(No Model.)

C. L. WALKER.

SWITCH FOR STORE SERVICE.

No. 306,790. Patented Oct. 21, 1884.

Fig. 1.

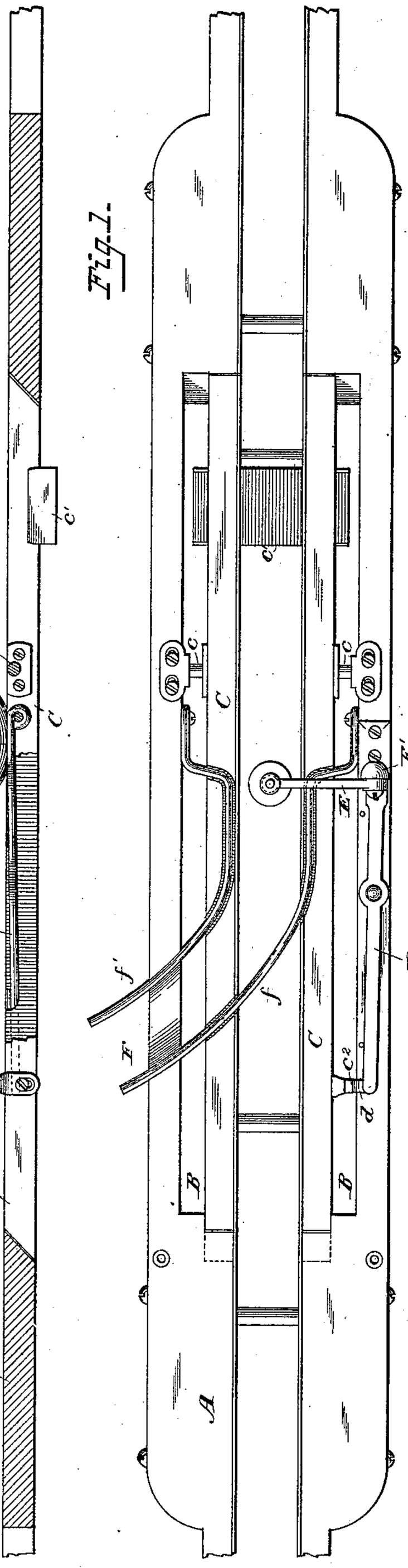


Fig. 2.

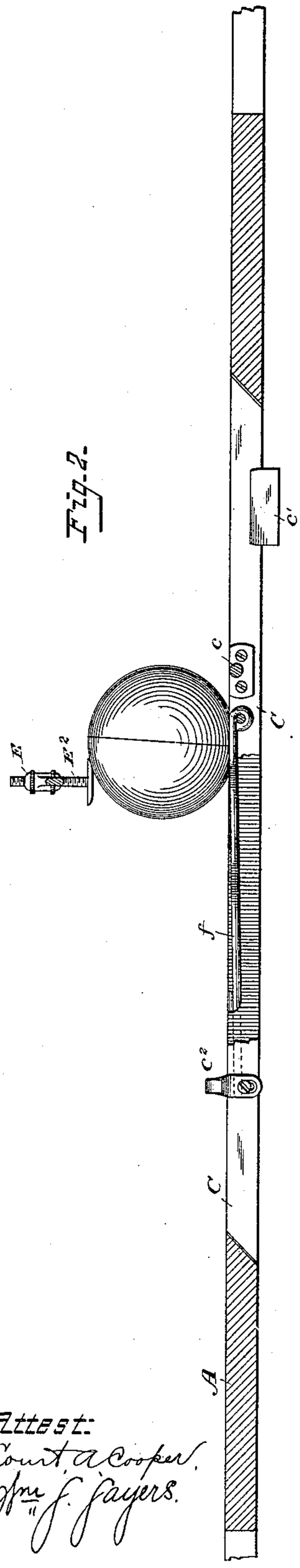
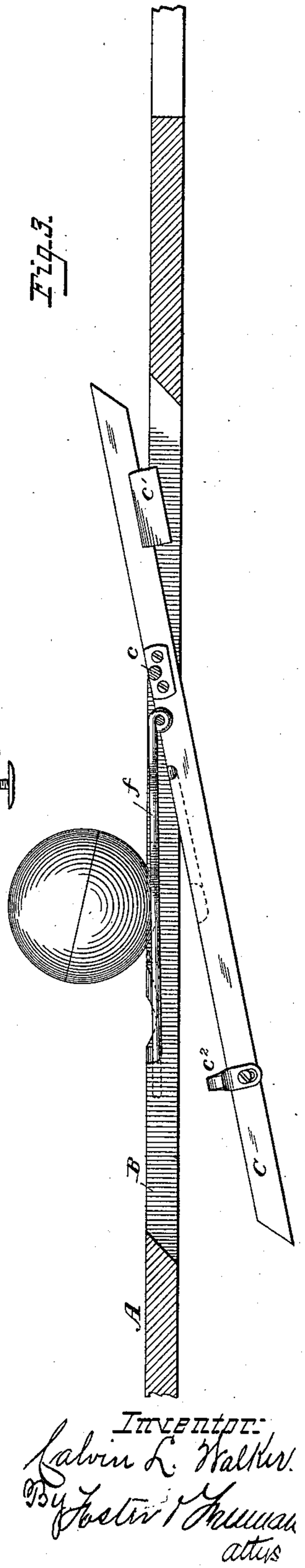


Fig. 3.



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UNITED STATES PATENT OFFICE.

CALVIN L. WALKER, OF MANCHESTER, NEW HAMPSHIRE, ASSIGNOR TO THE LAMSON CASH RAILWAY COMPANY, OF BOSTON, MASS.

SWITCH FOR STORE-SERVICE.

SPECIFICATION forming part of Letters Patent No. 306,790, dated October 21, 1884.

Application filed September 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, CALVIN L. WALKER, a citizen of the United States, residing at Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Switches for Store-Service Apparatus, of which the following is a specification.

My invention relates to that class of store-service apparatus in which balls or spherical carriers travel upon ways between the main or cashier's desk and counters or stations for the salesmen, and in which the carriers are graduated in size and are intended to be deposited at their appropriate stations in accordance with their size; and it relates more particularly to improvements for switching some of the balls or carriers from one track to another in the same horizontal plane.

Horizontal switches have heretofore been used, and they have generally been provided with a pivoted tongue which is normally in position to close the entrance of the side track and make the main track continuous. An adjustable tripping device is used, which upon being struck by the carrier of a size destined for the side track, moves the end of the tongue so as to set the same to the siding and close the main track the moment the carrier reaches the point of the tongue, and the carrier is consequently switched onto the side track. The tongue has been caused to assume its normal position to complete the main-line track by some suitable device, as a weight or spring. This form of switch has some objections, as, unless it is very delicately and accurately constructed, the tongue may not move as quickly and positively as is desirable, allowing the carrier to strike it and become retarded or even derailed, as neither the main or side track are continuous at that moment.

Another form of switch consists of a pivoted portion of the track which is controlled by a catch or detent operated by a tripping device on the track, the pivoted portion being so weighted that it normally remains in line with the track; but when the carrier passes onto it the weight of the carrier causes one end to tilt downward, delivering the carrier to another track below the first, or to a receptacle for the carrier; but in this case the side and main tracks are not in the same horizontal plane.

My invention is intended to overcome the objections to these switches, whatever they may be, and at the same time be simple, cheap, and effective; and it consists in a switch constructed substantially as hereinafter pointed out.

Referring to the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a section of track having my improved switch applied thereto. Fig. 2 is a section of the same on the line *x*, Fig. 1, showing the carrier as about to trip the switch, and Fig. 3 is a similar view, showing the carrier passing to the side track.

The delivery-track A may be of any suitable construction, that illustrated being a well-known form, and consisting of two rails properly secured together and supported in an inclined position. At the point where it is desired to locate a switch a portion of the main track is cut away, as at B, and what is known as a "drop-switch," C, such as is shown and described in the Patent No. 258,585, to W. S. Lamson, is placed therein. This consists, essentially, of a portion of a track corresponding to the main track supported upon trunnions *c*, and having one end properly weighted, as at *c'*, so that normally the main track is continuous, and the drop-switch is further held in position by a lip or detent, c^2, engaging with a projection, *d*, on a lever, D, pivoted to the side of the main track. This lever D is controlled by a bent arm or lever, E, supported in a standard, E', secured to the track, having one end extending over the center of the way, and an adjustable device, E^2, is provided at the end, so that it can be set to be struck by the passing carriers on the track, or by a portion of them, and when the lever is so operated by the carrier it releases the drop-switch, allowing one end to tilt downward under the weight of the carrier. I combine with this drop-switch a suitable side track so constructed that when the weight of the carrier causes the switch to tilt downward, the locking mechanism having been previously released by the carrier, the carrier will come

in contact with the rails or bearing-surface of the side and will thereby be deflected to a side or branch track, on which it will continue to travel to its destination.

The side track or guide. as shown, consists of the curved rails or extensions F, of wire or similar material, one of which, *f*, crosses the drop-switch in the main track in suitable grooves or recesses, so as not to interrupt the movement of the carriers when the drop-switch is locked in place, and is secured to the side of the permanet portion of the way in any suitable manner. The other wire or rail, *f'*, is curved concentrically to the first and secured to the opposite main-line track, a portion of its length being substantially parallel to one of the rails of the drop-switch for a short distance. These side rails do not in any way interfere with the travel of the carriers on the main track A when the drop-switch C is held in its normal position; but when the proper-sized carrier to be switched to the siding operates the lever E, and consequently the locking device D, releasing the drop-switch, and the weight of the carrier causes the switch to tilt downward, the carrier comes in contact with the siding-rails *f f'*, and, being supported thereby, is turned from the main track to the side or branch track. Meanwhile the drop-switch, being relieved of the weight of the carrier, is restored to its normal position by its weighted end and locked, so that the carriers may safely pass over it until one of the proper size to trip the locking mechanism approaches, when it is switched to the siding, as above set forth. By this construction it will be seen that a very simple, cheap, and effective switch is produced, and one in which the carriers are always supported on two rails or bearing-surfaces, so that the carrier is not liable to be retarded or derailed, as in the tongue-switches.

It will be evident that the details of my invention may be varied without departing from the principle thereof, and I do not limit myself to the construction shown.

What I claim is—

1. The combination, with the main way or track, of a siding the ends of which are secured adjacent to the main track, one end crossing said track, substantially as described.

2. The combination, with the main way, of a siding, the ends of the rails of the siding being secured adjacent to the main track, but slightly below bearing-surface of the same, substantially as described.

3. The combination, with the main track having a drop-switch, of a siding the terminals of which are adjacent to the main rails, substantially as described.

4. The combination, with the main track having a drop-switch, of siding-rails arranged parallel to the switch-rails for a short distance, whereby when the drop-switch is tilted the carrier is supported upon the siding-rails and guided off from the main track, substantially as described.

5. The combination of the main track, drop-switch, locking device controlling the drop-switch, and the stationary siding-rails adapted to receive the carrier from the switch and guide it off the main track, substantially as described.

6. The combination of the two tracks, the main and siding, the terminals of the latter being depressed slightly below the normal position of the former, substantially as described.

7. A horizontal switch for store-service systems, consisting of the main way having a pivoted section normally held in line with the main rail, a locking device adapted to be operated by the carriers to release the pivoted section, and a siding-track the terminals of which are secured adjacent to the main track, but slightly below the bearing-surface on which the carriers travel, and adapted to receive the carrier from the pivoted section and guide it off from the main track, substantially as described.

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

CALVIN L. WALKER.

Witnesses:
FRANK W. FITTS,
GEORGE A. PARSONS.