Aug. 29, 1933. J. F. OHMER ET AL 1,924,565

PRINTING REGISTER

Filed May 15, 1928 4 Sheets-Sheet 1

Fig. 1.

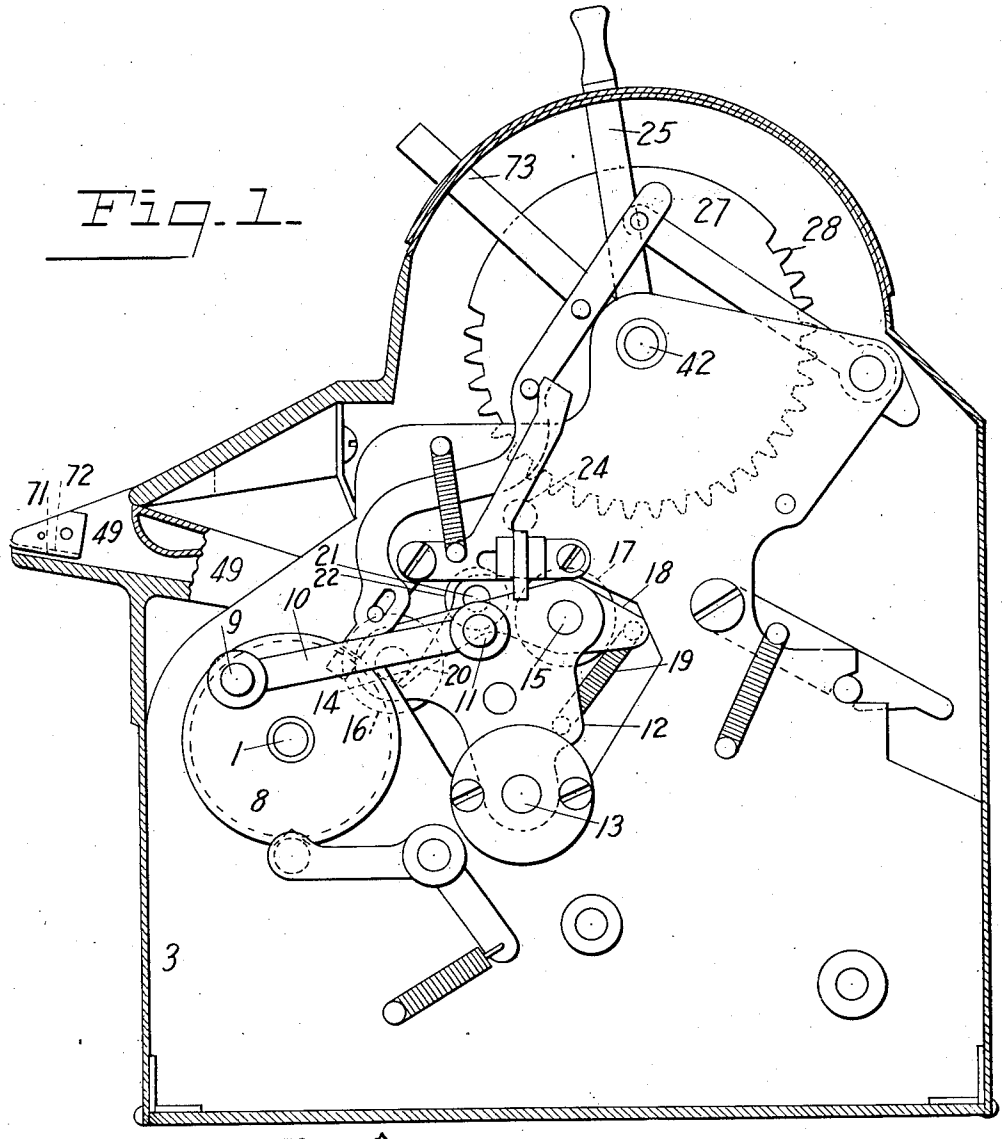
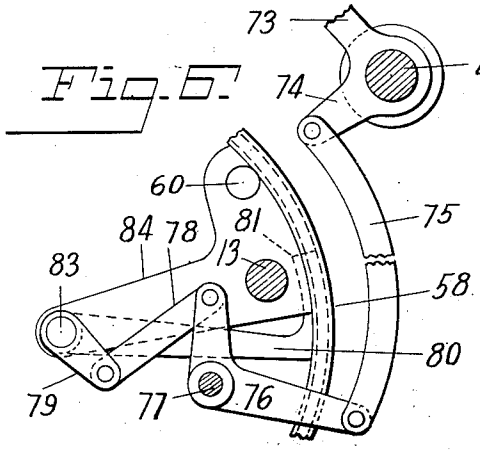


Fig. 6.



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Filed May 15, 1928 4 Sheets-Sheet 2

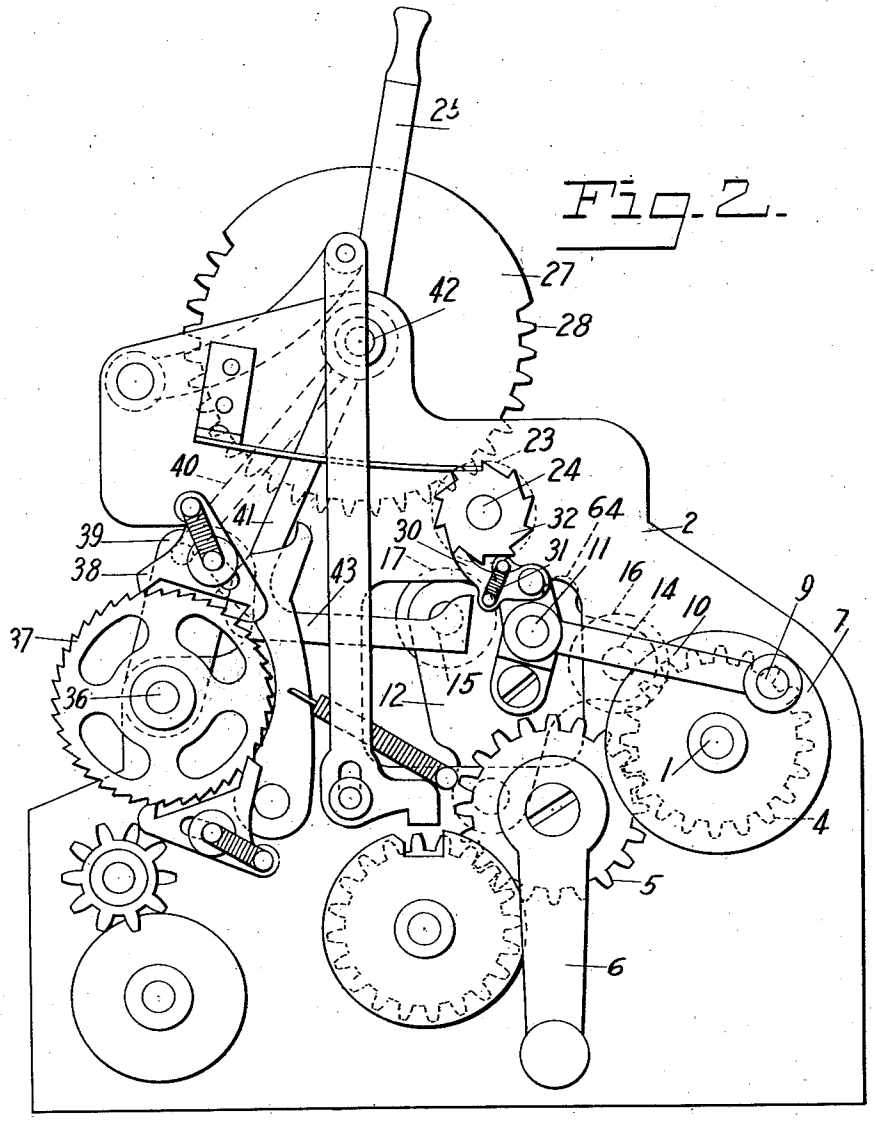


Fig. 2.

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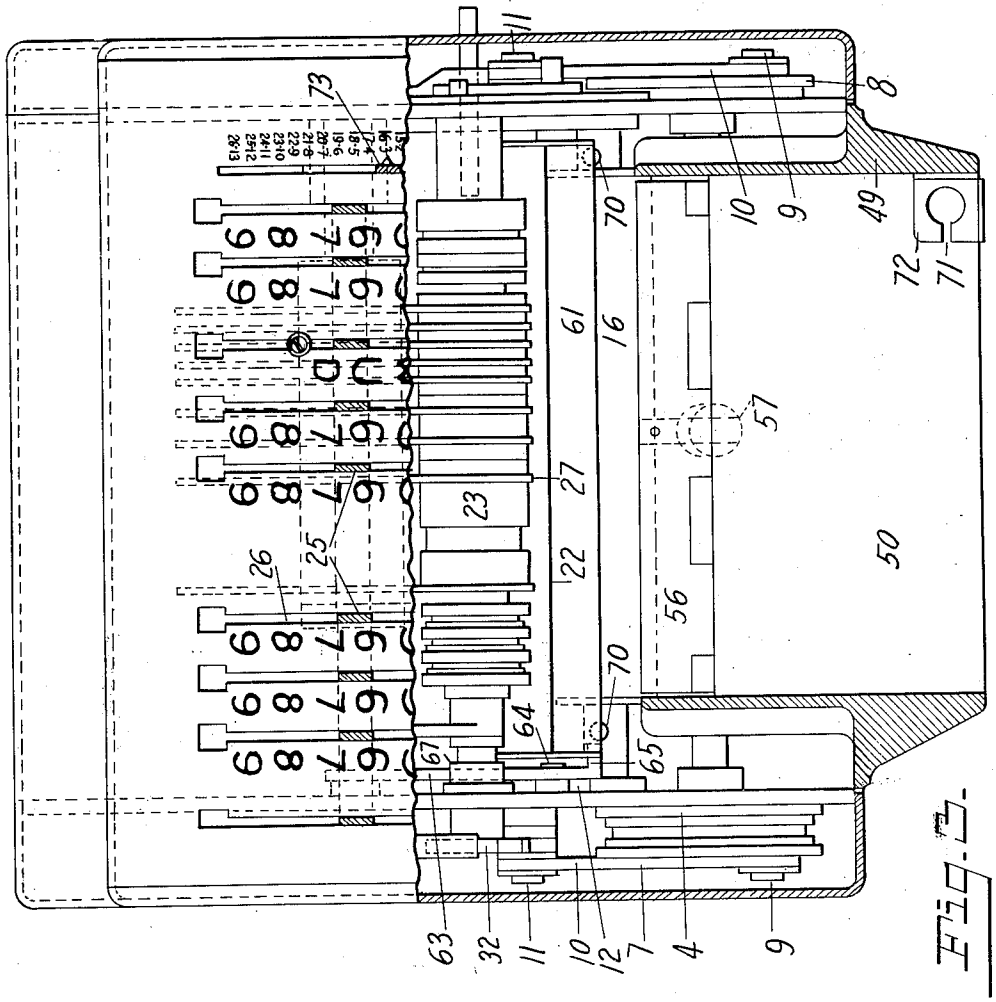


FIG. 5.

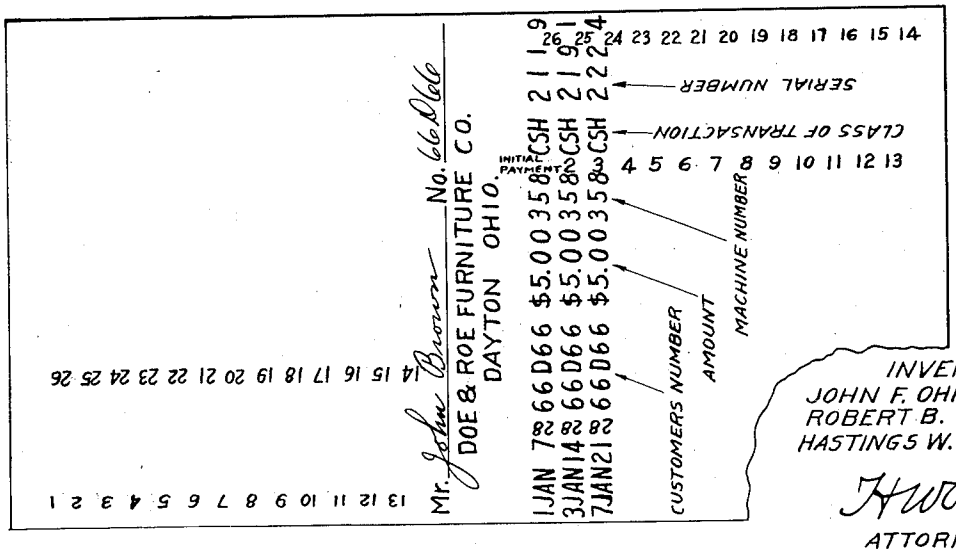


FIG. 7.

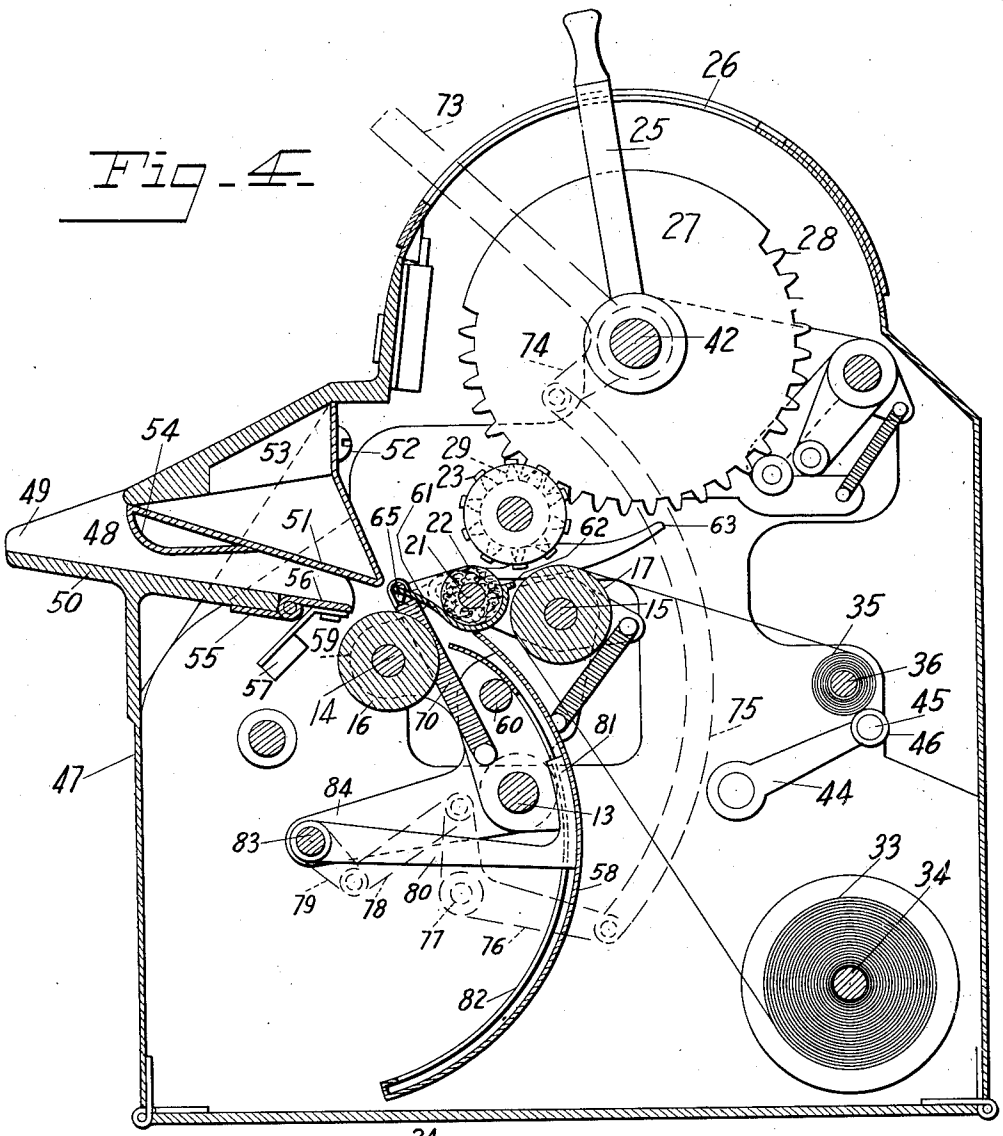
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Fig. 4.



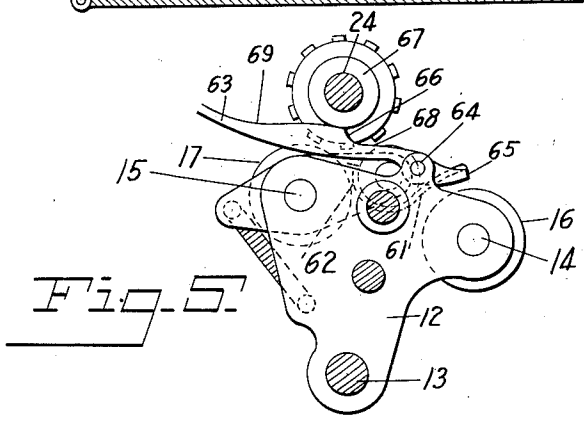


Fig. 5.

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Patented Aug. 29, 1933 1,924,565

UNITED STATES PATENT OFFICE

1,924,565

PRINTING REGISTER

John F. Ohmer, Robert B. Long, and Hastings W. Baker, Dayton, Ohio, assignors to Ohmer Fare Register Company, Dayton, Ohio

Application May 15, 1928. Serial No. 277,998

15 Claims. (Cl. 101—66)

This invention relates to an improvement over the type of register shown in the application of Albert S. Wheelbarger and Grover C. Coil, Serial No. 65,532, filed October 29, 1925.

One of the objects of this invention is to provide a mechanism whereby sales slips, cards and the like may be introduced into a register, and on which will be printed a record of the sale or collection.

It is common practice to note on a sales slip the articles purchased and the clerk frequently notes on the sales slip with pencil that the purchaser has paid or has charged to his account the amount of the various sales appearing on the sales slip. Our improved printing register is so designed that the sales slip may be inserted in the machine so that a record may be made both on the sales slip and on a record stored in the machine showing that the transaction has been recorded.

Many stores sell goods on what is known as the partial-payment plan, whereby the purchaser is expected to make specified payments at stated times, such as $5.00 per week payable every Wednesday. Various complicated methods have been employed to credit the said payments when made. We suggest the use of a card on which is written in the name of the purchaser and his account number together with the name of the seller or store. The card should have numerals in successive order thereon and properly spaced apart. The machine shown and described in this application is so designed that such a card may be inserted in the machine and a complete record of the receipt of the money transaction may be indicated on the card in its proper place as will be more fully described hereinafter.

Another object of the invention is to provide an adjustable stop so that by actuating a manually movable lever or key the stop will be adjusted to the desired position. The card or sales slip would then be inserted until its movement was arrested by the said stop. Instead of using the adjustable stop we might employ a sight opening beneath which the card or sales slip might be positioned, the card having thereon suitable indicia to indicate the position in which the card should be placed. The movable stop might furthermore be used in conjunction with the said sight opening, in which case the movable stop would be positioned and the card inserted until stopped thereby. The sight opening would then be advantageous to visually indicate that the card was in correct position.

It is understood that the above examples are given by way of illustration only and that many other examples might be cited to indicate the utility and novelty of such a machine.

We have shown the preferred construction of the machine in the attached drawings, in which

Fig. 1 is a right hand side elevational view of the machine, the front of the machine being considered the part of the machine in which the ticket or sales slip is inserted.

Fig. 2 is a left hand side elevational view thereof.

Fig. 3 is a plan view, parts of the casing being broken away to indicate certain of the interior mechanism.

Fig. 4 is a cross sectional elevational view from the front to the back of the machine.

Fig. 5 is a detail view of the gripping mechanism by which the card or slip is held while being printed.

Fig. 6 is an elevational view partly in cross section of the adjustable guiding and positioning means.

Fig. 7 is a plan view of a sample card which may be used in conjunction with the machine.

Referring more in detail to the drawings, a main drive shaft 1 is mounted in the sidewalls 2 and 3 of the casing. The shaft 1 is provided with a gear 4 which is driven by a gear 5 which may be actuated by any convenient means such as a crank handle 6. The shaft 1 is also provided with two disks 7 and 8, each of which is provided with a wrist pin 9 to which is connected a pitman 10 connected with a wrist pin 11. Sidewalls 12 of an oscillating printing carrier are mounted on a shaft 13. The wrist pins 11 are secured to the sidewalls 12 so that as the crank handle 6 is rotated the sidewalls of the printing carrier are oscillated. Shafts 14 and 15 are carried by the sidewalls 12. The shaft 14 is provided with a platen 16 and the shaft 15 is provided with a platen 17. Levers 18 are loosely mounted on the shaft 15 which levers have springs 19 secured to one end thereof and a tongue 20 extending forwardly beneath the shaft 14. A shaft 21 is mounted on the levers 18, which shaft carries an ink roller 22. The spring 19 urges the roller 22 upwardly into the position shown in Fig. 1 and the tongue 20 prevents further upward movement. As the ink roller, however, passes beneath the type wheels 23 on the shaft 24 the spring 19 yields slightly so that the ink roller 22 is permitted to roll over the type wheels and thoroughly ink the same.

Levers 25 project through slits 26 in the top of the machine, which levers are secured to disks

27 provided with teeth 28 for a portion of their circumference, which teeth mesh with pinions 29 on the type wheels 23. Adjacent the slots 26 are numerals, letters or other indicia to indicate the position into which the levers 25 should be moved to set up on the type wheels 23 a portion of the matter to be printed on the sales slip or card. This is well illustrated in Fig. 7. The levers set up that portion of the matter which the machine prints other than the date, the machine number, and the serial number. The date may be set in any conventional manner. The number "66 D 66" is the customer's number. The "$5.00" is the amount paid. The "358" is the machine number. The "Csh" is the class of transaction such as "cash", "charge" etc., whereas the last group of figures is the serial number. The machine number is printed by any conventional means such as a fixed plate attached to the machine, as is common practice. The serial number is printed by type wheels identical with type wheels 23 but they are actuated by a pawl 30 (Fig. 2) carried by one of the sidewalls 12 of the oscillating printing carrier, which pawl is normally urged upwardly by means of a spring 31 so as to engage a ratchet 32 operatively connected with the serial number printing wheels, all of which is clearly shown in the said application of Wheelbarger and Coil, 65,532.

It is desirable to maintain a record of the various transactions and to this end there is a supply roll 33 of paper mounted on a shaft 34 mounted in the sidewalls of the machine. The paper passes from the roll 33 over the platen 17 and from thence to a takeup roll 35 mounted on a shaft 36 to which is secured a ratchet 37 which is actuated by a double-nosed pawl 38 mounted on a plate 39 pivoted on the shaft 36, which plate is normally held in the position shown in Fig. 2, by means of a spring 40. An L-shaped push rod 41 is pivoted on a shaft 42, which push rod has a lower horizontal arm 43 against which the wrist pin 11 presses when the oscillating printing carrier is being moved rearwardly and at its other end the push rod engages the plate 39. By this arrangement the plate 39 and pawl 38 are actuated in a rearward direction each time a printed impression is taken and is pulled forwardly as the printing carrier recedes by means of the spring 40. The plate 39 is positioned by means of a lever 44 carrying a pin 45 on which is mounted a roller 46 which rolls upon the periphery of the takeup roll 35. As the paper increases in size the arm 44 will be moved downwardly as viewed in Fig. 4, which moves the plate 39 to the left as viewed in Fig. 2 so that the distance moved by the double-nosed pawl 38 diminishes as the size of the roll increases so that the same amount of paper is taken up regardless of the size of the roll.

The record constitutes a journal entry which may be used in posting to the ledger. It, therefore, makes it unnecessary to use either pen or pencil.

The front wall 47 of the casing is clearly shown in Fig. 4. An opening 48 is provided having sidewalls 49, a base 50 and an upper wall formed by a plate 51, the configuration of which is clearly shown in Fig. 4. This plate extends downwardly and is secured to a projection 53 of the front wall by means of screws 52. After passing below the projection 53 it extends inwardly and downwardly, then upwardly and forwardly to a point where it meets the portion of the front wall 47 adjacent the opening 48. It is then curved inwardly and downwardly forming an arcuate wall 54 and extends to a point where it meets the plate 51. A hinge 55 is secured to the lower wall 50 which hinge is provided with an inwardly extending plate 56 on which is mounted a weight 57. When the card is inserted in the opening 48 it is guided by the lower wall 50, the sidewalls 49, the arcuate wall 54, the plate 51 and the plate 56. This guides the forward edge of the card or sales slip directly above the platen 16.

An arcuate plate 58 extends from a point adjacent the lower extremity of the ink roller 22 to near the bottom of the machine and is provided with side arms 59 which are secured to the shaft 13 and a shaft 60, which latter shaft extends between the sidewalls 12 of the printing carrier.

A plate 61 extends below the ink roller 22 and is provided with side arms 62 loosely mounted on the shaft 21. The plate 61 extends forwardly so as to form virtually a continuation of the arcuate wall 58 and terminates at a point substantially adjacent the inner lower extremity of the plate 51, so that the plates 51, 61 and 58 form almost a continuous guide for the card or sales slip.

A lever 63 is mounted on a pin 64 carried by the left sidewall 12 of the oscillating printing carrier, which lever is provided with an inwardly extending lug 65 which projects beneath the forward extremity of the plate 61. The lever 63 is provided with a cam portion 66 which rides beneath a collar 67 on the shaft 24. Forwardly of the cam portion 66 is a depression 68 and rearwardly thereof is a gradually sloping depression 69. Springs 70 are attached to each side of the forwardly extending portion of the plate 61, which springs have their other ends anchored on the sidewalls of the printing carrier.

The card or sales slip is clearly shown in Fig. 7. The card is provided with numerals or other indications equally spaced apart, which card indicates that the customer is John Brown and that the number of his account is 66 D 66. Let us assume that he is ready to make his initial payment. He inserts the card so that the numeral 1 in the upper left hand corner will be directly beneath the aperture 71 in a plate 72 secured to the sidewall 49 as is shown in Fig. 1. This means that the card has been inserted so that the printing will be positioned in line with the top line, below the words "Dayton, Ohio". The other pre-printed numerals running up and down the card are equally spaced apart; that is, the distance between the 2 at the top and the 2 at the bottom is the same as the distance between the 3 at the top and the 3 at the bottom and so on for all the other numerals in the left hand column at the top and the left hand column at the bottom. When, therefore, it is desired to print the second payment, which should be on the line marked "2" on the bottom half of the card, we would insert the card so that the numeral "2" at the top of the card appears beneath the aperture 71. On the card shown by way of illustration in Fig. 7 there are spaces for only 13 entries on the bottom of the card. The card can then be turned upside down so that the numeral 14 at the extreme bottom right hand portion of the card would appear in the aperture 71. Upon actuating the machine the record would now be made in line with the numeral 14 on the top half of the card so that this one card provides a space for 26 entries. By having the reverse side of the card similarly printed but with numerals from 27 up, 52 or more entries may be made on a sin-

gle card of a size to be carried conveniently in the vest pocket.

In operation the levers 25 are first actuated or set up so as to indicate the number of the customer's account, the amount which he is now paying, whether it is paid in cash, by check or whether it is a charge account or whatever other classes of transaction may be found convenient for use in any particular store. It is not necessary to set the date for each entry for the date is set in the morning and is not changed for the remainder of the day. The card is now inserted in the opening 48 and the crank handle 6 is rotated. Of course, if it is driven by an electrical means it is not necessary to rotate the crank handle 6 but the contact button would be pressed. Regardless of which method of actuation is used the oscillating printing carrier is first moved rearwardly so that the ink roll 22 engages the type wheels, inking the same. The instant that the printing carrier starts its rearward movement the cam portion 66 of the lever 63 passes beyond the collar 67 so that the depression 68 is now beneath the said collar. The springs 70 now pull the plate 61 downwardly so that it will be rotated in a counterclockwise direction as viewed in Fig. 4. The plate 61 moves the lug 65 likewise downwardly and rotates the lever 63 slightly in a counterclockwise direction as viewed in Fig. 4, this movement being permitted because the cam portion 66 has been moved beyond the collar 67. The plate 61 now grips the card or sales slip against the platen 16 and draws the card inwardly and rearwardly. The action continues until the platen 16 presses the sales slip or card against the type wheels, printing thereon whatever is set up on the said type wheels. The printing carrier now starts its forward movement. When the cam portion 66 again comes beneath the collar 67 the said lever 63 is moved downwardly so that the lug 65 engages the plate 61 and raises it against the tension of the springs 70, thereby releasing the sales slip or card, and immediately thereafter the printed impression is transferred to the paper which will be wound on the take-up roll 35 and preserved in the machine for the auditor. The sales slip or card may now be withdrawn and handed to the customer.

If desired a removable stop might be employed which would be manually adjusted so as to arrest the movement of the card or sales slip when it had been inserted to the desired position. We have illustrated such an adjustable stop as being one of the many ways in which such a stop might be actuated. The lever 73 is loosely mounted on the shaft 42 and has an upwardly projecting arm 74 connected to a link 75, which at its lower end is connected to a bell crank lever 76 pivoted on a pin 77 secured to one of the sidewalls of the machine. The bell crank lever 76 is L-shaped as clearly shown in Fig. 4 and is connected to a link 78 which in turn is connected to a bell crank lever 79 having a rearwardly projecting arm 80 which carries a stop 81 slidable on the arcuate plate 82 which is of the same general shape as the arcuate plate 58. The stop 81 is positioned between the plates 82 and 58, both of which plates are carried by the oscillating printing carrier. The bell crank lever 79 is pivoted on a pin 83 carried by a plate 84 secured to the oscillating printing carrier.

The operation of the adjustable stop is as follows: When the customer presents his card which indicates that any given payment is the next one to be paid the operator moves the lever 73 to a point corresponding to the next payment. Indicia may be placed adjacent the slot in which the lever 73 moves to enable the operator to quickly and accurately adjust the lever, such indicia being shown in Fig. 3. This positions the stop 81 to a point so that if the card is inserted until it abuts against the said stop it will be in such a position that the machine when operated will make the desired entry in the proper place on the card. Since the card is drawn inwardly during the operation it will be necessary for the stop 81 to move with the plates 58 and 82. The stop 81 is frictionally held against the plate 58 so that while the said stop may be moved by the lever 73 the friction is sufficiently great to cause the stop 81 to move with the plates 58 and 82 when they are moved, which will cause a slight amount of movement of the lever 73. There is nothing holding the lever 73 against such movement and, therefore, a slight amount of friction between the adjustable stop and the arcuate plate will cause the stop to move with the plate while leaving the stop free to be adjusted by the lever 73.

In many instances it will be desirable to use both the lever 73 and its adjustable stop and also to use the sight plate 72, in which case the operator would adjust the stop 81, insert his card and then glance through the aperture 71 to see if the card was in correct position.

It is fully realized that many changes might be made in the specific form of the invention shown by way of illustration in this application and we, therefore, reserve to ourselves the right to make all changes which may fairly fall within the scope of the appended claims.

Having now described our invention, we claim:

1. In combination, printing wheels, an oscillatable carrier, a platen carried thereby, means whereby a sheet is gripped against said platen and means whereby said platen is moved carrying said sheet forward longitudinally so that an impression is made thereon by said printing wheels.

2. In combination, a machine having printing wheels, printing means cooperating therewith, guide plates for a data sheet and means carried by said printing means whereby said sheet is moved forward longitudinally into said machine and a printed impression is made thereon.

3. In combination, a machine having printing wheels, guide plates for a data sheet and means whereby said data sheet is moved into said machine and a printed impression is made thereon by said printing wheels, said guide plates being substantially arcuate in shape so as to direct said sheet away from obstructions.

4. In combination, a machine having an opening through which a sheet may be partly inserted, a guide plate, means whereby said guide plate may be manually adjusted and means whereby said sheet is moved with said guide plate further into said machine on the operation thereof.

5. In combination, a machine having an opening through which a sheet may be partly inserted, means whereby said sheet may be gripped, a guide plate, means whereby said guide plate may be manually adjusted and means to move said first mentioned means and said guide plate whereby said sheet is moved further into the machine on the operation thereof.

6. In combination, a machine having an opening through which a sheet may be partly inserted, means to indicate the distance to which said sheet should be inserted, printing wheels print-

ing means cooperating therewith, means carried by said printing means whereby said data sheet is moved longitudinally into said machine from the position in which it was placed and means whereby a printed impression is made on said sheet by said printing wheels.

7. In combination, a machine having an opening through which a sheet may be partly inserted, printing wheels, an oscillating platen carrier, means to indicate the proper position of said sheet and means whereby said sheet is moved longitudinally by said carrier into position to be printed on by said wheels.

8. In combination, a machine having printing wheels a printing means cooperating therewith, means carried by said printing means whereby a data sheet is moved into said machine, means whereby a printed impression is made on said sheet and on a record by said printing wheels and guide means to direct said sheet inwardly, downwardly and forwardly.

9. In a machine of the class described having an opening therein, guide plates above and below said opening, an oscillating carrier within said machine, a platen carried thereby, a plurality of guides carried by said carrier, printing wheels, means whereby one of said guides grips a sheet of paper against said platen after the same has been inserted within said machine and means whereby said carrier is actuated to move said sheet against said printing wheels.

10. In a machine, a guide consisting of plates having a rectangular opening, a hinged plate connected to one of said plates, a movable guide plate, said hinged plate yielding when said movable guide plate is lowered so as to avoid the abrupt angle that would be caused by the movable guide plate and the hinged plate.

11. In a machine, a guide consisting of plates having a rectangular opening, a hinged plate connected to one of said plates, a movable guide plate, said hinged plate yielding when said movable guide plate is lowered so as to avoid the abrupt angle that would be caused by the movable guide plate and the hinged plate, and means whereby said hinged plate is caused to resume its normal position when said movable guide plate returns to its normal position.

12. In combination with a casing having an aperture therein, guide plates in said aperture, an oscillatable platen carrier, guide plates carried by said carrier, printing wheels and means whereby a sheet after being partly inserted between said plates in said aperture may be moved into position to be printed on by said printing wheels.

13. In combination with a casing having an aperture therein, guide plates in said aperture, an oscillatable platen carrier, guide plates carried by said carrier, printing wheels, means whereby one of said guide plates carried by said carrier grips a sheet after it has been partly inserted between said plates and said aperture, and means whereby said sheet is moved into position to be printed on by said printing wheels.

14. In combination, printing wheels, a carrier, a platen carried thereby, cam means whereby a sheet may be gripped against said carrier so as to move therewith and means whereby said carrier is oscillated so that said platen will carry said sheet beneath said printing wheels and impress the sheet against said printing wheels.

15. In combination, a machine having printing wheels, adjustable means whereby a data sheet is stopped after being inserted within the machine to the desired position, and means whereby said data sheet is moved into said machine and a printed impression is made thereon.

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