

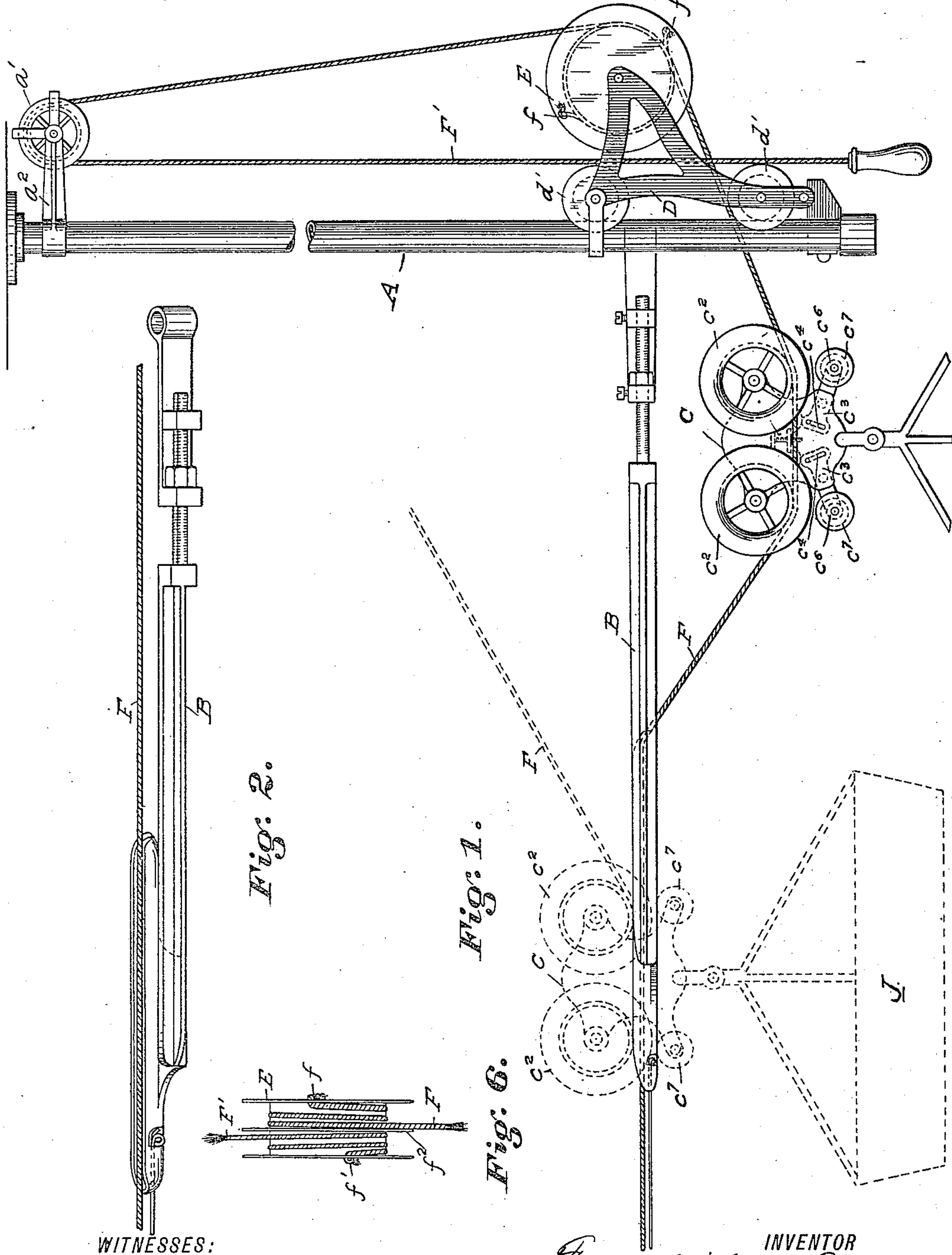
(No Model.)

2 Sheets—Sheet 1.

F. M. DUNN & J. F. WALTERS.
STORE SERVICE APPARATUS.

No. 442,869.

Patented Dec. 16. 1890.



WITNESSES:

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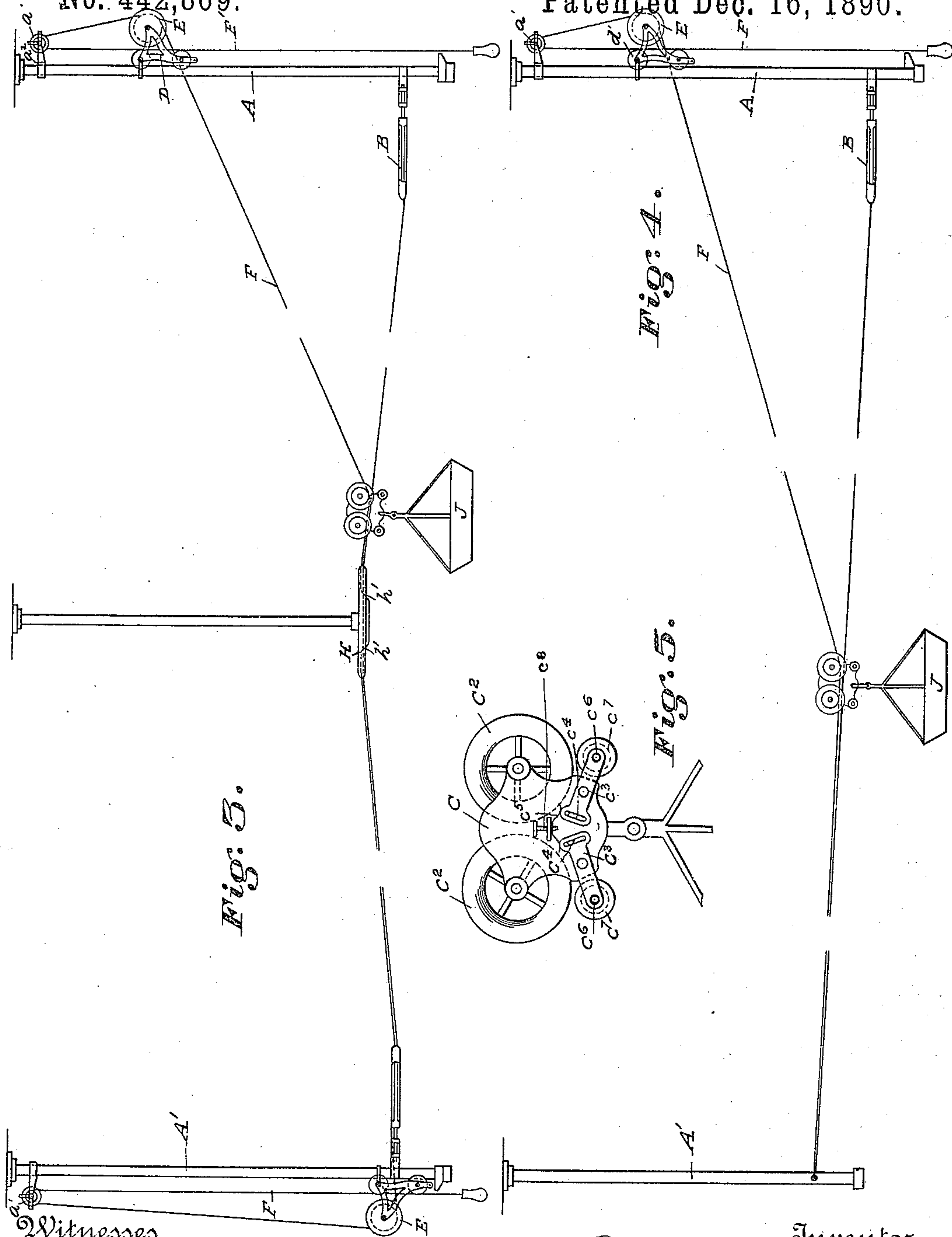
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Witnesses
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UNITED STATES PATENT OFFICE.

FRANKLIN M. DUNN AND JOHN F. WALTERS, OF BALTIMORE, MARYLAND,
ASSIGNORS TO THE MERCHANTS STORE SERVICE COMPANY, OF SAME
PLACE.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 442,869, dated December 16, 1890.

Application filed April 18, 1890. Serial No. 348,525. (No model.)

To all whom it may concern:

Be it known that we, FRANKLIN M. DUNN and JOHN F. WALTERS, both of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a full description.

Figure 1 of the drawings shows a side view of a store-service apparatus upon which our improvements are illustrated; Fig. 2, a portion of the end of the track and part of the impelling-rope. Fig. 3 shows a track provided with a bridge for long-distance service. Fig. 4 shows our improvements at work upon a stationary inclined track; Fig. 5, a view of a carriage with our improvements thereon; Fig. 6, a view of the drum and manner of winding the cord thereon.

Viewing Fig. 1, A is a hanger, which may depend from the ceiling.

B is the end of an inclined track secured by any suitable means to the upright A.

C is a carriage, to be propelled along the track in the manner hereinafter described.

At the upper end of the hanger or post A is suitably journaled the pulley a' . As shown in the drawings, it is journaled in a bracket a^2 , attached to the post.

A sliding frame, as D, may be provided with the grooved pulleys d' , or otherwise suitably arranged to slide up and down on the post or upright A. To this frame is journaled a drum or pulley E. The lower end of the track is secured to the upright A, and upon this end the carriage is received when hoisted thereon by the impelling-rope, and from thence the track inclines upwardly to its discharging end.

F is the impelling-rope, which extends along the inclined track and is suitably secured at its other end. As shown in Fig. 4, it is attached to a similar post A' , so that the entire course of the carriage when impelled is uphill. This impelling-rope passes under the carriage or under suitable wheels journaled thereon, then around the drum E, and its end is secured to a suitable part of said drum, as shown at f . This impelling-rope may have one or more convolutions upon the drum.

F is a rope or cord, also wound around the drum with one or more convolutions, and has

its end fastened to a suitable part of the drum, as shown at f' . It then passes up over and around the pulley a' , and hangs so as to be within easy reach of an operator. This rope is wound upon the drum, so that when pulled by the operator it will turn the drum in a direction to tighten the impelling-rope F.

Fig. 6 shows an edge view of the drum and cords wound thereon. As shown in this figure, it is provided with the partition f^2 , and the cords F and F' are wound upon either side of this partition. Thus by pulling the cord F' the drum E slides upon the post A, and this operation causes the drum to turn and tighten the impelling-rope F. This drum, however, does not perform the function of keeping or retaining the carriage in any given position on the track, because as it is moved by the same force which actuates the impelling-rope it is both lifted and dropped therewith when the impelling-rope is pulled or released. A basket J or other receptacle for goods or cash is ordinarily suspended from the carriage, as shown.

Another way of arranging the rope on the drum would be to make the impelling-rope F and the hoisting-rope F' continuous and to wind the same around the drum with sufficient convolutions to prevent slipping. Thus when the rope is pulled the operation of tightening the impelling-rope and lifting the drum would be the same; but we prefer the method of winding and fastening the ends as just described.

It will be seen from the above description that this invention relates to improvements in that class of apparatus in which the position of the track is never changed, is always fixed, and the carriage is impelled throughout the length of the track by an impelling-rope which changes its angle of inclination as the carriage moves along the track—such, for example, as was patented to George W. Price on the 12th day of October, 1886, No. 350,501.

We have also made certain improvements in the carriage adapted to be used in this class of apparatus. Viewing Fig. 5, the carriage proper C consists of a suitable frame-work, whereon are journaled the grooved wheels c^2

c^2 . The grooves are provided to give a firm seat upon the track whereon they run and prevent them from jumping off. Upon this frame-work are also pivoted the arms c^3 c^3 .
 5 These arms are slotted, as shown at c^4 c^4 , and the frame is provided with a pin which enters the slot and allows a limited movement of the arms c^3 . Normally they are held up to the top limit of their movement by the spring
 10 c^5 . Upon the ends of these arms are the sleeves c^6 , (shown in dotted lines,) which are loosely journaled thereon to diminish friction, and are provided on the outside with the wide flanges c^7 .
 15 C^8 is a screw which bears upon the springs c^5 for adjusting the arms c^3 . It will be seen by this arrangement that the arms are independent of each other, allowing either one to be moved without affecting the other. The
 20 object of this arrangement is easily seen. When the carriage is hoisted along the track, an abrupt pull upon the impelling-rope or from some other cause it may be temporarily lifted from the track, the sleeve c^6 comes in
 25 contact therewith and prevents the carriage from leaving the track until it falls into position. At the same time the flanges c^7 furnish an additional security, and by having a movement independent of each other one or both
 30 may be operated to take the carriage off or to restore it to place when desired.

For store-service systems, where long distances are required, we place about midway of the track the bridge H, which is perforated
 35 with the holes h' . In such cases both ends of the impelling-rope are arranged as shown in Fig. 1, and this rope forms one continuous cord lying along the upper side of the track and passing through the apertures h' h' in
 40 the bridge H.

What we claim, and desire to secure by Letters Patent, is—

1. In a store-service apparatus, a stationary

track and carriage, in combination with a rope for hoisting and impelling the carriage 45 upon the track, a vertically-sliding drum around which the impelling-rope is wound, and means for hoisting and lowering the impelling-rope and drum simultaneously.

2. In a store-service apparatus, a track and 50 carriage, in combination with a rope for impelling the carriage along the track, a vertically-sliding drum around which the impelling-rope is wound and fastened, and a hoisting-rope wound upon the drum in an opposite 55 direction to revolve the drum and tighten the impelling-rope when pulled to hoist the impelling-rope and drum.

3. In a store-service apparatus, a stationary track secured at both ends, its receiving end 60 lower than its discharging end, in combination with a carriage impelled thereon up the inclined track by a rope or cord which passes under the carriage or under suitable wheels 65 attached thereto, a vertically-movable drum around which the impelling-rope is wound, and means within reach of the operator for hoisting and lowering the drum and impelling-rope simultaneously.

4. In a store-service apparatus, a stationary 70 track provided with a bridge located between the receiving and discharging end of the track, the track inclined upwardly to the bridge from both sides and fixed in position, in combination with a carriage and impelling-ropes 75 operated from each end of the track and passing under the carriage-wheels journaled thereon, whereby the carriage is impelled in either direction to the bridge and descends upon the other side by gravity.

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