(No Model.)

R. GORNALL.

STORE SERVICE APPARATUS.

No. 483,610. Patented Oct. 4, 1892.

Fig. 1.

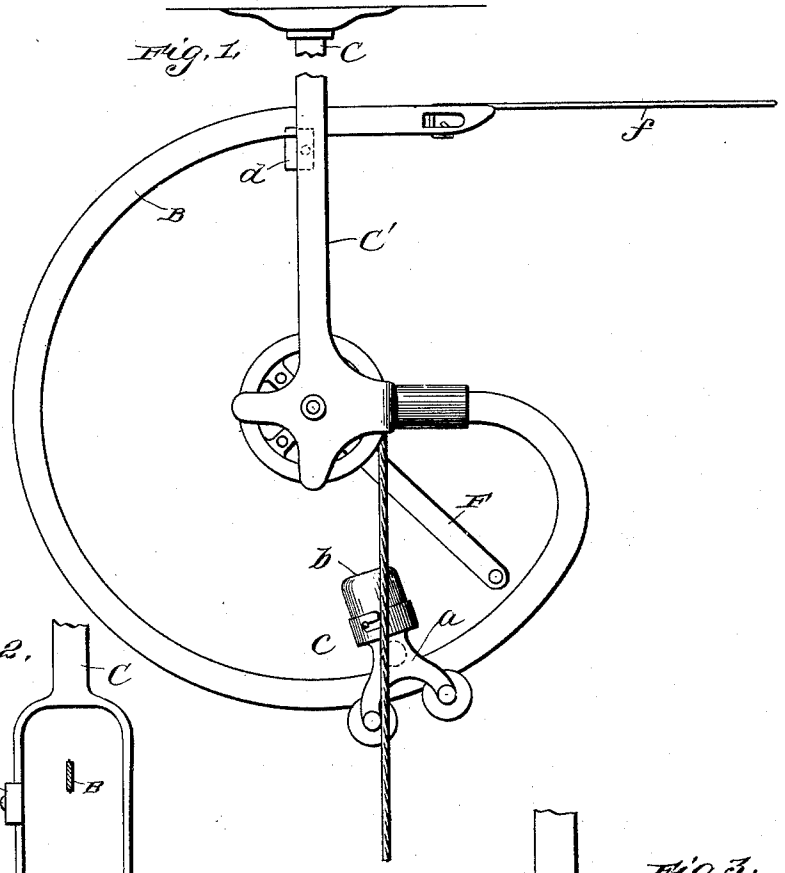


Fig. 2.

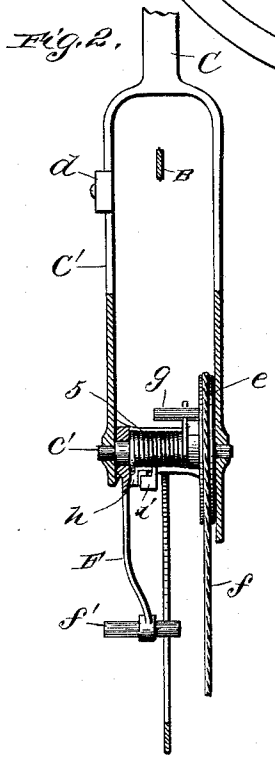


Fig. 3.

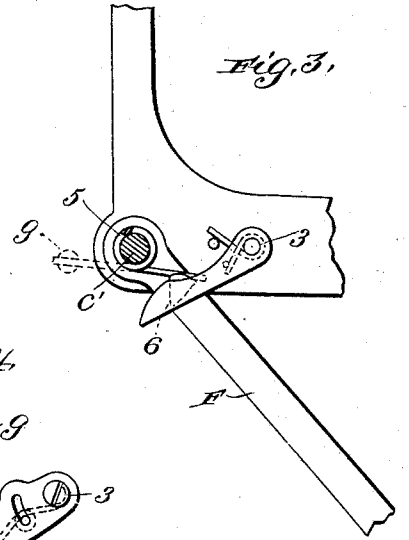
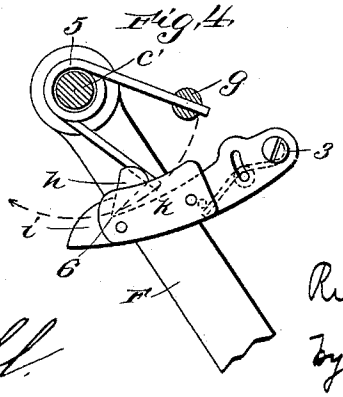


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

RICHARD GORNALL, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE LAMSON CONSOLIDATED STORE SERVICE COMPANY, OF BOSTON, MASSACHUSETTS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 483,610, dated October 4, 1892.

Application filed December 21, 1889. Serial No. 334,532. (No model.)

To all whom it may concern:

Be it known that I, RICHARD GORNALL, of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Store-Service Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in store-service apparatus, relating particularly to that class in which the carriers are propelled from one end of the way to the other by an impulse given to the carrier at the starting-point.

My invention consists in a way having a curved extension at its end, combined with a propelling-arm pivotally supported approximately at the center of the curve of the extension and arranged to engage the carrier and propel it over the said curved extension; and the invention consists, further, in the peculiar means for placing said arm under tension while it is held stationary and for releasing it to propel the carrier.

In the drawings, Figure 1 is a side elevation of one end of a way embodying my improvements. Fig. 2 is a sectional view of the same. Fig. 3 is a detail showing the propelling-arm and the latch for holding it, and Fig. 4 is a detail view.

I have not shown in the drawings the two ends of the way; but I desire it to be understood that the opposite end may be fitted with the same means for propelling the carrier, or, if desired, the way may be inclined from the cashier's desk to the salesman's counter, and the carrier thus returned by gravity.

A represents the wire of the way, which is stretched taut between two points, and B forms a continuation of the way, being a curved piece of metal set on edge and supported from the standard C, extending from the ceiling or the floor or from a wall-bracket.

The extension B may not describe so much of a circle as that shown; but it is desirable to make the extension at least a semicircle, so as to bring the carrier within reach of the salesman, which thus enables the placing of the wire at such a height as to obviate any danger of its striking the heads of customers in stores.

The carrier is shown at *c*, and may be of any desired shape and construction, though I have shown a very simple form consisting of a body portion *a*, having two carrying-wheels and a third wheel adapted to bear against the edge of the extension B when the carrier passes from the way to said extension. An ordinary cup *b* has a bayonet-joint connection with the flange of the body portion.

From the standard C a yoke C′ extends, as shown in Fig. 2, and at the end of this yoke a spindle *c′* extends across, which forms a bearing for a propelling-arm F. This arm extends downwardly to within a short distance of the inner line of the extension B of the way, carrying a pin *f′* upon its lower end, extending laterally to each side, and this pin is adapted to come in contact with the carrier and under the propelling means hereinafter described to elevate the carrier to the track and to give it an impulse sufficient to carry it to the opposite end of the way. The other end of the pin is adapted to come in contact with the buffer *d*, secured to one of the arms of the yoke. On the same spindle which forms the bearing for the propelling-arm a wheel or pulley *e* has its bearing, and this pulley has a grooved periphery, to which is secured a driving-cord *f*, which terminates in a handle extending down within reach of the operator. On the same spindle is a coiled spring 5, with one end extending into the path of the pin *g*, projecting from the face of the pulley, while its opposite end is in the path of the pin *h*, projecting from the face of the propelling-arm. The pin *h* on the arm F, with which the end of the spring engages, terminates in a catch 6, with which engages the hooked end of a latch *i*, pivoted to an extension of the yoke, as at 3, and under spring-tension. Normally this latch *i* holds the propelling-arm stationary and prevents its movement. The latch, however, has a projection *k*, which has an upper cam-face, and when this latch is depressed the propelling-arm is free to move. This latch is depressed by the end of the pin *g*, which projects from the inner face of the pulley.

In the operation of the device, supposing the propelling-arm to be latched, the cord is drawn upon by the operator, which revolves

the wheel and winds up the spring for the reason that one end is held by the pin on the propelling-arm, while the other end of the spring is revolved under the action of the pin projecting from the face of the wheel. This places the spring under a strong tension, and when the wheel has reached such a position as to bring its pin into contact with the cam-surface of the projection *k* the latch is depressed, thus releasing the arm, and the entire force of the spring is exerted on the arm, which in its movement propels the carrier to the upper end of the extension, and while the arm is stopped by the buffer the impulse given to the carrier is sufficient to carry it to the other end of the way.

The tension of the spring may be adjusted by placing the pin in the face of the pulley at a different point or by winding the propelling-cord several times around the pulley.

What I claim is—

1. In combination, the way having a curved extension, a pivoted propelling-arm, a spring for moving said arm, a catch for holding the arm in normal position, means for winding the said spring, and automatic means for releasing the catch, whereby the arm will be turned to force the carrier along the curved way, substantially as described.

2. In combination, the way, a movable propelling-arm, a supporting-spindle therefor, a spring for forcing said arm forward, a catch for holding the arm in retracted position, means for placing a tension on the spring, and means carried by the spindle and acting to release the catch from the arm, substantially as described.

3. In combination, the way, with a curved extension, the pivoted propelling-arm, the spring arranged about the spindle of said propelling-arm, a catch for holding the arm in retracted position, a wheel on the spindle, having a projection to release the catch, and a cord connected with the wheel for turning the same to wind the spring and release the catch, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD GORNALL.

Witnesses:
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