(No Model.)

# J. H. GOODFELLOW.

## STORE SERVICE APPARATUS.

No. 493,621. Patented Mar. 14, 1893.

Fig. 1.

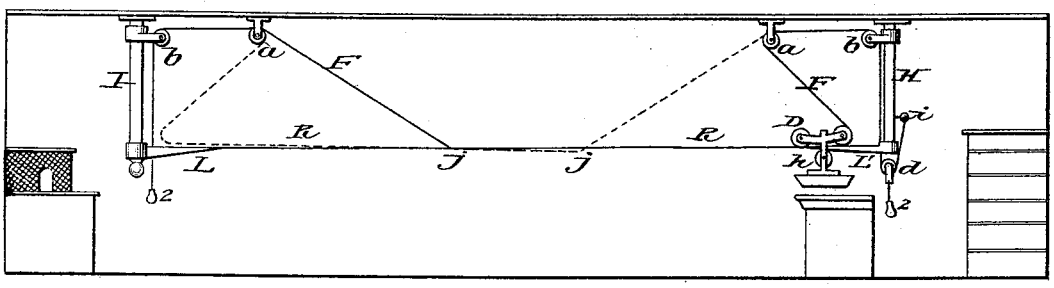



Fig. 2.

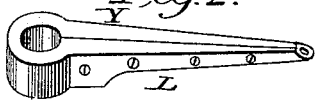
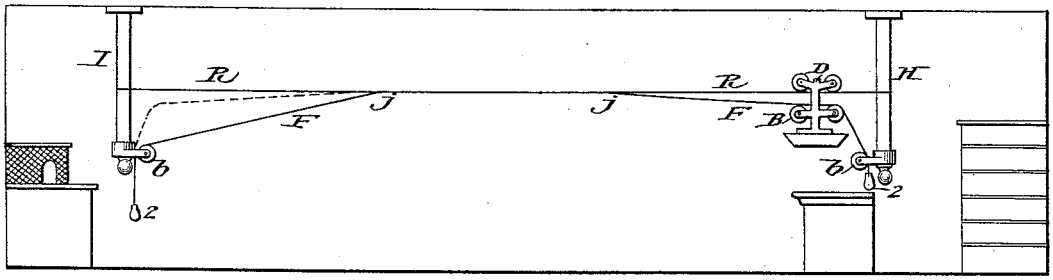



Fig. 3.

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# UNITED STATES PATENT OFFICE.

JOHN H. GOODFELLOW, OF TROY, 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. 493,621, dated March 14, 1893.

Application filed June 4, 1885. Serial No. 167,608. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. GOODFELLOW, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in a Store-Service Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

My invention relates to that class of cash and parcel carrying apparatuses for stores which are used for conveying packages and cash to and from the cashier's desk and clerk's station, and has for its object to provide means for moving the carriers upon the way by force of propulsion or propulsion and gravity, as the case may be, whereby the transmission of cash and purchased articles in stores can be effected with great rapidity and certainty.

With these ends in view I provide a flexible medium or bendable propeller combined with a way or ways and arranged and adapted to engage a carrier to move the same in either or both directions upon the way. Also means for controlling and supporting the outer ends of the propelling device above or below the way; and means for manipulating said propeller at either or both ends of the way or attendant's station. Also the combination of a flexible line or propelling device with the way extending the length thereof to act as an agent to arrest the descent of a carrier in case of the accidental breaking of the way, and means for supporting the terminating ends of the track, and the arrangement of an elongated two-part wedge clamped on the way, the small end thereof adapted to enter the carrier between the wheels thereof, and a yielding rubber wheel carried by the carrier; the details of construction being hereinafter described.

In the drawings, Figure 1 represents a side elevation of a horizontal way apparatus embodying my invention. Fig. 2 is an enlarged perspective view of the elongated wedge; and Fig. 3 shows a side elevation of the application of my propeller to a horizontal way and a carrier thereupon provided with anti-friction wheels to engage the propeller from beneath the way.

The same references indicate the same parts in all the figures.

In the drawings, F represents the bendable propeller which may be a flexible cord or strap, or any equivalent device of any desirable bendable material, and extending along the way for a part or the whole of its length, and attached to or near the way, as at *j*, or at one or more places according to the length of the way. The propeller F extends over suitable supports or pulleys *a* or *b*, above or below the way, at either end or at both ends of the way. And the propeller cord may be secured to the eye screw *i*, and may be provided with the pulley *d*, and weight 2, as shown in Fig. 1.

I represents a suitable support at the cashier's desk and, as shown, may represent a post dependent from the ceiling by any suitable means; and L are elongated wedges or stops permanently fixed thereto. The object of this elongated wedge is to hold the end of the way more rigid, and to support the carrier thereupon at the station, and to prevent the carrier from leaving the wedge without the aid of the propeller which would be borne down into working position upon the wedge for that purpose.

R represents the track, which may be supported in any convenient position. The elongated wedge may be made in two lengthwise pieces and provided with set screws and an internal lengthwise groove, by which means it is fitted to the wire track and by the screws is clamped upon the way at any convenient point where it is desired to have a station. (See Fig. 2.)

*h* represents a rubber wheel carried by the carrier and arranged preferably at a point intermediate of the upper wheels and below the way, with sufficient distance apart vertically to permit of the small end of the elongated wedges L to enter the carrier between the said roller *h* or wheels B and the carrier wheels D. Thus the carrier may be received and re-

tained upon the wedge by friction of the yielding rubber beneath the wedge, and can be removed therefrom by the action of the propeller at the will of the operator. By using the pulley *d*, and weight 2; it will not be necessary to move the operating cord as far as it would be necessary to do were it not used; by which means a considerable slack of the propeller F can be taken up and maintained in a position at an incline or an angle to the way, in which position it is ready to be received by the advance wheel of the carrier. The propeller is borne down, at the same time taking up said slack, thus raising the weight and partly checking the carrier's momentum at the station, although the wedge and rubber roller serve to receive and check and retain the carrier upon the wedge without rebounding; the said wedge further provides a more permanent or rigid support for the carrier.

The propeller F may be secured to the way by any desirable means at any part of the way intermediate of its length, and may act also as a safety guard against the breaking of the way from its terminal supports or intermediately of the length thereof, and may retard or arrest the descent of the carrier in such cases.

The operation of the several parts is as follows: The carrier being in position for use, as shown at the right hand in Fig. 1, the clerk, by pulling down on the weight handle 2 of the cord or propeller F, will first pull the carrier off the wedge and then pull and push it forward until it has reached the junction or fastening *j*, on the track, and if there be a propeller at the opposite end of the way, the carrier wheels bear down that propeller beneath its wheels and again form it into a sling, as shown in dotted lines at the left hand of Fig. 1, thus raising the weight handle up ready for use again to return the carrier by repeating the aforesaid movement. The pulley *d* may engage a suitable stop to prevent its rising beyond a desired limit.

The arrangement of track and propeller devices shown in Fig. 3 is adapted to stores of very low ceilings, in which case the carrier may be provided with anti-friction wheels B, thus enabling the propeller to act to move the carrier from below the way in a similar manner as that described and shown in Fig. 1 acts from above. The wheels B may be mounted on yielding bearings or made of rubber, so as to yield or retreat to a limit when passing upon the aforesaid wedges L, and provide a vertical yielding stop on the wedges and also a guard while passing over irregular thicknesses of any intermediately placed support; the said wheel or wheels may be flat or grooved, the latter being preferable in this arrangement, and the former with Fig. 1. If I use them flat the carrier may be provided with side guides to keep the propeller in position upon the wheels. The wedge may be provided with a longitudinal groove to receive the propelling cord between the wedge and wheels when pressed against the wedge, thus preventing any undue wear upon the propeller. It is also observed that the said propelling device may be combined with and arranged to engage as aforesaid with anti-friction wheels or their equivalent devices carried by the carrier above the way to move the carrier back and forth, or the propeller might be duplicated from end to end, or caused to act on the carrier without having any attachment to the way. The way may be inclined, the propeller acting to force the carrier up the same until it is arrested by the wedge or stop, the carrier being returned partly by the action of the propeller at that end, and partly by gravity. All this may be done without departing from the spirit of my invention.

Having thus described my invention, what I claim is—

1. The combination in a store service apparatus, with a way and a wheeled carrier movable upon the way, of a flexible line extending along the way and adapted to engage with the carrier and propel it along the way by the progessive separation of the flexible line from the way, substantially as set forth.

2. The combination in a store service apparatus, with a way and a wheeled carrier movable upon the way, of a bendable propeller adapted to engage with the carrier and propel it along the way by the progressive separation of the propeller and the way, which carrier resists such separation during such action, substantially as set forth.

3. The combination in a store service apparatus of a wheeled carrier, a way and a propeller leading between the wheels of the carrier, said propeller adapted to engage with the carrier and propel it along the way by the progressive separation of the propeller and way, substantially as set forth.

4. The combination in a store service apparatus, of a wheeled carrier, a way and a propeller loading between the wheels of the carrier, and an operating handle for separating the propeller and way at one end in rear of the wheeled carrier, substantially as set forth.

5. The combination in a store service apparatus, of a way, a wheeled carrier adapted to travel from end to end on said way, a stop for holding the carrier in the position at which it is arrested, and a propeller extending along the way and adapted to engage with the carrier and propel it along the way by the progressive separation of the propeller from the way, substantially as set forth.

6. The combination, with the way of a store service apparatus, of a propeller connected at one end to the way at a point between its termini, and extending over a pulley and downward within reach of the operator, the wheeled carrier traveling upon the way, and a stop for arresting and holding the carrier at the end of the way, substantially as and for the purpose set forth.

7. The combination in a store service apparatus of a way, a propelling cord one end of which is connected thereto between the ends of said way, a guide pulley arranged between the end of the way and the point of connection of said cord, and a carrier traveling upon the way and provided with upper and lower wheels, substantially as described.

8. The combination in a store service apparatus with a way stretched between the clerk's counter and the cashier's desk, of a propeller consisting of a line or cord connected at one end to the way and adapted to be moved from the way at the other end, and a carrier adapted to travel freely from end to end of said way, and provided with upper and lower wheels, substantially as set forth.

9. The combination, with a way stretched between salesman's counter and the cashier's desk, of propellers, each secured at one end to the way and adapted to be moved from the way at their other ends, and a carrier adapted to travel freely from end to end of said way, and stops for holding the carriers after they reach the ends of the way, substantially as set forth.

10. The combination, with the way of a store service apparatus, of a propelling cord or line adapted at one end of the way to be separated therefrom, a wheeled carrier having wheels for the propeller, and a wedge at the end of the way adapted to receive the carrier and to extend between the wheels thereof, substantially as set forth.

11. The combination of the way, a propelling cord or line extending along the way, a wedge secured at one end to a suitable support and at its opposite end secured to and supporting the way, and a carrier moving upon the way the wheels of said carrier being adapted to engage with said wedge, substantially as set forth.

12. The combination of a way and a bendable propeller extending between the cashier's desk and the station, a double wheeled carrier between the wheels of which the said way and propeller extend, and an operating handle and connections at the station, whereby the propeller and way are separated to propel the carrier from said station, substantially as set forth.

13. The combination of the way, a propelling cord or line secured at one end of the way and movable at the opposite end from the way, and a carrier provided with two sets of wheels, one above and the other below the way, substantially as and for the purpose set forth.

14. The combination with a carrier provided with suitable wheels, of a way and a propeller extending between the wheels, stops at the ends of the way for holding the carrier, and mechanism substantially as described for separating the way and the propeller at the sending station and at the rear of the wheels, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have affixed my signature in presence of two witnesses.

JOHN H. GOODFELLOW.

Witnesses:
ISAAC L. TAYLOR,
B. J. MARKWELL.