

(No Model.)

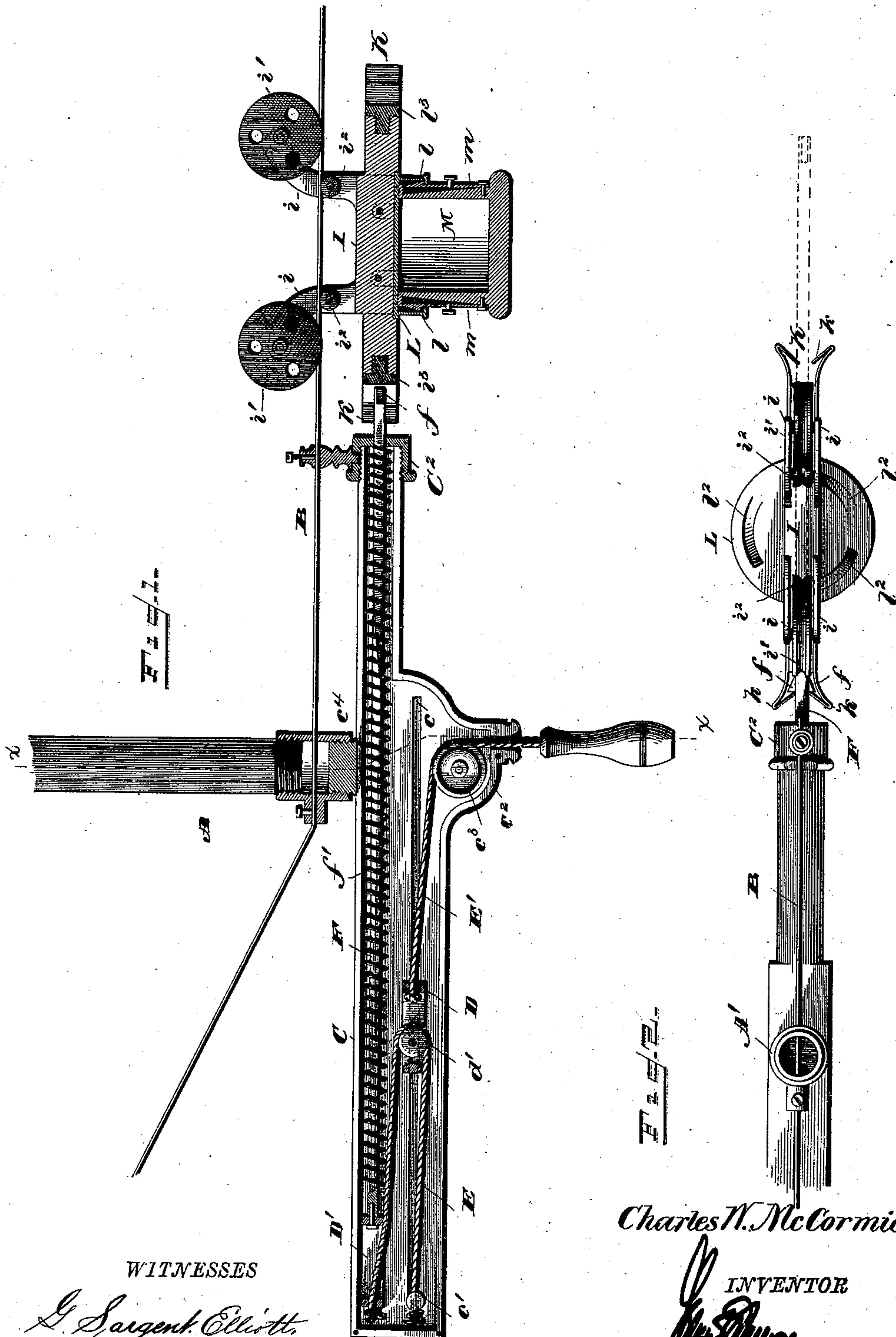
2 Sheets—Sheet 1.

C. W. McCORMICK.

STORE SERVICE APPARATUS.

No. 376,897.

Patented Jan. 24, 1888.



WITNESSES

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Charles W. McCormick.

INVENTOR

Attorney.

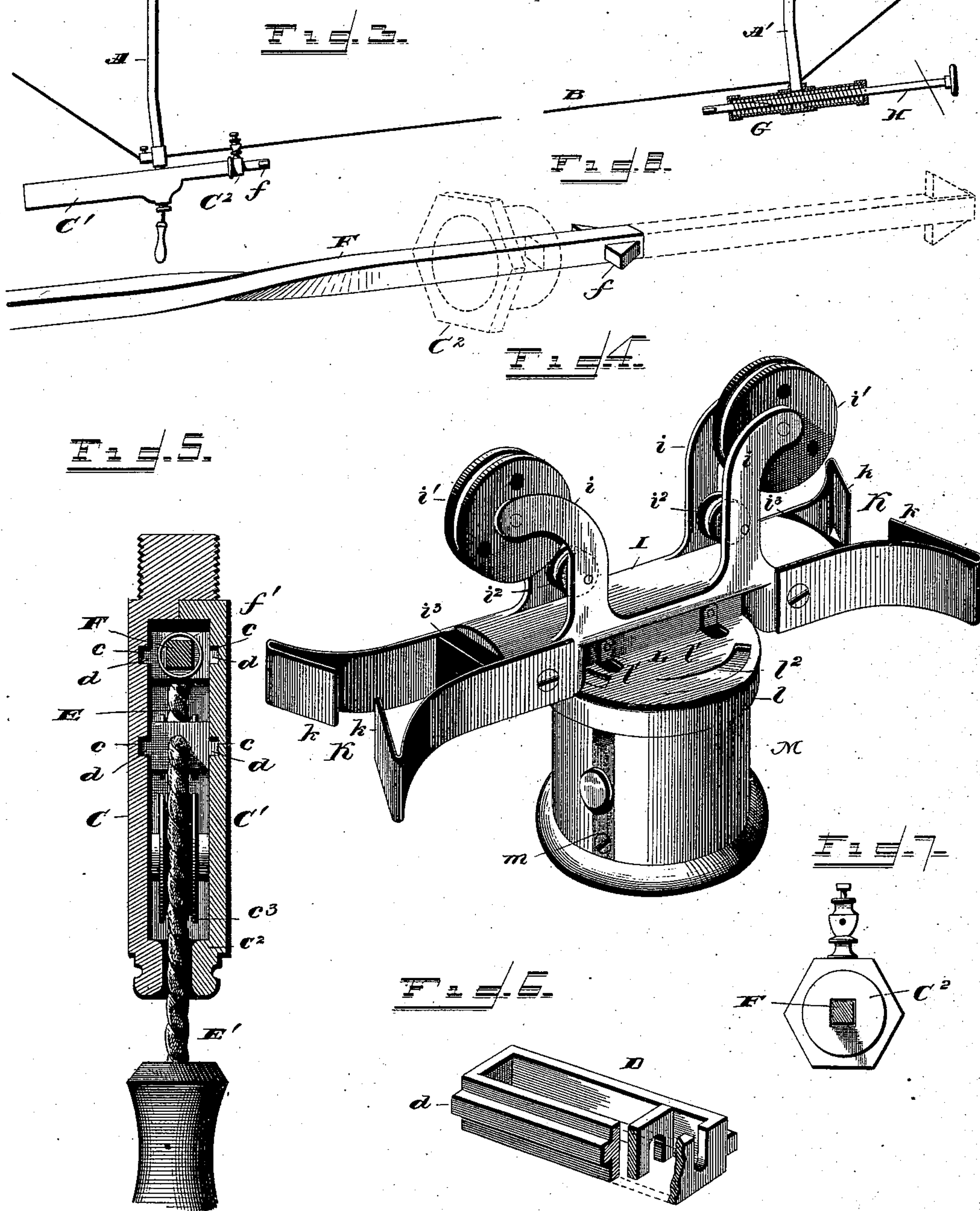
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UNITED STATES PATENT OFFICE.

CHARLES W. McCORMICK, OF EMPORIA, KANSAS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 376,897, dated January 24, 1888.

Application filed August 10, 1887. Serial No. 246,566. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. McCORMICK, a citizen of the United States of America, residing at Emporia, in the county of Lyon and State of Kansas, have invented certain new and useful Improvements in Store-Service Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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 letters or figures of reference marked thereon, which form a part of this specification.

15 This invention relates to store-service apparatus.

The invention has for its object a propulsion device which normally holds the carriage against movement, but automatically rotates a quarter-turn and releases said carriage upon being operated to propel it toward the opposite end of the track or way.

25 A further object of the invention is to so arrange the socket which receives the open end of the cash-holding receptacle that the latter will be held firmly against the locking-hooks by a spring-pressure, which prevents rattling.

30 With these objects in view the invention consists in novel features and combinations, which will be hereinafter fully described, and claimed in the clauses at the close of this specification.

35 In the accompanying drawings, Figure 1 illustrates, in vertical section, a propelling device and carriage embodying the principles of my invention. Fig. 2 is a top plan view of part of the apparatus shown in Fig. 1. Fig. 3 is an elevation illustrating the parts in working position. Fig. 4 is a perspective view of the carriage and cash-box. Fig. 5 is a section through line *x x*, Fig. 1. Fig. 6 is a perspective view of one of the slides. Fig. 7 is an end view of the casing, showing the angular orifice in the cap or guide and the push-bar having a cross-sectional contour corresponding to said orifice. Fig. 8 is a perspective view in detail of the push-bar and the head of the guide, showing the operation of the push-bar.

45 The improvements to be described are designed to be used with a single-wire gravity apparatus, and have been so illustrated; but it will be understood that they may be readily

adapted to other styles of apparatus in which propelling means are used at the track termini, and where the cash-box is suspended from a carriage. Indeed, in many of the apparatus now known or in use my improvements may be used without the necessity of adaptation.

Between rigid supports *A A'*, suspended from the ceiling, is secured an inclined track-wire, *B*, the lower end being fixed to the support *A* in proximity to a store-counter, and the upper end being fixed to the support *A'* within reach of the cashier's desk. To the lower end of support *A* is rigidly secured a two-part casing, *C C'*, provided internally with parallel grooves or ways *c*, to receive splines or feathers *d*, projecting from either side of slides *D D'*, the casing being provided at rear with a fixed stud, *c'*, and on its lower side, near the front, with a boss, *c''*, within which is journaled a small grooved pulley, *c'''*. To the stud *c'* is secured one end of a cord, *E*, the free end being passed over a grooved pulley, *d'*, journaled in the slide *D*, and thence carried to and secured in the rear cross-piece of the slide *D'*, as shown in Fig. 1. To the front end of this slide *D'* is swiveled the rear end of a push-bar, *F*, the front end of which protrudes beyond the case, and is provided at opposite sides with barbs or flukes *f*, forming an arrow-head. The push-bar is encircled within the case by a coiled spring, *f''*, the force of which is exerted toward the rear, the push-bar being so constructed with relation to the case that it will be given a quarter-revolution as it is forced forward in opposition to the pressure of the spring *f''* to cause the barbs *f* to be shifted from a horizontal to a vertical position. For convenience and simplicity of manufacture, I prefer to attain this end by the means shown—that is, by constructing the bar *F* of a length of metal square (or angular) in cross-section and twisting it a quarter-turn axially, in order that as it is forced forward through the squared aperture in the cap or guide *C''* at the forward end of the casing it will be rotated a quarter-turn. It will be understood, however, that the same end may be attained in other ways well known in mechanics—as, for instance, the bar may be round in cross-section and provided with one or more spirally-arranged ribs to engage a guide-slot in the cap *C''*. To avoid expense, I prefer to swivel the rear end of the

push-bar F to the slide D' by providing the forward end of said slide with two cross-pieces notched from opposite sides, as shown in Fig. 6, the reduced rear end of the bar fitting within said notches.

The two parts C C' of the case are similarly formed, (except that the part C is provided with a threaded stud, c^4 , to engage a threaded socket at the lower end of the support A,) and are united by screws or other well-known means, the forward ends being threaded after assemblage to receive the cap C².

A pull-cord, E', is secured to the forward end of the slide D, and, after passing over pulley c^3 , extends through an opening in the case formed for the purpose.

At the elevated end of the track, near the cashier's desk, a casing, G, is secured to support A', said casing being provided with a short push-bar, H, also formed to be given a quarter-revolution to release the carriage upon being projected to start said carriage toward the opposite end of the line. As this casing, however, is at the higher end of the inclined track, and the carriage upon being released will travel forward by gravity, it is not necessary that the push-bar H should travel forward so great a distance or so rapidly, and therefore in this casing I have omitted the slides and pull-cord, and in lieu thereof have extended the push-bar rearward beyond the case and fitted its rear end with a swiveled hand-piece, so that in impelling the push-bar forward to release the carriage it may turn within said hand-piece.

The carriage consists of a casting, I, having upwardly-extending ears or lugs i , between which the track wheels or rollers i' are journaled, and I prefer that there be arranged beneath these rollers small keeper-rolls i'' , to prevent the track-rolls i' from jumping.

At each end of the casting I is secured a pair of spring-jaws, K, the outer ends of which are beveled inwardly, forming hooks k , to engage the arrow-head of the push-bar. Depending from the center of this casting is the top or cover L of the cash-box. I prefer to construct this cover L of spun or stamped sheet metal, the lower end of the depending flange l having an inturned edge, forming shoulders, with which the spring-catches m of the cash-box proper, M, engage. From the top of this socket are cut ears l' , which are bent upwardly and secured by bolts or rivets to the casting I, spring-tongues l'' being also cut from the metal of the socket to exert a downward pressure upon the upper edge of the cash-box and keep the spring-catches m closely in engagement with the inturned edge of the flange l , to prevent rattling of the cash-box during transmission of the carriage from one point to another.

Each end of the casting I is provided with a rubber buffer, i^3 , between the spring-jaws, to receive the impact of the push-bar F or H and cushion the blow.

Owing to the arrangement of the slides and

cord within the casing C C', the push-bar can be projected, to impel the carriage forward, twice the distance and with twice the rapidity of the movement of the hand in pulling the pull-cord E'. This is rendered possible by means of the connection of the cord E with the fixed stud within the casing and with the slide D' after passing over the pulley in slide D—an arrangement well understood in mechanics.

The track-wire B, I prefer to arrange as shown in the drawings, the ends passing through openings in the supports A A', and leading thence to some fixed point, where they are secured; and to properly align the track-wire with the forward end of the casing I provide the cap C² with a slotted post having a set-screw to secure the wire within said slot.

I claim—

1. In a store service apparatus, the combination, with the track and its supports, of a guide arranged parallel to the track and provided with an angular guide-orifice and a push-bar mounted within said guide and having a twist in its body to engage the angles of the guide-orifice, substantially as before set forth.

2. In a store-service apparatus, the combination, with the track and its supports, of the casing secured to one of said supports and having an angular guide-orifice, a swiveled push-bar having spiraled ribs or angles to engage the guide-orifice of the casing and provided at its forward protruding end with an arrow-head, and a carriage provided with hooked jaws engaging the barbs of said arrow-head when the push-bar is in its retracted position, substantially as described.

3. The combination, with the line-wire and its supports, of the casing secured adjacent one end of the line-wire, a push-bar swiveled at its inner end to a slide mounted in grooves within the casing, a slide mounted to move beside the push-bar and provided with a pulley, a fixed stud, a grooved pulley mounted in lugs in the casing, and the cords connected to said slides, substantially as described.

4. A store-service apparatus consisting of a casing provided with parallel grooves or ways, a fixed stud, a grooved pulley mounted in lugs, a slide, D, arranged to move in one set of ways and provided with a pulley, a slide, D', arranged to move in the other set of ways, a cap, a push-bar swiveled at its rear end to the slide D' and provided at its forward protruding end with an arrow-head, a spring pressing rearward upon the push-bar, a cord passing from the fixed stud over the pulley in slide D and connected to slide D', and a cord connected to slide D and passing over pulley c^3 to the exterior of the case, substantially as described.

5. A store-service apparatus consisting of a case provided at its forward end with a cap having an angular aperture, a push-bar proper having a cross-sectional contour to fit the aperture of said cap and twisted a quarter-turn on its own axis, a spring pressing rearwardly upon said bar, and means to propel

the bar forward in opposition to the spring, substantially as described.

6. The combination, with the supports and track suspended therefrom, of a case having an angular guide-orifice, a slide within the case, a push-bar connected at its rear end to a slide by a swivel and having spiral ribs or angles and provided at its forward end with an arrow-head, a carriage mounted upon the track and provided at its ends with hooked spring-jaws to engage the barbs of the arrow-head, a spring pressing rearwardly upon the push-bar, and means to propel the push-bar forward in opposition to the spring.

7. A cash-box for store-service apparatus, consisting, substantially as before set forth, of a cover, the lower edge of the flange of which is inturned to form a shoulder, and having downwardly-pressing springs cut from the metal of said cover at the top, and a receptacle provided with spring-catches to engage said inturned shoulder, substantially as described.

8. In a store-service apparatus, the combination, with the track and its supports, of a guide arranged relatively to the track, having an angular orifice formed in one end thereof, and a push-bar mounted in said guide, having a twist in the body thereof to produce a quarter-revolution of the said bar when passing through the angular orifice in the guide, and projections on the end of the bar, for the purposes set forth.

9. In a store-service apparatus, the combination of a guide mounted relatively to a track

or way and provided with a square orifice, and a push-bar having a single twist in the body thereof, the angles of which are out of alignment with the horizontal plane of the said bar and operate conjunctively with the guide-orifice, substantially as described.

10. In a store-service apparatus, the combination, with a guide mounted relatively to a track or way and having a square orifice, of a direct-acting push-bar or starter constructed of about the same dimensions as the orifice in the guide and formed with a single twist in the body thereof, mounted in and having a quarter-revolution when propelled from said guide, substantially as described.

11. In a store-service apparatus, the combination, with a track or way and its supports, of a guide supported relatively thereto and formed with a square orifice, a spring-actuated push-bar or starter having a single twist in its body, mounted in said guide and adapted to be propelled therefrom, and pull-cords of shorter length than the said push-bar, which are adapted when operated to propel the said bar forward its entire length, whereby the power applied is concentrated upon the push-bar by a limited amount of extraneous exertion, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. McCORMICK.

Witnesses:

J. B. WIMER,
C. A. NEALE.