

May 29, 1951

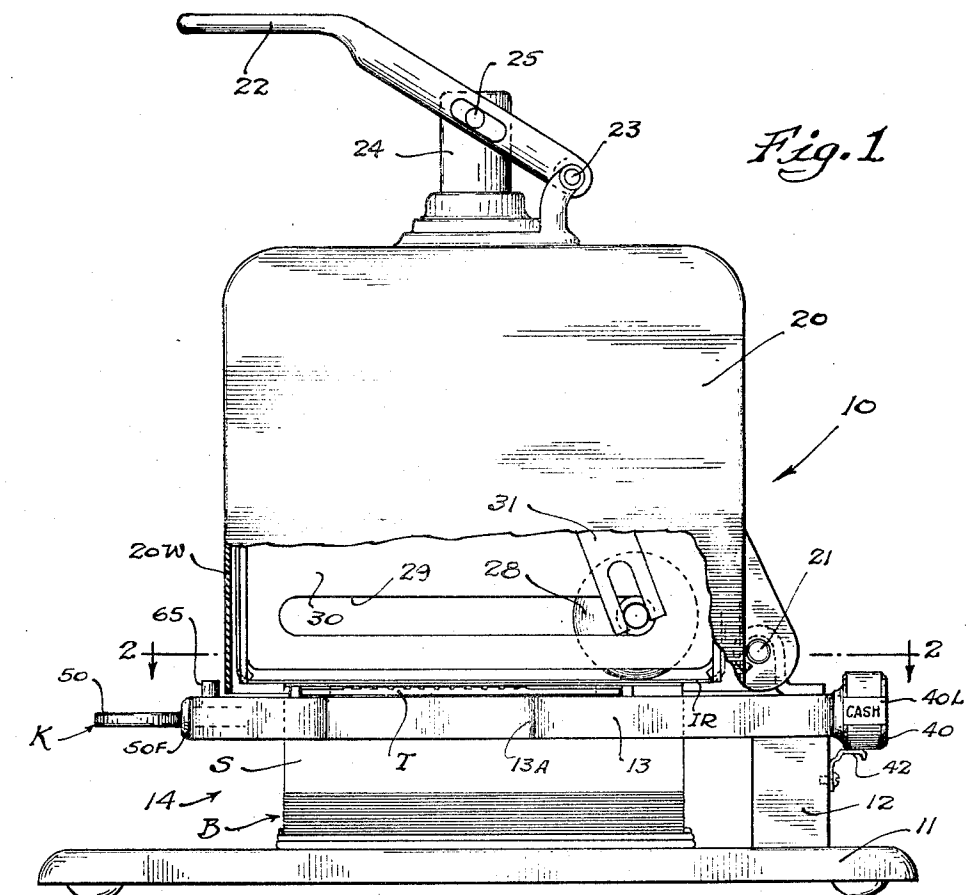
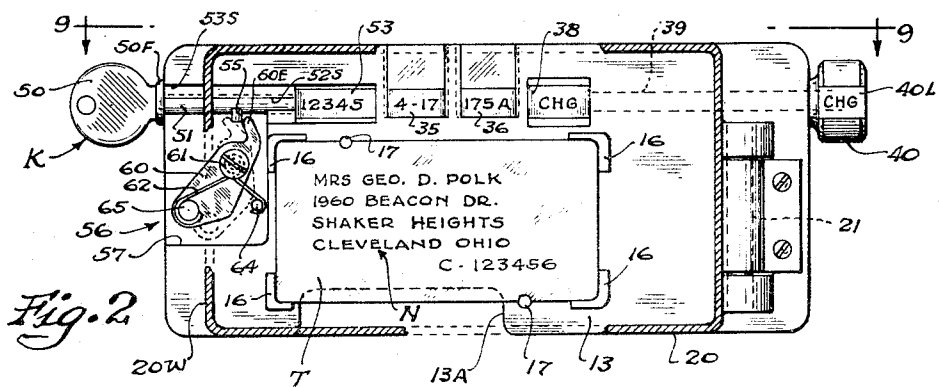
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2,555,148

KEY CONTROLLED PRINTING MACHINE

Filed April 30, 1947

2 Sheets-Sheet 1



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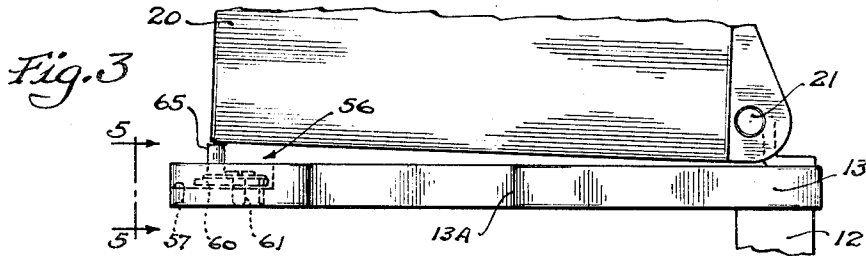
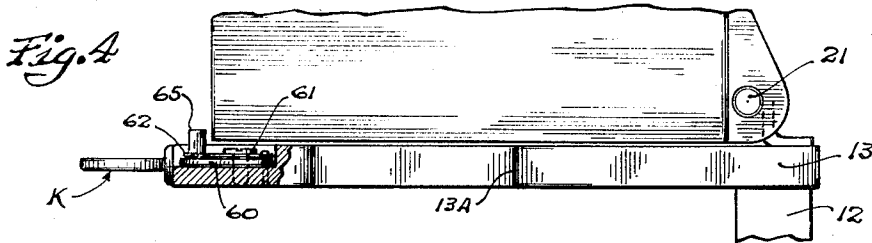
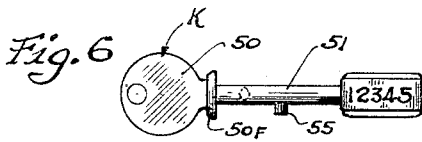
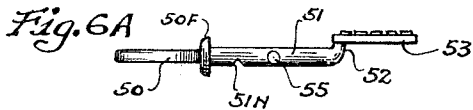
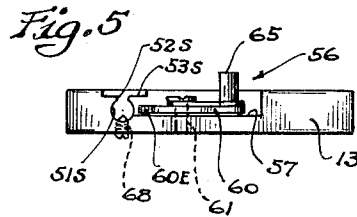
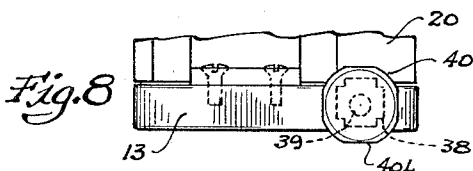
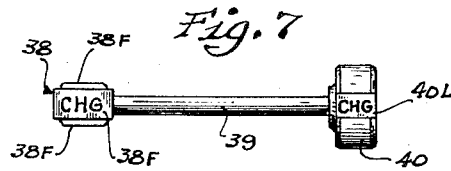
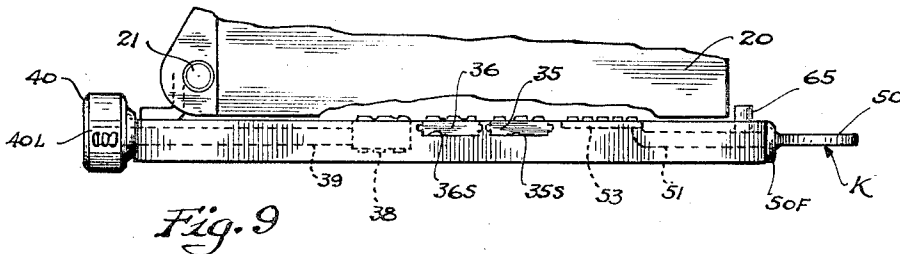
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KEY CONTROLLED PRINTING MACHINE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,555,148

KEY CONTROLLED PRINTING MACHINE

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Application April 30, 1947, Serial No. 745,051

4 Claims. (Cl. 101—269)

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This invention relates to printing apparatus of the character utilized in department stores and the like for printing the customer's name, address and other data on sales slips at least in part, from individual tokens carried by each customer.

Printing apparatus of the kind to which this invention pertains have gained wide acceptance in department stores and the like, and while such devices have been helpful in simplifying customer identification and in producing properly printed identification data on the sales slips, such sales slip printing apparatus have in the past been confined primarily to the printing of data pertaining only to the customer, and as a result of this, it has been necessary for the clerk to write other identification and data on each sales slip, as for example, the identification of the clerk that has made the sale. In view of the foregoing, it is an important object of the present invention to so arrange a printing apparatus of the aforesaid character that identification data, such as a date and a number pertaining to the clerk or sales person, may be printed at the same time that the customer identification data are printed. A further and related object is to enable such identification data pertaining to the sales person to be carried upon a removable member or key for ready insertion into the printing apparatus, and another object is to render the production of a printed impression dependent upon the presence of such clerk identification data in proper position in the machine.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show a preferred embodiment and the principles thereof and what I now consider to be the best mode in which I have contemplated applying those principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings:

Fig. 1 is a side elevational view, taken partially in section, and illustrating a sales slip printing apparatus embodying the features of the invention;

Fig. 2 is a plan view taken substantially along the line 2—2 of Fig. 1 and illustrating the relationship of the various printing elements in the machine;

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Fig. 3 is a fragmental side elevational view similar to Fig. 1 and showing the apparatus in the relationship assumed when a proper clerk identification means is not in position in the machine;

Fig. 4 is a view similar to Fig. 3 and illustrating the relationship of the parts when the proper clerk identification means has been put in position;

Fig. 5 is an end view of the supporting plate upon which the printing elements are mounted, the view being taken from the line 5—5 of Fig. 3;

Figs. 6 and 6A are plan and side elevational views, respectively, of a clerk identification means in the form of a key adapted for use in the printing apparatus;

Fig. 7 is a plan view of a settable printing element that is included in the apparatus for indicating the kind of transaction to which a particular sales slip pertains;

Fig. 8 is an end view of the rear end of the supporting plate, as viewed from the right in Fig. 1; and

Fig. 9 is a view of the supporting plate as viewed from the line 9—9 in Fig. 2.

For purposes of disclosure the invention has been herein illustrated as embodied in a sales slip printing apparatus 10 having a base 11 at the rear end of which an upstanding column 12 is afforded upon which a forwardly extended mounting plate 13 is rigidly secured. The space between the base 11 and the mounting plate 13 and forwardly of the column 12 affords a throat 14 within which the main body of a sales book B may be positioned so that the sales book B rests on the base 11, and in this relationship, the first group of sales slips, including the required number of copies and the requisite carbon sheets or spot carbon areas, may be extended upwardly so as to extend across the upper face of the mounting plate 13, and printing means are associated with the mounting plate 13 for making a printed impression on such sales slips S.

The printing apparatus is arranged to print the customer identification from a printing device in the form of a token T which as herein shown is generally rectangular in character and bears embossed type characters N in a direct reading relationship. The token T is located in proper relation on the upper face of the mounting plate 13 by guides 16 and identification pins 17, and at one edge, the mounting plate 13 has a notch or recess 13A so as to facilitate mounting and dismounting of the printing device or token T.

When the token T is thus in position on the

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mounting plate 13, the sales slip S is put in position across the top of the token T, and impression means may then be rendered effective to produce a printed impression from the token T and from such other printing means as may be mounted on the plate 13. Such impression means as herein illustrated are mounted and housed within a shiftable casing or head 20 that is pivoted at 21 along its rear edge on the plate 13 at a point substantially opposite the upper end of the column 12. The housing or head 20 may thus be moved in a clockwise direction from the position shown in Fig. 1 to an out-of-the-way position so that mounting of the token T and location of the sales slip S across the upper face of the token T may be readily and easily accomplished.

Such movement of the head 20 is accomplished by means of a forwardly projecting handle 22 that is pivoted on a horizontal axis 23 at the top of the head 20, and a vertically reciprocable plunger 24 mounted on the head 20 and spring-urged to the position shown in Fig. 1, has a pin and slot connection 25 with the lever 22 so that this lever normally assumes the relationship shown in Fig. 1 with respect to the head 20. When the head 20 has been moved to the active or lowered position of Fig. 1, the forward or left-hand end of the handle 22 may be depressed with relation to the head 20 so as to cause an operative printing stroke of a platen roller 28 that is housed within the head 20. In such operative printing stroke, the platen roller 28 moves forwardly along a path determined by horizontal guide slots 29 formed in guide plates 30 housed within the head 20 in a conventional manner. The movement of the platen roller along the guide slots 29 is caused by actuating arms 31 housed within the head 20 and operatively associated with the plunger 24 in a conventional manner. Within the head 20, means are afforded for supporting an inked ribbon IR that extends across the open lower face of the head 20 so that in its operative printing stroke, the platen roller 28 presses the ribbon IR downwardly against the upper face of the sales slip S to thereby make a printed impression from the direct reading type N that are disposed beneath the sales slip.

In accordance with the present invention, the sales slip printing apparatus is so arranged that other identification data in addition to the name and address of the customer may be printed simultaneously in the forward printing stroke of the platen roller 28. Thus, as will be evident in Figs. 2 and 9 of the drawings, a replaceable date printing type element 35 and a replaceable department identification type element 36 are disposed in mounting slots 35S and 36S formed along one edge of the mounting plate 13. In addition, a settable printing member 38 for indicating the kind of the transaction involved is mounted rotatably on a supporting shaft 39 in a suitable bearing in the mounting plate 13. The shaft 39 is disposed so as to extend in a front to rear direction so that an adjusting head 40 fixed on the rear end of the shaft 39 is disposed at the rear end of the mounting plate 13. The head 40 has a plurality of flat surfaces 40L formed about the peripheral edge thereof and these surfaces carry legends which enable the clerk to readily determine which one of several printing faces 38F of the printing device 38 is disposed in effective printing position. A spring retaining device 42 fixed on the rear face of the column 12 acts on the lowermost one of the flat surfaces 40L to hold

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the settable printing device 38 in any desired adjusted position. The printing faces 38F may identify the transactions in any desired way, such for example as "Charge," "Cash," "C.O.D.," or "Will call" transactions.

In addition to the printing of identification data as above set forth, it is also important that each sales slip have a proper identification of the sales person or clerk who has handled the transaction and for this purpose, a clerk-identification key K is provided and means are afforded which cooperate with such key K to render the printing apparatus operative when such a key is in position in the apparatus and to render the apparatus inoperative when such a key is not in position. Thus, as will be evident particularly in Figs. 2, 5 and 6, the key K has a head 50 from which a longitudinal stem 51 projects, and at its other end the stem 51 has a lateral projection 52 upon which a relatively flat type element 53 is secured so as to extend longitudinally in a direction parallel to the axis of the stem 51. The upper face of the supporting plate 13 has a relatively wide groove 53S formed therein along which the type element 53 may be moved rearwardly with a sliding action into the position shown in Fig. 2, and beneath the groove 53S a longitudinal slot 52S is provided which opens downwardly into a bore that forms a key slot 51S for the stem 51 of the key K. Thus, the stem 51 of the key K may be inserted into the key slot 51S and the lateral projection 52 will ride in the slot 52S while the type element 53 will ride in the groove 53S, and the extent of inward movement may be determined of course by the extent of the slot or groove 53S or by the engagement of a flange 50F on the stem with the forward edge of the mounting plate 13.

The location of the key K in the position shown in Figs. 1 and 2 is effective in accordance with the present invention to control the printing action of the sales slip printing apparatus, and the key K therefore has a control pin 55 extended laterally therefrom for operative engagement with control means 56 that are mounted in the mounting plate 13. The control means 56 is mounted in a recess 57 formed in the upper face of the mounting plate 13 at the forward end thereof and just to the right of the key slot 51S as viewed in Fig. 5, it being noted in Figs. 2 and 5 that the recess 57 opens into the slots 51S, 52S and 53S throughout a portion of the length of these slots. The control apparatus comprises a shiftable lever 60 mounted in the recess 57 on a vertical pivot screw 61 so that the body of the lever 60 is in substantially the same horizontal plane as the control pin 55. A torsion spring 62, wound about the pivot screw 61 and anchored at its opposite ends on a fixed pin 64 and a pin 65 on the righthand end of the lever 60, as viewed in Fig. 5, serves to urge the lever 60 in a counterclockwise direction, Fig. 2, to the dotted line position of Fig. 2. When the lever 60 is in the dotted line position of Fig. 2 and the head 20 is in the aforementioned out-of-the-way position, the pin 65 is disposed immediately below the lower edge of the forward wall 20W of the housing 20, and as will be evident in Figs. 1, 3 and 4, the pin 65 extends upwardly for a substantial distance above the upper face of the mounting plate 13. Thus, when the pin 65 is in the dotted line position of Fig. 2, this pin serves as a blocking abutment to prevent completion of the downward movement of the head 20 from the out-of-the-way position and the head 20 is thereby held in the

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position shown in Fig. 3 of the drawings. Thus, the operation of the lever 22 and the platen roller 28 under such circumstances will be ineffective to produce a printed impression on the sales slip. When, however, the key K is inserted into position in the mounting plate 13, the pin 55 of the key engages the lefthand end 60E, Fig. 5, of the lever 60 so that continued movement of the key K to its fully inserted position of Fig. 2 serves to shift the lever 60 against the force of its spring 62 and into the position shown in full lines in Fig. 2. This serves to move the block pin 65 to its ineffective position of Fig. 4 so as to thereby enable the downward movement of the head 20 to be continued to such a point that operation of the platen roller 28 is effective to produce the desired printed impression. Means are afforded for holding the key K in position against the action of the spring 62, and as herein shown, such means comprise a spring actuated locking plunger 68 mounted in the mounting plate 13 and arranged to engage a notch 51N formed in the lower surface of the stem 51 of the key. Thus, the operation of the printing apparatus through an effective printing stroke or operation is dependent upon the presence of a clerk identifying key K in proper position in the apparatus, and such a key is readily removable and insertable so that the machine may be used by a number of different clerks or sales persons.

From the foregoing, it will be evident that the present invention affords an improved sales slip printing apparatus whereby the production of a complete sales record in each printing operation is assured. Moreover, this printing apparatus may be readily used by a number of different sales persons or clerks who may each have an individual identification key which not only carries type elements for printing a clerk identification on the sales slip, but also embodies means for controlling operation of the printing apparatus to render such apparatus effective in response to the presence of such identification key in the machine.

Thus, while I have illustrated and described the preferred embodiment of my invention, it is to be understood that this is capable of variation and modification and I therefore do not wish to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. In a sales slip printing apparatus, a base having a mounting plate across which a sales slip may be disposed for performance of a printing operation, means on said plate for removably receiving and positioning a customer's token constituting a printing device from which a printed impression is to be made onto a sales slip, a printing head shiftably mounted on said base for movement from an out-of-the-way position, which exposes the upper face of said plate, to an operative position over and in an opposed relation to the upper face of said plate, impression means carried by said printing head and effective when said head is in said operative position to make a printed impression from such a token mounted on said plate, actuating means on said head for said impression means, means on said plate for receiving and positioning type means constituting an identification for cooperation with said impression means, control means mounted on said plate and normally effective to prevent movement of said head from said out-

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of-the-way position to said operative position, and means on said control means actuated as an incident to mounting of the identification means on said plate to render said control means ineffective.

2. In a sales slip printing apparatus, a base having a mounting plate across which a sales slip may be disposed for performance of a printing operation, means on said plate for removably receiving and positioning a customer's token constituting a printing device from which a printed impression is to be made onto a sales slip, a printing head shiftably mounted on said base for movement from an out-of-the-way position, which exposes the upper face of said plate, to an operative position over and in an opposed relation to the upper face of said plate, impression means carried by said printing head and effective when said head is in said operative position to make a printed impression from such a token mounted on said plate, actuating means on said head for said impression means, means on said plate for receiving and positioning type means constituting a clerk identification for cooperation with said impression means, a control lever shiftably mounted on said plate and having an abutment thereon adapted to be disposed in position to engage said head and prevent movement of said head to said operative position, spring means urging said lever to a position wherein said abutment is effective as aforesaid, and means on said control lever actuated as an incident to mounting of a clerk identification means on said plate to shift said lever so as to render said abutment ineffective.

3. In a sales slip printing apparatus, a base having a mounting plate across which a sales slip may be disposed for performance of a printing operation, means on said plate for removably receiving and positioning a customer's token constituting a printing device from which a printed impression is to be made onto a sales slip, a printing head shiftably mounted on said base for movement from an out-of-the-way position which exposes the upper face of said plate to an operative position over and in an opposed relation to the upper face of said plate, impression means carried by said printing head and effective when said head is in said operative position to make a printed impression from such a token mounted on said plate, actuating means on said head for said impression means, means on said plate for receiving and positioning type means constituting a clerk identification for cooperation with said impression means, a pivoted stop lever mounted on said plate and normally effective to engage said head and prevent movement of said head from said out-of-the-way position to said operative position, and means on said stop lever actuated as an incident to mounting of a clerk identification means on said plate to render said stop lever ineffective.

4. In a sales slip printing apparatus, a mounting plate across which a sales slip may be disposed for performance of a printing operation, means on said plate for removably receiving and positioning a customer's token constituting a printing device from which a printed impression is to be made onto a sales slip, impression means movable toward and away from said plate into and out of a predetermined printing position and operable when disposed in said printing position to make a printed impression from such a token mounted on said plate, control means shiftably mounted on said plate and effective when disposed in one

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position to engage said impression means to prevent movement of said impression means into said printing position, means on said plate including a slot therein adjacent to said control means for receiving and positioning in predetermined position type means constituting a clerk identification for cooperation with said impression means, and means on said control means engageable by such a clerk identification means as an incident to mounting of the clerk identification means in said predetermined position on said plate to move said control means out of said one position and render said control means ineffective to engage said impression means.

LESTER F. MITCHELL. 15

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