

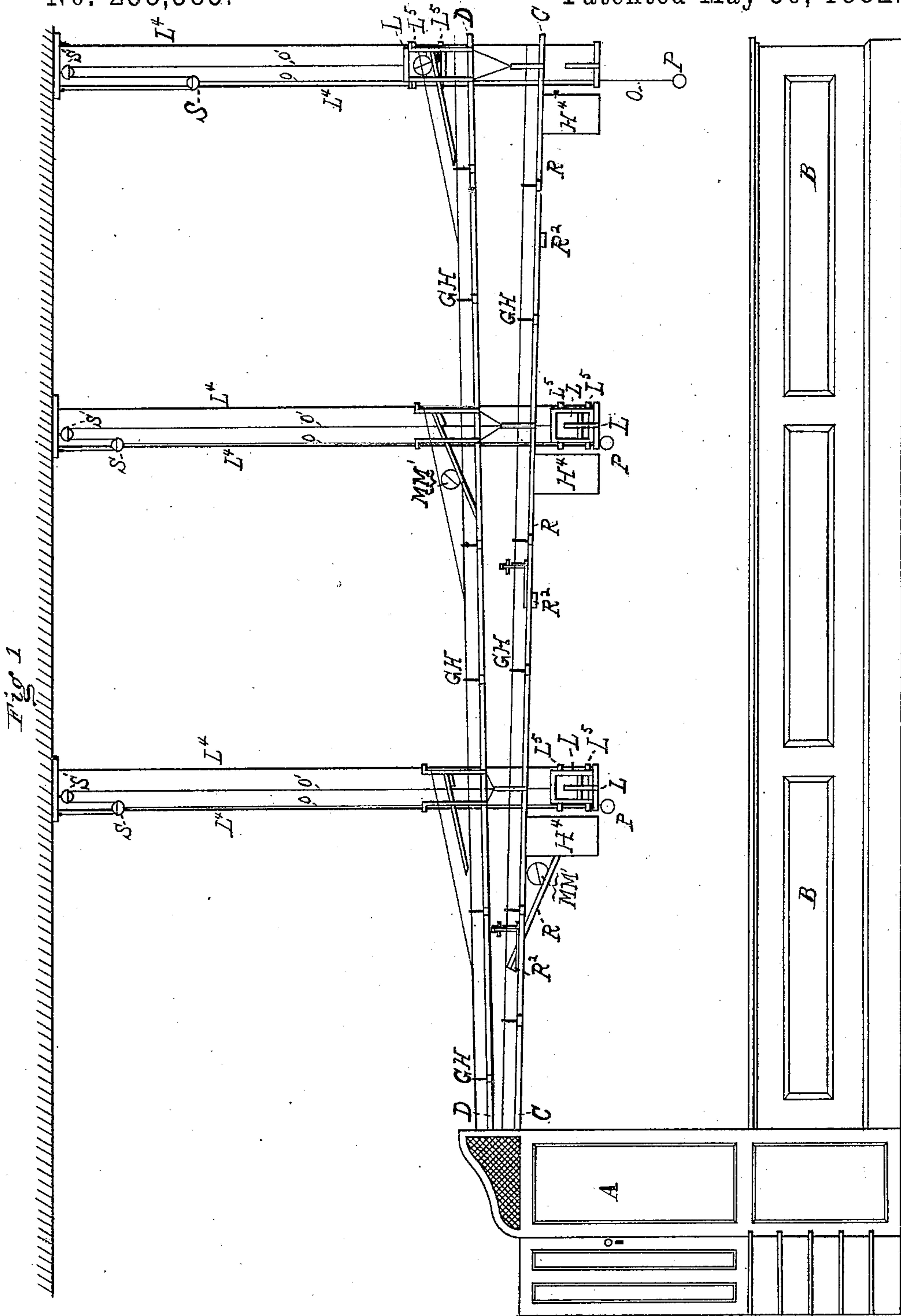
(No Model.)

2 Sheets—Sheet 1

W. S. LAMSON.
AUTOMATIC CASH CARRIER

No. 258,585.

Patented May 30, 1882.



Witnesses—
Irving S. Porter.
Kirkley Hyde.

Inventor—
William S. Lamson
By Albert M. Moore,
His Attorney.

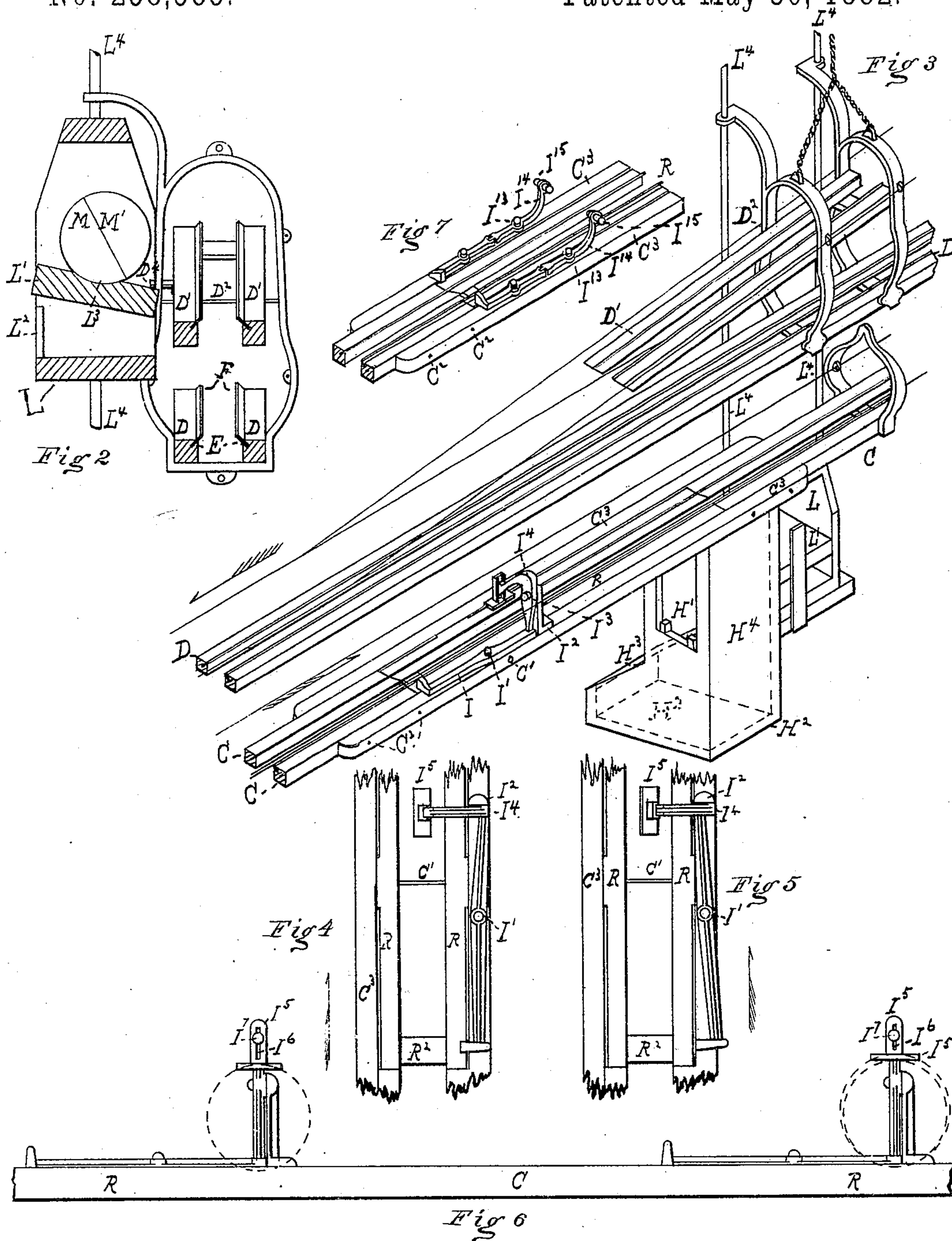
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UNITED STATES PATENT OFFICE.

WILLIAM S. LAMSON, OF LOWELL, ASSIGNOR TO THE LAMSON CASH CARRIER COMPANY, OF BOSTON, MASSACHUSETTS.

AUTOMATIC CASH-CARRIER.

SPECIFICATION forming part of Letters Patent No. 258,585, dated May 30, 1882.

Application filed August 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. LAMSON, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Automatic Cash-Carriers, of which the following is a specification.

My invention consists in means for raising the carriers to the ways, in means for discharging said carriers from the elevators, in means for discharging the carriers from the return-ways, and in means for adjusting the switch-levers to be operated by carriers of different sizes.

In the accompanying drawings, on two sheets, Figure 1 is a view of one side of the interior of a store with cashier's desk, counter, and inclined ways or tracks, (the upper way leading from stations of salesmen to the cashier's desk and the lower way leading from the cashier's desk to the stations of salesmen, and being provided with switches,) also elevators, bridges, carriers, and boxes. Fig. 2 is a cross-section (vertical) of the elevator, showing the means of discharging the carrier upon the bridge. Fig. 3 is a larger oblique view of a part of the two ways, with an elevator, a bridge, a switch, and means of supporting said parts. Figs. 4 and 5 are plans of a part of the lower way and a switch, said switch being closed in Fig. 4 and open in Fig. 5. Fig. 6 is a side elevation of a part of the lower or return way, showing how the latches and levers of the switches are operated by the carriers. Fig. 7 is a plan of a modified form of the switch shown in Figs. 4 and 5.

A is a somewhat elevated cashier's desk. B is a counter. D is a way or track inclined slightly toward the desk, and passing the stations of the different salesmen employed at such counter, so that a spherical or other rolling carrier placed upon said way at any station will travel to said desk. The carriers used consist of hollow balls M M', so constructed that they may be opened and closed, and may receive and carry money or other small articles along said way D, and are or may be constructed like the carriers described in Letters Patent No. 243,451, granted by the

United States, June 28, A. D. 1881, to me. The way D, with its guards G H, to prevent the carriers from jumping off the ways, and the strips F, of elastic material, inserted in grooves E in the ways D, are fully described in said patent. The way D being placed at some height, the carriers are raised by and discharged from elevators L somewhat as in the patent named, but not, in the present instance, directly upon the way D, but upon what I call a "bridge" D', the same being a short way constructed like the way D, but pivoted near the upper end, (at D² in Fig. 3,) so that a carrier being discharged from an elevator upon the upper end of a bridge rolls down the bridge, the weight of the carrier bringing the front end—that is, the end at the left in Figs. 1 and 3—down upon the way D, and is discharged from the bridge onto said way D. The object of the bridge is, by its greater incline, to give a greater impetus to the carrier, and in a very long store to have the way D more nearly horizontal, and also to prevent one carrier from being discharged upon or against another carrier which may be passing the elevator L. The elevator L is unlike the one described in said patent, and is merely a frame having top, bottom, and two sides, containing a shelf, L', so pivoted to the sides that the end of the shelf farthest from the bridge shall be the heavier end, and so of its own weight, by dropping down upon the stop L², keep said shelf in a horizontal position. The shelf is provided with a depression, L³, in its upper surface, which fits the bottom of the carrier and prevents the carrier from rolling off the shelf L' when the latter is in a horizontal position.

The elevator L is guided by the vertical rods L⁴, passing through ears L⁵ on the sides of the frame of said elevator, and is raised by pulling the ring P attached to the cord O, and thereby drawing down the movable pulley-block S, through which and through the fixed pulley-block S' passes another cord, O', one end of which cord O' is secured to the top of the elevator, and the other end of which is secured to the ceiling of the store. The rods L⁴ also may be secured to the ceiling. When the elevator is raised until the shelf strikes the projection

D⁴ secured to the bridge the shelf is tilted and discharges the carrier onto the bridge. The elevator then descends of its own weight and the shelf assumes a horizontal position of its own weight, as above described. When the carrier has reached the cashier's desk and has been emptied of its contents it is returned (with the change, if there be any) to the salesman who sent it by the lower way, C. The lower way is like upper way, D, except that the former is of course inclined in the opposite direction, and is provided with drops or switches R, which enable one return-way to serve for several salesmen. Each switch R consists of a section of the track C, pivoted at C', between strips C³, bolted near their ends at C², to the sides of said track C in such a manner that the weight of the carrier as it reaches the front (the right in Figs. 1 and 3) end of the switch will cause said front end to drop and discharge the carrier below the way C into a box, H⁴, provided on the side next the switch with a vertical opening, H', just wide enough to admit the end of the switch. The box H⁴ has an inclined bottom, H², which causes the carrier thus discharged into it to roll to the front of the box—that is, to the side of the box next the salesman—and the front of the box projects forward at the bottom, the projecting part being open at the top H³, so that the carrier can be removed from said box. In this box the carrier remains until the salesman for whose use it is intended has occasion to employ it again. After the carrier drops from the lower end of the switch, as above described, the switch is again brought into position automatically by the weight of the upper end of said switch and of a counter-balance or weight, R², attached to said upper end. If this were all, the carriers would all be discharged into the first box. In order that each salesman may receive back his own carrier (containing perhaps the change of the money sent by him to the cashier) the carriers vary in diameter, the carriers appropriated to the salesman whose station is nearest the desk being perhaps an eighth of an inch larger in diameter than the carriers belonging to the second station from said desk, and the carriers for each station being larger than the carriers for the station next below on the return-track C.

To prevent the switches from opening to drop a carrier before such carrier reaches its station a latch or lever, I, is pivoted at I' to one of the strips C³ at each switch, and the end of said latch nearest the desk is bent over the rear or upper end of the switch R, so that said rear or upper end of the switch cannot rise, or, what amounts to the same, the lower end of said switch cannot fall.

On the same strip C³ with the latch I is secured a post, I², to which is pivoted, at I³, the bent lever I⁴, one end of which lever I⁴ projects over the switch to the middle of the same, and the other end of which reaches down and

enters freely a slot in the lower or front end of the latch I, so that a carrier of sufficient size will, when rolled along the switch, lift the upper end of the lever I⁴ and move the upper end of the latch I off from the upper end of the switch R, allowing the switch to be depressed by the weight of the carrier, as above described. In practice, however, the carrier, instead of striking the bent lever I⁴ directly, acts on a T-shaped piece, I⁵, secured to said lever I⁴, and provided with a slot, I⁶, by means of which and of a screw, I⁷, passing through said slot, the piece can be raised or lowered slightly on said lever I⁴. Now, by setting the pieces I⁵ successively nearer to the tops of the switches, as the switches are farther from the desk A, and by having as many different sizes of carriers as there are switches, it is evident that the largest carriers may be made to stop at the station or box nearest the desk, while smaller carriers will roll over the switch nearest the desk without striking the lever, which allows said switch to fall, and so each carrier will roll over the return-way until it comes to a lever, I⁴, on which the piece I⁵ hangs at a distance from the switch less than the diameter of said carrier, and the smallest carrier will reach the last box before being discharged.

The form of switch shown in Fig. 7 I consider substantially like those above described.

In Fig. 7 the ball or carrier strikes the lever I⁴ on the side, and, in order that the carrier may not run any risk of being thrown out of its course, a latch, I¹¹, is used on each side of the way, a screw, I¹⁵, having a rounded point, serving the same purpose as the adjustable piece I⁵—that is, being struck by the carrier and being adjusted by being turned in a screw-thread cut in the lever I⁴, and the lever being pivoted at I¹³ to the strip, instead of to a post at right angles to the strip.

The switches shown and described might be operated by any other form of carrier as well as by a spherical one—for instance, by a car or wagon—the switch in Fig. 7 being operated by a projection on the side, or one on each side of such car or wagon, and the switch in Fig. 6 by a projection on the top of such car or wagon.

I claim as my invention—

1. The elevator provided with a tilting shelf, L', having a depression, L³, as and for the purpose specified.

2. The elevator L, provided with a pivoted shelf, L', having a depression, L³, in combination with means for tilting said shelf, as and for the purpose specified.

3. In combination with the way D, the pivoted bridge D', and a carrier, M M', adapted to travel on said bridge and to tilt the same, as and for the purpose described.

4. In combination with the pivoted bridge D', provided with a catch, D⁴, the elevator L, provided with the tilting shelf L', as and for the purpose described.

5. In combination with the way C, the pivoted bridge D', and a carrier, M M', adapted to travel on said bridge and to tilt the same, as and for the purpose specified.

5 6. The way C, provided with switches R and means for allowing said switches to be opened by carriers M M' traveling thereon, in combination with said carriers, as and for the purpose described.

7. The combination of the switch R and the box H⁴, provided with an opening, H', as and for the purpose specified.

WILLIAM S. LAMSON.

Witnesses:

ALBERT M. MOORE,
KIRKLEY HYDE.