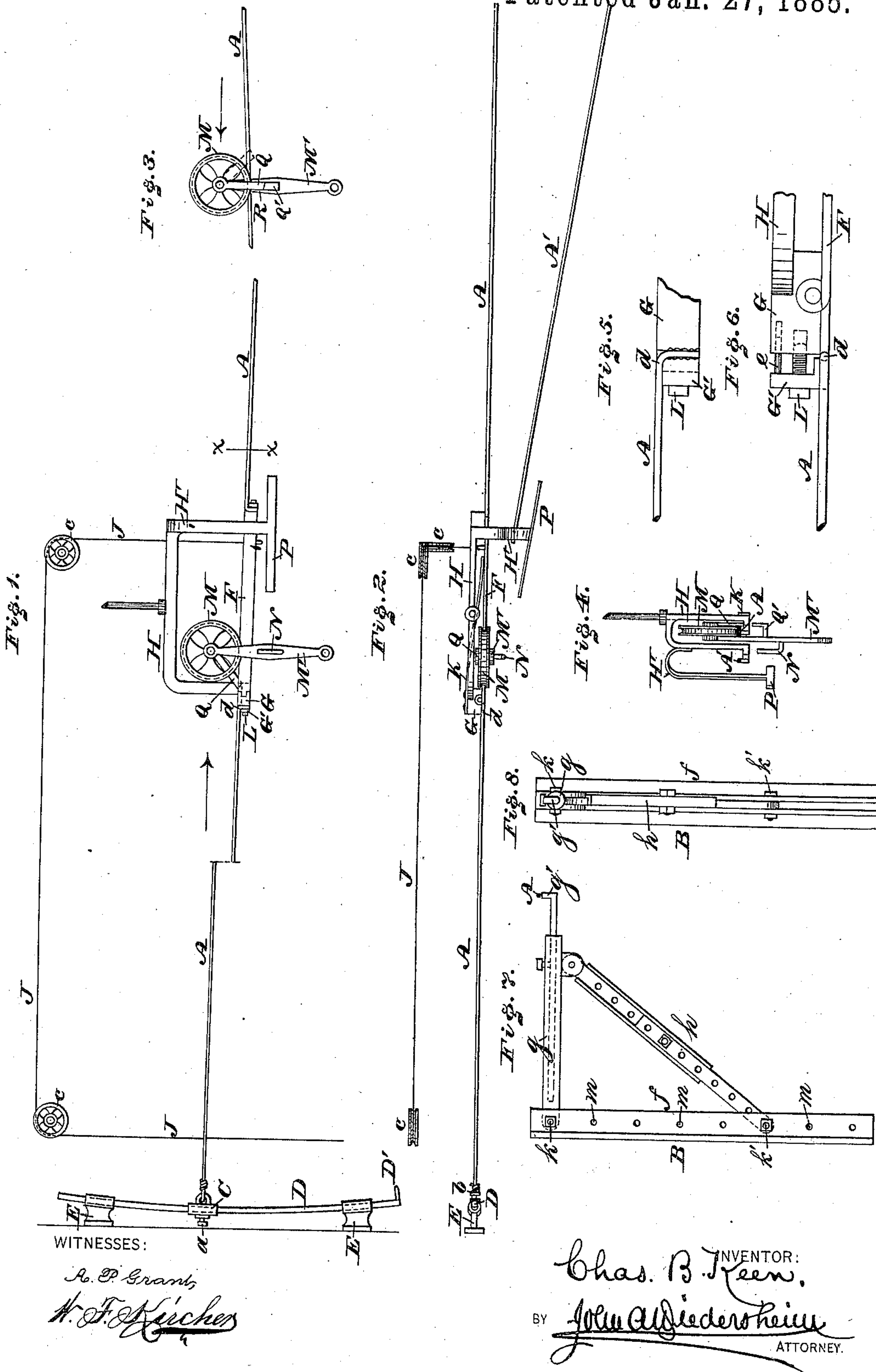


(No Model.)

C. B. KEEN.
STORE SERVICE APPARATUS.

No. 311,328.

Patented Jan. 27, 1885.



UNITED STATES PATENT OFFICE.

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STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 311,328, dated January 27, 1885.

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To all whom it may concern:

Be it known that I, CHARLES B. KEEN, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Store-Service Apparatus, which improvement is fully set forth in the following specification and accompanying drawings, in which—

10 Figure 1 is a side elevation of store-service apparatus embodying my invention. Fig. 2 is a top or plan view thereof. Fig. 3 is a view of the opposite side of a portion of Fig. 1. Fig. 4 is a vertical section in line *xx*, Fig. 1. 15 Fig. 5 is a top view of a detached portion enlarged. Fig. 6 is a side elevation thereof. Fig. 7 is a side elevation of a bracket. Fig. 8 is an end view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

20 My invention consists of store-service apparatus having the following characteristics, viz: a rail which may be raised and lowered in order to provide access to the basket or 25 carrier and start it to its destination, a novel switch mechanism, a reliable coupling for the rails and switch, a newly-devised bracket, means for unfailingly causing the operation of the switch, and a frame which serves to 30 prevent the roller of the carriage from dropping from the track, said frame being adapted to yield at certain places, as will be hereinafter set forth.

Referring to the drawings, A represents the 35 rail of a store-service apparatus; and B represents a bracket for supporting the same, said bracket being properly secured to a wall, column, &c., of the store, but may rest on a counter, floor, &c. The end of the rail is 40 secured to a sleeve, C, which is fitted on a vertically-arranged curved rod, D, whereby the rail may be raised and lowered for purposes to be hereinafter stated, said rod being sustained in eyes or bosses E, which are secured 45 to a column, wall, &c., of the store, the sleeve having a screw, *a*, for clamping or securing the same to the rod D.

50 F represents a switch-rail which is connected with a bed, G, the latter being supported on a hanger, H, which may be secured to the ceiling of the store or suspended from the

bracket B. One end of the switch-rail is pivoted to the bed G, and the other end is adapted to be placed in communication with either the main track or siding or branch rail, as desired, by shifting said switch-rail. 55

In order to operate the switch-rail in one direction, I employ a cord or chain, J, which is connected with the head end of said rail and passed over and around pulleys *c*, properly secured to the ceiling, wall, &c., and 60 within convenient reach of a clerk, salesman, or attendant, and a spring, K, which is secured to the bed G and bears against the switch-rail, so as to force it to the siding. By 65 means of the cord J the rail is held to the main track, and when said cord is released or let go the rail, under action of the spring K, returns to the siding; but the spring may hold the switch-rail to the main track, and the cord 70 be employed to shift it to the siding.

In order to secure either end of the rail A to the bed G, the same is bent, as at *d*, and fitted against the end of the bed. A clamping-block, G', is secured to the bed by means of a screw-bolt, L, and adapted to bear against the bent 75 end *d* of the rail, whereby when said bolt is tightened the end of the rail is clamped between the block and bed and securely held in position. The faces of said block and bed are 80 serrated, in order to increase their bite on the end of the rail.

In order to prevent improper motion of the block, I provide a guide, *e*, the same consisting of a pin which projects from the block 85 and freely enters the bed, or vice versa, it being noticed that switch-rail and bed are securely held in position without being permitted to rotate or move laterally.

The bracket B is adjustable vertically and 90 laterally, and consists of an upright, *f*, cross-piece *g*, and a brace, *h*. The cross-piece is extensible by means of a piece, *g'*, fitted to the same, and held in place by a bolt, *k*. The upright *f* has a series of openings, *m*, so that the 95 cross-piece may be raised and lowered, its bolt *k'* being fitted in the proper opening; and the brace *h* extends diagonally, connecting the cross-piece and upright and firmly supporting the cross-piece, it being noticed that the brace 100 is adjustable in length, so as to be adapted to the position or height of the cross-piece *g*.

M represents the roller or wheel of the carriage, the same running on the rail, and having an arm, M', connected with the axle of the roller for sustaining the carriage.

5 Secured to one side of the arm M' is a hook, N, which projects upwardly, and depending from and connected with the hanger H by means of an arch, H', is a guard, P, which is located adjacent to the head end of the switch,
10 at the side of the siding or branch rail, said hook being so disposed that when the switch-rail is shifted to the siding or branch rail said hook N, when it reaches said guard, rides against the same and engages therewith, where-
15 by the switch-rail, with its superimposed weight, is unfailingly carried over to the siding or branch rail.

Attached to the end of the axle of the roller or wheel of the carriage opposite to the arm
20 M' is a gravitating or swinging arm, Q, which extends to the top of an elbow, Q', the latter rising from said arm M', it being seen that the roller M, arm M', elbow Q', and gravitating-arm Q form a frame, R, surrounding the
25 rail, whereby, should the roller jump the track or overturn, the frame catches on the rail and prevents falling of the roller and connected parts. In the passage of the roller, when it reaches any obstacles on the side opposite to
30 the arm M'—such as the bed of the switch-rail, projecting portions of the switch parts of hangers, brackets, &c.—and the arm Q strikes the same, said arm yields or turns on or with its axis, and rides freely over the ob-
35 stacle until it clears the same, when it returns to its normal position, closing the frame R. It is evident that the arm Q and elbow Q' may be made or connected as one, in which case the elbow is disconnected from the arm M';
40 but it is preferred to make the arm Q short, or substantially as shown, so as to avoid a long sweep of the same as it moves over obstacles. The rail A is made of wire, whereby it is
45 readily bent or shaped, as required, easily set up and taken down, and when set up stretched, and have its tension adjusted; but I do not limit myself to wire, as any other suitable metal may be employed.

50 As stated hereinbefore, one end of the rail is connected with the sleeve C; but the opposite or terminal end is secured to any proper appliance in the store or apartment, and the rail is inclined from end to end. Two rails
55 are employed for the transmission of the carriage in opposite directions, the rails being inclined in reversed order, as is evident. The length of the rail-section between the switch and sleeve C has one end fixed to the bed of
60 the switch as a center and the other end to said sleeve, the switch being rigidly held in position by a bracket or hanger. The rod D has a suitable handle, D', whereby said rod D may be raised and lowered; and the rail con-
65 nected with said rod, through the medium of the sleeve or clamp C, may also be raised and lowered for the following purpose: When the

rod D is lowered, the adjacent length of the rail follows the same. This brings the basket or carriage within reach of the clerk, salesman, 70 or other attendant, and the merchandise, cash, change, &c., may be placed within the same. The rod D is then raised, thus elevating the length of the rail and the basket, and placing
75 said length of rail at such an angle or inclination that the basket automatically runs down the same, after which it passes over the switch, reaching the other portion of the rail, also inclined, and so arrives at its destination.

The starting-point of each line is provided 80 with the means for raising and lowering the rail, it being noticed that the length of rail is not injuriously affected by the motion imparted to it as it turns on the place of connection with the switch-bed as a center, and the curve of 85 the rod D is described from said center.

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

1. In store-service apparatus, a rail pro- 90 vided with a section pivoted at one end and movably supported at the other end, whereby it may be raised and lowered, the means employed being substantially as described.

2. In store-service apparatus, a rail pro- 95 vided with a section pivotally connected at one end, in combination with a sleeve or clamp with which the other end of said rail is connected, and a curved support for said clamp, adapted to be raised and lowered, substan- 100 tially as and for the purpose set forth.

3. In store-service apparatus, a switch-rail, in combination with a cord, J, and spring K, for operating said rail in opposite directions, substantially as and for the purpose set forth. 105

4. In store-service apparatus, coupling for the rails, consisting of a bed and block and a screw or bolt, the ends of the rails being clamped between said bed and block, substan- 110 tially as and for the purpose set forth.

5. In store-service apparatus, a bracket con- 115 sisting of an upright, a cross-piece, and a brace, whereby it may be adjusted vertically and laterally, substantially as and for the purpose set forth.

6. The arm M' of the roller M, provided with a hook, N, for engagement with the guard P of the switch, substantially as and for the purpose set forth.

7. The roller M, provided with a frame, R, 120 one side or arm thereof being adapted to swing or yield, substantially as and for the purpose set forth.

8. In store-service apparatus, a carriage and the roller or wheel thereof, in combina- 125 tion with a frame which is connected with the axle of said roller and incloses the rail on which the roller runs, one portion of said frame being adapted to yield, substantially as and for the purpose set forth.

CHAS. B. KEEN.

Witnesses:

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JNO. K. PLITT.