

April 30, 1940.

N. G. CREAMER

2,199,254

PRINTING ATTACHMENT FOR BOTTLE LABELING MACHINES

Filed Jan. 18, 1938

3 Sheets-Sheet 1

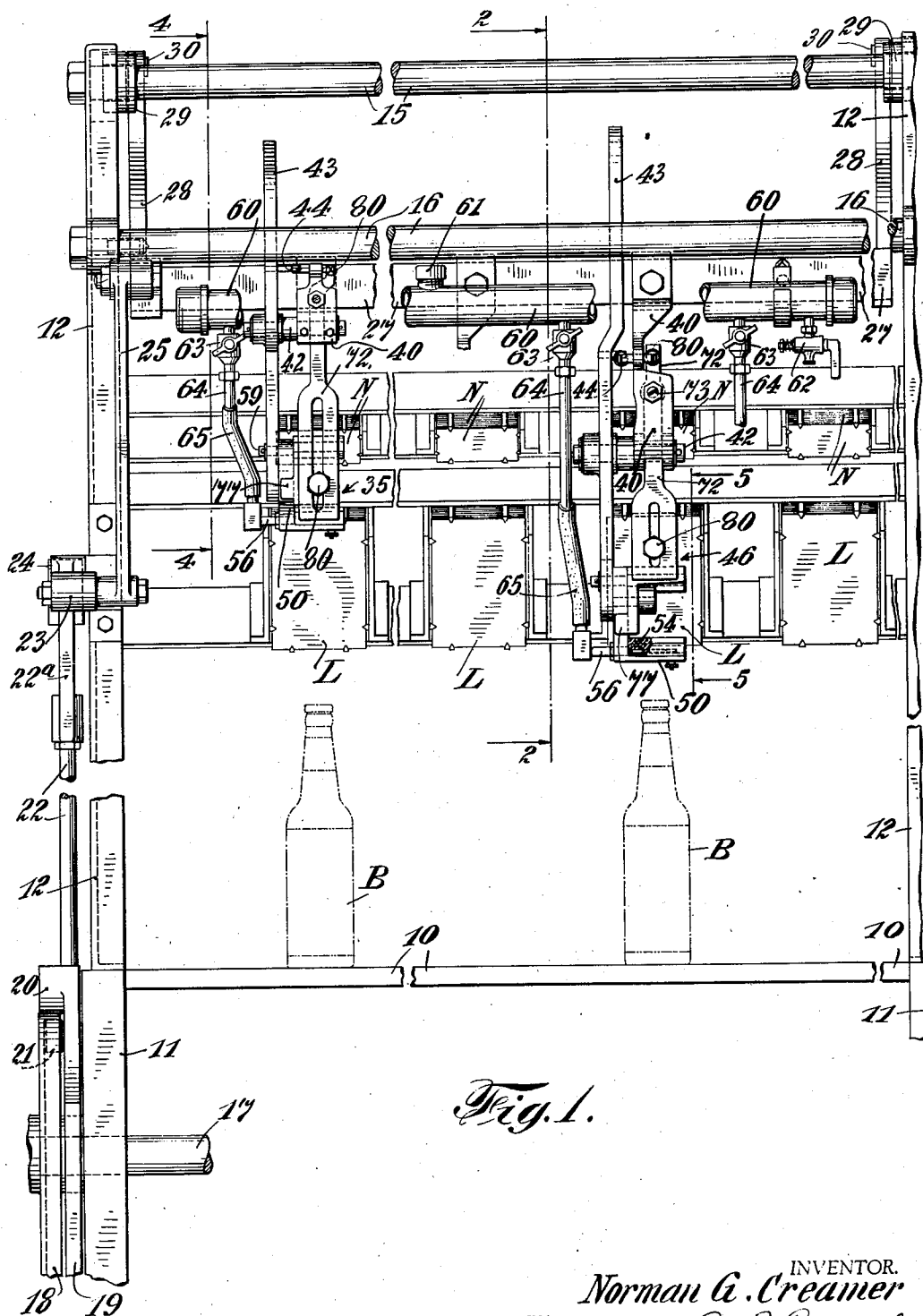


Fig. 1.

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3 Sheets-Sheet 2

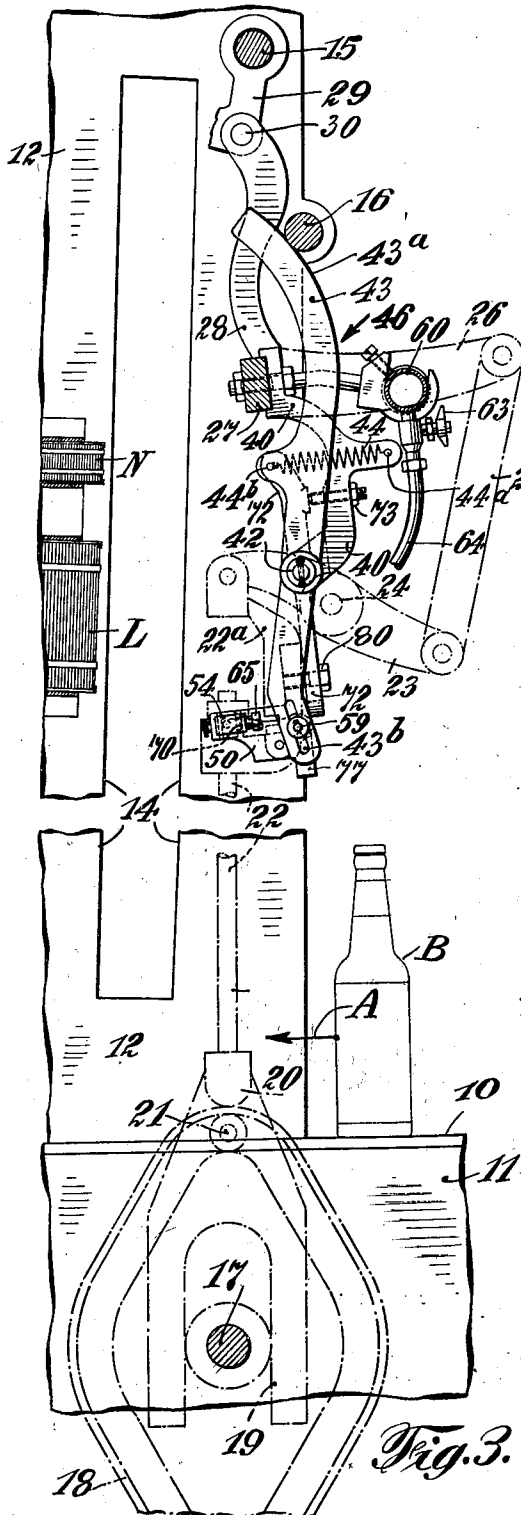


Fig. 1.

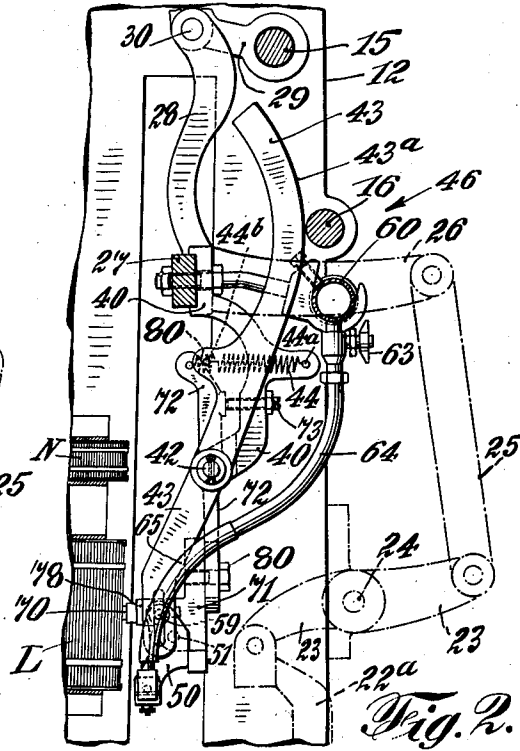


Fig. 2.

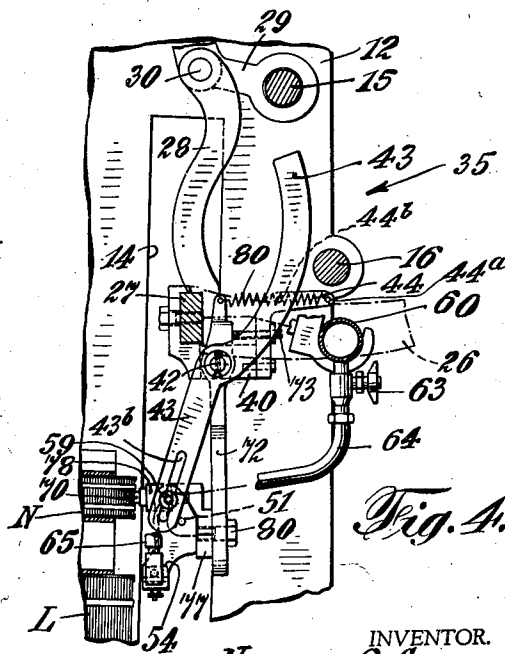


Fig. 4.

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3 Sheets-Sheet 3

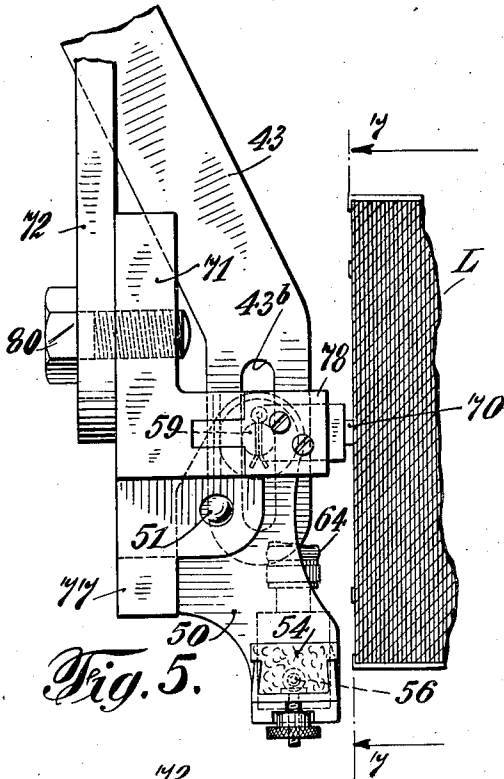


Fig. 5.

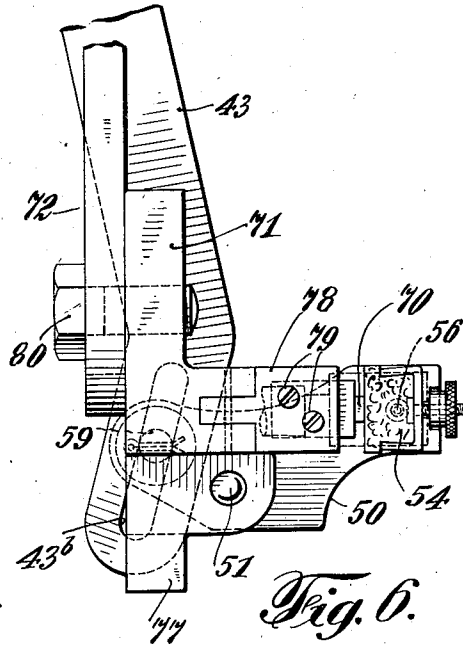


Fig. 6.

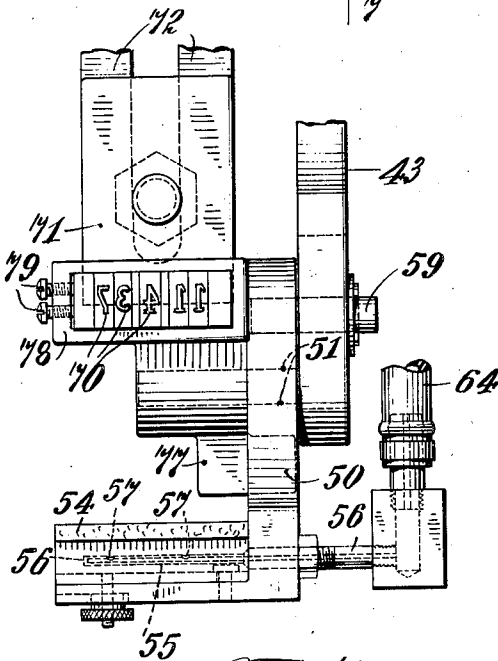


Fig. 7.

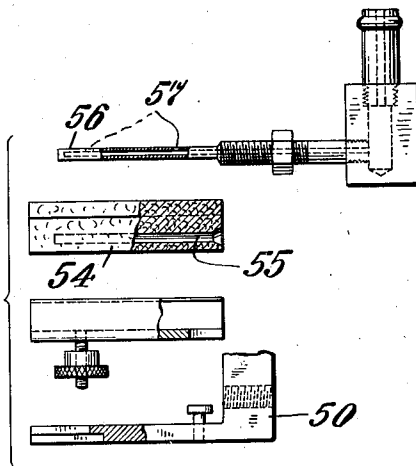


Fig. 8.

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## UNITED STATES PATENT OFFICE

2,199,254

## PRINTING ATTACHMENT FOR BOTTLE LABELING MACHINES

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Application January 18, 1938, Serial No. 185,496

3 Claims. (Cl. 101-333)

This invention relates to printing attachments for bottle labeling machines for the purpose of printing the labels of the known labeling machine with the date and initials of the factory. Such printing may be either upon the body or neck labels, or both, or upon the revenue stamps.

Heretofore, difficulties have been encountered in the printing of such labels, particularly from the fact that the imprinting applied soon faded out, so that the printing became more or less illegible.

The object of the invention is to provide a printing attachment in which the ink flows continuously from the ink reservoir to the printing pad so as to assure at all times an ample supply of ink to the pad, and thereby give a distinct and visible imprint upon the label by the type inked by the pad.

The object of the invention is, further, the provision of an attachment to standard labeling machines so arranged as to operate therewith, preferably in series of four, six or eight for the body or neck labels, or both, as desired, to enable about two hundred labels per minute to be printed, substantially simultaneously with the labeling of the bottles by the labeling machine. In other words, the invention comprises the co-operation of the known labeling machine with the printing attachment, so that when the bottles are out of the way the printing of the label or labels for the next bottle or bottles may take place, and when the printing device is out of the way, the next bottle may be labeled.

Furthermore, the use of a pad placed in a vertical position while inking the type, assures a good supply of ink to the type prior to its inking. The invention includes means to carry out the foregoing objects.

The invention will be more fully described hereinafter in the light of the embodiments thereof shown in the drawings, and will be finally pointed out in the claims.

The invention consists of further features which will also be described in the light of the embodiments shown in the drawings, and will also be finally pointed out in the claims.

In the accompanying drawings:

Figure 1 is a front elevation of the known parts of a labeling machine, showing one body label mechanism and one neck label mechanism applied thereto;

Figure 2 is a section taken on the line 2-2 of Figure 1, showing a body label printing mechanism in printing position;

Figure 3 is a section like Figure 2, but in "off" position;

Figure 4 is a section taken on the line 4-4 of Figure 1, showing a neck label printing mechanism, in printing position;

Figure 5 is an enlarged sectional view taken on the line 5-5 of Figure 1 of the lower part of the body label printing mechanism shown in Figure 2;

Figure 6 is a sectional view of the parts of Figure 5, but in "off" position;

Figure 7 is a front elevation taken on the line 7-7 of Figure 5, seen in the direction of the arrows; and

Figure 8 is an exploded view of the inking device and pad.

Similar characters of reference indicate corresponding parts throughout the various views.

Referring to the drawings, and more particularly to Figure 1, parts of a standard labeling machine are shown, which in and for themselves form no part of this invention.

As is known, the bottles B of any shape pass over table 10 in the direction of the arrow A in Figure 3, and are brought into a position so as to receive body and neck labels, when moved into the space 14, in proximity to the piles L and N, in a manner well known.

The side frames 12 of the machine have slots or spaces 14 to accommodate label feed mechanism, and rest on the base 11 in Figure 3. Horizontally disposed stiffening rods 15 and 16 connect the outer frames 12, shaft 15 being used as a pivot rod, and rod 16 is used also in actuating the printing device.

As shown, rotating shaft 17 in the base 11 carries an oval-shaped cam 18. A fork-shaped member 19, having a semi-circular cam 20 and cam roller 21, is actuated by the movement of the cam 18 into an up and down movement. Rod 22 attached to the fork-shaped member 19 is actuated by movement of cam 18. This displacement of rod 22 sets into operation a conventional lever system which serves to move the bar 27, and the other known parts of the labeling machine dependent from the bar 27 and not shown in the drawings.

Rod 22 and the connected rod 22a oscillate to angularly displace the lever 23 about the stationary pivot 24. The link 25 is pivoted to lever 23 at the opposite end of the latter from the pivot connection of rod 22a thereto, and is consequently displaced downwardly upon upward movement of rods 22 and 22a. In other words the oscillations of link 25 are opposite to those

of rods 22 and 22a. At the upper end of link 25 is pivoted a lever 26 which rigidly supports the movable bar 27. This pivot between lever 26 and link 25 permits the horizontal displacement of bar 27 which upon oscillation of the lever system is displaced arcuately between the positions shown in Figures 2 and 3.

An S-shaped lever 28 is rigidly secured to the movable bar 27 and extends upwardly to pivot 30 to which the free end of lever 28 is pivotally secured. The levers 26 and 28 from which bar 27 is dependent together comprise a bell-crank lever. An arm or link 29 is also pivoted at 30 and at its opposite end is pivoted to the stationary crossbar or support 15.

With the lever system in the position shown in Figure 3 the cam 18 moves away from roller 21 permitting downward movement of fork 19, and rods 22 and 22a. The lever 23 is therefore partially rotated and the link 25 is moved upwardly causing the pivot between link 25 and lever 26 to move upwardly and inwardly in a curved path. The movement of lever 26 and bar 27 and lever 28 is, of course, identical since all are rigidly connected, and all move arcuately upward. The pivot 30 moves with the lever 28 necessarily, and therefore partially rotates about the crossbar 15. The arm 29 also is angularly displaced on the pivot or crossbar 15. The lever 28 pivots on the pin 30 while at the same time it moves the pivot pin 30 arcuately upward to cause arm 29 to pivot on the crossbar 15.

The oscillation of pivot 30 is opposite to that of rod 22, just as that of link 25, and the provision of the pivot 30 permits the vertical displacement of movable bar 27 simultaneously with the horizontal displacement due to the pivot between link 25 and lever 26 and the resultant arcuate movement of bar 27 obtains. This motion of link 29 is determined and controlled by the movement of rod 22 through any suitable means making a direct connection between these two members.

The bar 27 of the standard labeling machine, which bar extends between the side frames 12 of the machine, supports the units or attachments for printing the labels, indicated generally by 35 and 46 in Figure 1. The bar 27 carries a bracket member 40, the lower part of which connects with a lever 43 on a pivot pin 42. This bracket member 40 has a pin 44a to which a spring 44 is secured, and the other end of the spring 44 is secured to a pin 44b on the lever 43. The spring 44 pulls on the lever 43, and thus presses its curved part 43a against the cross rod 16. The bracket member 40 also supports a supporting member 72, which extends downwardly below the pivot pin 42, and in turn supports at its lowermost end a member 71 holding the typechase 78 and type 70, as shown in Figure 5. The type 70 is locked in its chase 78 by screws 79. The bar 72 is also adjustable by a nut controlled bolt 73 (Figures 2 and 4) which moves the bar 72 against the action of a spring 80a.

The chase 78 is locked in position on the member 71. The member 71 with the chase 78 and type 70 is vertically adjustable on the bar 72 by bolts 80 movable in a guide slot in the bar 72. The member 71 has a pivot pin 51. An ink pad support 50 is pivotally movable on this pin 51. This pad 54 is swung up against the type 70 by the lever 43 which is connected with the member 50 by a pivot pin 59, the pin 59 engaging a slot 43b of the lever 43 and being eccentrically

positioned to the pivot pin 51. If then, the lever 43 at its curved portion 43a presses against the rod 16, it moves against the opposing action of the spring 44, and turns on its pivot 42, whereby its lower free end presses upon the pin 59, and thereby moves the upper part of member 50 in a direction around the pivot 51, and hence moves the pad 54 of the support 50 against the type 70. A stop 77 is provided against which the pad supporting member 50 abuts when the pad is in its noninking position. The felt pad 54 has a bore 55 into which a tube 56 is inserted. These parts are shown in separated positions in Figure 3, but in Figure 7 they are shown in assembled position. The ink reservoir 60 has a filler cap 61, and a draw cock 62. The ink flows, being regulated by control valves 63, through the piping 64 and flexible rubber hose 65, down into the small tube 56, and out of the holes 57 thereof into the felt pad 54, to saturate the same with ink.

It will have been seen that the attachment to a standard labeling machine comprises a bracket member 40 which supports the swinging lever 43, on the pivot 42, and which lever 43 moves the pad into and out of inking position against the type, the pad being fed by the ink reservoir. It will be particularly noted that the pad when in non-inking position is in a horizontal position, and when in inking position is in a vertical position, thus allowing the ink to move therein against the pad felt, when inking, and thereby giving a greater amount of fluid to the type than when type is moved against a horizontal pad.

The attachment for carrying out the inking operation moves with the parts of the labeling machine and in relation thereto, the bar 27 moving from the position shown in Figure 3 to that in Figure 2, and vice versa, the inking reservoir moving with said bar 27. Thus the printing of the top label on the pile can take place and then the printing mechanism passes out of the path of the space 14, whereupon the bottle B can enter the space 14, and be labeled with the printed label, in the manner well known.

It will also be seen that when the parts are in the position shown in Figure 3 and Figure 6, the inking takes place, i. e., when the type is against the pad. Thus, the non-printing position is the inking position. When, however, the frame 27 is moved, and a period in the labeling operation permits, then printing can take place immediately from the inking position. With the frame 27 near to rod 16, as in Figure 3, the curved lever 43 pressing against rod 16 has its lower end substantially below its upper end, with the printing and inking mechanism out of the way, and the pad against the type, as also shown in Figure 6. But, when bar 27 moves inwardly over the space 14, to move from operative position after its labeling function, the lever 43, in pressing against the bar 16, enables its other end to move against the label pile and do the printing as shown in Figure 2 and in Figure 4.

It will have been seen that the invention described hereinabove includes a unit consisting of a printing mechanism attachment to a labeling machine, which consists in the embodiment shown of a supporting bracket member 40 secured to the movable bar 27 of a labeling machine. To this bracket member 40 is pivoted a lever 43 having a curved portion 43a pressing against the cross rod 16 of a labeling machine, which lever is spring actuated by the spring pressing the lever 43 against the rod 16. The lever 43 extends

below the pivot 42 and supports a printing mechanism consisting of a chase 78 and type 70, and a swingable inking pad normally in vertical position covering the face of the type; and swingable in a non-inking horizontal position, together with means for supplying the pad with ink. By the combination of such a unit with a standard labeling machine, the printing mechanism is put in operation to print labels before they are applied to the bottles, when the labeling of the bottles is inactive, and vice versa.

I claim:

1. In combination, a lever pivoted at its upper end to a supporting pivot, and having at its lower end a slot, a second lever pivoted at its upper end to a supporting pivot in alignment with the supporting pivot of the first lever, and having at its lower end a type face, a third lever pivoted at its upper end to a shaft supported by the second lever and engaging the slot of the first lever, said third lever supporting an ink pad for said type face, whereby the movement of the lower end of the first lever to the second and third levers moves the type face free from the ink pad against a label, and moves the ink pad against the type face when the type face is free of the label.

2. In a printing unit for labeling machines, a type face, an ink pad normally in contact with

and movable relative to said type face, oscillating means for supporting the type face and ink pad, operating means for the ink pad including a lever pivoted on said oscillating means, said lever having a cam portion at one end thereof, stationary means for said lever adapted to engage the cam portion thereof to pivot the lever and to move the ink pad away from the type face upon displacement of said lever, and means biasing said cam portion into engagement with the stationary means.

3. In a printing unit for labeling machines, a type face, an ink pad movable relative to said type face, an oscillating supporting member, a lever pivoted to and resiliently carried with said supporting member for supporting the type face and ink pad, operating means for the ink pad including a second lever pivoted to said supporting member, said lever having a cam portion at one end thereof, stationary means for said lever adapted to engage the cam portion thereof to pivot the lever and to move the ink pad to and from the type face upon oscillation of said supporting member, and means biasing said cam portion into engagement with the stationary means.

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