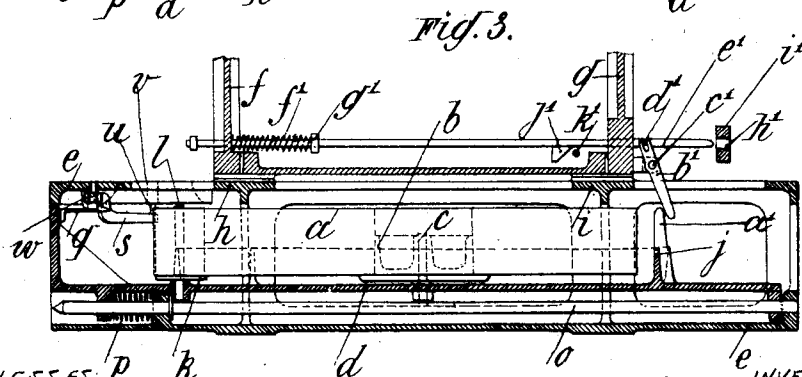
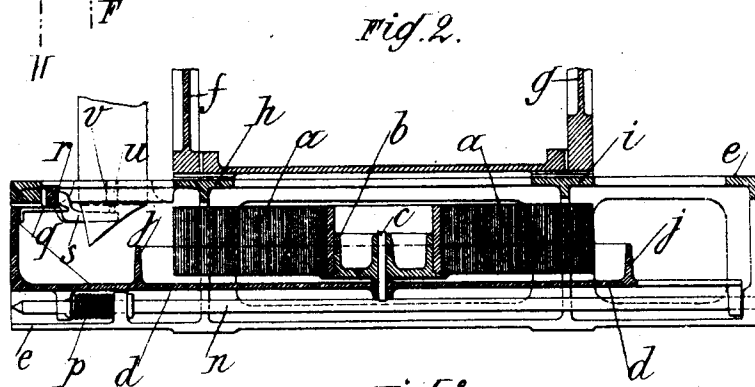
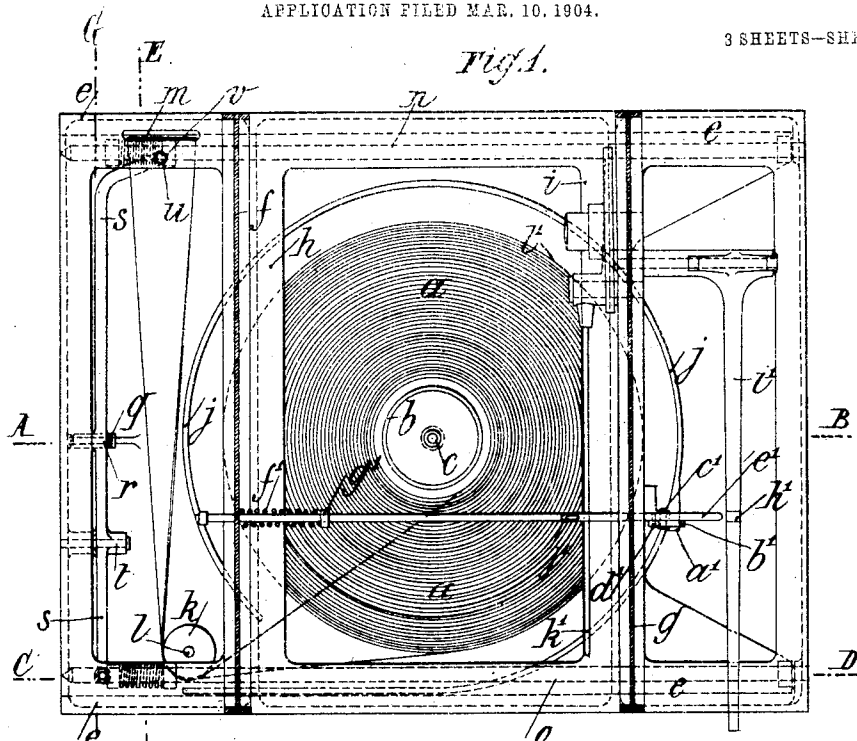


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AUTOMATIC SPOOL CARRYING DRAWER FOR CASH REGISTERS.

APPLICATION FILED MAR. 10, 1904.

3 SHEETS—SHEET 1.



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Fig. 4.

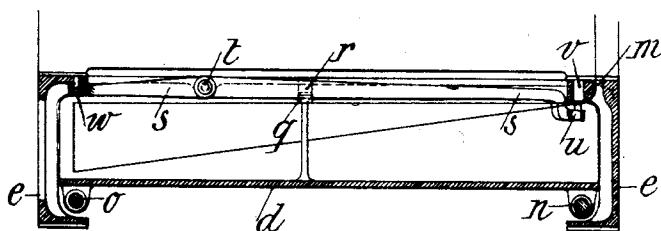


Fig. 5.

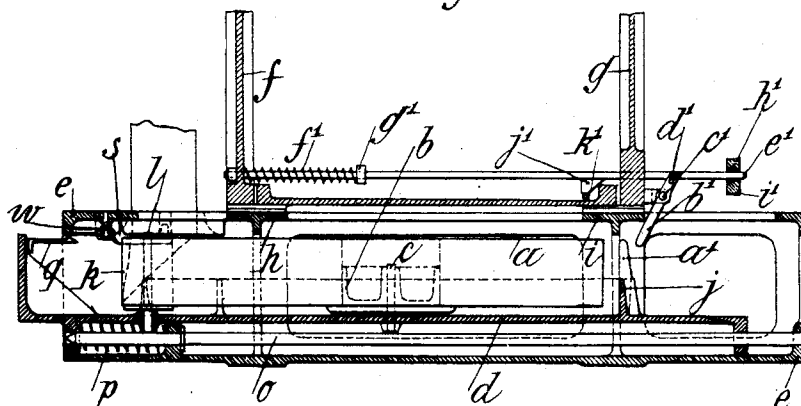
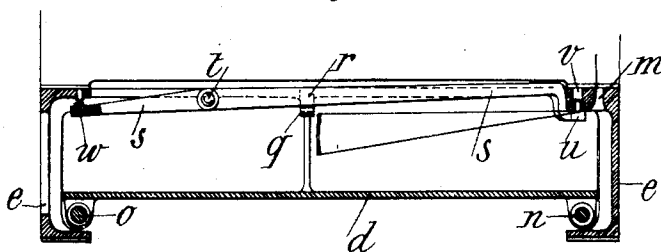


Fig. 6.



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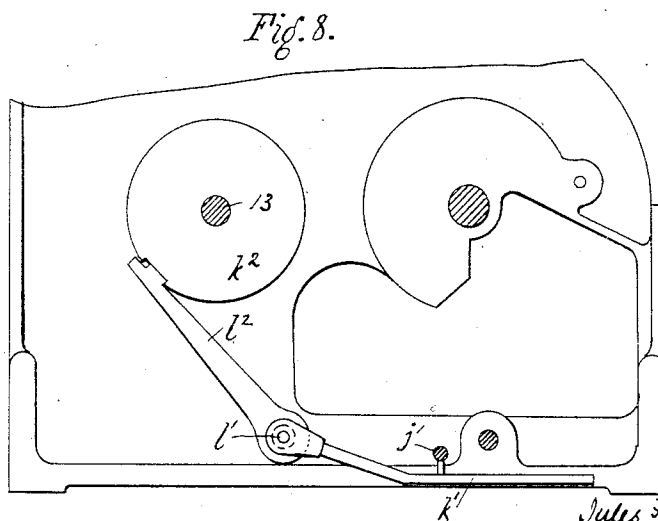
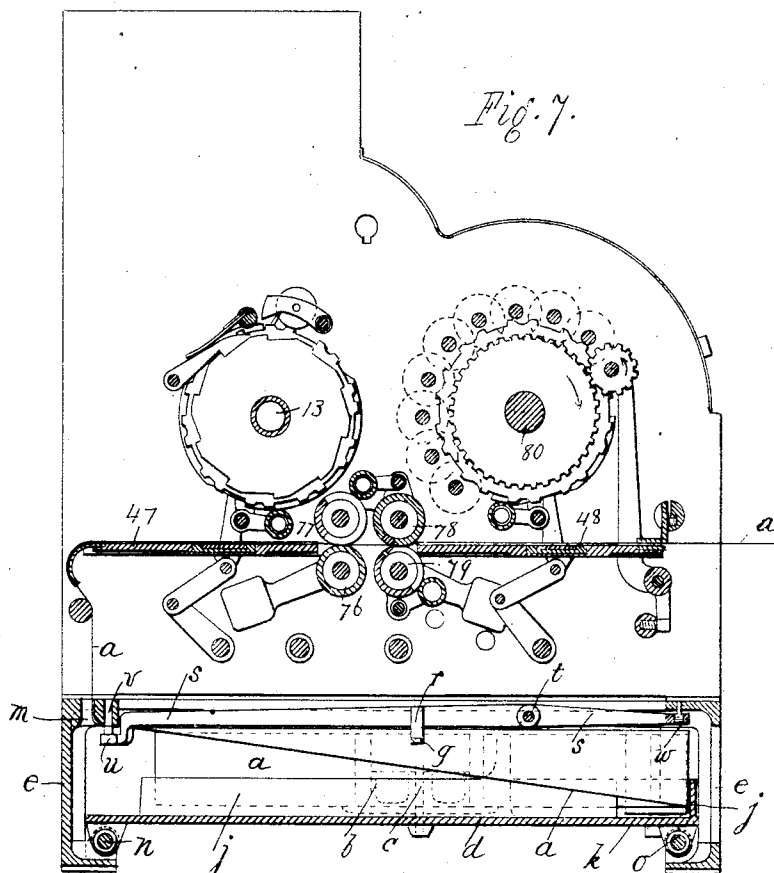
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JULES FRYDMANE AND LOUIS CHAMBON, OF PARIS, FRANCE.

AUTOMATIC SPOOL-CARRYING DRAWER FOR CASH-REGISTERS.

SPECIFICATION forming part of Letters Patent No. 790,627, dated May 23, 1905.

Application filed March 10, 1904. Serial No. 197,581.

To all whom it may concern:

Be it known that we, JULES FRYDMANE and LOUIS CHAMBON, citizens of the Republic of France, residing at Paris, France, have invented Improvements in Automatic Spool-Carrying Drawers for Cash-Registers, of which the following is a specification.

This invention has for its object an automatic spool-carrying drawer for cash and other registering appliances, the said drawer opening automatically and being unable to close as soon as the roll of paper has come to an end or when the band of paper has been ruptured by any cause or when the spool has not been placed in position in such a manner that it is not possible to operate the checking or registering appliance without its operation corresponding to the delivery of a ticket.

The paper or card spool such as has hitherto been provided in registering appliances printing and delivering tickets presents mainly the following defects:

First. In order to prevent the device from occupying too much space, it is necessary to reduce the diameter of the roll of paper to a minimum, so that the utmost it is able to comprise is, say, six to eight hundred ordinary tickets. It follows from this that the repeated replenishment of the spool in a place of business of any size usually causes interruption of business and sometimes even interrupts the checking itself.

Second. The registration of the operations in the apparatus does not necessarily correspond with the delivery of tickets when, for example, the roll approaches its end without this being noticed or if the band should become ruptured. The same is the case if the spool is not placed in the apparatus at all. The omission is only detected when the first operation has taken place without the delivery of a ticket.

The automatic spool-carrying drawer which forms the subject of this invention, which is hereinafter described and which is represented, by way of example, in the accompanying drawings, obviates these defects and prevents the registering of an operation without the delivery of a corresponding ticket.

In the drawings, Figure 1 is a plan view of this spool-carrying drawer, the outer box of which

serves as base for the apparatus utilizing the band of paper which unwinds from the spool. Fig. 2 is a longitudinal vertical section on the line A B. Fig. 3 is another longitudinal section on the line C D. Fig. 4 is a cross-section on the line E F. Figs. 5 and 6 illustrate the operation of the drawer. They correspond with Figs. 2 and 4. Fig. 7 is a sectional view of so much of the cash-register of United States Patent No. 738,670 as will show the application of my improved paper-carrying drawer thereto. Fig. 8 is a side elevation of a detail of the cam-shaft-locking lever.

The roll of paper *a* is passed upon a spool *b*, rotating freely upon a spindle *c*, fixed upon the bottom of the "drawer," properly so called, which is normally contained in a sort of box or frame *e*, constituting the base of the registering apparatus, the side pieces *f* and *g* of which rest upon the cross-pieces *h* and *i* of the said box. The roll of paper is maintained laterally by a circular rib *j*, presenting a break such that the band of paper is able to leave the spool until it is completely exhausted. Beyond this break the band of paper passes over a guide-roller *k*, passed freely upon a vertical spindle *l*, fixed to the drawer. Then it returns at an angle and passes through a slot *m* in the base for delivery to an apparatus, for example, of the kind described in the United States Patent No. 738,670, which utilizes it in the conditions provided for.

The "drawer," properly so called, is mounted and adapted to slide upon two cylindrical rods *n* and *o*, firmly fixed to the base. Upon each of these rods is passed a spring *p*, comprised between two lugs, one on the drawer and the other on the base. These springs are compressed in the closed position of the drawer and are ready to cause it to open when its locking device is released, this device consisting of a small latch *q*, arranged in the front of the drawer and engaging with the end of a lever *s*, oscillating in a vertical plane on a pin *t* on the base. The bent extremity *u* of the lever *s* bears upon and presses the band of paper opposite a hole *v*, formed in the base in proximity to the outlet-slot *m*. The pressure in question is exerted by a small

spring *w*, situated at the opposite extremity of the said lever and above the base. At the rear of the drawer is situated a stop *a'*, which in the closed position of the drawer bears and presses upon a lever *b'*, articulated at *c'* upon a lug on the side piece *g* of the registering-machine and in engagement, by means of a fork, with a pin *d'* of a rod *e'* at right angles to the side pieces *f* and *g* and engaged in holes formed in these latter. A spring *f'*, interposed between the part *f* and a washer *g'*, fixed upon the rod *e'*, constantly tends to displace this latter toward the rear of the drawer in order that under this influence and in the particular conditions hereinafter explained its rear extremity may engage in a hole *h'*, formed in an engaging lever *i'* of the registering apparatus. The rod *e'* is also provided with a nose *j'*, presenting an inclined plane, serving in the rearward movement to act upon a rod *k'*, oscillating on *l'* and intended in the same conditions to immobilize the cam-shaft of the checking apparatus.

Operation: Under normal working conditions the parts described above occupy the position indicated in Figs. 1 to 4. The band of paper unwinds and supplies the checking apparatus for the production and delivery of the checks or tickets. It may be pointed out in passing that the position imparted to the roll of paper (a horizontal position in the base of the apparatus) permits of effecting a very large number of operations without interruption and of leaving perfectly free access to the apparatus. Assuming that the spool is exhausted or the band of paper ruptured by some means, what takes place is as follows: The extremity *u* of the lever *s*, deprived of its support outside the hole *v*, rocks under the influence of the spring *w* and releases the locking-latch *q* of the drawer. This latter under the influence of the antagonistic springs *p p* is instantly moved forward—that is to say, it is partly opened—in the manner shown in Fig. 5. In this movement the stop *a'* has released the lever *b'*, and the rod *e'* under the influence of its spring *f'* is moved backward, its point engaging in the hole *h'* of the locking-lever *i'* and by means of its nose *j'* depresses the locking-rod *k'*. Under these conditions the operation of the checking apparatus is automatically interrupted, and it should be noticed that the apparatus is not able to act without delivering tickets, which is an important point as regards the check which it constitutes. The apparatus can only be restarted when a fresh spool has been placed in position or the ruptured band repaired and the drawer replaced in the closed position.

In Figs. 7 and 8, 13 is the cam-shaft, from which all operations of the machine are controlled. It carries a disk *k²*, notched at its periphery. A lever *l²*, pivoted at *l'* and rocked by a lever-arm *k'*, is provided to lock the disk *k²* and cam-shaft when the nose *j'* on the rod

e' has been thrown to the position of Fig. 5. A shaft 80 carries the monitor-wheels. Two oscillating tables 47 and 48 are provided, to which the paper strip *a* is fed in the manner shown in said prior patent by rolls 76, 77, 78, and 79, which feed the paper forward upon the operation of the cam-shaft of the machine.

We claim as our invention—

1. A cash-register, having a drawer, a paper-carrying spool in the drawer, printing means, and means for feeding the paper from the spool to the printing means, in combination with automatic means for locking the machine upon the failure of the paper.

2. A cash-register, having a spool-carrying drawer in combination with automatic means for opening the drawer upon failure of the paper.

3. A cash-register having a spool-carrying drawer in combination with automatic means for opening the drawer upon failure of the paper, and means for automatically locking the machine upon the opening of the drawer.

4. A cash-register, having operating mechanism and printing means, a spool-carrying drawer below the mechanism, a spool, a paper strip carried thereby, said spool being carried in the drawer with its axis vertical.

5. A cash-register, having operating mechanism, printing means, a drawer below the mechanism, a spool carried therein with its axis vertical, and a paper strip carried on the spool, in combination with means for locking the mechanism upon the failure of the paper.

6. A cash-register, having operating mechanism, a spool-carrying drawer below the mechanism, and a spool carried therein with its axis vertical in combination with automatic means for opening the drawer upon the failure of the paper.

7. A cash-register, having operating mechanism, a spool-carrying drawer below the mechanism, and a spool carried therein with its axis vertical in combination with automatic means for opening the drawer upon the failure of the paper, and means for locking the mechanism upon the opening of the drawer.

8. A cash-register having a drawer, a paper roll therein, a spring adapted to open the drawer, a latch to secure it, a paper-controlled lever adapted to release the latch upon failure of the paper, a cam-shaft for the register, a locking means for said shaft, mechanism between the drawer, and locking means adapted to be put into effect upon the opening of the drawer.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JULES FRYDMANE.
LOUIS CHAMBON.

Witnesses:

LÉON FRANCKEN,
HANSON C. COXE.