No. 640,127. Patented Dec. 26, 1899.

J. H. GOODFELLOW.

STORE SERVICE APPARATUS.

(Application filed Nov. 23, 1896.)

(No Model.)

Fig. 1.

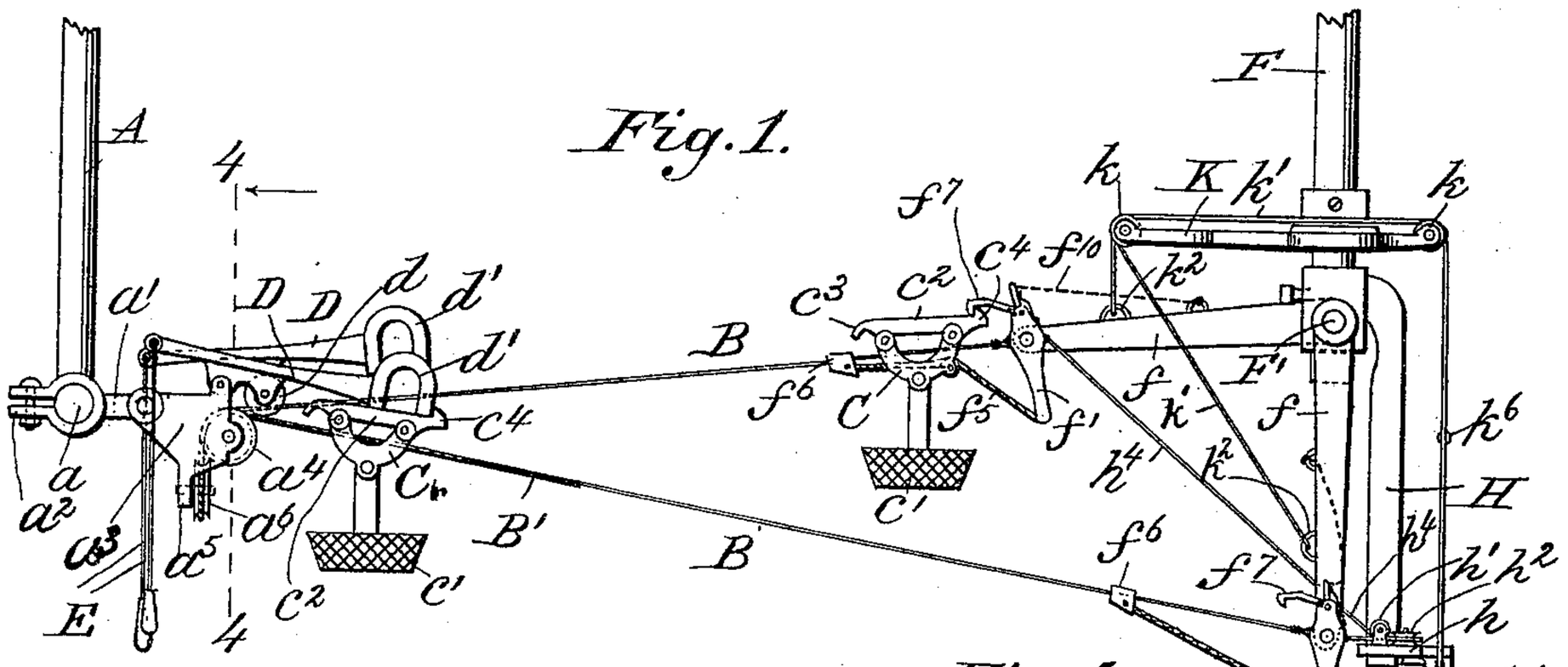


Fig. 4.

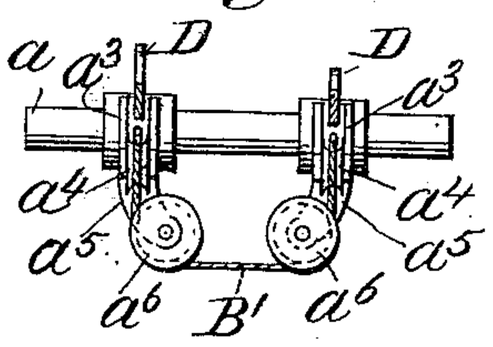


Fig. 5.

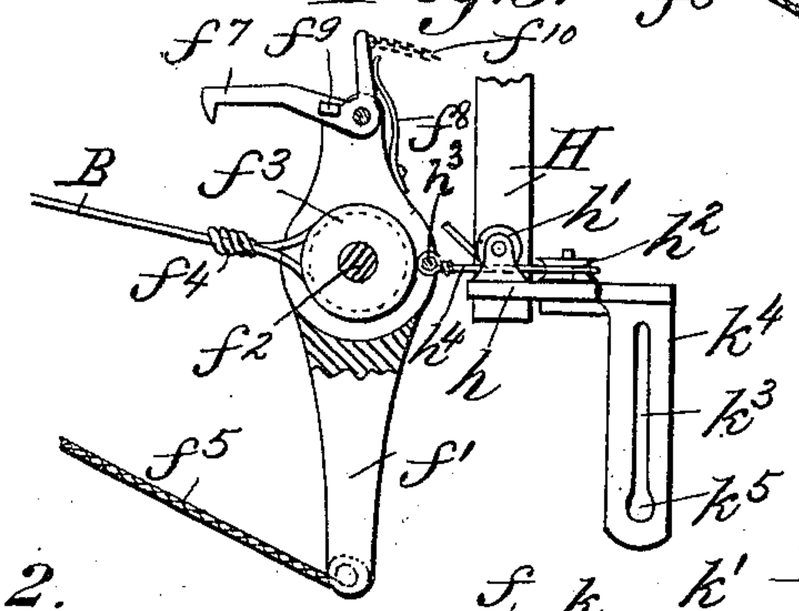


Fig. 2.

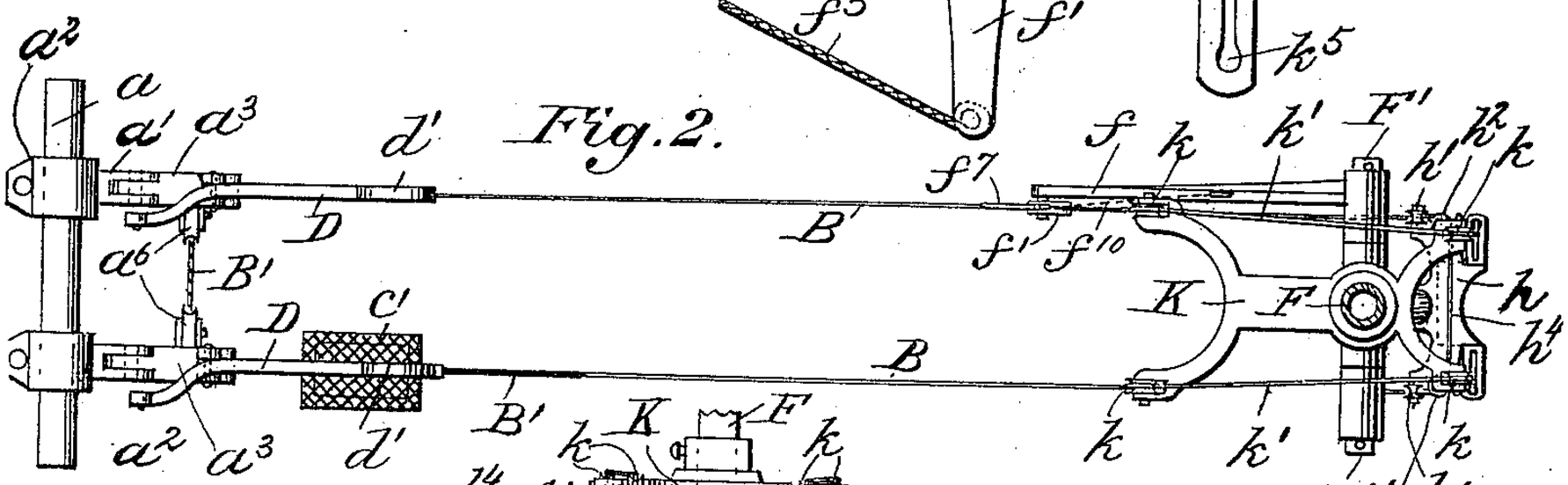
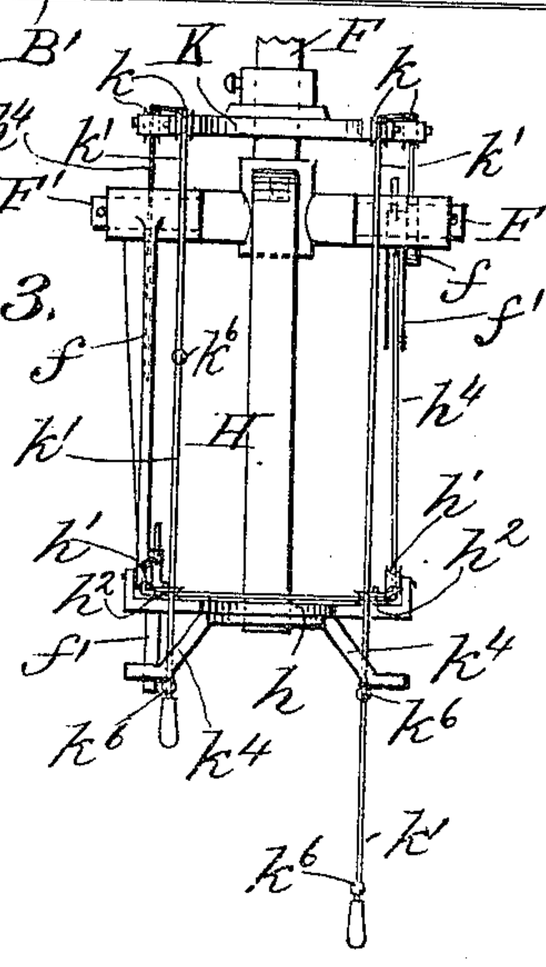


Fig. 3.



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UNITED STATES PATENT OFFICE.

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STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 640,127, dated December 26, 1899.

Application filed November 23, 1896. Serial No. 613,151. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GOODFELLOW, a resident of the city of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Store-Service Apparatus, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in store apparatus; and it consists in the novel construction, combination, and arrangement of parts, such as will be hereinafter fully described, pointed out in the appended claims, and illustrated in the accompanying drawings.

In the drawings, Figure 1 is a side elevation of a store-service apparatus embodying the invention. Fig. 2 is a plan view of the same. Fig. 3 is an end elevation. Fig. 4 is a sectional view on the line 4 4 of Fig. 1. Fig. 5 is an enlarged detail view, partly in section, showing the starting-lever.

Like reference characters designate corresponding parts in the several views.

In the drawings, A designates a support located adjacent to the cashier's station. To the lower end of the support is attached the rod a. On the latter are adjustably secured the brackets a' by the clips a^2. In the outer end of the brackets, which are bifurcated for the purpose, are pivoted the ends of the arms a^3. In the free ends of the arms are journaled the vertical pulleys a^4, adapted to rotate in the direction of the way. Lugs a^5 project toward each other from the under side of the arms and carry the pulleys a^6.

The way consists of two inclined members B, connected by the elastic cord B' The latter is looped over the pulleys a^4 and around the pulleys a^6. A mechanism is provided for reversing the inclination of the members of the way. Carriers C are mounted on the way, one on each member. To the under side of each carrier is attached a parcel-receptacle c'. By raising and lowering the free end of a member of the way the carrier mounted thereon is caused to travel back and forth through the action of gravity. At the end of the way adjacent to the cashier's station mechanism is provided for engaging with the carrier to hold the latter. On the outer ends of the arms a^3 are pivoted the levers D. To the under side of the latter are journaled the rollers d, which bear upon the members B of the way. The levers carry at their outer ends the magnets d'. The magnets by their weight depress the outer ends of the levers and cause the rollers d to bear on the members of the way, so that the normal relative positions of a lever and the member of the way immediately under it will remain the same however the said member may be moved.

The carriers C have armatures c^2, adapted to be engaged by the magnets d'. From the armatures lifts c^3 project for raising the magnets. When a member of the way is moved so that the carrier mounted thereon travels to the cashier's station, the lift c^3 will raise the magnet d', and the armature is engaged by the latter and the carrier thereby held. To prevent the carrier from going too far, the catch c^4 projects from the armature to engage with the forward end of the magnet. When it is desired to release the carrier, a pull on the cord E will depress the inner end of the lever D, and thereby raise the magnet from the armature.

A support F is located adjacent to the salesman's station. Attached to its lower end is the shaft F'. On this shaft are mounted the mechanisms for reversing or raising and lowering the free ends of the members of the way. As these mechanisms are alike, a description of one will suffice for both.

On the end of the shaft F' is journaled the reversing-arm f. To its free end is pivoted the lever f' by the pin f^2. The lever is recessed and has a wheel f^3 journaled on the pin f^2. Around this wheel, which has its periphery grooved for the purpose, is looped an end of the way and secured at f^4. An elastic cord f^5 is secured at one end to the lower end of the lever and at the other end to the way by the clip f^6. A bell-crank latch f^7 is pivoted in the upper end of the lever and is adapted to engage with the catch c^4 of the carrier C. It is normally held in an engaging position by the spring f^8. A lug f^9 by engaging with a notch in the lever limits the backward movement of the latch. A disengaging cord f^{10} connects the latch with the reversing-arm f.

A hanger H is attached to the lower end of the support F and has secured to its lower end the plate h. On the latter at each end are journaled the vertical pulley h' and the horizontal pulley h^2. To each of the levers f', as at h^3, is secured an end of the elastic cord h^4. The latter passes under the vertical pulleys h' and is looped around the horizontal pulleys h^2. This cord normally holds the levers in their upright positions however the reversing-arms may be moved.

A bracket K is secured to the lower end of the support F. In its front and rear ends are journaled the pulleys k. A cord k' passes over these pulleys and is connected at an end with the reversing-lever f, as at k^2. The other end of the cord passes through the slot k^3 in the plate k^4, attached to the lower end of the hanger H. The plate k^4 is inclined and the slot is enlarged at its lower end, as at k^5. On each cord are the knots k^5 of a size adapted to pass through the enlargement k^5 of the slot, but not small enough to pass through the narrow part of the slot. By pulling on the cord k' the reversing-arm f is raised against the action of the elastic cord h^4, which normally holds the arm in a vertical position. The arm is held in its raised position by moving the cord k', so that the upper of the knots k^6 engages with the plate k^4 below the narrow part of the slot k^3. When the arm is in a vertical position, its lower end is prevented from contacting with the plate h by engaging the lower of the knots k^6 with the slotted portion of the plate k^4.

As both of the reversing-arms are provided with operating-cords, both members of the way may be reversed independently or together to permit the carriers to travel one way or the other. The elastic cord B' keeps the way under tension as the members are moved from one position to the other.

A carrier approaching the salesman's station on a descending member of the way engages with the elastic cord f^5 and presses the same toward the way. The catch c^4 on the carrier is engaged by the latch f^4, and the carrier is thereby held. When it is desired to start the carrier in the opposite direction, the reversing-arm connected with the way is raised. As the arm moves upward and as the lever f' retains its vertical position the slack in the cord f^{10} is taken up and a pull is exerted on the latch f^4 and the latter is disengaged from the catch c^4. When the carrier is freed, the elasticity in the cord f^5 will start the carrier down the way.

Having thus described the invention, what I claim, and desire to secure by Letters Patent, is—

1. In a store-service apparatus, a reversible inclined way, a carrier adapted to travel on said way, a pivoted arm connected with said way, means for moving said arm for reversing the inclination of said way, a lever pivoted to said arm, an elastic cord connecting an end of said lever with said way, and means for normally holding said lever in substantially a vertical position.

2. In a store-service apparatus, a way consisting of two reversible inclined members, carriers adapted to travel on said members, pivoted arms connected with the ends of said members, levers pivoted to the free ends of said arms, elastic cords connecting said levers with said members, pulleys, an elastic cord looped around said pulleys and connected with said levers, and means for moving said arms to reverse the inclination of said members.

3. In a store-service apparatus, a way consisting of two reversible inclined members, carriers adapted to travel on said members, pivoted arms connected with the ends of said members, levers pivoted to the free ends of said arms, elastic cords connecting said levers with said members, pulleys, an elastic cord looped around said pulleys and connected with said levers, engaging mechanism for connecting said carriers with said levers, means for tripping said engaging mechanism, and means for moving said arms to reverse the inclination of said members.

4. In a store-service apparatus, a way, a carrier adapted to travel on said way, an armature mounted on said carrier, a movable magnet adapted to engage with said armature to hold said carrier, and means for propelling said carrier.

5. In a store-service apparatus, a reversible inclined way, a carrier adapted to travel on said way, an armature mounted on said carrier, a pivoted lever, a magnet carried by said lever and adapted to engage with said armature to hold said carrier, and means for reversing the inclination of said way.

6. In a store-service apparatus, a reversible inclined way, a carrier adapted to travel on said way, an armature mounted on said carrier, a pivoted lever, a roller journaled to said lever and bearing on said way, a magnet carried by said lever and adapted to engage with said armature to hold said carrier, and means for reversing the inclination of said way.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 21st day of October, A. D. 1896.

JOHN H. GOODFELLOW.

Witnesses:
S. B. DOANE,
A. L. MESSER.