(No Model.)

2 Sheets—Sheet 1.

J. J. CRIST.

STORE SERVICE APPARATUS.

No. 481,346. Patented Aug. 23, 1892.

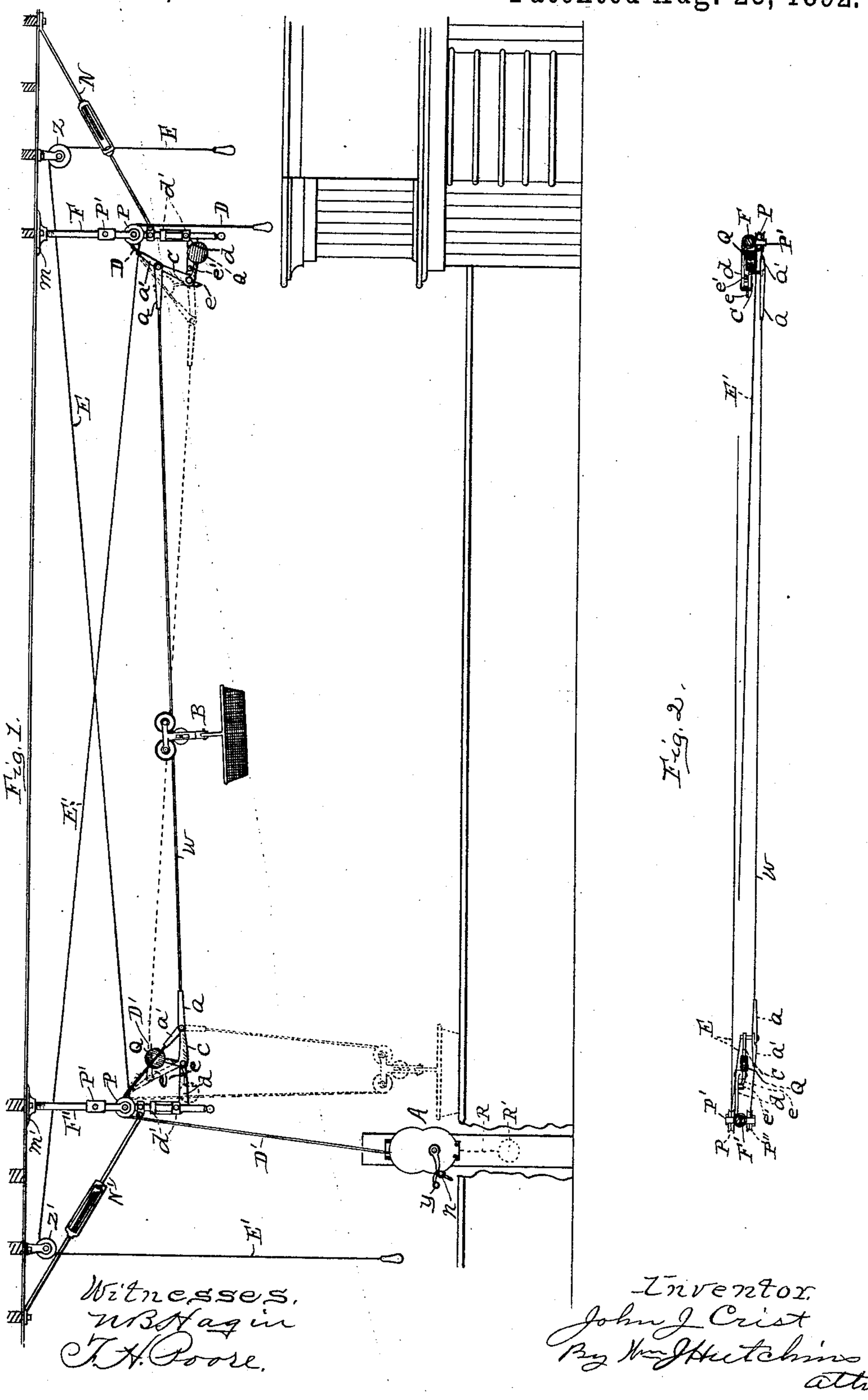

Fig. 1.

Fig. 2.

Witnesses.
W. B. Hagin
T. H. Poore.

Inventor.
John J. Crist
By Wm. J. Hutchinson
Atty

(No Model.) 2 Sheets—Sheet 2.

J. J. CRIST.

STORE SERVICE APPARATUS.

No. 481,346. Patented Aug. 23, 1892.

Fig. 3.

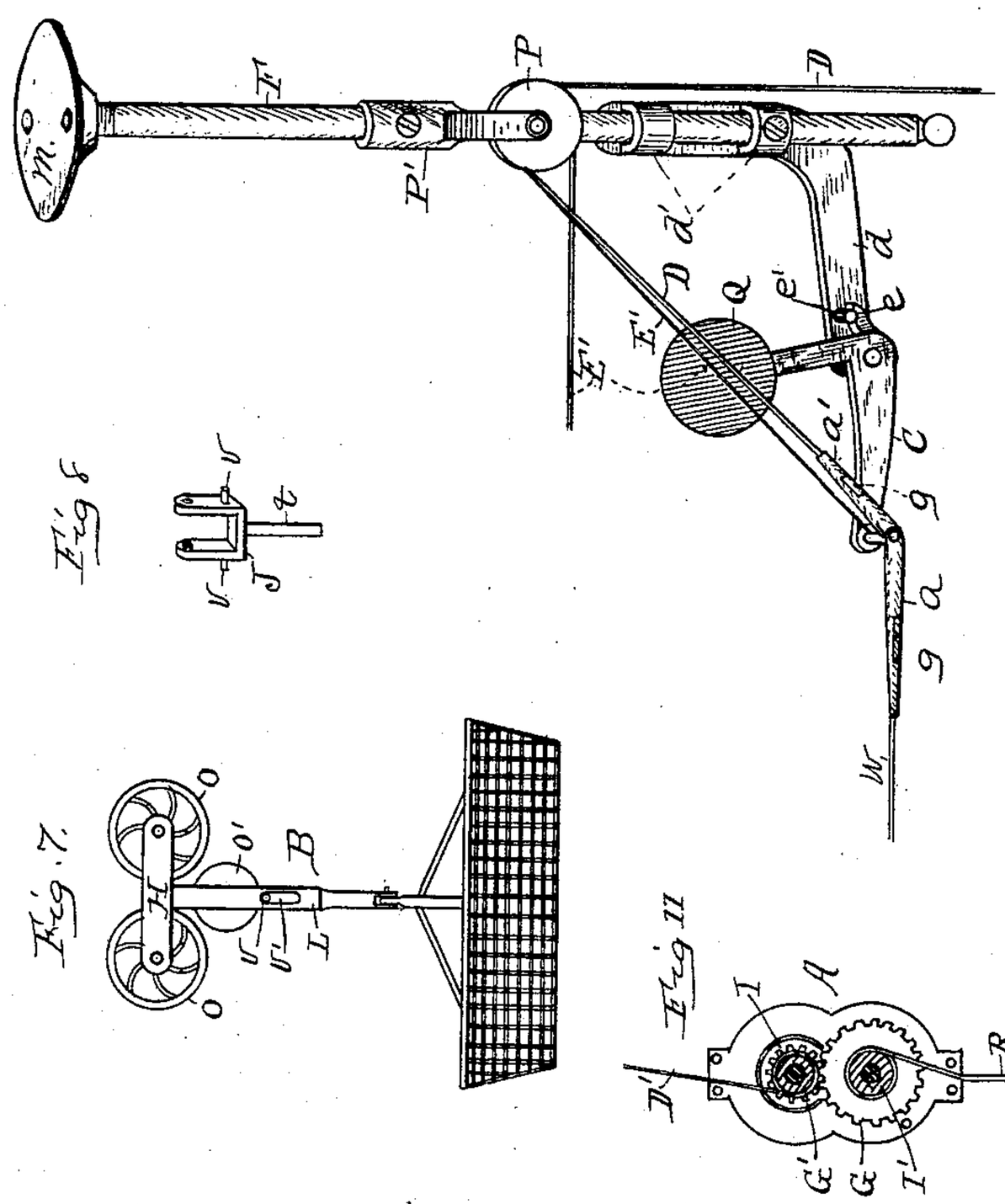

Fig. 4.

Fig. 5.

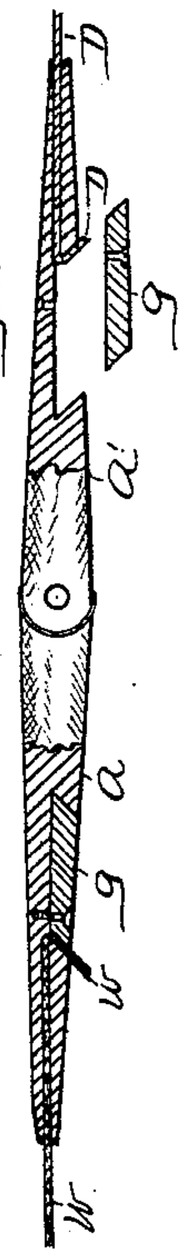

Fig. 6.

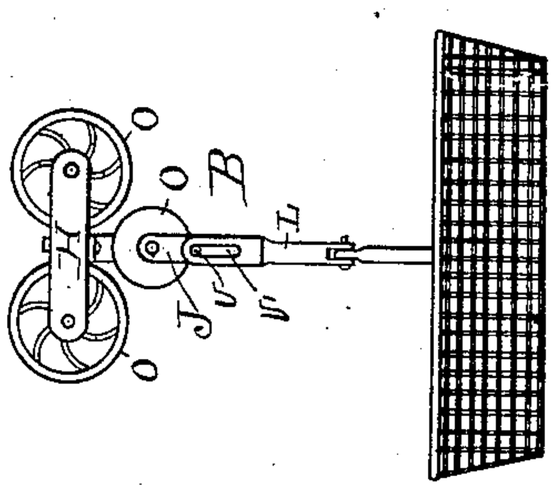

Fig. 7.

Fig. 8.

Fig. 9.

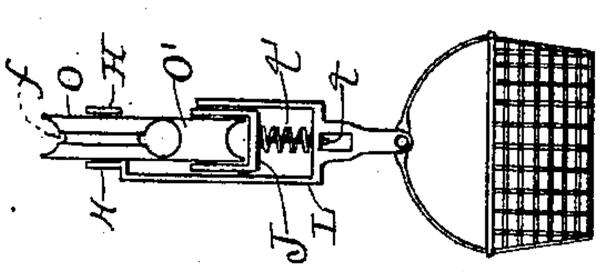

Fig. 10.

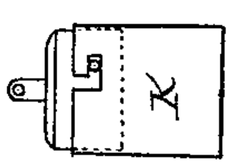

Fig. 11.

Witnesses
N. B. Hagin
T. H. Poore.

Inventor.
John J. Crist.
By Wm J. Hutchins
atty.

UNITED STATES PATENT OFFICE.

JOHN J. CRIST, OF WICHITA, KANSAS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 481,346, dated August 23, 1892.

Application filed October 19, 1891. Serial No. 409,146. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. CRIST, a citizen of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Cash and Parcel Carrier Systems, of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a side elevation of the carrier apparatus; Fig. 2, a detailed plan of the track-wire and immediate parts of the apparatus; Fig. 3, a perspective elevation of one end portion of the apparatus; Fig. 4, a detailed plan of one track-supporting arm, of the track-tilting arm thereof, and of a portion of the track and operating-cord pivotally connected to said latter arm; Fig. 5, a detailed section of the intersecting joint of the track and operating-cord, by means of which the said track and cord are connected with the track-tilting arm, showing the manner in which the said track and cord are attached to said joint. Figs. 6 and 7 are side elevations of the carriage of the apparatus; Fig. 8, a detailed perspective of the yielding sheave-frame of the apparatus carriage; Fig. 9, a front elevation of the same; Fig. 10, a similar view of a cash-box for use in place of a carrying-basket when parcels are not desired to be carried, and Fig. 11 a sectional elevation of the winding devices for elevating and lowering the carriage at one end of the carrier-track.

This invention relates to certain improvements in a cash and parcel carrier apparatus for use in stores for transferring cash and parcels from a sales-counter to a cashier's desk, where proper change may be made and the goods or parcels properly wrapped and returned to the salesman for delivery to the purchaser; and it consists, essentially, in a single-track line and of certain construction and arrangement of parts for supporting said line-track and tilting it to incline in either direction to cause a carriage thereon to travel in either direction of its length, which improvements are fully set forth and explained in the following specification and pointed out in the claims.

Referring to the drawings, *m* and *m'* represent a pair of oppositely-arranged wall-plates, (shown as secured to a store-wall,) one above a sales-counter and one above a cashier's desk and parcel-wrapping department.

F and F' are bars, preferably round, fixed at their upper ends in said wall-plates and depending one from each plate.

d d represent arms for supporting the pivotal track-tilting arms, and are each provided with an upright portion having boxes *d'* and are sleeved by means of said boxes, one on each bar F F', with their said arms extending horizontally and toward each other, and are adjustably held into operative position by means of set-screws, a screw in one box of each arm.

c and *c* represent the track supporting and tilting arms, one pivotally connected to the extending arm *d*, and each having pivotally attached to its extending end the two parts *a* and *a'* of the track-terminal joints, as shown.

w represents the track-line, and is connected at each end with a part *a* of said joints in the manner shown in Fig. 5, wherein said part *a* is recessed on its lower side and centrally bored from its end into said recess and is fitted in said recess with a block *g*, held by means of a screw. The track-line, which is preferably of wire, is threaded with its end through said bore and is bent from the recess into hook form, and when in such position the block *g* is placed and secured, which firmly clamps the wire end, and thus makes such attachment, which attachment is made alike at each end of the track-line.

P and P represent a pair of oppositely-arranged pulleys, each fixed on a shaft or pin of a vertically-adjustable frame P', which frames are each provided with a box, by means of which they are sleeved on their respective bar F and F' above arms *d* and held by means of set-screws through said boxes, as shown.

D represents a pull-cord at the cashier's desk, made with a pull or handle on its depending end, and is arranged extending up and about the pulley P above at that station,

and from thence extends down and connects with arm or part a' of the track-line joint in like manner as does the track make its attachment. At the opposite station a cord D' is arranged, passing up and about the pulley P and thence down and attaches to part a' of the track-joint at that end of the track and below it extends down and attaches to and is adapted to be wound upon a winding-drum I of a winding apparatus A. (See Figs. 1 and 11.) Said apparatus is provided, also, with a second winding-drum I' below the one formerly named, which two drums are provided on their shafts adjacent one side of its frame with a pair of spur gear-wheels G and G', the latter of which being largest in diameter and provided on its shaft outside the frame with a hand-crank y for operating the said gears and drums, and by reason of the difference in diameter of said gears the upper drum is revolved by turning the hand-crank faster than the lower one. The reason cord D' is attached to said winding-drum is that when the track is inclined, as represented in Fig. 1, and a carriage B traveling down the incline reaches the terminal joint it passes on over said joint and upon said cord, the weight of which causes the cord to automatically unwind from the drum, which has before served as a store for it, and lowers or permits the carriage to lower to rest upon a counter, as represented by dotted lines in said figure, and to prevent such unwinding being too rapid, permitting the carriage to strike a counter with too great force, a cord R is attached to the lower winding-drum and depends therefrom and has secured to its lower end a weight R', which serves as a counter-weight to the carriage, winding its cord as cord D' unwinds and unwinding its cord when cord D' winds about its drum, which occurs when the hand-crank y is turned to operate the drums for such purpose, which action raises the carriage to and starts it upon the track-line w.

To prevent the winding apparatus from operation when not desired, I have provided a laterally-sliding bolt n, (see Fig. 1,) which has a side extending handle, which may be grasped and by it move the bolt forward, so that its end will form a stop to hold the crank. This slide is like unto an ordinary sliding bolt attached to the apparatus frame, and, being of such common construction, requires no further description or illustration, as it only serves as a stop, and any well-known stop may be used as well.

At the sales-counter station the pulley-frame P' is made double—that is, having a pulley pin or shaft for support of a pulley at each side of bar F'—and on the opposite side of said bar from pulley P is a pulley P'', (see Fig. 2,) and about this pulley is arranged a cord E, having one end extending down and attached to the outer end of arm C and its opposite end extended to and about a wall-pulley z above the cash-counter station, from which it depends, and is there provided with a pull or handle for grasping to pull the cord.

The pulley P at the cash-station is made with a double groove (see Fig. 2) and has arranged about it in one groove a cord E', having one end extending down and attached either to the extending end of arm C at that station or spliced with cord D, and with its opposite end extending to and about a wall-pulley z' above the sales-station, from which it depends, and is there provided with a pull or handle for pulling the cord.

The bars F and F' each have a wall-brace, (shown at N and N',) which are each provided in their construction with a turnbuckle and are for the purpose of bracing said bars and adjusting their depending ends so they will be a proper distance apart to accommodate the track-line.

The carriage of the apparatus consists of a depending frame part L, which has two oppositely-arranged side parts, each part being slotted, as shown at v', and a double cross-head, as shown at H. Between the ends of the double cross-heads is journaled a pair of traveling sheaves o o, as shown, which are each provided with a sub-groove f, (see Fig. 9,) made to fit the track w, which wheels or sheaves ride upon the track. Below said sheaves is a third sheave o', journaled in an adjustable housing or frame J, which is made with two oppositely-arranged lugs v v, arranged in the frame-slots v' v', and serve as guides to vertical movement of frame J; also, said frame J is provided with a depending shank t, arranged at its lower portion in a hole of frame L, and has sleeved upon it between said two frames a coil-spring t', (see Fig. 9,) which yieldingly holds the sheave up for the purpose of a guide to prevent sheaves o o from leaving the track during travel and is made yielding for the purpose of accommodating the position of sheave o' to different widths of track, especially the terminal joints a a', which are of greater dimensions than other portions of the track and over which the carriage must pass.

In ordinary service the carriage is provided with a parcel and cash carrying basket attached thereto, as shown in Figs. 6, 7, and 9; but in service where it is not desired to carry parcels said basket may be detached and in place thereof a cash-box used, as shown at K in Fig. 10.

When the cashier's desk in a store is at an elevation, as shown in Fig. 1, it becomes necessary to put up the track w at a height sufficient to cause the carriage to come in above said desk or counter, and therefore it becomes necessary to provide the winding apparatus A at the sales-station, in order that the proper amount of cord D' may be held in readiness to permit the carriage to lower when it comes in at that station; but where the sales-counter and cashier's desk or counter are arranged on a level the winding apparatus A may be dis-

pensed with, as then the track may be arranged at a height accessible to a person standing on the floor, when each pull-cord D and D′ will be of a length corresponding with that shown above the cashier's station in Fig. 1, and in such instance it will not be necessary for the carriage to lower, but remain on the track at all times. In this construction the track supporting and tilting arms *c* are arranged in such manner that when one is in a horizontal position the opposite one will be in a vertical position, and thus as arms *d* are arranged on a level the track *w* will be inclined, so that a carriage thereon will travel from one station to the opposite station. Such position is shown in Fig. 1, which is attained by pulling down on cord D, which has raised arm *c* at that end and pulled down the arm *c* at opposite station, which directs the travel of the carriage from the cashier's desk to the sales-counter. When it is desired to reverse the incline of track *w*, the cord D′ is pulled, which will raise arm *c* at that station and pull down arm *c* at the opposite station, as shown by dotted lines in Fig. 1. Should it occur that the cashier finds after having dispatched the carriage to the sales-station that he has made some error and desires to rectify such error, and therefore must have the carriage return to him, he pulls down on cord E, which has the same result as when cord D′ is pulled down, and thus the arms *c* are reversed, the track-incline reversed, and the direction of travel of the carriage changed, causing the carriage to return to him. For a like purpose and in like manner cord E is manipulated by the salesman.

As a means of holding the arms *c c* in an upright position against the weight of a carriage B upon the track-line *w* I have provided said arms with supplemental weighted arms Q, as shown, which when arms *c* are in an upright position extend horizontally toward bars F F′, respectively, and when arms *c* are extended horizontally said weights are brought up and past their center of pivot and serve to hold the arms into such position, and to prevent contact with the stop-pins *e′* the weight-arms are arranged off from arms *d*, as shown.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is as follows:

1. In the cash and parcel carrier apparatus described, the combination of the depending bars, the horizontally-extending and vertically-adjustable arms supported by said bars at opposite stations, the weighted track supporting and tilting arms pivotally connected with said former arms, the track-wire pivotally connected to and supported by said pivoted arms, and the cords and pulley mechanism for operating said pivoted track-supporting arms simultaneously for inclining the track in either direction, substantially as set forth.

2. In the carrier apparatus described, the combination, with the depending bars fixed to the wall or other support and the adjustable braces thereof, of the horizontally-extending arms respectively provided with upright portions having boxes sleeved upon the bars and adjustably held thereon by means of set-screws, the weighted track supporting and tilting arms respectively pivoted to said horizontal arms, the track-wire provided at its terminals with jointed sections pivotally connected to the swinging end of said pivoted arms, the cord-pulleys provided with supporting-frames adjustably attached to said bars above said arms, the cords attached to said track-joint sections, arranged about said pulleys, and depending therefrom for operating said pivoted arms to incline the track at each station, and the cords connecting said pivoted arms, passing about pulleys, and extending to the opposite station from such connection for reversing the inclination of the track by means of reversing the position of said pivoted arms, substantially as and for the purpose set forth.

3. In store-service apparatus, the combination of depending hangers or supports at the stations, oppositely-arranged bell-crank levers pivotally connected to said supports, said levers being provided with laterally-projecting studs or pins on their forwardly-extending arms, stop-lugs adjacent to their pivots adapted to engage stops on the supports and weights on their rearward arms, jointed arms pivoted on the laterally-extending pins, a track-wire attached to the jointed arms, cords connected to the levers to reversely incline the track-wire, and pulleys over which the operating-cords are passed, all substantially as described.

4. In the carrier-apparatus system described, the combination, with the cord for operating the pivoted track supporting and tilting arms, and for lowering and raising a carriage, of the cord-winding apparatus consisting of a frame, a pair of winding-drums geared together, a crank for rotating the drums, whereby a cord connected therewith is adapted to be wound upon one of said drums when raising a carriage, and a counter-weight connected by means of a winding-cord with the fellow drum, said weight-cord being arranged to wind on its drum reversely from the former cord, substantially as and for the purpose set forth.

5. In store-service apparatus, the combination of the oppositely-arranged bell-crank levers pivoted to suitable supports, jointed arms *a* and *a′*, pivoted to said bell-crank levers and provided with longitudinally-extending bores, a track-wire secured in the bores to the arms *a*, and the operating-cords similarly secured in the bores to the arms *a′*, all substantially as described.

6. In the carrier apparatus described, the carriage thereof provided with two upright

side portions respectively having vertical slots, in combination with a secondary frame arranged between said upright parts, provided with side studs extending, respectively, into said slots, a downwardly-extending shank projecting into a hole in the carriage-frame, a wheel or roller, and a coiled spring surrounding said shank for yieldingly supporting said secondary frame within the carriage-frame, substantially as and for the purpose set forth.

JOHN J. CRIST.

Witnesses:
WM. J. HUTCHINS,
N. B. HAGIN.