

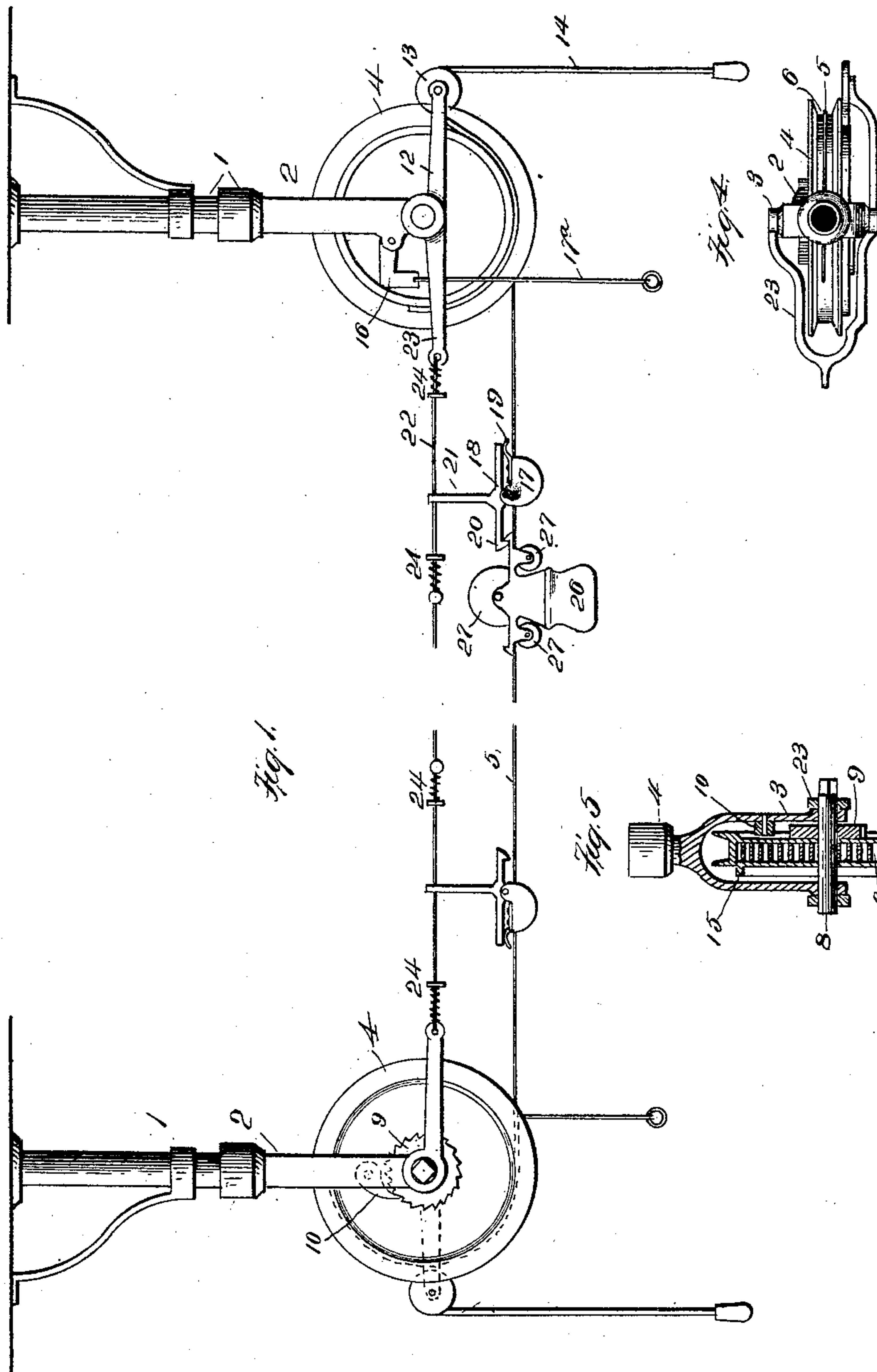
(No Model.)

2 Sheets—Sheet 1.

J. H. GOODFELLOW.
STORE SERVICE APPARATUS.

No. 479,504.

Patented July 26, 1892.



Witnesses
F. R. Cornwall
J. B. Hunt.

Inventor,
John H. Goodfellow,
by J. S. Ruck,
att'y.

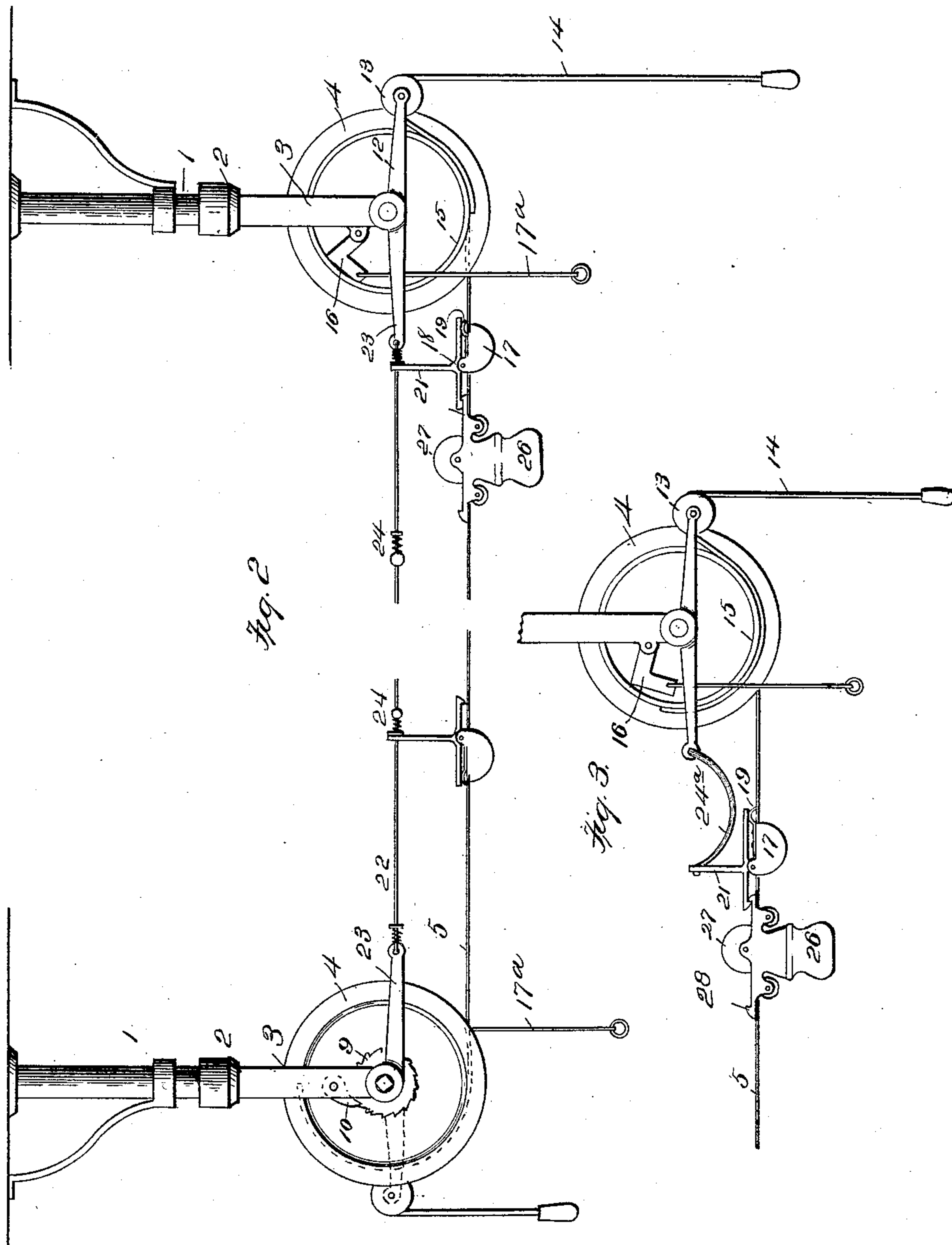
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F. P. Corzwall.
J. B. Hunt.

Governor.
 John A. Goddell,
 by J. J. Rust,
 Atty.

UNITED STATES PATENT OFFICE.

JOHN H. GOODFELLOW, OF LANSINGBURG, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE LAMSON CONSOLIDATED STORE SERVICE COMPANY, OF NEW JERSEY.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 479,504, dated July 26, 1892.

Application filed October 17, 1889. Serial No. 327,386. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GOODFELLOW, a citizen of the United States, residing at Lansingburg, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Store-Service Apparatus, fully set forth in the following description, and represented in the accompanying drawings.

My present invention relates to that class of store-service apparatus in which a carrier adapted to carry a package or change is propelled from one station—such as the salesman—to another—such as the cashier—upon a way by means of a starting impulse given to the said carrier, and in the present specification I impart such an impulse to the carrier through the medium of the way by means of two normally - balanced concentrically-mounted spring-pulleys, over the periphery of which the opposite ends of the way pass and are secured, means being provided for destroying the balance of the spring-rollers.

My invention further consists in securing a follower on the way and adapted to contact the carrier, and it also consists in the construction, arrangement, and combination of the several parts of which it is composed, as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, in which corresponding parts are designated by corresponding numerals, Figure 1 is a side elevation of an apparatus constructed in accordance with this invention, the followers being shown in their normal position. Fig. 2 is a view similar to Fig. 1, one of the followers being retracted prior to the propulsion of the carrier from the station at that end of the line to the station at the opposite end. Fig. 3 is a side elevation at one of the devices at one of the stations, a modified form of tripping mechanism for the catch upon the follower being shown therein. Fig. 4 is a plan view of one of the brackets and spring take-up pulleys mounted therein. Fig. 5 is a central transverse vertical section through Fig. 4.

At each station a suitable post 1, either pendent from the ceiling or secured to the

wall or floor, is placed, the said post having upon its ends a bracket 2, provided with the forked arms 3, between which the spring take-up pulley 4 is journaled. The opposite ends of the wire way 5 are passed around the antagonistic pulleys 4 at the opposite stations, the said ends being contained in the groove 6 in the pulleys, to which they are secured. Within each pulley is the coil-spring 7, having its one end secured to the shaft 8 and its opposite end secured to the pulley. The shaft 8, upon which the pulley is free to revolve, passes through the ends of the forks 3 of the bracket and is provided with a squared end, whereby it may be engaged by a wrench for placing the spring under greater tension, thus adding to the force of the pulley. In order to prevent the loosening of the spring, due to a backward rotation of the shaft, the shaft of each pulley has a ratchet-wheel 9 thereon, engaged by a dog 10, pivoted in one of the forks of the corresponding bracket, as is seen to the left in Fig. 1.

Upon the rear end of an arm 12, projecting rearwardly from one of the forks of each bracket, a pulley 13 is mounted, over which a depending pull-cord 14 passes, the end of the cord being brought down and under a flange 15 upon the corresponding spring-pulley, to which flange the end of the cord is secured. It will now be seen that as the direction of the wrapping of the way and cord around each pulley are opposite a pull upon the pull-cord which will unwind the cord from one pulley will wind the way on that pulley and unwind it from the opposite pulley, and in so doing will destroy the balance existing between the springs of the two pulleys, as the spring of one pulley has been weakened in taking up the one end of the way, while the spring of the opposite pulley has been strengthened by the paying out of the opposite portion of the way. Such being the case, it is evident that when the pull upon the cord is released that the springs will throw the way into its normal position, and as it may be sometimes desirable to be able to hold the way out of its normal position I provide a friction-clutch 16, pivoted to one of the forks

of each bracket, the said clutch being adapted to bind upon the inner periphery of the flange 14, when the pulley, first having been rotated by means of the cord, begins to return to its normal position, it being moved into the position shown in Fig. 2, in which position it binds by its friction on the pulley when the latter rotates, while by means of the pull 17^a the operator can pull down the clutch, disengaging the wheels and permitting the springs to return the way to its normal position.

In order to limit the motion of the carrier over the way and to impart the motion of the way thereto, a clip 17 is secured to the said way near each pulley, each of the said clips having pivoted in its forward end a lever 18, the rear end of which is pressed upon by a spring 19 on the clip, while the forward end of the lever has a beveled head 20 adapted to engage the carrier. An arm 21 projects upwardly from the lever 18, to which it is secured, and is perforated to admit the passage of the wire 22, the opposite ends of which are secured to arms 23, projecting forwardly from the forks 3 of the brackets. The said wire 22 is parallel and above the wire way and has placed thereon at an opposite distance from each pulley stop-blocks 24, adapted to strike the arm 21 of the lever, and thus release the carrier.

In Fig. 3 I have shown a modification of the above-described detent mechanism, as in the said figure I have shown a short flexible cord 24^a as connecting the arm 21 of the catch-lever with the arms on the brackets; but it will be seen that when this cord becomes taut, due to the motion of the clip and lever, (which I have called by the generic term "follower,") the lever will be tipped, as in Figs. 1 and 2. The carrier 26 may be of any approved construction and have wheels 27 bearing upon the top and bottom of the way to impart greater steadiness, the ends of the carrier being provided with projections 28 to engage the beveled heads upon the pivoted catch-lever.

Such being the construction of my device, its mode of operation is as follows: The several parts being in the position shown in Fig. 1 and the salesman wishing to transmit any article, he draws the depending end of the pull-cord 14 down, thus winding the way upon the pulley at his end of the line. Upon releasing the pull-cord the initial movement of the pulley to return to its normal position will raise the friction-clutch 16 to the position shown in Fig. 2, where it binds, holding the way and pulley against movement. The salesman can then place the articles in the carrier, and when ready draw down upon the cord 17^a, thus disengaging the clutch and wheel and permitting the tension of the spring take-up pulley at the opposite station to move the way back into its normal position. This movement of the way will impart a corre-

sponding movement to the several parts forming the follower, and thus to the carrier in engagement therewith. Upon the follower reaching the limit of its motion the above-described detent mechanism will throw up the forward end of the lever 21 and liberate the carrier, which by the momentum imparted thereto will roll to the opposite end of the way when the beveled head of the catch-lever of the follower will ride over the projections 28, and engaging the carrier will prevent the rebound thereof, the extensible character of the way to which the follower, of which the catch is a part, preventing injurious jars from the too sudden stopping of the carrier. The above-described operation may be now repeated at pleasure.

It will be evident that if a steady pull upon the cord 14 is retained all the time the way is withdrawn the clutch 17^a need not be used.

Having thus described my invention, what I claim is—

1. In a store-service apparatus, the combination, with two normally-balanced spring-pulleys, one at each station, the said pulleys being concentrically mounted upon fixed supports, of a wireway extending from station to station and passing around the periphery of the said pulleys to which it is attached, a carrier mounted upon the said way, and means whereby the said way may be wound upon one of the said pulleys against the tension of the opposite pulley, substantially as described.

2. In a store-service apparatus, the combination, with two antagonistic spring-pulleys, one at each station, of a way extending therebetween and passing over and secured to the said pulleys, a carrier moving on the said way, a follower secured to the way near each end thereof and having a catch adapted to engage the said carrier, means for winding the way upon one of the said pulleys against the tension of the opposite pulley, and detents adapted to trip the catch of the said followers upon the way resuming its normal position, substantially as described.

3. In a store-service apparatus, the combination, with two antagonistic spring-pulleys, one at each station, of a way extending therebetween and passing over and secured to the said pulleys, a carrier moving on the way, a follower secured to the way near each end thereof and having a latch adapted to engage the said carrier, a pull-cord passing around each of the said pulleys in directions opposite to that of the cable, a clutch adapted to engage each of the pulleys, and a detent adapted to disengage the latch on each follower from the carrier upon the follower reaching the forward limit of its movement, substantially as described.

4. In a store-service apparatus, the combination, with the longitudinally-movable way and with a carrier moving thereon, of a clip

secured to the said way, a lever pivoted in the
said clip and having its one arm engaging
the said carrier, and a stop adapted to retract
another arm of the said lever when the way
5 has reached the end of its movement, where-
by the carrier will be disengaged, substan-
tially as described.

In testimony whereof I have set my hand,
this 23d day of September, 1889, in presence
of two witnesses.

JOHN H. GOODFELLOW.

Witnesses:

WM. H. SIMMONS,

C. S. GOODFELLOW.