

UNITED STATES PATENT OFFICE.

JOHN J. CRIST, OF WICHITA, KANSAS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 794,216, dated July 11, 1905.

Application filed August 16, 1904. Serial No. 220,936.

To all whom it may concern:

Be it known that I, JOHN J. CRIST, a resident of Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Store-Service Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved store-service apparatus, the object of the invention being to provide improvements of this character of simple inexpensive construction, easy to operate, perfect in operation, and strong and durable in use.

With these and other objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, illustrating my improvements. Fig. 2 is a view in cross-section on the line *xx* thereof. Figs. 3, 4, 5, 6, 7, and 8 are views of various details of construction. Fig. 9 is a plan view of the devices at station A.

A and B represent the stations from which the car or carrier is to move. At station B vertical parallel rods 1 are secured to the ceiling or other support, have connecting-braces 2, and are braced by wires 3, secured at one end to the ceiling and at their other or lower ends with a double eyebolt 4, passed through a lug at the lower end of the rods 1 and secured by a set-nut 5 to adjust the tension of the wires 3 to exact position and hold the rods 1.

A grooved wheel 6 is mounted to move vertically between rods 1 and its movement is limited by two of the rod-braces 2. This roller turns upon a shaft 7, carried by a bifurcated bracket 8 and having a track connection 9 pivoted thereto at its end. This track connection is connected by a track-wire 10 with another track connection at the station A. This latter track connection at station A is pivoted to a bracket 11, and a car-receiving rope or cable 12 is connected at one end to

connection 9 and at its other end with a sleeve 13, mounted to turn on a cross-rod 14, and a hand-lever 15 is provided on said sleeve 13 to turn the same to raise track-section 12 and eject the car therefrom.

To the inner end of track connection 9 at station B a car-receiving rope 16 is secured, has a looped portion to receive the car, and extends upward through a spring-held plunger 17, over a pulley 18 at the upper ends of rod 1, and is secured to a drum 19.

The plunger 17 is mounted in a cup 20, secured to bracket 8, and contains a coiled spring 21, bearing downward against the head of plunger 17. So long as there is no upward pull directly on the plunger the latter remains in its normal position. When, however, the bracket 8 reaches the limit of its upward movement, a continued pull on rope 29 straightens out the rope 16, thus elevating the plunger 17. As soon as the pull is relaxed, the spring bearing on the plunger forces the latter downwardly, where it remains until again extended by repeating the operation. This spring-plunger prevents the car being ejected from rope 16 until the bracket 8 is drawn to its highest position, when a continued pull on the rope will draw upward the plunger 17 and rope to the position shown in dotted lines in Fig. 1 to eject the car.

The drum 19 is located beside another drum 22, and both are loose on a shaft 23, supported in arms 24, projecting to the rear of rods 1.

A gear 25 is secured to the hub of drum 19 at one side and is in mesh with a gear 26, carried by a keeper 27, secured on shaft 23, and receives motion from an internal gear 28, secured in drum 22, and a hoisting-rope 29 is secured to this drum 22, and it will be seen that by pulling down on rope 29 drum 22 will be turned and through the medium of the gearing the movement of drum 19 will be multiplied, hence requiring but a slight movement of rope 29 to wind the rope 16 on drum 19.

Drum 19 is hollow and has a clock-spring 30 secured at one end thereto, the other end of said spring being secured to a sleeve 31, loose on the shaft 23 and connected by a ratchet-clutch 32 with the shaft, said clutch

32 being keyed to the shaft and having a spring 33 behind the same to insure its constant engagement with the sleeve 31.

When the bracket 8 falls, the drum 19 is turned by the unwinding of rope 16 and spring 30 winds on sleeve 31 to cushion the drop, and after the bracket has fallen to its lowest position the ratchet-clutch 32 will permit the spring to unwind ready for the next fall.

The car 34 comprises two rollers supported in a frame and from which the basket is suspended and may be constructed in various ways.

A great many slight changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence I would have it understood that I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus of the character described, the combination with a car-receiving rope, of a drum to which said rope is secured, a hoisting-rope, a drum on which said hoisting-rope is secured, and means between said drums for multiplying the movement of the first-mentioned drum when the last-mentioned drum is turned.

2. In an apparatus of the character described, the combination with a car-receiving rope, of a hoisting-rope, drums on which said ropes are wound, and gearing between said drums multiplying the movement of one to the other.

3. In an apparatus of the character described, the combination with a car-receiving rope, of a drum for winding the same thereon, a spring to counterbalance the car as the car-receiving rope unwinds, and a ratchet-clutch

associated with said drum and spring to release said spring when the car reaches the lower end of its vertical movement.

4. In an apparatus of the character described, the combination with a car-receiving rope, of a spring-held plunger engaging said rope and tending normally to hold the rope in a position to receive and retain the car thereon.

5. In an apparatus of the character described, the combination with vertical parallel rods, a roller movable vertically between said rods, a bracket carrying said roller and connected with one end of the track, a car-receiving rope connected with a track-section, a drum to wind said rope thereon, a spring-held plunger through which the rope is passed, and means for turning said drum.

6. In an apparatus of the character described, the combination with a cross-rod, a sleeve mounted to turn thereon, a car-receiving rope connected with said sleeve, and a hand-lever on the sleeve to turn the same to eject the car from the rope onto the track.

7. In an apparatus of the character described, the combination with a shaft, of two drums loose thereon, a gear on the hub of one drum, an internal gear in the other drum, a gear for transmitting motion from the internal gear to the hub-gear, a hoist-rope connected with the drum having the internal gear, and a car-receiving rope connected with the drum having the hub-gear, said gears so proportioned as to compel the turning of the hoist-rope drum to be multiplied on the car-receiving-rope drum.

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

JOHN J. CRIST.

Witnesses:

WM. C. HERSHBERGER,
V. H. YOUNG.