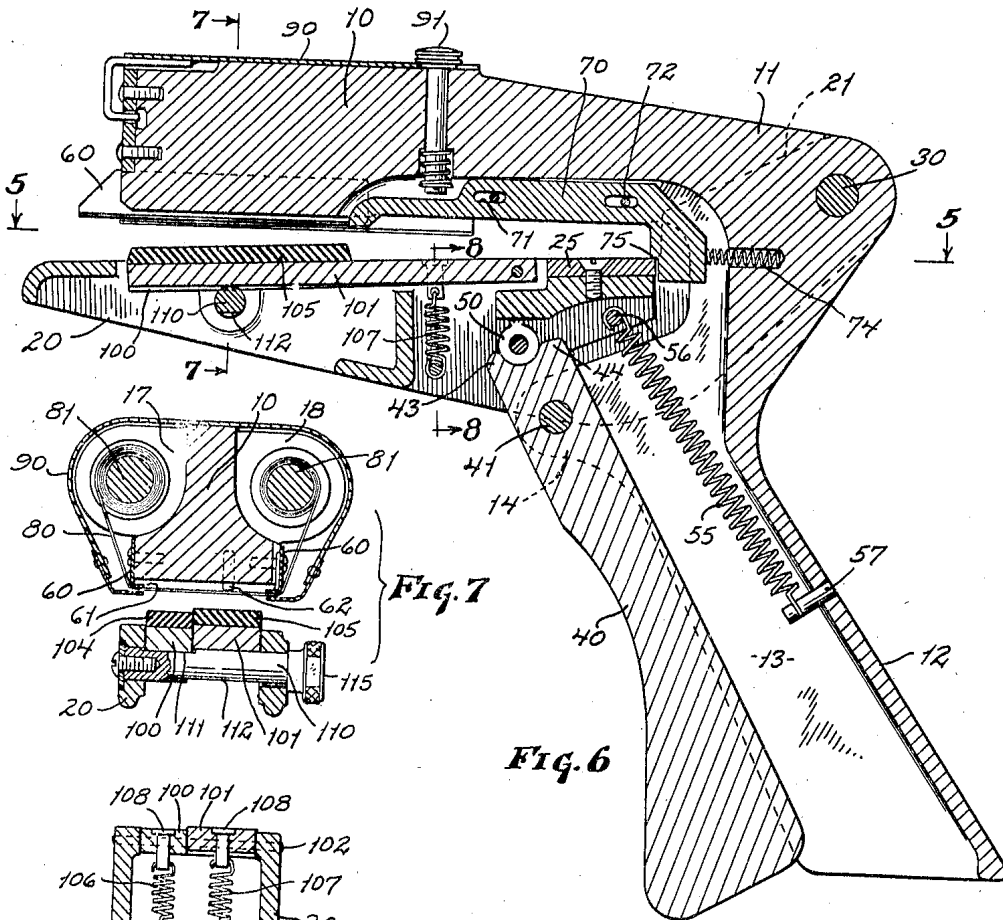


Fig. 6

FIG. 8

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UNITED STATES PATENT OFFICE

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PRINTING MACHINE

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Original application October 10, 1940, Serial No.
360,573. Divided and this application April 7,
1941, Serial No. 387,158

6 Claims. (Cl. 101-306)

This invention relates to a portable manually-operable printing or addressing machine and particularly to a comparatively small device adapted to be carried from place to place and manipulated by one hand of the operator to impress characters on a suitable record sheet. This application is a division of my copending application No. 360,573, filed October 10, 1940.

Like the parent case above-mentioned, the device of this patent in its preferred form comprises a head adapted to carry a removable embossed plate with an inking ribbon extending across it and a platen adapted to force the record material against the ribbon to receive an impression from the plate. The head is provided with a handle, preferably in the form of a pistol-grip, and the platen is operated by a finger lever adjacent the handle, so that the operator can carry the device and effect the impression with one hand. This division is concerned especially with the platen and its operating mechanism, including the feature of divided platen so arranged that either section may be used to the exclusion of the other, or both together, as desired.

My invention is illustrated in the drawings hereof, and the preferred embodiment there shown is hereinafter more fully explained, including features which only indirectly coact with the platen operating mechanism of this application.

In the drawings, Fig. 1 is a plan of the printing device; Fig. 2 is a side elevation thereof; Fig. 3 is a front view, with the handle partly broken away; Fig. 4 is a plan of an illustrative embossed plate which may be employed in the printing device; Fig. 5 is a horizontal section through the device in a plane indicated by the line 5-5 on Fig. 6; Fig. 6 is a vertical section through the entire device; Fig. 7 is a detail in vertical section in a plane indicated by the line 7-7 on Fig. 6; Fig. 8 is a vertical section in the plane indicated by the line 8-8 on Fig. 6.

The main frame of the printing device is preferably one integral member comprising a head 10, a shank 11 extending rearwardly therefrom and a handle 12 extending downwardly from the shank and formed with a forwardly upwardly extending open groove 13 into which the operating handle may extend. The head carries on its under face the embossed plate, and on its opposite sides ribbon spools from which an inked ribbon extends beneath the plate, as hereinafter explained.

The platen carrying frame of this device com-

tend onto opposite sides of the shank of the main member to which it is pivoted by a transverse pin 30. This platen arm carries special platens as hereinafter described to coact with the ribbon and plate.

The operating lever 40 of the device lies in the front portion of the handle groove 13 and is pivoted by a pin 41 extending into ears 14 which project forwardly from the handle member at opposite sides of the groove. At its upper end the lever 40 is provided with a recess 42 bounded by a lug 43 in front thereof and a lug 44 of less height at the rear. The recess is normally occupied by a roller 50 which lies within the hollow platen member 20 and is journaled on a pin 51 mounted in the downwardly extending side portion of such member. A tension spring 55 is anchored at its upper end to a pin 56 carried by the platen member and at its lower end to the pin 57 carried by the back of the handle member. This spring lies within the groove of the handle member, as shown particularly in Fig. 6, and tends to maintain the roller 50 down in the recess at the upper end of the operating handle 40 and such spring action normally holds the operating handle in the position shown in Fig. 6. The lug 43 in front of the roller 50 prevents rearward movement of the upper end of the handle but the lug 44 is low enough and gradual enough so that it can move beneath the roller. The result is that if the operator, grasping the handle 12, pulls the lever, by his fingers, into the groove 13, the lug 44 rides beneath the roller 50 stretching the spring 55 and forcing the platen carried by the arm 20 into coaction with the ribbon and plate to effect the printing.

Referring now to the plate and the means by which it is carried by the head, a specimen plate is indicated at A in Fig. 4. My machine is adapted for printing either or both of two sets of embossed data on the plate, as for instance, two related addresses as indicated at *a* and *a-1* on Fig. 4. Such plate may conveniently be a tag provided with an opening *a-2* by which it may be carried by a cord or hook, for instance. The plate also may have a recess *a-3*, eccentrically placed at the end, cooperating with a suitable stop on the printing device to insure the plate being inserted right side up and right end foremost.

Secured to opposite sides of the head 10 are two strips 60 extending below the underface of the head 10, which underface is flat in the region

embossed plate, such as illustrated in Fig. 4, for instance, may be slid into place from the end of the device above the flanges 61 with the type facing downwardly. A suitable pin 62 carried by the head is adapted to coact with the notch *a-3* in the plate and allow it to reach final position, shown in Fig. 1, only when the plate is inserted that end foremost and with the type on the plate facing downwardly.

The platen member is normally locked in an inactive position by a slidable latch bar 70 which is mounted on the underside of the shank 11 and has a limited movement along such shank, the latch having slots 71 through which pins 72 pass into the shank. A suitable compression spring 74 mounted in a recess in the shank at the rear of the latch tends to force it forward and normally holds a shoulder 75 of the latch in engagement with a plate 25 rigidly secured to the platen arm. This is the position of the parts indicated in Fig. 6, where it will be seen that the latch locks the platen arm against operation.

When a properly positioned plate is inserted to the limit of its inward movement, so that the notch *a-3* comes about the stop pin 62, the end of the plate abuts the front end of the latch 70 and forces it rearwardly, thus causing the shoulder 75 to clear the plate 25 to release the platen arm, and then the operating lever 50 may be actuated to swing the platen arm upwardly to effect the printing.

The strips 60 preferably extend forwardly of the head 10, as shown in Figs. 1, 2 and 6, to provide guides for the plate. This makes it a simple matter, when the operator holds the device in one hand grasping the handle 12 and with his fingers about the lever 40, for him to use his other hand to place the plate in this guideway and then shove it rearwardly into place beneath the head to release the latch 70. The side of one of the guide strips 60 may be bent inwardly as at 60-*a* to furnish friction sufficient to overcome the force of the light spring 74, so that a fully inserted plate will remain in position.

Suitable means is provided for inking the underside of the address plate. As shown, this means comprises inking ribbon 99 wound up on two spools 81. These spools lie in recesses 17 formed in opposite sides of the head 10, the forward ends of the spools being mounted on fixed pins 82 and the rear ends carried by slidable pins 83 normally pressed by springs 85 into engaging position. This enables either spool to be rotated by the knurled head of its pin 86 to bring a fresh portion of the ribbon into coaction with the plate.

The spools are normally encased by a removable sheet metal hood 90 which extends lengthwise over the head and is clamped in place by a spring controlled pin 91. The lower edges of the hood extend inwardly to act as a mask to define the printing area.

I have referred to the plate A of Fig. 4 as carrying two related legends and to the machine as being able to print either or both of them as desired. This is one of the important features of the present application. In effecting such printing I provide two platen members side-by-side mounted on the platen arm 20, either or both of which members may be raised so as to be active for printing. Thus, as shown in Figs. 5 to 8, I provide two bars 100 and 101 pivoted by a transverse pin 102 to the platen arm 20. The bar 100 carries on its upper face a rubber platen block 104 and the bar 101 carries a platen block 105 shown

and 101 rest on a pin 110 mounted in the platen arm 20 and are maintained in engagement with such pin by springs 106 and 107 respectively, which are attached at their upper ends to pins 108 depending from the bars and at their lower ends to a cross pin 109 carried by the platen arm.

The control pin 110 is formed with two flat faces diametrically opposite each other. That is to say a flat face 111, Fig. 7, which is shown as in engagement with the bar 100 and a flat face 112 which is shown as on the under-side of the pin and distant from the bar 101. With the control pin in this position the bar 101 is at a sufficient elevation so that when the platen arm is operated by the lever 40 an impression will be made between the platen 105 and that portion of the embossed plate which is directly above it.

If the control pin 110 were turned 180° then the platen 104 would be raised to active position and the platen 105 released and drawn by its spring 107 to idle position. With that setting the handle 40 would print from the portion of the plate corresponding to the platen 104. If the control pin 110 were turned 90° from the position shown in Fig. 7 the cylindrical portion of the pin would engage both bars 100 and 101 and both platens 104 and 105 would effect an impression.

The control pin 110 has sufficient friction in its mounting to prevent displacement but is readily turned by a knurled head 115 on the pin. A suitable mark on the knurled head and cooperating indicia on the side of the platen arm, as indicated in Fig. 3, may show the user at a glance the setting of the control pin. Thus, with the arrow pointing to the numeral "3" as shown in Fig. 2, the indication may be that the wide platen only is active, printing three lines of type, for instance, the group *a* in Fig. 4. If however, the arrow pointed to the numeral "2" then only the narrow platen would be active and printing two lines of type, as in the group *a-i*. If the arrow pointed to "5", both platens would be active for printing five lines, which could be the groups *a* and *a-1*.

It will be seen that my printing machine is a comparatively small, simple device, which may be readily carried about and conveniently manipulated by the hand of the operator. The formation of the handle into the form of a pistol grip and the forming of the operating lever to be readily forced into the hollow of that grip by the fingers of the hand engaging the grip provide very convenient means for carrying the device and operating it. The operating parts are compactly arranged within the instrument itself and are carried primarily by the two main members, namely, the head frame and the platen frame. The independent platens are carried in simple manner and easily selected.

Such a device as herein shown and described has a wide variety of uses. For instance, in store tokens it is very convenient to carry several lines of type. For instance, it might be desired to have a man's name with his office address and his wife's name with the house address for rendering accounts at either place or for making a proper entry for delivery to the house and the bill sent to the office. In keeping track of payrolls in some operations, it is desirable to have the workmen carry a tag and present it to an attendant of certain stations. In some large hospitals each patient is supplied with a tag and imprint is made from one region thereof by the nurse on the permanent hospital record from the

or other items of which a record is to be kept in association with the particular patient. These uses are cited merely as examples to indicate the variety of uses to which the device may be put.

I claim:

1. In a printing device, the combination of a head adapted to carry a removable printing plate, a movable platen arm, two bars independently movably mounted on the arm and each carrying a platen, a flattened cross pin mounted in the platen arm and having one flattened portion to coact with one bar and the other flattened portion with the other bar, whereby the pin may set either bar to be active, and means for operating the platen arm to print from the selected bar.

2. In a portable addressing device, the combination of a head provided with means for carrying a printing plate on its underside, a shank leading rearwardly from the head, a pistol grip extending downwardly from the shank, a platen arm pivoted at its rear end to the shank and free at its forward end, a pair of bars side by side, each pivoted to the platen arm and extending from their pivots toward the free end of the arm, a rotatable pin mounted in the arm extending crosswise of the bars adjacent their free ends and having two camming regions differently located about the pin and adapted to coact with the respective bars to render active one or the other as desired, and a lever in front of the pistol grip adapted to swing the platen arm with its bars upwardly, each bar carrying a pad adapted to coact with a portion of the printing plate on the head.

3. In a printing device, the combination of a head formed to carry a printing plate, a handle connected with the head by an intermediate portion, a platen arm pivoted to the intermediate portion and extending across the head, an operating lever in front of the handle, means whereby it may act on said arm to move it with reference to the head, two platen-carrying bars pivotally secured to the arm, and a single selecting member acting on the bars adjacent their free ends and which in one position makes one bar active and in another position makes the other bar active.

4. The combination of a head provided with means for carrying a removable printing plate, a shank leading from the head, the pistol grip con-

nected to the shank, a platen arm pivoted to the shank, a pair of bars pivoted to the arm and extending lengthwise thereof and each carrying a pad adapted to coact with a portion of the printing plate on the head, a rotative pin mounted in the platen arm and extending crosswise thereof and formed with two camming surfaces, each associated with a respective bar, whereby either bar may be held in active position relative to the platen arm, and a lever adjacent the pistol grip and adapted to move the platen arm toward the plate carrying head.

5. In a printing device, the combination of a frame, a printing head thereon, a platen arm pivotally mounted on the frame, two platen-carrying bars pivotally secured to the arm and extending from their pivots toward the free end of the platen arm, a single selecting device comprising a cross member mounted in the platen arm and having two independent camming surfaces associated with the two bars respectively, whereby said member in one position may make one bar active and in another position makes the other bar active, a downward extension of the frame constituting a pistol grip, and means adjacent such extension for moving the platen arm to print by the selected platen bar.

6. In a portable addressing device, the combination of a head provided with means for carrying a printing plate on its underside, a shank leading rearwardly from the head, a handle extending downwardly from the shank, a platen arm pivoted at its rear end to the shank and free at its forward end, a pair of bars side by side, each pivoted to the platen arm and extending from their pivots toward the free end of the arm, each bar carrying a pad adapted to coact with a portion of the printing plate on the head, said platen arm having downwardly extending side flanges, a pin rotatively mounted in said side flanges and extending crosswise of the bars beneath them adjacent their free ends and having two camming regions differently located about the pin and adapted to coact with the respective bars to raise one or the other as desired, spring means for maintaining the bars on said pin, and a knob on one end of the pin on the outer side of the arm.

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