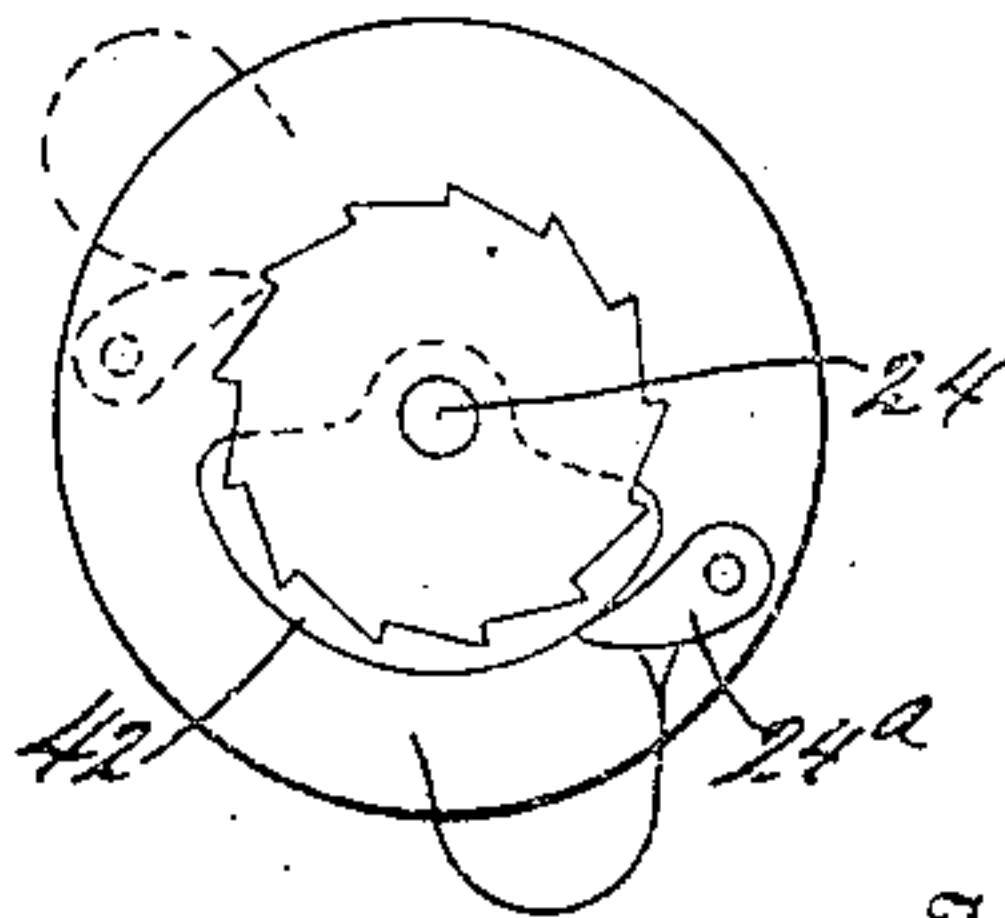
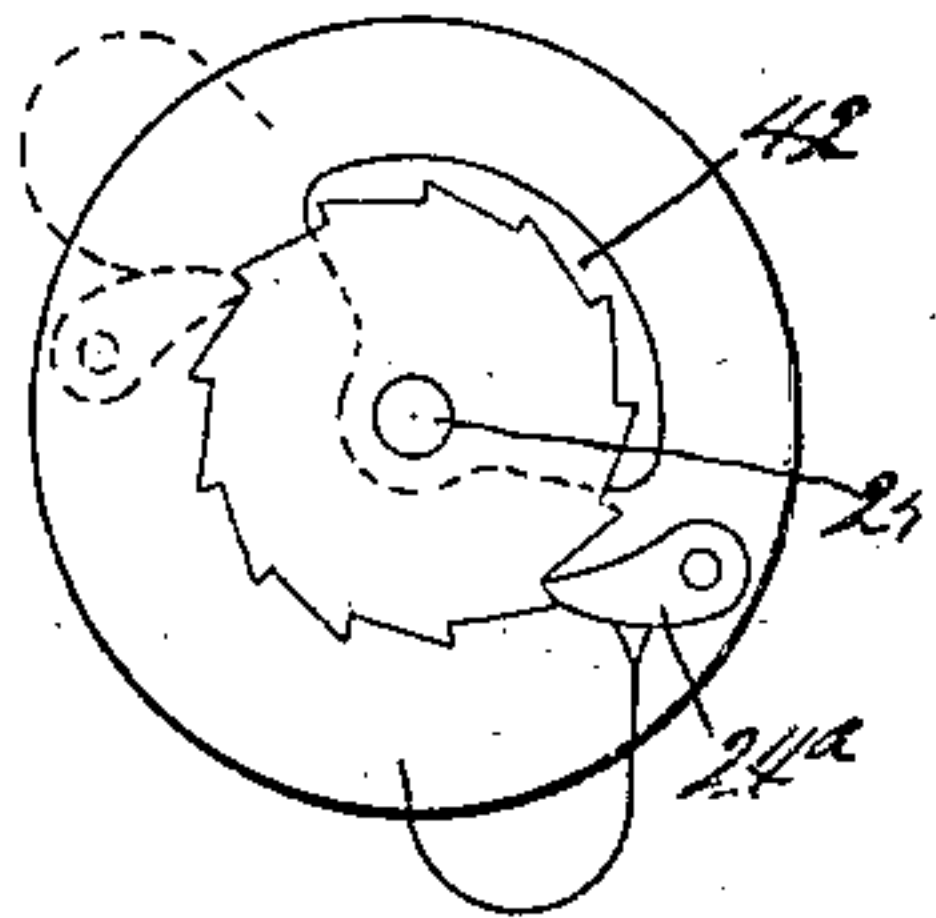


APPLICATION FILED APR. 20, 1906.

Patented June 22, 1909.
2 SHEETS—SHEET 1.



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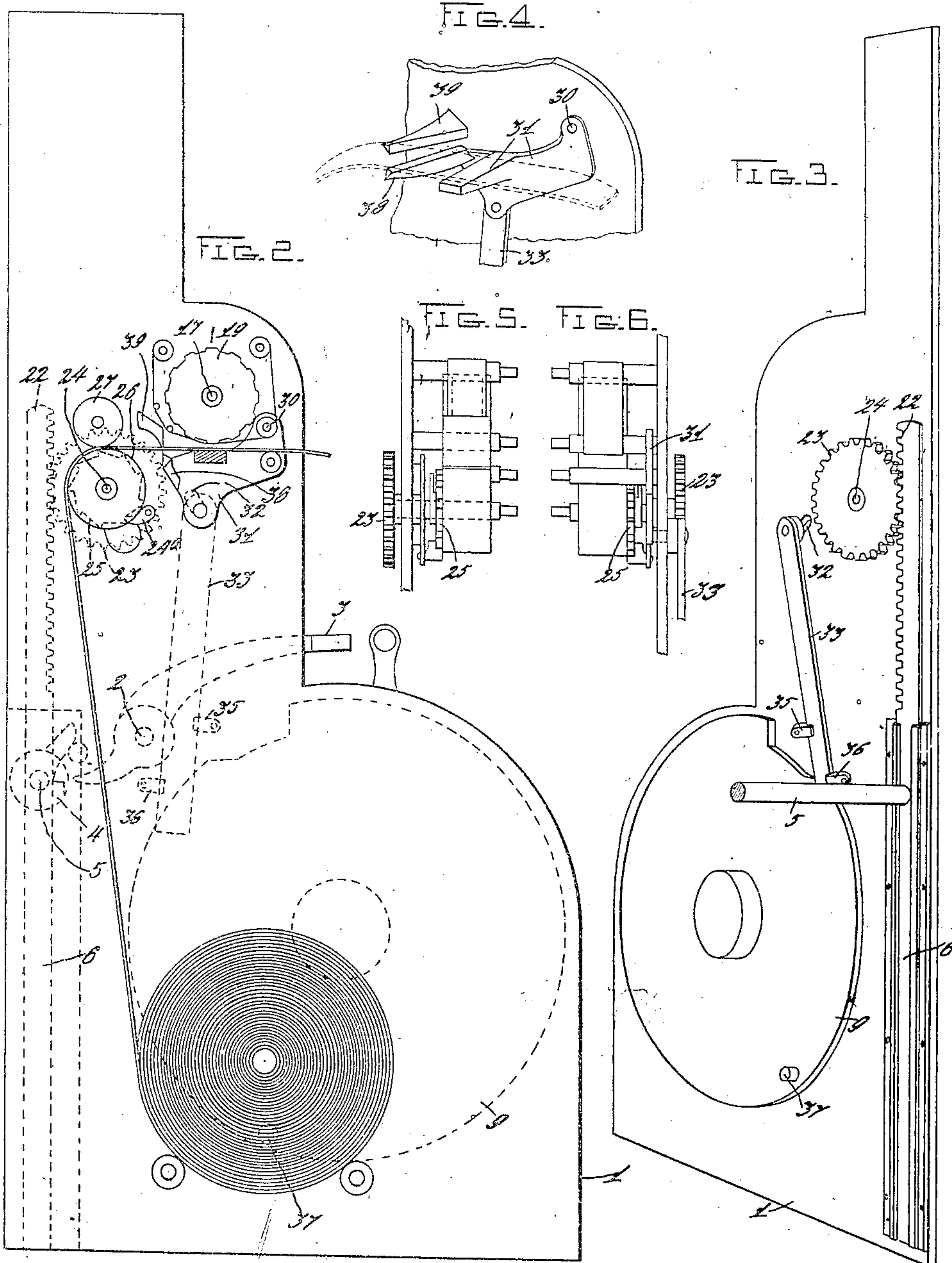
CASH REGISTER.

APPLICATION FILED APR. 20, 1906.

926,072.

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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANCOIS C. OSBORN, OF DETROIT, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO (INCORPORATED IN 1906).

CASH-REGISTERS.

No. 928,072.

Specification of Letters Patent.

Patented June 22, 1909.

Original application filed November 23, 1891, Serial No. 412,791. Divided and this application filed April 20, 1906. Serial No. 313,725.

To all whom it may concern:

Be it known that I, FRANCOIS C. OSBORN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Cash-Registers, of which I declare the following to be a full, clear, and exact description.

My invention relates to cash registers, and has among its objects to provide an improved printing mechanism.

A further object is to provide a simple and accurate mechanism for feeding and printing a check strip, as used in cash registers, and to provide means connected with the main operating devices of the machine for controlling the performance of the printing and feeding functions.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in appended claims and a preferred form of embodiment of which is hereinafter specifically described with reference to the drawings which accompany and form part of this specification.

Of said drawings: Figure 1 shows an interior perspective view of one end of the case, and the parts supported thereby. Fig. 2 is a sectional elevation of the printing devices in my present invention. Fig. 3 indicates the means of operating the paper feed, printing devices, and the cutting knives shown in Fig. 2. Fig. 4 is an enlarged detail of the printing platen and cutting knives. Figs. 5 and 6 are rear and front views of the printing mechanism of Fig. 2. Figs. 7 and 8 show a masked ratchet used in feeding the paper.

My present invention is a division of my prior application, Serial No. 412,791, filed November 23, 1891, and which has now matured into Patent No. 817,725, granted April 10, 1906. In the said patent I have shown a complete cash register, including registering, indicating and printing devices, and reference is made to this patent if a fuller description of the machine is desired. In this case only the printing device and the mechanism associated directly therewith is shown.

The machine includes a casing 1 shown in Fig. 1, and on this casing is mounted a rod 2, on which are journaled a plurality of keys 3.

The keys serve to control the differential motion of the various parts, and are each adapted to separately rotate disks 4, journaled on a rod 5. This rod 5 being carried at opposite ends of the machine in vertically reciprocating bars 6. Connected to each of the bars 6 is a lever 7, pivoted at a point 8 near the front of the casing. These levers 7 are adapted to be moved by the opening and closing of the till cover 9, through a link 10, connected at 11 to the till cover, and at 12 to the lever 7. It is evident that as the till cover 9 is rotated the bars 6 will be vertically reciprocated, thereby raising and lowering all the disks 4. When any key 3 is depressed it serves to rotate its corresponding disk 4 and allow a projection of the said disk to move under one of the tablet stems 14. These stems have each a tablet 15 at their upper ends, and are provided with racks 16, having a number of teeth corresponding to the amount indicated on the key. These rack teeth 16 are adapted to engage with a fluted shaft 17 and turn the same differentially corresponding to the key.

Outside the main casing 1 a series of printing wheels 19 are mounted for separate motion on the shaft 17. The means for giving these printing wheels separate motion are shown in the patent referred to.

Connected rigidly to one of the reciprocating bars 6 is a rack bar 22, the teeth of which are adapted to mesh with a gear 23, journaled loosely on a shaft 24. This gear 23 carries a pawl 24, acting on the teeth of a ratchet wheel 25, with which is connected a feeding roller 26. The feeding roller and ratchet are journaled loosely on shaft 24. Over roller 26 is a second roller 27, adapted to be in frictional engagement with the first roller, and between the two rollers the check strip is adapted to be fed. It will be evident that when the bar 6 is raised the rack bar 22 will rotate pinion 23, thereby causing the pawl 24 to rotate the feeding roller 26, so that the check strip is fed. On the closing movement of the till cover the bar 6 will be lowered and pawl 24 will slip over the teeth of ratchet 25 without moving same. The paper is therefore fed on the opening movement of the till cover.

Journalled on a pin 30 is a pivoted platen carrier 31, adapted to press the paper against the type wheels 19, the impression being

105

made as shown on an inking ribbon. The platen carrier 31 is connected by a slot connection 32 to a vertically reciprocating bar 33. This bar is guided by parts 35 and 36, and is adapted to be moved by a pin 37 carried on the side of the till cover. A movable knife 38 is also carried on the platen 31, and is adapted to co-act with a stationary knife 39. When the till cover is opened the paper is fed, as above described, and at the end of the stroke, after the type wheels are set to position, the pin 37 abuts the bar 33, raising the same and forcing the platen 31 against the paper to make an impression thereon. This same movement of the platen serves to cause the knives 38 and 39 to cut off the desired check.

Inasmuch as it may sometimes be desired to feed a different length check, I have provided means, as shown in Figs. 7 and 8, for preventing operative connection of the pawl 24^a with the ratchet 25 during any desired part of its stroke. In the present embodiment this means consists of a mask 42, which is adapted to be manually rotated around shaft 24. In Fig. 7 the ratchet and mask are shown in normal position in full lines, and the pawl 24^a is also shown in dotted lines at the other extreme position. With the mask in the position shown in Fig. 7, the pawl 24^a will feed ratchet 25 through its whole stroke, but when the mask 42 is moved to some position such as indicated in Fig. 8, the pawl 24^a will be held out of position to co-act with the ratchet 25 for a part of its stroke, depending on the position of the mask 42. When the pawl 24^a has passed beyond the mask it will drop into the ratchet 25 and feed the same through the remainder of the stroke of the pawl. It is evident that this mask will allow the feeding to be varied at will through very wide limits.

The operation of the device will be as follows: The keys 3, corresponding to the amount desired to be indicated and printed, will first be depressed. This depression will rotate the corresponding disks 4 into their operative position. When the till cover is thereafter opened, the links 10 will raise levers 7, thereby elevating the reciprocating bars 6 carrying all the disks 4. The disks which have been set by the keys will engage with and elevate the tablet stems 14, thereby raising the tablets 15 into indicating position, and causing the rotation of the shaft 17, depending on the keys operated. This rotation of shaft 17 will set the printing wheels 19 to proper position. The raising of the bars 6 elevates the rack 22, and this through pinion 23 and pawl 24^a feeds the paper strip a distance depending on the position of the mask 42. As the till cover nears the end of its stroke, the pin 37 will engage lever 33 and raise the same, thereby positively forcing the platen 31 against the paper, and at the same

time serving to cut off the check from the main part of the strip. When the till is closed the platen will be lowered and the feeding devices returned to their normal position without causing further movement of the paper.

It is evident that equivalents may be used for many of the elements described within the scope of the invention.

The invention is not limited to the use of a rotating till cover, as described, as many other forms of cash receptacles may be used, and in fact, the invention may well be applied to machines which do not depend on any form of cash receptacle for their operation.

While the form of mechanism here shown and described is admirably adapted to fulfil the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein disclosed, for it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

What is claimed is as follows:

1. In a cash register, the combination with a movable cash receptacle, of a series of keys, printing devices set by movement of said cash receptacle under control of said keys, a pivoted platen for taking impressions from said printing devices, a depending arm pivoted to said platen, and a pin on said cash receptacle positioned to engage said depending arm near the end of the opening stroke of the receptacle and force the platen against the printing devices.
2. In a cash register, the combination with a type carrier and means for differentially positioning it, a rotating till cover, paper feeding means positively operated by the movement of the cover, a platen, and means for operating the platen by the opening movement of the till cover.
3. In a cash register, the combination with a type carrier, a platen for taking impressions from same, a knife carried by the platen, a movable cash receptacle, and means for positively actuating the platen and knife by moving the cash receptacle.
4. In a cash register, the combination with a type carrier, means feeding the paper thereto, a cash receptacle operating the feeding means on the opening movement of same, and means for varying the feed at will.
5. In a cash register, the combination with type carriers, and keys controlling the differential adjustment of the same, of means for feeding a record material, a platen for taking impressions on said material from said type carriers, an operating mechanism, and separate connections from said mechanism to first adjust said carriers, next operate said feeding means, and last actuate said platen.
6. In a cash register, the combination with paper feeding means, a cash receptacle oper-

ating the same on its opening movement, and means for varying the extent of feed.

7. In a cash register, the combination with type carriers, and keys for controlling the differential adjustments of the same, devices for feeding a record material past said carriers, and a platen for taking impressions from said type carriers on the record material; of a cash receptacle having a movable part, and connections whereby the opening

movement of said movable part first adjusts said carriers, next feeds said record material, and last takes an impression on said record material from said type carriers.

In testimony whereof I affix my signature 15 in the presence of two witnesses.

FRANCIS C. OSBORN.

Witnesses:

F. E. LELAND,
C. L. FORGEY.