(No Model.) 2 Sheets—Sheet 1.

L. G. BOSTEDO.

PNEUMATIC DESPATCH APPARATUS.

No. 588,948. Patented Aug. 31, 1897.

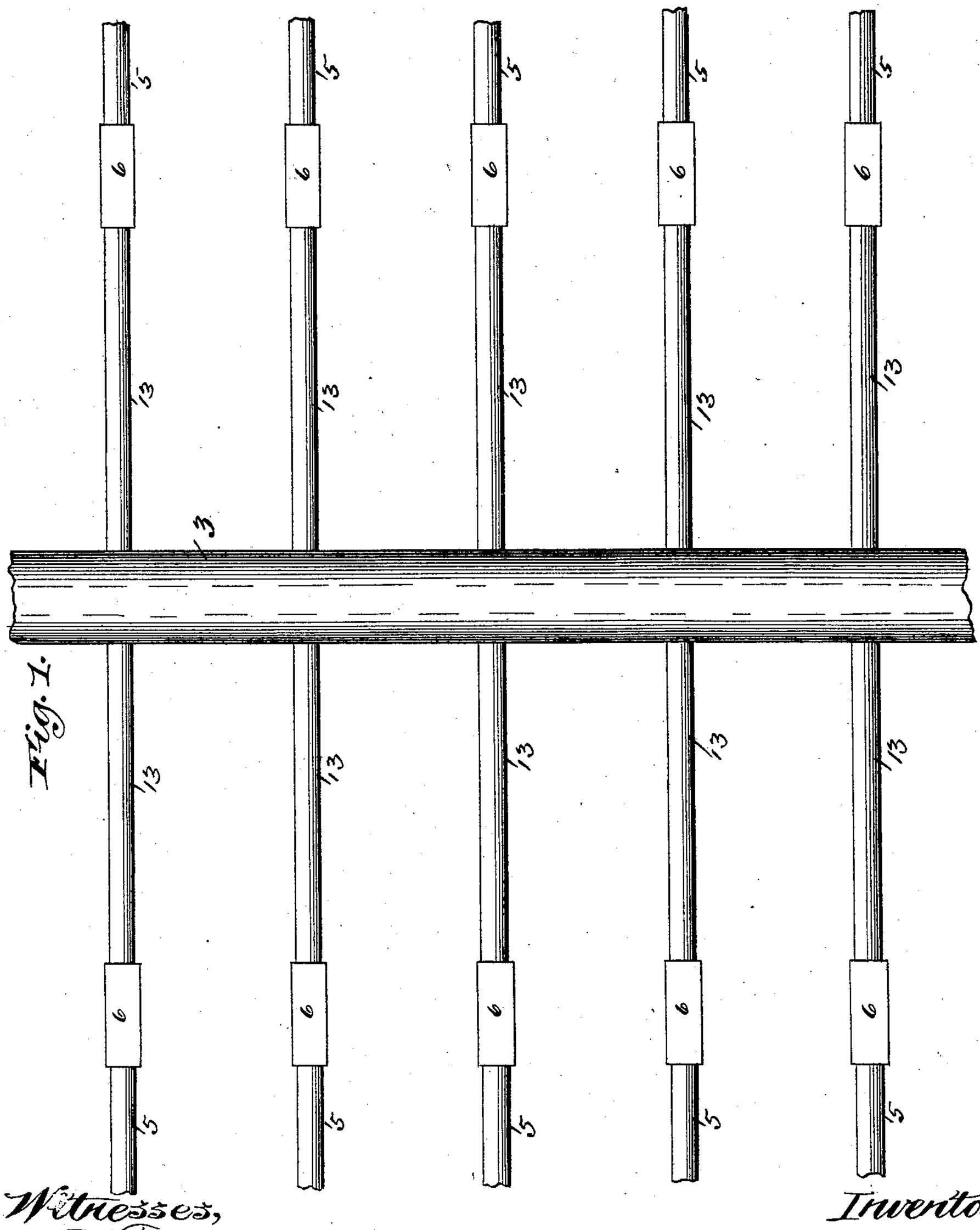

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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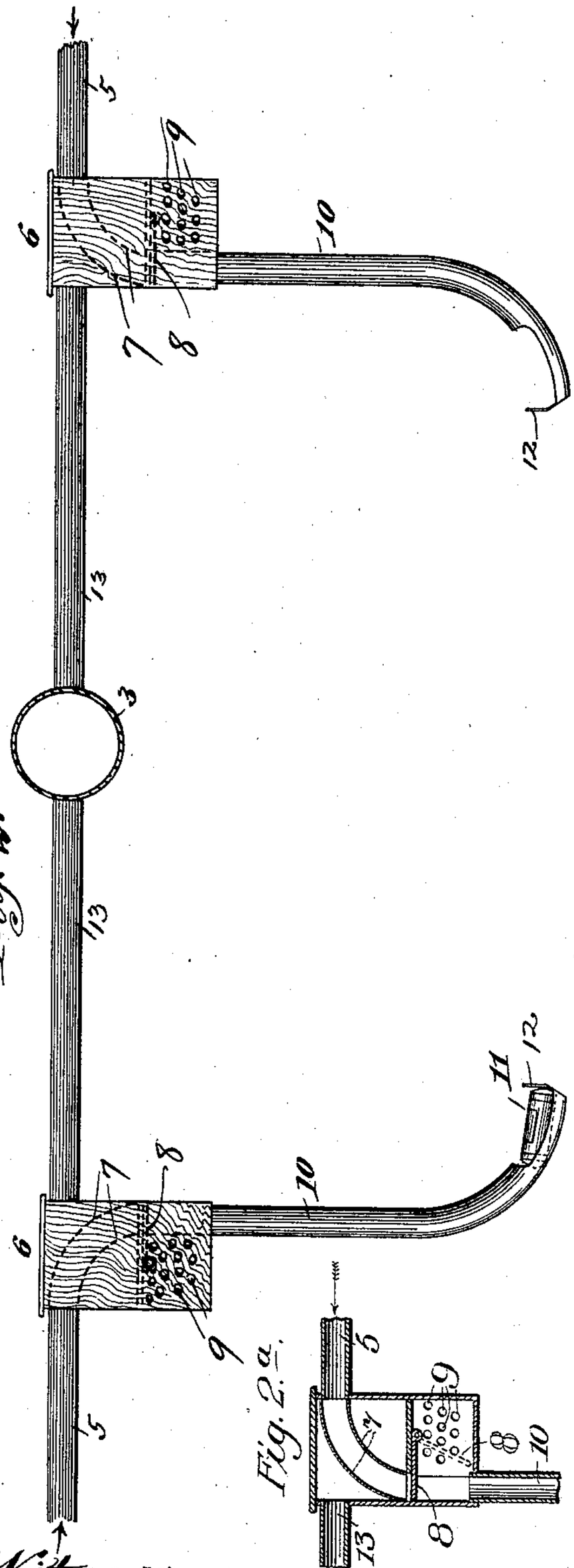

Fig. 2.

Fig. 2a.

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UNITED STATES PATENT OFFICE.

LOUIS G. BOSTEDO, OF CHICAGO, ILLINOIS.

PNEUMATIC-DESPATCH APPARATUS.

SPECIFICATION forming part of Letters Patent No. 588,948, dated August 31, 1897.

Application filed July 29, 1895. Serial No. 557,446. (No model.)

To all whom it may concern:

Be it known that I, LOUIS G. BOSTEDO, of Chicago, Illinois, have invented certain new and useful Improvements in Pneumatic-Despatch Apparatus, of which the following is a specification.

This invention relates to improvements in pneumatic-despatch apparatus such as is used in transmitting cash and sales tickets in mercantile houses, and has for its object to provide a novel arrangement of the terminals at the cashier's station, whereby, first, an economy of construction and operation is secured, and, second, the carriers must be removed in the order in which they are received through any tube.

In carrying out the invention I arrange the main suction-pipe preferably near the ceiling or above the head-room of the cashier's station, the receiving-tubes being arranged in any desired form and in sections where a large number of tubes deliver at the sides of the space. Each of the receiving-tubes is provided with a switch box or terminal into which the carrier is deflected by a suitable guide, such switch-boxes having preferably a hinged door or flap which is opened by the impact of the carrier thereon, each of the switch-boxes also having a pendent delivery tube or chute into which the carrier drops after passing through the switch-box, and the lower end of this chute is so constructed that the carriers must be removed therefrom one at a time and in the order in which they are received. These delivery-chutes may be curved so as to extend into convenient relation to the cashier's desk. The receiving-lines are also each separately connected with the main suction-tube by a pipe which extends, preferably, straight from the switch-box to the suction-tube.

In the accompanying drawings, Figure 1 is a plan view, and Fig. 2 an elevation, showing the arrangement and construction of the parts above mentioned. Fig. 2^a is a sectional detail showing the interior construction of the switch-box.

In the drawings, 3 represents the main suction-tube, which, as shown, is intended to be arranged above the head-room at the cashier's station.

4 represents the counter, at which the cashier stands.

5 represents the receiving-tubes, and 6 the switch-boxes, into which they deliver. These switch-boxes are provided with fixed curved guides 7, as seen in Fig. 2, and with a hinged door or flap 8. This door or flap is hinged at its rear edge and is adapted to open downwardly by the impact of the carrier thereon. The walls of the switch-box below the door are preferably perforated, as at 9, to admit air, so as to prevent the withdrawal or detention of the carriers after they pass the hinged door. The door 8 is hinged in such position that the way is opened by the impact of the carrier sufficiently to allow the latter to pass the free edge of the door, and the door will cross or pass below some of the perforations 9, thus permitting the air to be drawn in through such perforations and preventing the formation of a partial vacuum in the tube behind the carrier after the door closes.

From the lower end of the switch-boxes depend the delivery-chutes 10, which may be conveniently curved so that their extremities will lie in a substantially horizontal plane. These delivery-chutes are cut away toward their extremities, so that a carrier 11 may be removed conveniently therefrom. The delivery-chute has a stop 12 to arrest the carrier. The opening into which the carrier is delivered is of such length as to admit only one carrier to a position to be removed, and the stop arrests the carrier in such position as to preclude access to another carrier descending through the chute until the first is removed, and this insures attention to the carriers in due order and relation. Of course it is common in these systems, and, in fact, a necessary arrangement, that the carriers shall be delivered singly through the delivery-tube, but in my construction, instead of permitting the carriers to be discharged and to fall into a basket or upon a table, I arrest each of them in due order in such position as to require their removal in the like order. From each switch-box I preferably extend, in line with the incoming tubes 5, the suction-branches 13, all of which connect into the main suction-pipe 3.

In the operation of the system the carriers,

coming from various portions of the building to which the system extends, are received through the tubes 5, discharged through the switch-boxes 6, and are delivered through the delivery-chutes 10, from which they must be removed in regular order. The air being exhausted from the main suction-pipe there is a minus pressure in the pipes 5 and the suction branches 13, as well as in the switch-boxes 6, which operates to hold the door 8 closed. The perforations in the sides of the switch-boxes permit a free entry of air during the time the door is open, and thereby prevent the carriers from being detained in the delivery-chutes 10, and also prevent their being drawn up by the suction after passing the door.

By arranging the main suction-pipe 13 overhead a considerable economy of material and space is secured, as the straight suction-pipes 13 are not required to be of as great length as though they depended to the floor, and the location of the main suction-pipe on the floor always forms an obstruction, and when so placed it requires to be boxed or otherwise protected. A further advantage in this construction is that a cheaper grade of material may be used for the pipes 13. As no carriers pass through them they may be made from tin or sheet-iron. The arrangement is further advantageous in that the delivery-pipes 5, the branch suction-pipes 13, and the main suction-pipe can all be arranged in the same plane, and therefore the use of bent pipes, which are expensive, is largely avoided.

I claim—

1. In a pneumatic-despatch-tube apparatus, a main suction-tube, a series of receiving-tubes each provided with a terminal or switch-box and a series of suction branches connecting the switch-boxes and the main suction-tube and a series of delivery-chutes depending from said suction-boxes, substantially as described.

2. In a pneumatic-despatch-tube apparatus, the combination with a main suction-tube elevated above the head-space of the cashier's station, a series of receiving-tubes each having a switch box or terminal and a series of branch suction-pipes one for each switch-box and communicating with the suction-tube, the receiving-tubes, suction branches and main suction-pipe being arranged in or about the same plane, substantially as described.

3. In a pneumatic-despatch apparatus, the combination with a receiving-tube, of a switch box or terminal and a delivery-chute attached to said terminal said chute having its terminal portion extending in a plane substantially horizontal and having an opening in its upper side opposite which the carriers are arrested, the side walls of said opening being of such height as to retain the carrier and the said opening being of such length as to prevent the removal of the carriers except in regular order, substantially as described.

4. The combination with a receiving-tube and its terminal, of a delivery-tube connected with the terminal and through which the carriers are discharged by gravity said delivery-chute having its terminal portion extended at an angle to its body and provided in its upper side with an opening, the side walls of said opening being of such height as to retain the carrier and the said opening being of a length substantially equal to that of the carrier, and a stop to arrest the carriers opposite said opening, substantially as described.

5. The combination with a receiving-tube, of a switch-box having fixed guides, a hinged door and perforations in its side walls below the hinged door and a delivery-chute adapted to receive the carriers from the switch-box, substantially as described.

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