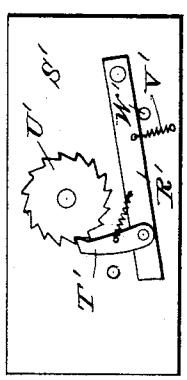
(No Model.)

C. SMYTH.

STORE SERVICE APPARATUS.

No. 522,625. Patented July 10, 1894.



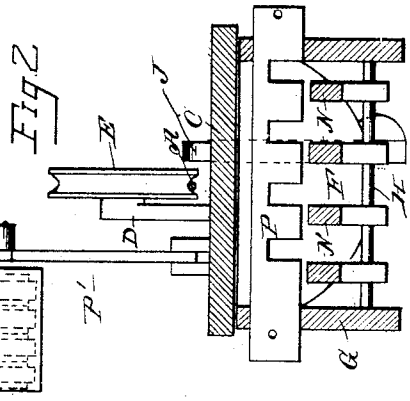


Fig 2

Fig 1

Fig 3

Witnesses.
John L. Jamison
Ruben B. Caffray

Inventor.
Charles Smyth
by Edward Rector
his atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES SMYTH, OF DAYTON, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE LAMSON CONSOLIDATED STORE SERVICE COMPANY, OF BOSTON, MASSACHUSETTS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 522,625, dated July 10, 1894.

Application filed July 25, 1892. Serial No. 441,196. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SMYTH, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented a certain new and useful Improvement in Store-Service Apparatus, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of store service apparatus in which is employed a series of elevated tracks or ways, generally of wire, leading from the different counters or stations to the cashier's desk or the central station, and upon which travel wheeled carriers to which are attached the cash boxes or other receptacles, suitable propelling devices being employed at the ends of the lines for propelling the carriers over them.

The first feature of my invention consists in providing the traveling carrier with one or more type-wheels or type carriers of other suitable form, and providing at the central station or cashier's desk an impression block or platen, a record-strip passed over the same, and suitable inking devices, whereby upon setting the type-wheels at any given numbers at the counter or sub-station and then propelling the same to the cashier's desk or central station the amount indicated by such numbers will be printed upon the record-strip before mentioned. Incidentally this feature of my invention involves the employment of means for storing the record strip and intermittently drawing it across the printing platen, and preferably also suitable catches or latches which automatically engage the carriers when they reach the central station and prevent their rebounding when the type-wheels strike the platen.

The novelty of my invention consists in the new combinations and modes of operation of the several elements, as well as in the particular construction and arrangement of them, all as will be hereinafter set forth and particularly pointed out in the claims.

In the accompanying drawings Figure 1 represents a vertical longitudinal section through a carrier mounted upon a way and provided with a set of type-wheels, and the devices at the end of the way which co-operate with the type-wheels to effect the printing, the registering device which co-operates with the carrier being also shown in elevation; Fig. 2 a vertical cross section through the carrier on the line 2—2 of Fig. 1; and Fig. 3 a front elevation of the type-wheels.

The same letters of reference are used to indicate identical parts in all the figures.

In the drawings A represents a wire way secured at its left hand end to a box or casing B at the cashier's desk or central station and extending to one of the counters or sub-stations. The carrier mounted upon this way is shown as consisting of a plate C having upon its upper side vertical standards or brackets D upon which are mounted the grooved supporting wheels E which rest upon the wire way A.

A cash box F is secured in a frame composed of two side plates G rigidly secured together by cross rods H and shaft K. The upper edges of these side plates G are provided near their forward ends with hooks I adapted to catch over the front end of the plate C of the carrier, while the rear cross rod H of the cash box frame carries a latch-piece J adapted to catch over the rear end of said plate C. Upon disengaging the latch J from the plate C the cash box frame may be detached from the carrier frame, to permit the contents of the box to be removed or placed in it. It may be readily reattached to the carrier-frame by engaging the hooks I with the front end of the plate C and the latch J with the rear end thereof.

Upon the shaft K is mounted a series of type-wheels L, Fig. 3, each bearing upon its periphery nine type numbers, from 1 to 9 inclusive, with a zero type between the 1 and 9. Each of these type-wheels has fast upon its side a toothed locking wheel M, with which wheels co-operate a series of locking pawls N yieldingly held in engagement with the toothed wheels by springs O. Mounted at its opposite ends in slots in the side plates G and adapted to slide transversely of the frame, Fig. 2, is a slotted locking bar P which co-operates with the pawls N. When this bar P is slid into position to bring its slots in line

with the pawls N the latter are free to be lifted, against the tension of the springs O, and the type-wheels may be turned forward and set at the desired numbers, the pawls N slipping over the toothed wheels M. When the wheels have been set at the desired numbers and the bar P slid into position to carry its slots out of line with the pawls N the latter will be locked by it from upward movement and consequently lock the type-wheels in the positions to which they have been set.

The box or casing B hereinafter referred to is provided in its lower portion with a trough Q in which rests a supply-roll R of paper strip. From the supply roll this strip is led through an opening S in the right hand side of the casing, thence upward across a second opening T in the casing, thence back into the casing through a third opening U, and wound upon a storage reel V. Mounted in a frame W secured in the casing B are a platen X and an adjusting screw Y therefor. This platen X is located in the opening T in the right hand wall of the casing B and the paper strip is led over the platen in its passage across said opening.

Carried upon rollers Z Z′ is an endless inking ribbon A′ which passes from the upper roller Z over a guide roller B′, thence out the opening T and over the face of the platen X beneath the record strip, thence back into the casing over a second guide roller C′, and thence around the lower roller Z′. The storage reel has fast upon one end of it a ratchet D′ with which co-operates a pawl E′ carried by a lever F′ hung upon the shaft G′ upon which the feed-roller is mounted. At each stroke of the upper end of the lever F′ to the left the pawl E′ will turn the ratchet and storage reel and draw the paper strip from the supply roll R over the platen and wind it upon said reel.

A suitable retaining spring H′ co-operating with the ratchet D′ prevents backward movement of the storage reel. This reel also has secured to one end of it a friction flange I′ which co-operates with a friction flange J′ fast upon the upper inking ribbon roller Z. At each forward movement of the storage reel, under the impulse of the lever F′, the roller Z will be turned to bring a fresh portion of the ribbon over the platen.

A latch K′ pivoted to the side of the casing B at L′ co-operates with a catch M′ upon one of the side plates G of the cash box frame. When the carrier is propelled from the sales counter or sub-station to the central station it will be automatically caught and detained by the latch K′. The lever F′ before mentioned extends below the shaft G′ into position to engage the left hand end of the latch K′. Whenever the upper end of the lever is thrown to the left its lower end will depress the left hand end of the latch K′ and lift its opposite end out of engagement with the catch M′ on the carrier. Inasmuch as it is necessary for the operator at the central station to disengage the catch K′ from the carrier in order to detach the cash box from the carrier it will be seen that the storage reel will be turned each time the carrier is received and sent back, so that a blank portion of the record-strip will be presented to the type-wheels each time.

From the foregoing description it will be understood that in the use of this device the clerk making a sale will detach the cash box from the carrier, deposit in it the money received, set the type-wheels at the proper points to print the amount of the sale and lock them in such position by means of the locking bar P, and then reattach the cash box to the carrier and propel the latter to the central station. When it reaches such station the type numbers at the forward sides of the wheels will strike the record-strip over the platen X and cause the inking ribbon to print the amount of the sale upon the opposite side thereof, while the latch K′ will automatically engage the catch M′ and hold the carrier, The cashier will then throw the lever F′ to the left, to disengage the latch from the carrier, thereby winding up a portion of the record-strip, and will then detach the cash box from the carrier, take out the money, note the amount of the sale as exhibited by the type-wheels, put back the necessary change, re-attach the cash box to the carrier and return it to the station from which it came. In this manner a record of the amount of each sale will be made and preserved upon the record-strip, and the type-wheels, acting as indicators, render unnecessary the check or ticket which has heretofore had to be sent to the cashier's desk with the money. The left hand side of the casing B is provided with a hinged lid having a lock N′, which may be opened by the proprietor or other authorized person and the record-strip upon the storage reel be removed.

So far as I am aware I am the first in the art to provide a carrier in a store service apparatus with a type wheel which co-operates with printing devices at one end of the line to effect the printing of the various numbers to which the type-wheel may be set, and the scope of my invention, in this respect, is not restricted beyond the terms of my respective claims relating to it.

Pivoted between ears O′ upon the upper side of the plate C of the carrier is a bell crank lever P′ whose upper arm is held in vertical position, and the end of its horizontal arm against the upper side of the plate C, by means of a spring Q′. The upper end of the vertical arm of this bell crank is adapted to co-operate with the end of an arm R′ pivoted to the side of a suitably supported register casing S′ and carrying a pawl T′ spring pressed into engagement with the ratchet U′ of the primary wheel of a train of registering wheels, shown in dotted lines.

During the passage of the carrier from the sales counter to the cashier's desk the upper

end of the bell crank will ride under and lift the free end of the arm R′ and cause the pawl T′ to turn the ratchet U′ and primary registering wheel. In the return passage of the carrier the upper end of the bell crank will strike the end of the arm R′ abruptly and yield against the tension of the spring Q′ and pass under said arm without lifting it, a spring V′ connected to the arm R′ and holding it against a stop pin W′ being of sufficient strength to overcome the spring Q′ and prevent the bell crank lifting the arm R′. In this manner at each trip of the carrier to and from the cashier's desk the register will be automatically actuated to register such trip, and, incidentally, to register the number of entries printed upon the record strip, so that if the attendant at the central station should arrest the carrier before the type-wheels struck the platen, and thereby prevent the printing of their numbers on the record strip, the register would show that the carrier had made more trips than there were amounts printed upon the record strip.

Having thus fully described my invention, I claim—

1. In a store service apparatus, the combination of the way or track leading from the sub-station to the central station or cashier's desk and upon which the wheeled carrier travels back and forth between said stations, the carrier mounted upon said track, adjustable type movable with the carrier, an impression platen located at one end of the track transversely across the path of travel of the carrier and against which the type upon the latter are adapted to abut and arrest the carrier, and a record-strip passed over said platen, whereby when the carrier reaches the end of its travel in one direction its types abut against the record-strip upon the platen and arrest the carrier and effect the printing of the type numbers upon the paper strip, substantially as described.

2. In a store service apparatus, the combination of the way or track leading from the sub-station to the central station or cashier's desk and upon which the wheeled carrier travels back and forth between said stations, the carrier mounted upon said track, adjustable type movable with the carrier, an impression platen located at one end of the track transversely across the path of travel of the carrier and against which the type upon the latter are adapted to abut and arrest the carrier, an inking ribbon and a record-strip passed over said platen and co-operating with the type-wheel, a storage-reel for the record-strip, and means for actuating said reel to wind up the record-strip, substantially as and for the purpose described.

3. In a store service apparatus, the combination of a track, a carrier traveling thereon, a type wheel movable with the carrier and provided with a toothed locking disk, a holding pawl co-operating with the locking disk and a locking bar co-operating with the pawl, an impression platen located at one end of the track, and a record strip passed over said platen and co-operating with the type-wheel, substantially as described.

4. In a store service apparatus, the combination of a track, a carrier traveling thereon, an adjustable type wheel movable with the carrier, an impression platen located at one end of the track in position to co-operate with the type wheel upon the carrier, a record strip passed over the platen, a storage reel for winding up the record strip, a ratchet upon the storage reel, a pivoted lever carrying a pawl co-operating with the ratchet, and a latch co-operating with a catch upon the carrier and actuated by the movement of the lever, whereby upon operating said lever the storage reel will be turned to wind up the record strip and the latch disengaged from the carrier, substantially as described.

5. In a store service apparatus, the combination of a track, a carrier traveling thereon, an adjustable type wheel movable with the carrier, an impression platen located at one end of the track in position to co-operate with the type-wheel, an inking ribbon carried upon rollers passed over the platen, a record strip also passed over the platen, a storage reel for winding up the record strip, and a connection between the storage reel and one of the inking rollers for causing the latter to be turned by the movement of the storage reel in winding up the record strip, substantially as described.

6. In a store service apparatus, the combination of a track, a carrier traveling thereon, an adjustable type wheel movable with the carrier, an impression platen located at one end of the track in position to co-operate with the type-wheel, an inking ribbon passed over said platen and carried upon rollers one of which is provided with a friction disk or flange, a record strip also passed over the platen, a storage reel for winding up the record strip, provided with a friction disk or flange engaging that upon the inking ribbon roller, a ratchet upon the storage reel, a pivoted lever carrying a pawl co-operating with the ratchet, and a latch co-operating with a catch upon the carrier and actuated by the movement of the lever, substantially as described.

7. In a store service apparatus, the combination of a track, a carrier traveling thereon, a series of adjustable type wheels movable with the carrier and each provided with a toothed disk, holding pawls engaging said disks, a slotted locking bar co-operating with the pawls, an impression platen located at one end of the track in position to co-operate with the type wheels, and an inking ribbon and a record strip passed over said platen, substantially as described.

8. The combination of the track A, the wheeled carrier mounted thereon, the detachable cash box frame provided with the hooks I and latch J co-operating with the plate C of

the carrier, the type wheels L provided with the toothed disks M, the holding pawls N co-operating with said disks, the fixed impression platen X located at the end of the track, the inking ribbon A′ carried on the rollers Z Z′ and passed over the platen, the record strip carried in the supply roll R and led over the platen, the storage reel V for winding up the record strip, and means for turning said reel, substantially as described.

9. The combination of the track A, a wheeled carrier mounted thereon, a detachable cash box frame provided with the hooks I and latch J for attaching it to the plate C of the carrier, the type wheels L provided with the toothed disks M, the holding pawls N co-operating with said disks and the locking bar P co-operating with the pawls, the fixed platen X at the end of the track, the inking ribbon A′ passed over said platen and carried by the rollers Z Z′, the former provided with a friction disk J′, the record strip carried in the supply roll R and led over the platen, the storage reel V for winding up the record strip, the friction disk I′ upon the storage reel co-operating with the disk J′ upon the roller Z, the ratchet D′ upon the storage reel, the pivoted lever F′ carrying the pawl E′ co-operating with the ratchet, and the pivoted latch K′ co-operating at one end with the catch M′ upon the carrier and at its other with the lever F′, substantially as described.

10. The combination of the track A, the wheeled carrier traveling thereon, the pivoted lever P′ upon the carrier, the registering device located adjacent to the track and having the actuating ratchet U′, and the pivoted arm R′ co-operating with the lever P′ upon the carrier and carrying the pawl T′ co-operating with the ratchet U′, substantially as described.

CHARLES SMYTH.

Witnesses:
C. A. CRAIGHEAD,
F. A. L. SNECKNER.