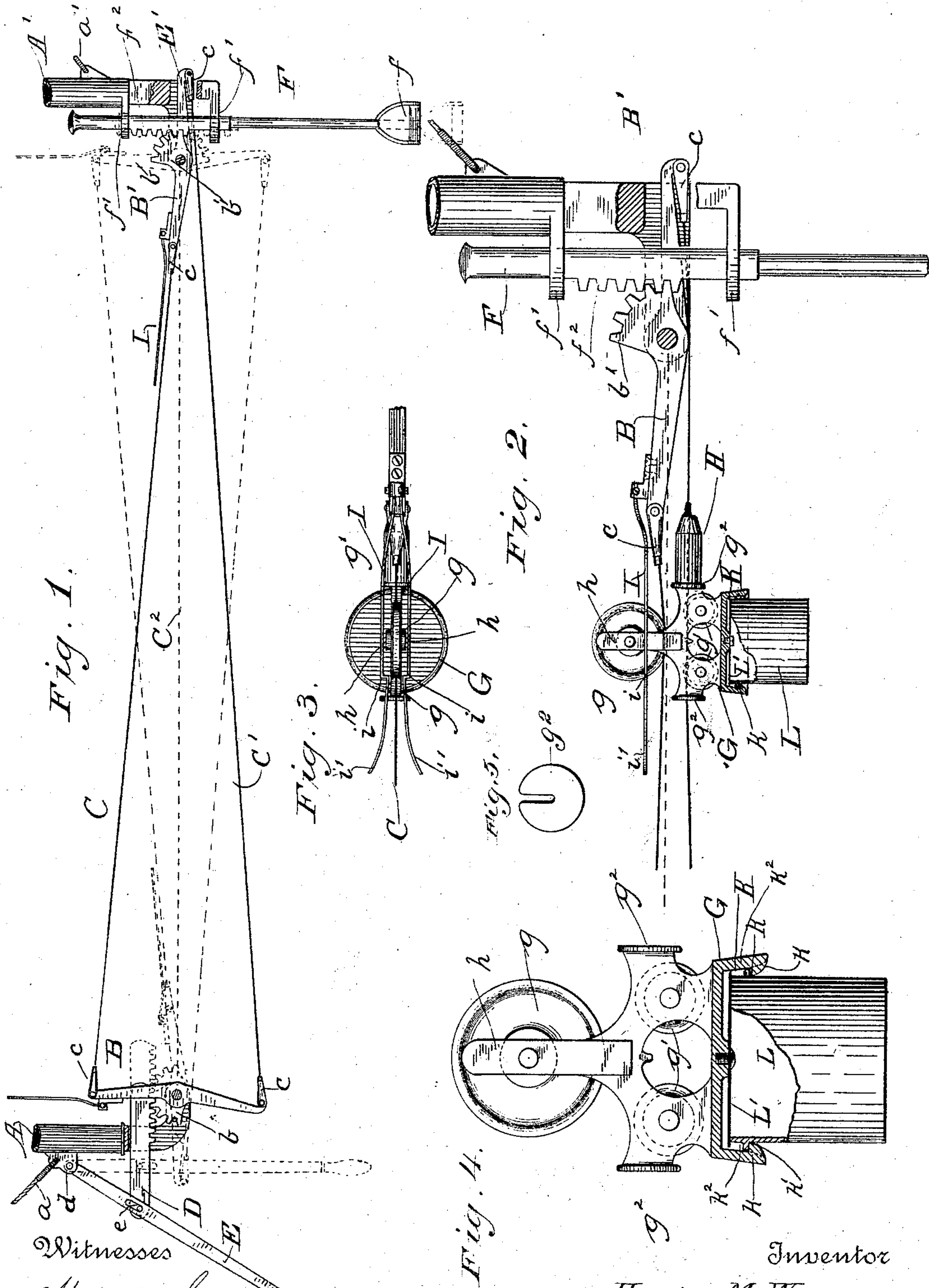


(No Model.)

H. M. WEAVER.
STORE SERVICE APPARATUS.

No. 500,641.

Patented July 4, 1893.



Witnesses

W^m A. Skinkle

Chas. E. Gorton.

Inventor

Henry M. Weaver

By his Attorney,

By his Attorn.
Joseph C. Parkinson,

UNITED STATES PATENT OFFICE.

HENRY M. WEAVER, OF MANSFIELD, OHIO, ASSIGNOR TO THE BARR CASH AND PACKAGE CARRIER COMPANY.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 500,641, dated July 4, 1893.

Application filed June 29, 1889. Serial No. 316,106. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. WEAVER, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a specification.

My invention relates primarily to that type of store service apparatus in which the carrier is sped and returned from one station to another by means of two or more wires which are spread apart behind it and converged in front of it, as shown for instance in Letters Patent granted Samuel W. Barr on the 8th day of February, 1887, No. 357,449, to which reference may be had for an extended description of the various arrangements which may be given to said wires.

My invention further relates to an improved cash-carrier and service carriage therefor, and to an improved latch for said carriage to hold it at the stations.

In a store-service system a number of lines customarily radiate from the cashier's desk to different parts of the salesroom or of the building, and as he is usually seated upon a high stool, the arrangement of the sending lever as shown and described in the Barr patent above mentioned, is inconvenient for him, since he must reach up, pull it down from overhead, and push it from him, in order to spread the wires at his end and return the cash-box with the change therein, to the salesman's station. My object, therefore, has been to so reorganize the spreading devices at such cashier's end or station, as to allow the use of a pendent-lever of any suitable length, which will spread the wires at that end by a slight pull toward the cashier or operator in his seat, and such lever may depend upon a level with his face or breast, to save him the necessity of rising. As to the salesman's end or outer station, however, it is more convenient to have a direct downward pull in a vertical line, since the clerk or salesman will be standing on the floor, instead of an arc movement through a short lever, as in the Barr apparatus. I therefore so reorganize the spreading apparatus at such end, that, while it will, through the track-wires, move or be moved by the pendent lever at the cashier's desk to converge or

diverge the wires at either end, it will be operated by a rod playing vertically in suitable bearings.

In the drawings: Figure 1 represents, in side elevation, a store-service line extending between the cashier's and salesman's stations, and constructed according to my invention. Fig. 2 is an enlarged detail view of the outer station, or that one at the salesman's end of the line, with the track-wires converged at said end and the service-carriage held stationary by the latch or catch. Fig. 3 is a top-plan view, partly broken away, of the mechanism shown in the preceding figure. Fig. 4 is an enlarged view in side elevation of a carriage and cash-box, the receiving socket of the carriage being in section and the cash-box partly broken away, and Fig. 5 is an end elevation of one of the slotted metallic bumpers of the service carriage.

A represents a supporting-bracket at the in, or cashier's end of the line, which may, as usual, depend from the ceiling or some overhead point of attachment, and *a* is a brace or guy to steady said bracket.

A' is the bracket at what may be considered the out, or salesman's end, steadied by a brace or guy, *a'*, like the other.

B is a track-lever or spreading-lever pivoted in the cashier's bracket and rigidly connected to a segment-gear, *b*, the axis of which is concentric with the axis of the lever. At the salesman's station a similar track-lever, B', is pivoted to the bracket and provided with a segment-gear, *b'*. At each end of the track-levers are small hinged ears, *c*, to which are connected the track-wires, C and C', under such arrangement that when the lever at the salesman's end is horizontal or practically so, the lever at the cashier's station is vertical, or practically so, thus spreading the wires at the cashier's station and converging them at the salesman's station, as in the Barr apparatus, both wires being taut when in this position; and when the lever at the salesman's station is carried to the vertical, the pull on one wire or the other will depress the opposite lever to a horizontal position, sending the carrier back. This operation is reciprocal, that is to say, the lever at one end may be either carried to the vertical or depressed

to the horizontal by throwing the opposite lever to the horizontal or carrying it to the vertical, so that the operator at either station may send a carrier to the opposite station or
 5 call it back should he have occasion to use it at his end of the line before it is used at the opposite end. A central wire, C^2 , may also be employed, particularly with parcel carriers, stretching from bracket to bracket, or
 10 station to station, in line with the axial centers of the two track-levers.

Now in order to operate the lever at the cashier's end of the line, I mount in the bracket at that end, a horizontal rack-bar, D,
 15 with its teeth in engagement with the segment-gear upon the track-lever. To a lug, d , projecting from the bracket which may be the same lug to which the bracing guy is attached, is pivoted a hand lever, E, depending a sufficient distance therefrom to bring
 20 its grip end within convenient reach of the cashier; for instance, in front of him, and perhaps a little above the level of his breast as he sits at his desk, so that he may readily reach it
 25 without leaving his seat. This lever is jointed to the shank of the rack-bar by a slot and pin-connection, e , to allow the play necessitated by its arc movement, and it will be so arranged that, when the track-lever is horizontal, as it
 30 will be when a carrier has been sent from the salesman's station to the cashier's desk and is resting there, it will occupy a vertical, or nearly vertical, position, as represented in the first figure of the drawings, but by drawing it
 35 back from that position to the one represented in full lines, it will impart through the rack-bar a quarter-turn to the segment upon the track-lever and carry the latter to a vertical position, as represented in full lines, thus
 40 spreading the track-wires at that end, converging them at the opposite end and sending the carrier back to the salesman's station. At this latter station, however, it is desirable, for reasons stated in the preamble, to operate
 45 the line by a vertical pull downward to send the carrier, or, if occasion requires, an upward push, to bring it back. A rod, F, having at its lower end a handle, f , is therefore mounted in vertical bearings, f' , in the salesman's
 50 bracket, and carries between said bearings, a rack, f^2 , which meshes with and actuates the segment-gear on the track-lever at that end. Thus when the rod is pulled downward from the position indicated in full lines in Fig. 1,
 55 to that indicated in dotted lines, it will give such segment a quarter turn and carry the track-lever from the horizontal position to a substantially vertical position, as also indicated in dotted lines, spreading the wires at
 60 that end from the position indicated in full lines to that indicated in dotted lines, and, conversely, by acting through the wires upon the lever at the cashier's station, converging them at that end.

55 The cash-carriage, G, which I prefer to use, is constructed with three wheels, the upper wheel, g , being of larger diameter than the

two lower wheels, g' , which are respectively set upon opposite sides of a perpendicular from the axis of said upper wheel. The track-
 70 wires are intended to pass between the upper and the two lower wheels and act immediately upon the lower wheels as they are converged or spread to propel the carriage. At each end of the carriage, just outside of the wheel at
 75 that end is formed a projecting bumper, g^2 , which is slotted vertically to allow the play of the lower track-wire, as indicated in the second figure of the drawings, the bumper being of such height that said wire passing
 80 over the lower carrier-wheels in the direction in which the carrier is moving, will come at about its center, as represented in said figure. The purpose of this bumper is to strike the
 85 tubular rubber buffer, H, set upon the lower track-wire, and in the construction of the carriage it is an object to bring it at about the median line of the weight of the carrier, so that in striking the buffer there may be no
 90 tendency to tip, which would unduly strain the wires.

The carriage is provided at each side with vertical ribs, h , which, where a single upper wheel is used, will form the standard for the support of the axle of said wheel, as in Fig. 4. 95

Secured to that end of each track-lever which is uppermost when such lever is in a vertical position, are two spring-wire arms, I, nearly in line with the general length of said lever, so that when the wires are converged by the
 100 depression of the lever, they may be in close proximity to, or nearly parallel with the upper track-wire (see Figs. 1 and 2). These arms extend outward from the end of the lever a sufficient distance to allow the carrier
 105 to reach its buffer and inclose its vertical ribs within them, when they are bent inward, as at i , to form shoulders and thence they flare outward as at i' , to carry their terminal points to each side of the track-wire. At the
 110 shoulders they are brought so close together that the vertical ribs of the carrier can only enter between by springing them apart. Thus when the carrier reaches a station it will enter the mouth formed by the flaring terminals of these latch-arms, as they may be
 115 called, wedging them apart as it passes between the shoulders and then striking the buffer, and will be confined by the springing in of the shoulders behind its vertical ribs. 120
 But when the carrier is to be dispatched to the opposite station, the movement of the track-lever, as it is thrown up to the vertical to spread the wires, will lift the latch-arms up over the ribs of the carrier, thus leaving
 125 it free to depart, while at the same time the latch-arms on the opposite lever will be brought down to the receiving position so that the momentum of the carrier on its arrival will wedge them apart to immediately spring
 130 in behind its ribs and confine it at that end. The bottom of the carrier has a socket, K, with an annular rib, k , at its mouth, which rib will have two or more vertical openings,

k' , to receive lugs, k^2 , from the cash-cup, L, constituting a sort of bayonet joint whereby the cup may be inserted and secured in the said socket.

5 In order to closely confine the top of the cash-cup and shield it from oil-drippings and dirt such as may enter when the carriage is of skeleton form, the spring-disk, L', of slightly greater diameter than the mouth of the cup, 10 is secured to a boss, l, projecting from the base of the socket in the carriage. The edges of this disk will be brought so close to the annular rib in the mouth of the socket that, when the cup is put in position and secured 15 by turning its lugs round on the rib, the disk will press down upon its rim elastically and make a close joint, thus not only covering and shielding it and its contents, but preventing it from rattling, and from accidentally escap- 20 ing or shaking loose from the carrier.

I claim—

1. The combination, substantially as here- inbefore set forth, of the track-wires, the piv- 25 oted track or spreading lever to the opposite ends of which said wires are attached, the pendent operating lever, and a gear connec- tion between said operating lever and the spreading lever, whereby the latter is swung in either direction on its pivot by the to-and- 30 fro movements of the operating lever.

2. The combination substantially as here- inbefore set forth, of the track-wires, the piv- oted track or spreading lever to the opposite ends of which said wires are attached, the

segment-gear secured to said lever, the hori- 35 zontal rack-bar engaging with said gear and the lever whereby said rack-bar is reciprocated.

3. The combination substantially as here- inbefore set forth, of the track-wires, the track- 40 levers at the cashier's and salesman's stations to the opposite ends of which said wires are secured, the segment-gears attached to said track-levers, the racks with which said gears engage, the pendent operating-lever at the 45 cashier's station, and the vertical reciprocating handle-rod at the salesman's station.

4. The combination, substantially as here- inbefore set forth, with the service carriage 50 having upper and lower wheels, and the vertically slotted bumpers projecting at each end beyond the lower wheels, of the lower track- wire playing in the slots of said bumpers and passing between the wheels, and the tubular rubber buffers on said lower track-wire. 55

5. The combination, substantially as here- inbefore set forth, of the vertical bracket hav- ing guides arranged vertically, a rod or bar 60 provided with a rack, sliding in said guides, a pivoted lever having a toothed segment en- gaging with said rack and line wires operated by the upward and downward movements of said rod.

HENRY M. WEAVER.

Witnesses:

E. R. STILSON,
H. B. DIRLAM.