

(No Model.)

J. H. GOODFELLOW.  
STORE SERVICE APPARATUS.

No. 381,545.

Patented Apr. 24, 1888.

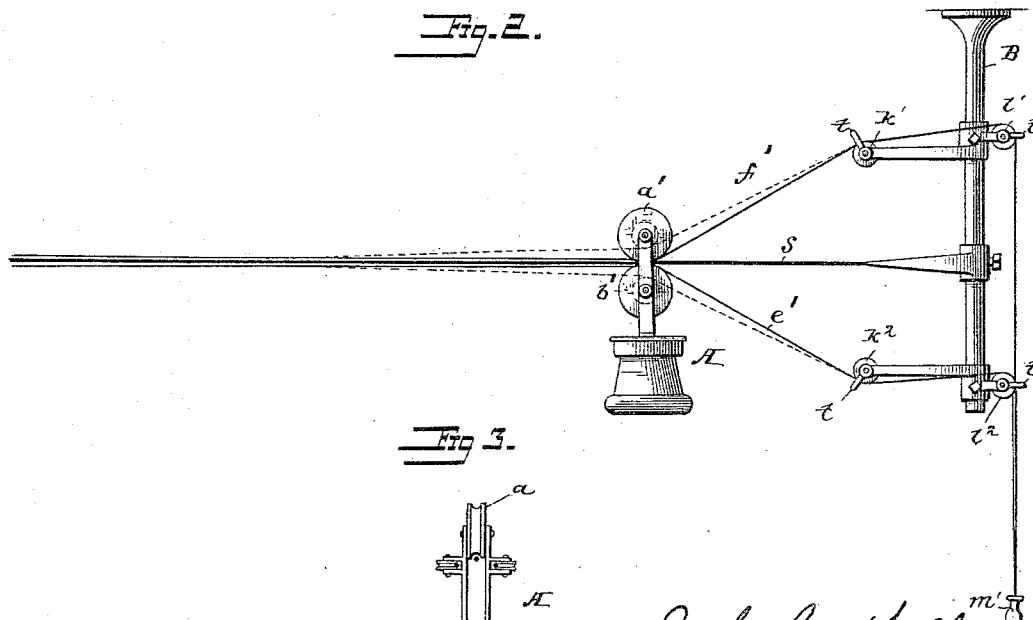
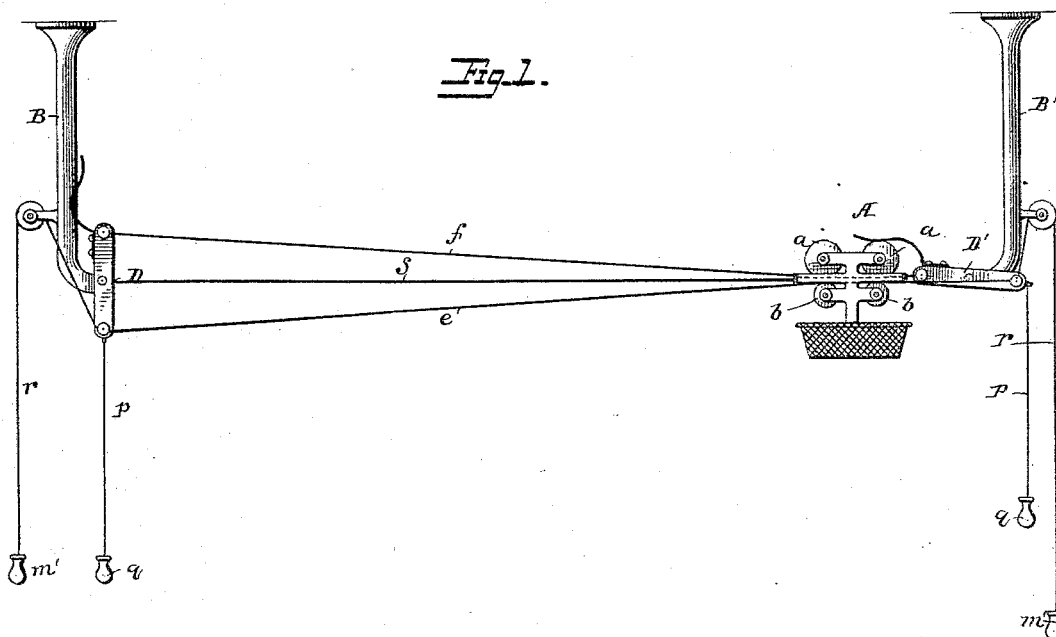
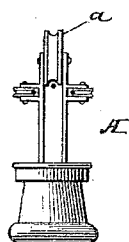


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 381,545, dated April 24, 1888.

Application filed January 27, 1888. Serial No. 262,150. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. GOODFELLOW, a citizen of the United States, and a resident of Troy, Rensselaer county, New York, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following is a specification.

My invention relates to that class of store-service apparatus in which carriers travel back and forth upon tracks between stations; and my invention consists in the combination of a stationary track, two propeller wires or cords, and a carrier having wheels to engage with both propellers, as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of one line of a store-service apparatus embodying my improvements. Fig. 2 is an enlarged elevation at one end of the line, illustrating a different means for operating the propeller-wires. Fig. 3 is a view illustrating a modified construction of carrier.

In the construction shown in Fig. 1 the track or way *S* is shown as consisting of a single wire, although it may be a rod, bar, cable, or otherwise, constructed so as to support the carrier *A*, which may have two sets of wheels, two wheels in each set, as shown in Fig. 1, or two wheels only, one above the other, as shown in Fig. 2, the upper wheels running upon the track *S* between the stations. When the track consists of a wire, it is best supported by hangers or brackets *B B'*. In connection with the track and double-wheel carrier *I* use two propelling cords or wires, *e f*, which pass between the wheels of the carrier, and which are combined with appliances whereby they may be separated and brought together at the opposite ends, or at one end only, when the carrier is to be propelled thereby in one direction only, the separation or spreading of the wires causing them to bear obliquely against the wheels in rear thereof and shoot the carrier forward.

If the wires used for propelling the carrier were also the track or supporting wires for the carrier, they would necessarily have to be of considerable strength and thickness, which would interfere with their flexibility; but by using in connection therewith a separate track, which supports the carrier, I am enabled to

employ very light propelling-wires while driving large or heavily-weighted carriers, while by the use of two propelling-wires simultaneously operating upon the two wheels of the carrier *I* equalize the strain in both directions, so as to prevent the carrier from tilting or binding upon the stationary track.

Different appliances may be employed in connection with the stationary track, and separable propelling-wires for separating the wires either at one or both ends.

In the construction shown in Fig. 1 the propelling-wires *e f* are connected to the opposite ends of centrally-pivoted levers *D D'*, each supported by one of the brackets, and the wire *f* is somewhat shorter than the wire *e*, so that by bringing either of the levers *D D'* to a vertical position the other will be carried to a nearly horizontal position, as shown in the drawings.

If the carrier is in position upon the wires adjacent to the horizontal lever, as *D'*, and the latter is suddenly turned to a vertical position, the two wires at the right of the carrier will be suddenly spread or separated, so as to bear obliquely against the edges of the wheels to force the carrier to the left, this movement being facilitated by the swinging of the lever *D* to a horizontal position, whereby the wires at the left end of the way are brought together, so as not to impede in any way the movement of the carrier. By then swinging the lever *D* to a vertical position a like effect is produced to propel the carrier to the opposite end of the track.

Different means of swinging the levers *D D'* from the stations of the cashier or salesmen of a store may be employed, that shown consisting of two cords, *p r*, provided with operating handles *q m'*, each attached to the lower end of one of the levers, and by pulling upon either of which the adjacent lever may be vibrated to the extent of a quarter of a revolution, the movement imparted to one lever to set it in one position being transferred by the wires to the opposite lever to set it in a position at right angles to the first.

In the construction shown in Fig. 2 the upper wire, *f'*, passes over guide-rolls *k' l'*, and the lower wire, *e'*, beneath a guide-roll, *k''*, and over a guide-roll, *l''*, and the guide-rolls *k' k''*

are provided with guards *t*, to hold the wires in the grooves of the rolls, and are set forward of the end of the line, where the carrier is arrested, so that the wires will be carried inward toward the supporting-bracket B, where by a downward pull upon the operating-handle *m'*, attached to the ends of both wires, will cause the latter to act with a drawing effect until the carrier passes from beneath the roll *k'*, and will then distend the wires and cause them to act obliquely against the carrier-wheels, as before described.

In setting the apparatus in a store it is arranged in the usual manner, with one terminus of the track adjacent to the cashier's desk and the other adjacent to one of the counters of the salesmen, and goods, parcels, and cash, &c., are transferred between the two stations by the manipulation of the wires through the medium of the operating-handles, or their equivalent, whenever the apparatus is set high enough to be out of reach of the direct contact of the hands of the operator.

I do not here claim the levers for operating the propeller-wires shown in Fig. 1, nor setting the wire-supports forward of the station, as shown in Fig. 2, as these constitute the subjects of separate applications for Letters Patent, Serial Nos. 261,890 and 262,152.

The propeller-wires, instead of operating upon the wheel or wheels in contact with the track, may operate upon auxiliary wheels either at the sides of the frame, as shown in dotted lines, Fig. 2, where the auxiliary wheels

are in a vertical plane, or as shown in Fig. 3, where they are in a horizontal plane. In the latter case the lower wheel, *b*, may be dispensed with, and the propeller-wires are stretched laterally instead of being separated in a vertical plane.

Without limiting myself to the precise construction and arrangement of parts set forth, I claim—

1. The combination, in a store-service apparatus, of a stationary track, two separable propeller-wires on opposite sides of the stationary track, and a double-wheeled carrier, substantially as and for the purpose set forth.

2. The combination, in a store-service apparatus, of a stationary track, a carrier traveling thereon provided with two sets of wheels, and flexible propeller-wires upon opposite sides of the track passing between the wheels and separable to propel the carrier, substantially as set forth.

3. The combination of the double-wheeled carrier, a stationary track, two flexible propeller-wires on opposite sides of the track and passing between the wheels, and operating appliances for separating the propeller-wires from the track, substantially as described.

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

JOHN H. GOODFELLOW.

Witnesses:

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