March 7, 1933. A. ELEY 1,900,279

ADDRESSING MACHINE AND OTHER SIMILAR PRINTING MACHINES

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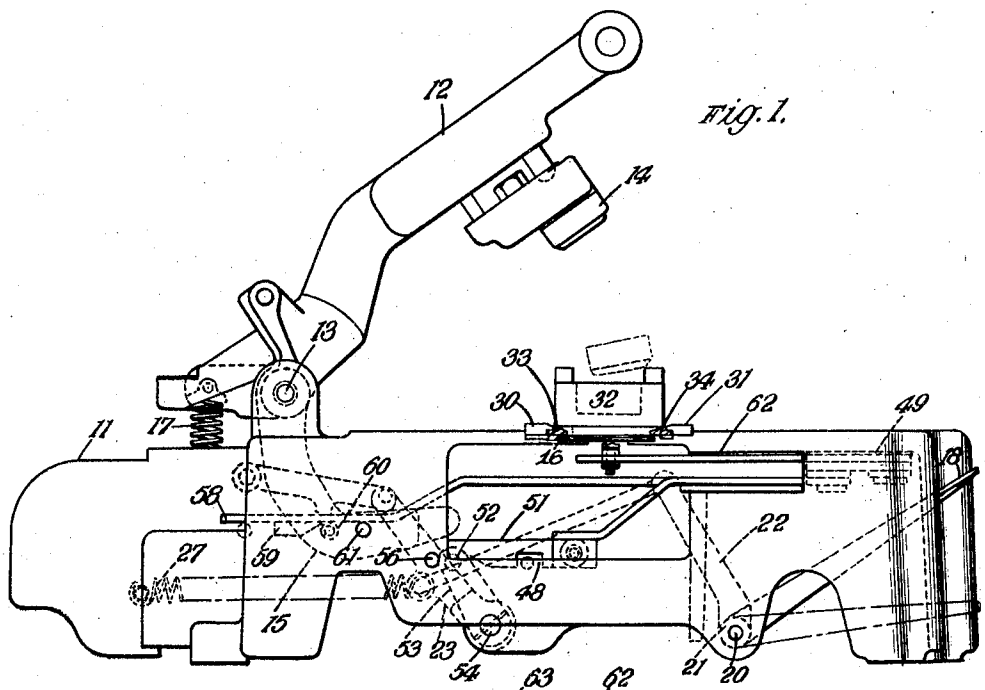


Fig. 1.

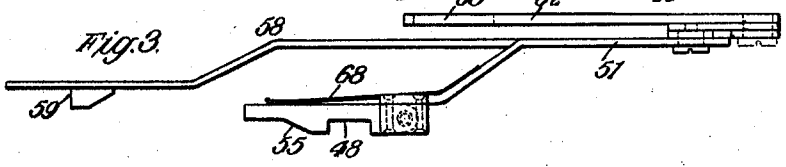


Fig. 3.

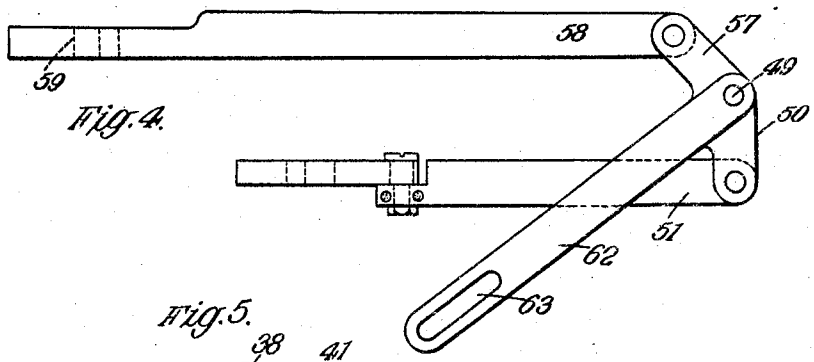


Fig. 4.

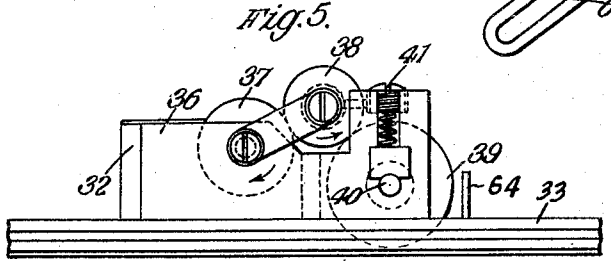


Fig. 5.

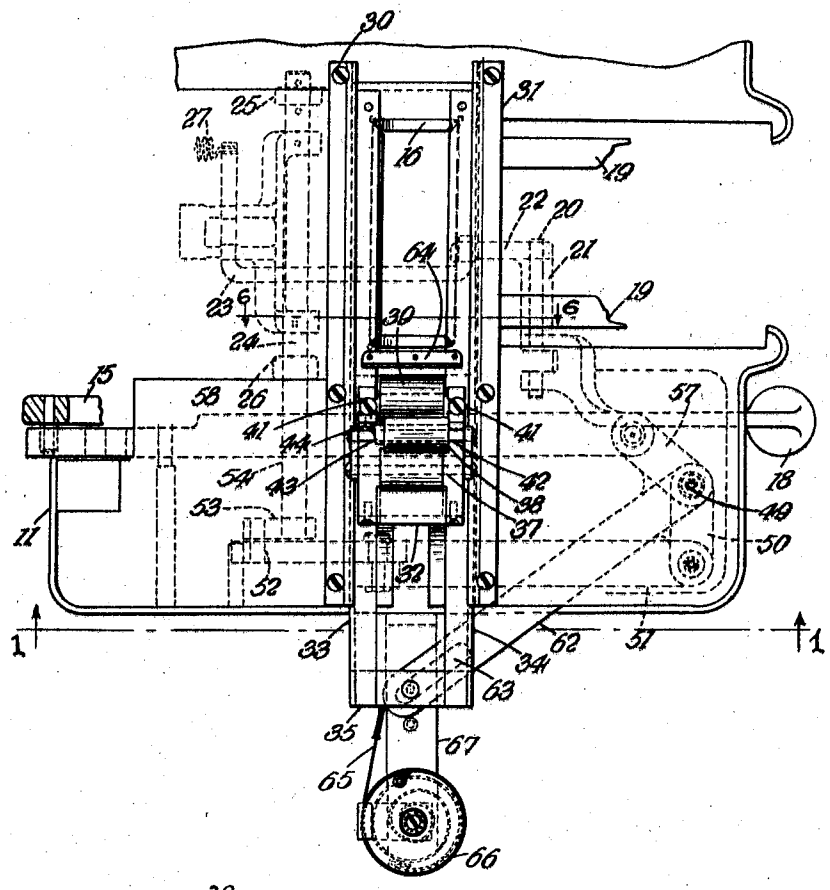
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ADDRESSING MACHINE AND OTHER SIMILAR PRINTING MACHINES

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Fig. 2.



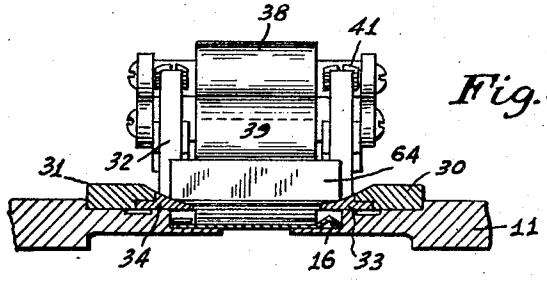


Fig. 6.

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UNITED STATES PATENT OFFICE

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ADDRESSING MACHINE AND OTHER SIMILAR PRINTING MACHINES

Application filed October 23, 1929, Serial No. 401,635, and in Great Britain February 18, 1929.

This invention relates to addressing machines and other similar printing machines of the kind in which printing devices are consecutively fed to the printing position, where cards, labels, tickets, envelopes, or other articles to be printed (hereinafter briefly termed "cards") are successively positioned on which an impression is made from the printing devices by a platen. The chief object of the invention is to ink the printing devices in a novel manner, and another object is to discharge the card after printing at the time the inking operation is being performed.

According to the invention an ink container is arranged to supply ink to a roller by which the ink is distributed over the printing device, the said container and roller being mounted on a reciprocable carriage and the operative stroke of the carriage being effected by mechanism actuated either by connections with the printing device feeding mechanism or by connections with the platen. The front of the carriage may be provided with a flange which at the beginning of the advance of the carriage engages the previously printed card to expel it from the machine.

In order that the said invention may be clearly understood and readily carried into effect, the same will now be described more fully with reference to the accompanying drawings, in which:—

Figure 1 represents in elevation the left hand side of a printing machine embodying an exemplification of this invention and is a view taken substantially on the line 1—1 on Figure 2.

Figure 2 is a plan of the said machine from which the platen arm is omitted for the sake of clearness.

Figure 3 is a detail illustrating in elevation the carriage operating mechanism detached from the machine.

Figure 4 is a plan of the mechanism shown in Figure 3.

Figure 5 is a front elevation of the ink container and its associated rollers.

Figure 6 is a view taken substantially on the line 6—6 on Figure 2.

In the drawings, 11 indicates the frame of the machine, in which the platen arm 12 is pivoted at 13. This arm carries a platen 14, and includes a tail-piece 15. The attendant, who stands at the front of the machine, that is, at the right hand side, as viewed in Figure 2, lays a card on the printing device 16, and then rocks the platen arm to bring down the platen 14 on the card, which is thus pressed against the printing device with sufficient force to transfer an impression therefrom onto the underside of the card. The platen is then returned to its position of rest, that is, the position in which it is represented in Figure 1, by the pull of the spring 17.

The printing devices are fed forward to the printing position from a stack of such printing devices arranged at the rear of the machine, by well known mechanism actuated by the depression of a handle 18, which mechanism always takes the lowest device from the stack, advances it one step at each depression of the said handle, and after an impression has been made therefrom, in ordinary consecutive printing, the said mechanism discharges the leading device over the guides 19 at the front of the machine, where a hopper may be provided to receive the devices thus discharged. The handle 18 turns on a stud 20 in the frame 11, and on its boss 21 is formed a crank 22 linked to a crank 23 fastened on a rotatable shaft 24, mounted in bearings 25, 26 on the machine frame. This crank 23 actuates the printing device feeding mechanism. When the handle 18 is released, a spring 27 anchored to the machine frame and connected with the crank 23 causes the return of the said handle and associated parts to the normal position, represented in Figure 1.

Guides 30, 31 are secured transversely of the machine, between which a carriage 32 is adapted to reciprocate, this carriage being carried on a sliding frame comprising side members 33, 34 and a crossbar 35. The side members run underneath ribs on the opposite edges of the guides 30, 31 as seen in Figure 1. The carriage is provided with an ink well or container 36 (Figures 2 and 5) in which are mounted three rollers 37, 38, 39 the first of these rollers being partly immersed in the

ink in the container, the roller 39 being the printing device inking roller, and the intermediate roller 38 receiving ink from the roller 37 and spreading it on the roller 39. The roller 37 may be made of metal, and the rollers 38 and 39 covered with a gelatine composition. The last named roller is carried on trunnions or gudgeon pins 40 the height of which relatively to the container 36 can be adjusted by means of screws 41 (see Figure 5). The intermediate or spreader roller 38 is impelled by a spring 42 at one end thereof to move in an axial direction, and the other end of this roller is provided with a face cam 43 (Figure 2) engaging an abutment 44 at the side of the carriage, so that this roller in its rotation is caused to move laterally in relation to the ink feed roller 37 and the printing device inking roller 40 in order to ensure an even distribution of the ink over the latter roller.

In such machines, it is obvious that several cards can be printed from one plate by repeatedly operating the stamper without operating the printing device feed, and conversely any device or devices of the series from which it is not desired to take an impression can be skipped by operating the printing device feed without operating the stamper. In the first case, just as in ordinary consecutive printing, the discharge of the previously printed card and the re-inking of the printing device must precede the placing of another card in the printing position, so that operation by the platen is essential. In the second case, after one or more printing devices have been skipped, the inking of the next device from which a card is to be printed must be effected before the platen is again operated, so that the printing device feed must also be enabled to effect the reciprocation of the carriage, even though a slight waste of printing ink is thereby involved in reciprocating the inking roller across the skipped printing device.

In order to enable the carriage to be controlled by either the platen or the printing device feed lever, we arrange the operative connections with these mechanisms in the form of bars having notches or projections adapted to be disengaged during the latter part of the return stroke of each of the said mechanisms, so that in the position of rest of the platen and in the position of rest of the printing device feed lever, the carriage is free, and is held out of action by a spring. A three armed lever pivoted on the machine frame at 49 has one arm 50 linked to a notched bar or pawl 51, and at the beginning of the upward or return stroke of the printing device feed lever 18 a pin 52 on a crank arm 53 on an extension 54 of the ordinary rotary shaft 24 of the printing device feed mechanism registering in the notch 48 in the bar 51 presses back this bar 51 and rocks the three armed lever until a wedge 55 on the underside of the bar rides up on a pin 56 and disengages the bar 51 from the crank 53. Another arm 57 of this three armed lever is linked to a bent bar or long pawl 58 which has a catch 59 adapted to engage a roller 60 on the tailpiece 15 of the platen arm 12 in the return stroke of the platen under the pull of the spring 17, whereby the bar 58 is pushed forward to rock the three armed lever in the same direction as that in which the shorter bar or pawl 51 rocks it as aforesaid, and as this movement of the bar 58 proceeds, a fixed pin 61 lifts the bar 58 to disengage it from the roller 60. In the operative stroke of the platen, the roller 60 passes idly under the catch 59. The third arm 62 of the three armed lever, which is located intermediately of the two arms 50 and 57, just mentioned, is slotted at 63 and connected as seen in Figure 2 with the crossbar 35 at the rear of the ink container carriage 32, and on this lever being actuated by either the platen or the device feed mechanism, the carriage is caused by the arm 62 to travel in the guides 30, 31 so that its inking roller 39 runs over the printing device 16 in a direction at right angles to that of the feed of the printing devices, and if the flange 64 at the front of the carriage encounters a card overlying the printing device, that is, the card last previously printed, the said card is thereby expelled at the right hand side of the machine before the inking roller 39 reaches the newly positioned device. When the three armed lever is set free by the disengagement of the pin 52, or of the roller 60, in the manner already described, a spring 65 attached to the crossbar 35 of the carriage and adapted to be coiled in a drum 66 carried on a bracket 67 projecting from the left hand side of the machine, which spring 65 was extended by the advance of the carriage, re-coils and draws back the carriage, the inking roller 39 then passing again over the printing device in contact with the type thereon. The action of the spring 65 effects the return stroke of the carriage in this way, whether the forward stroke of the carriage has been effected by the platen or by the printing device feed mechanism. In either case the release of the bar or pawl which effects the forward stroke of the carriage takes place when the platen, or the printing device feed lever, as the case may be, has accomplished about half of its return stroke. The pawl or notched bar 51 is impelled into its working position by a spring 68. The ink feed roller may be provided with a pinion meshing with a rack on the framework of the machine in order that the rotation of the said roller shall be ensured during both the outward and return strokes of the carriage.

What I claim and desire to secure by Letters Patent of the United States is:—

1. In a printing machine of the kind set forth, a reciprocable ink container, means for supplying ink from said container to a printing device, and means associated with said container for discharging a previously printed article from the printing position.

2. In a printing machine having a printing device therein, a reciprocable carriage, inking means on said carriage, and means on said carriage for expelling a previously printed article from said machine upon operation of said carriage.

3. In a printing machine having a printing device feed therein, means operating said printing device feed to position a printing device at printing position, a carriage, an ink container on said carriage, a printing device inking roller mounted on said container and depending below said carriage, means feeding ink from said container to said roller, and means operable from the printing device feed to reciprocate the carriage over the printing device to apply ink thereto.

4. In a printing machine having a printing device feed therein, a platen, operating means for said printing device feed to operate said feed to position a printing device at printing position, a carriage, an ink container on said carriage, a printing device inking roller mounted on said container and depending below said carriage, means connected to the platen and to said operating means to effect movement of the carriage and the inking roller over the printing device in the machine in one direction upon operation of the platen or the operating means and means for moving said carriage in the other direction.

5. In a printing machine, a printing device feed including an operating handle, a carriage, an ink container mounted on said carriage, a printing device inking roller mounted on said container, means for feeding ink from said container to said roller, means connecting the carriage and the plate feed whereby the carriage may be moved in one direction over a printing device during return stroke of the plate feed handle, and means for moving said carriage in the other direction.

6. In a printing machine, a platen, a carriage, inking means on said carriage, a printing device feed including an operating handle, means connecting the platen and said carriage to move said carriage over a printing device, means for disengaging said connecting means after said movement has been effected, means connecting said operating handle and said carriage to also move said carriage over said printing device, means for disengaging the last-named connecting means after said movement has been effected, and means for withdrawing said carriage after either of said connections have been disengaged.

7. In a printing machine, a platen, a printing device feed including an operating handle, a carriage, inking means on said carriage movable over a printing device carried by said feed, a three-armed lever, means connecting one end of said arm to the carriage, means connecting the other arms of said lever, respectively, to the platen and the printing device feed whereby when either said platen or said printing device feed are operated said carriage will be moved in one direction, means for disengaging the connections between the lever and the platen and the printing device feed, and means for moving the carriage in the other direction after said disengaging means is operated.

8. In a printing machine having a printing device therein, a pivoted platen arm having a tail piece, a roller on said tail piece, a carriage, inking means on said carriage, a bar having operative connection with the carriage, a catch on said bar engageable by said roller on the return stroke of said arm to effect movement of said bar to move said carriage in one direction, a pin located in the path of movement of said bar to be engageable by said bar to lift it out of engagement with said roller, and means for returning said carriage and said bar toward normal positions when said bar is disengaged from said roller.

9. In a printing machine, a printing device feed including an operating handle, a rotatable shaft, means connecting said handle and said shaft to cause angular movement of the shaft when said lever is depressed, means for automatically reversing the movement of said shaft, a crank on said shaft, a carriage, inking means on said carriage, a notched bar connected with the carriage for imparting movement thereto in one direction, said bar including an inclined surface, a pin on the crank normally registering in the notch in said bar to effect operative movement of the bar upon reversal of the angular movement of the shaft, a fixed pin engageable by said inclined surface during the movement of said bar to thereby lift it out of engagement with the crank pin, and means for moving the inking carriage in the other direction when said bar is lifted by engagement with said fixed pin.

10. In a printing machine, transverse guides including ribs, a carriage comprising side members adapted to travel under said ribs, a cross bar connecting said side members, a lever having slotted connection with said cross bar and movable with operable parts of the machine to move the carriage in one direction upon the return stroke of either of said operable parts, a spring for moving the carriage in the other direction during the latter part of said return stroke, and inking means on said carriage movable over a printing device in said machine.

11. In a printing machine, transverse guides including ribs, a carriage comprising side members adapted to travel under said ribs, a cross bar connecting said side members, a lever having slotted connection with said cross bar and movable with operable parts of the machine to move the carriage in one direction upon the return stroke of either of said operable parts, a spring for moving the carriage in the other direction during the latter part of said return stroke, an ink container on said carriage, a plate inking roller mounted on said carriage, means for feeding ink from said container to said roller whereby the movement of said carriage will distribute ink over a printing device in said machine.

12. In a printing machine, means for feeding printing devices to printing position in the machine, said means including a depressible operating handle returnable automatically to at rest position when released, a manually operable platen, means automatically returning said platen to its position of rest when released, the combination of a carriage, an ink container mounted on said carriage, a printing device inking roller mounted on said container, means for feeding ink from said container to said roller, a lever for moving said carriage transversely of the direction of movement of the printing devices to thereby ink the same, a spring for moving said carriage in the other direction, actuating means for said lever operable during the return stroke of said handle and automatically disengageable before the completion of said return stroke, and alternately actuated means for said lever operable on the return stroke of the platen and automatically disengageable before the completion of said return stroke to permit the spring to move the carriage.

ALONZO ELEY.