(No Model.) 3 Sheets—Sheet 1.

E. A. RORKE.

STORE SERVICE APPARATUS.

No. 418,230. Patented Dec. 31, 1889.

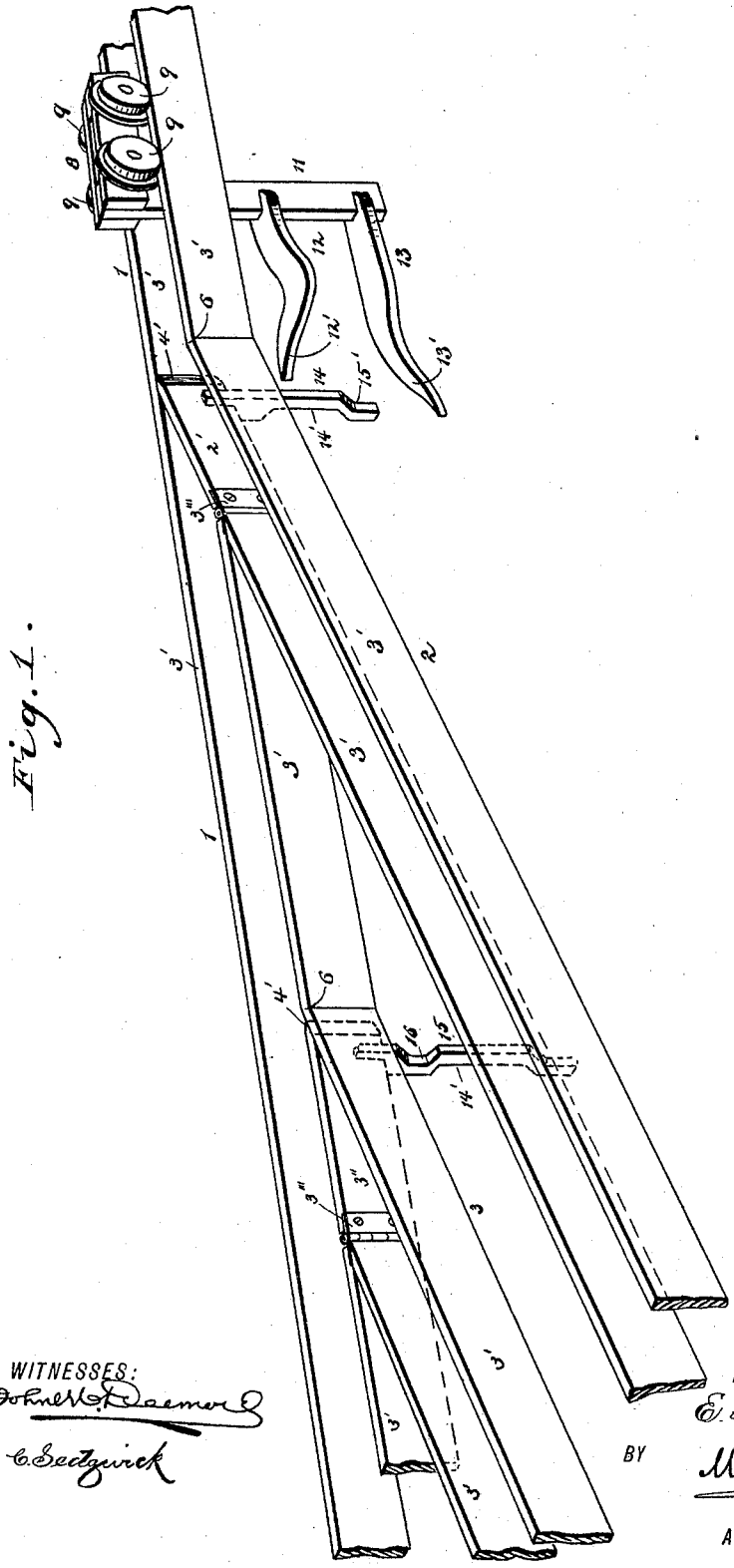

Fig. 1.

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Fig. 2.

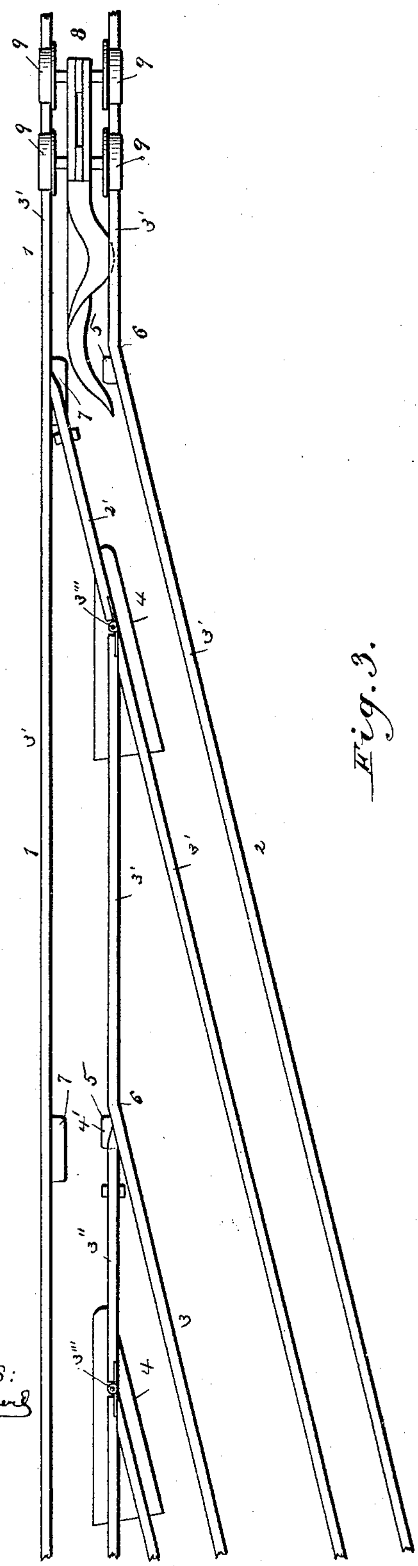
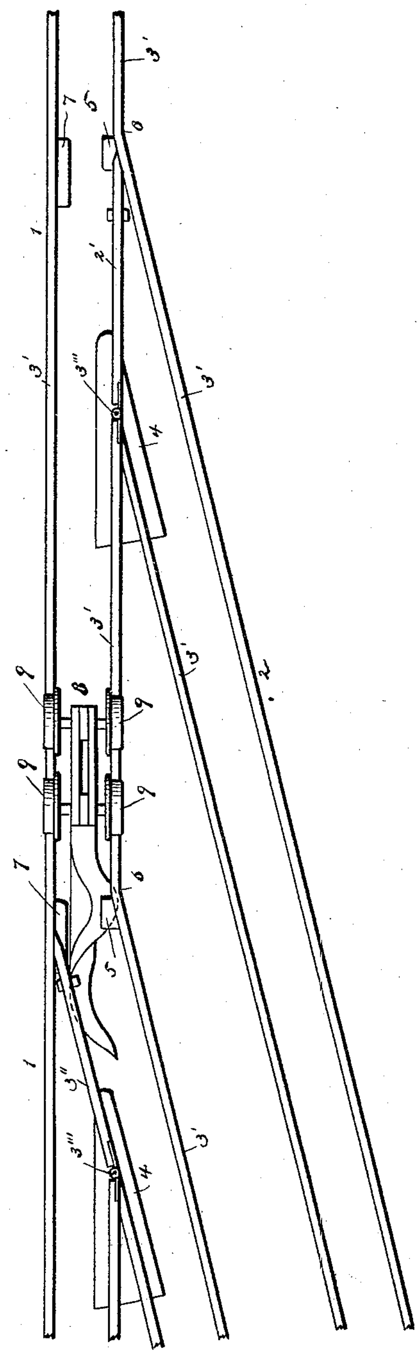


Fig. 3.



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3 Sheets—Sheet 3.

E. A. RORKE.

STORE SERVICE APPARATUS.

No. 418,230. Patented Dec. 31, 1889.

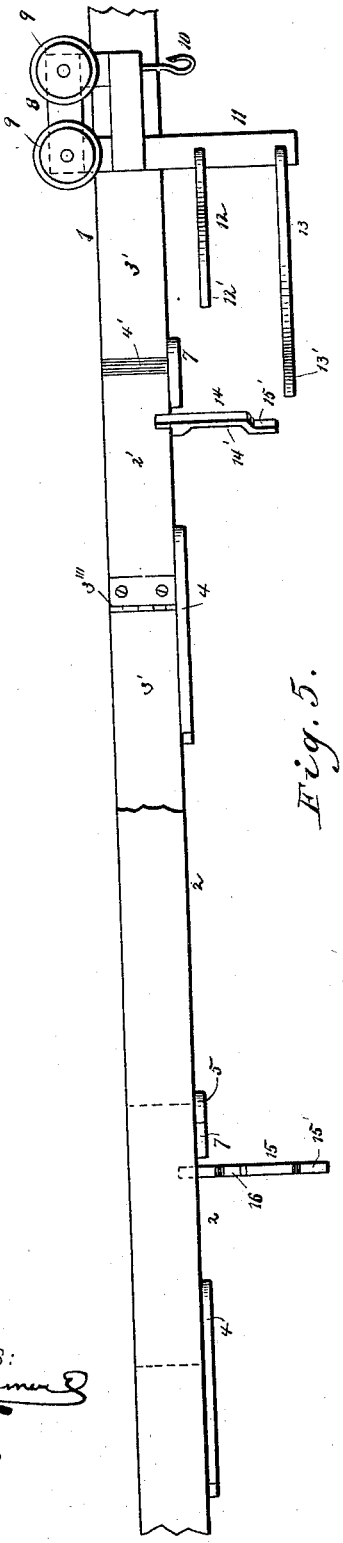

Fig. 4.

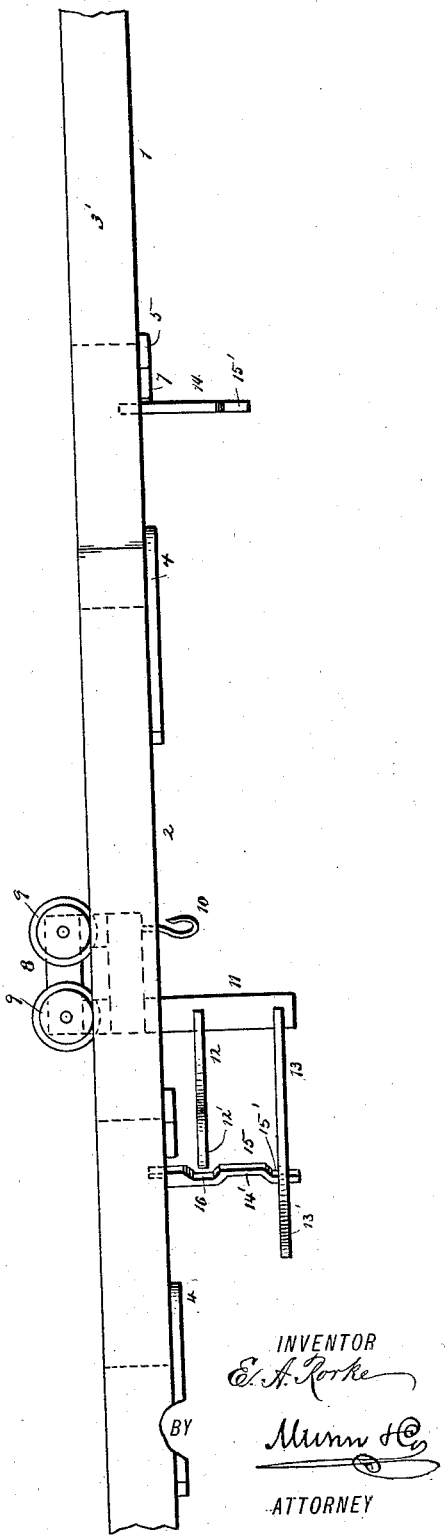

Fig. 5.

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UNITED STATES PATENT OFFICE.

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STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 418,230, dated December 31, 1889.

Application filed January 21, 1889. Serial No. 296,966. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. RORKE, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Store-Service Railway, of which the following is a full, clear, and exact description.

This invention relates to store-service railways in which tracks and carriers to travel thereon are employed to transmit cash and parcels to and from the cashier's desk and the point where the goods are wrapped up to different parts of a store.

The invention has for its object to provide in a store-service apparatus a system of this kind of tracks and carriers to travel thereon, with switches for branch tracks, and carriers so constructed and arranged that different carriers may be sent over the main line and onto branch lines by the automatic action of the carriers on different switches, thereby enabling a particular carrier to be sent to a designated point.

The invention consists in a store-service railway having a main track, a series of branch tracks and switches therefor, and a series of carriers which are automatically switched to their particular station, all constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a portion of the main track and branch tracks with switches and a carrier on the main track constructed in accordance with this invention. Fig. 2 is a plan view thereof. Fig. 3 is a plan view thereof, showing the position of the carrier and switches after the carrier has passed a branch track and is about to pass from the main line and enter on a branch track. Fig. 4 is a side view of the invention shown in Figs. 1 and 2, with a portion broken away; and Fig. 5 is a side view of the invention shown in Fig. 3.

In carrying out the invention tracks consisting of two rails, carriers with rollers or wheels to travel on the tracks, and switching-arms of different lengths and on different planes projecting in front of the carriers, and switches for branch tracks with projections of different lengths to be engaged and automatically operated by the switching-arms on the carriers are employed.

For the purpose of illustrating and describing the invention, a portion of the main track 1 is shown and portions of branch tracks 2 3. The tracks consist of the rails 3′, preferably formed of flat strips of metal or wood on edge and mounted in a store in any suitable manner, and may be horizontal or inclined, according as it is desired to transmit the carriers, either by impelling them by force applied at the starting-point to their destination over the horizontal tracks or permitting them to move by their own gravity over the tracks arranged at an incline.

Any number of branch tracks 2 3, &c., may be employed, as desired, in connection with the main line 1, entrance of a carrier from the main track onto a branch track being governed by switches 2′ 3″, &c., also preferably formed of a vertical strip of wood or metal on edge. Each switch is hinged to the junction of one of the rails of the main track 1 with the inner rail of a branch track by a hinge 3‴, and is supported at its hinged end on a shelf 4, forming the support, also, of the junction of the main-track rail with the inner branch rail just referred to, the end of the switch having beveled edges 4′ to fit snugly against the rails. The outer or swinging end of each switch rests upon a shelf or projection 5 at the bend 6 of one of the main-track rails with an outer rail of a branch track, and abuts against the bend 6, so that the switch forms a continuation of the main-track rail when the main track is open. When the main track is closed and a branch track open, the swinging end of the switch rests on a shelf or projection 7 on the main-track rail opposite to the bend 6 and abuts against said rail.

8 indicates a carrier consisting of a frame constructed in any suitable manner and having flanged rollers or wheels 9, which rest on the rails 3′ and are adapted to roll thereon.

The carrier 8 may be provided with a receptacle for cash or parcels. As here shown, the carrier is provided with a hook 10, from which a basket or other receptacle for parcels may be suspended.

A series of carriers is employed, each car-

rier being provided with a depending arm or bracket 11, having a number of switching-arms 12 13, &c., of different lengths bolted or otherwise secured to arm 11 and in different horizontal planes and projecting forward of the car.

The switches 2′ 3″, &c., are provided with depending arms 14 15, &c., of different lengths, secured to the switches by bolts or in any other suitable manner. The switching-arms 12 and 13 may be made of such length that each succeeding arm on a lower plane will be longer than the arm above it—as, for example, the arm 13 being longer than the arm 12. The depending arms 14 and 15 may be made of such lengths that each succeeding arm will be longer or shorter than the preceding one—as, for example, the arm 15 being longer or shorter than the arm 14.

By having the above-mentioned arrangement of switching-arms 12 13, &c., on the carriers and the depending arms 14 15, &c., on the switches, with the switch 2′ closing the main track, as shown in Figs. 1 and 2, upon a carrier approaching switch 2′, the switching-arm 13 will advance beneath the lower end of switch-arm 14 and the switching-arm 12 will be brought into engagement with the switch-arm 14, and as the carrier advances will move the switch 2′ over to close the branch track 2 and open the main track 1, thereby permitting the carrier to proceed on the main track.

If the carrier is intended to be moved onto the branch track 3 instead of continuing on over the main track 1, and the switch 3″ is in the position shown in Figs. 1 and 2, closing the branch track 3, upon the approach of the carrier to the switch 3″, the projecting switching-arm 13, which is located in a horizontal plane to engage the lower end of the switch-arm 15, will act on the latter and move the switch 3″ to open the branch track 3, thereby permitting the carrier to pass onto the latter. In this way, with a series of carriers having projecting switching-arms of different lengths and arranged in different horizontal planes, and a series of branch tracks with switches having depending switch-arms of different lengths, certain carriers may be selected and employed to be sent to designated points or stations by having the depending arms on the switches of such graduated lengths and the projecting switching-arms on the carriers of such different lengths and arranged in such different horizontal planes as regards the depending switch-arms that a particular carrier will automatically operate certain switches only, so as to direct the carrier into and over certain branch tracks to its designated point or station.

In order that the projecting switching-arms on the carriers may operate effectively the depending switch-arms, the projecting arms 12 and 13 are formed with the curved ends 12′ and 13′ projecting in opposite directions to each other and to one side of the line of travel of the carrier.

The depending switch-arms 14 and 15 are formed with recessed or cut-away portions 14′ and 15′ on opposite sides thereof, the recess 14′ permitting the ready engagement of the switching-arm 12 if a switch is closing the main track, and the recess 15′ permitting the ready engagement of the other horizontal switching-arm when the switch is closing a branch track. The arm 15 is also provided with a recess 16, located at the proper height to permit the projecting switching-arm 12 to pass the switch-arm 15 after it has been acted upon by the projecting switching-arm 13.

In the case of carriers intended to operate the first switch only, to be carried onto a side track, only one projecting arm in front of the carrier is employed.

By means of this invention it will be seen that an effective store-service-railway system of tracks, switches, and carriers which automatically operate the switches is provided, whereby any particular carrier or number of particular carriers with projecting switching-arms of different lengths and located in different horizontal planes may be sent to a particular or designated point, depending switch-arms of different lengths being arranged on the switches, and having such graduated lengths relatively to the projecting switching-arms on the carriers, which are also arranged in different proper horizontal planes, that a particular carrier will automatically operate only the proper switches to switch it to its designation.

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

1. A store-service-railway apparatus comprising a main track, branch tracks, and switches with depending arms of different graduated lengths, and a series of carriers with switching-arms of different lengths projecting in advance of the carrier and arranged in different horizontal planes relatively to the depending switch-arms of different graduated lengths, substantially as shown and described.

2. In a store-service railway, a main track 1 and branch tracks 2 3, consisting of double rails 3′ and having the switches 2′ and 3″, with their hinged ends resting on shelves 4, with shelves 5 and 7 on the main-track rails 3′, for the support of the swinging end of the switches, and graduated arms 14 and 15, of different lengths, depending from the switches, the arm 14 having recesses 14′ and 15′, and the arm 15 having recesses 14′, 15′, and 16, substantially as shown and described.

3. In a store-service railway, a carrier 8, having flanged wheels 9, a depending arm 11, and arms 12 and 13, with ends 12′ and 13′, curved in opposite directions from the line of

travel of the carrier, of different lengths and arranged in different horizontal planes, substantially as shown and described.

4. In a store-service railway, a carrier having flanged wheels to rest on a double-railed track, and a horizontal switching-arm suspended from the carrier, to be located below the track, projecting forward from the carrier and curved in a horizontal plane, substantially as shown and described.

5. In a store-service railway, a carrier having a bracket-arm depending below the track, and switching-arms of different graduated lengths arranged in different horizontal planes and projecting forward of the carrier, substantially as shown and described.

6. In a store-service railway, a main track and branch tracks, with switches having depending switch-arms of different graduated lengths and recessed to be operated by switching-arms on the carriers, substantially as shown and described.

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