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PATENTED MAR. 21, 1905.

N. J. CURTIS.
MAIL BAG DELIVERY APPARATUS.

APPLICATION FILED JUNE 20, 1904.

2 SHEETS—SHEET 1.

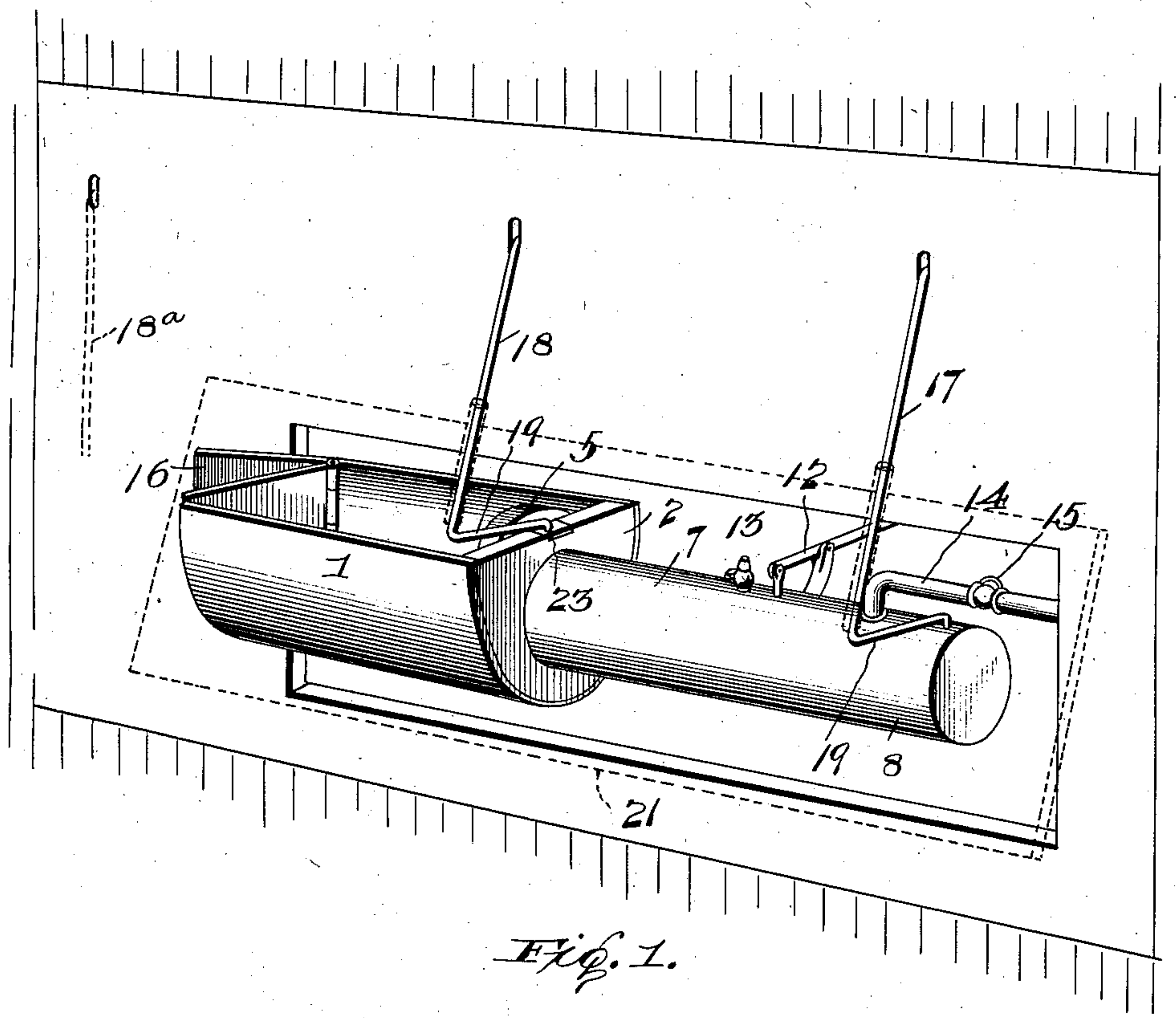


Fig. 1.

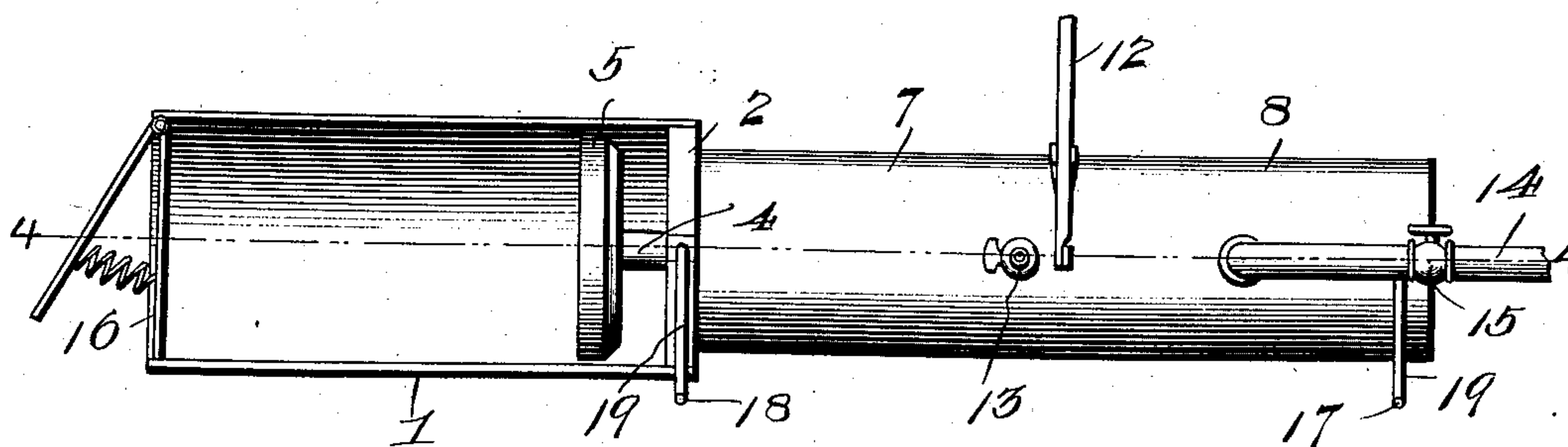


Fig. 3.

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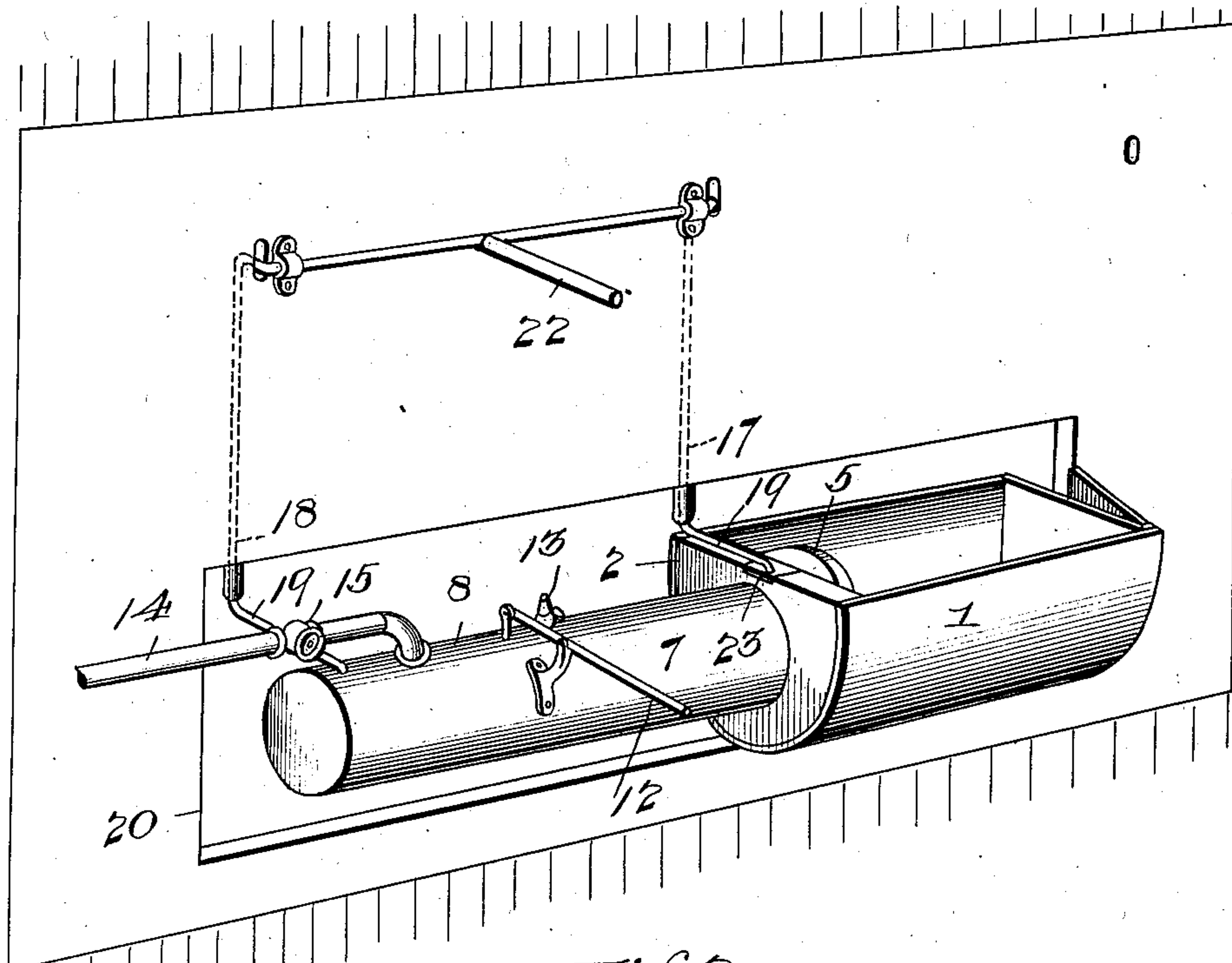


Fig. 2.

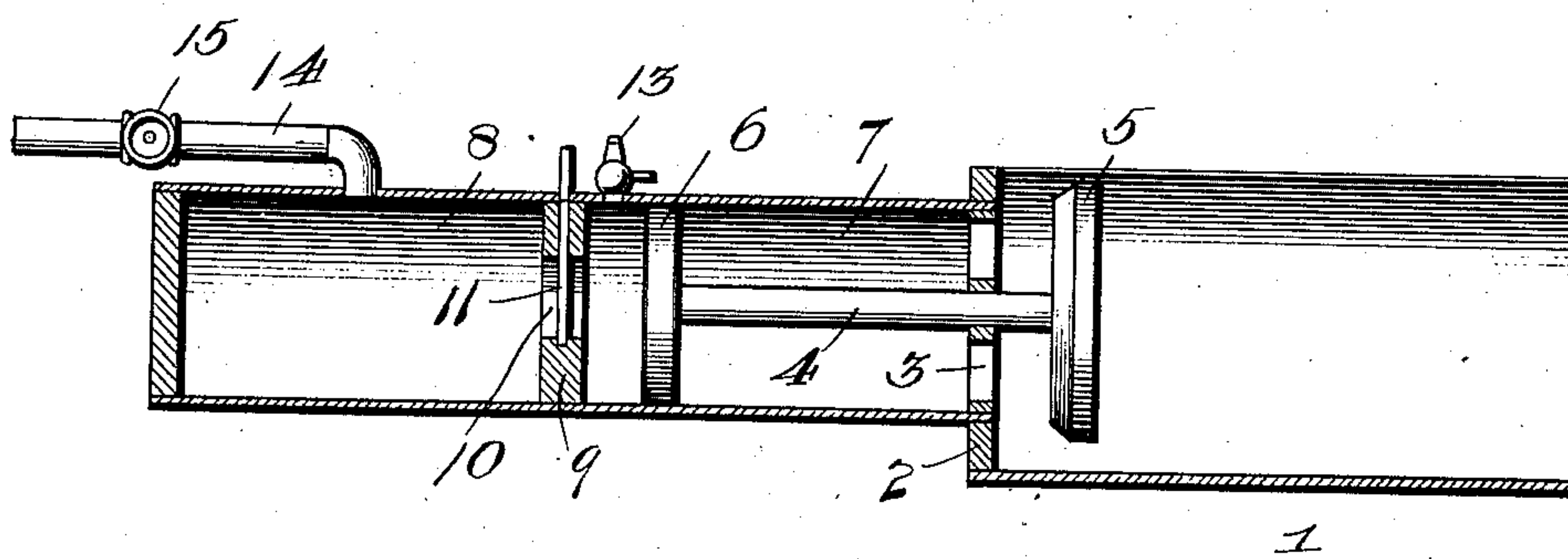


Fig. 4.

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UNITED STATES PATENT OFFICE.

NIMROD J. CURTIS, OF LISBON, IOWA.

MAIL-BAG-DELIVERY APPARATUS.

SPECIFICATION forming part of Letters Patent No. 785,156, dated March 21, 1905.

Application filed June 20, 1904. Serial No. 213,320.

To all whom it may concern:

Be it known that I, NIMROD J. CURTIS, a citizen of the United States, residing at Lisbon, in the county of Linn and State of Iowa, have invented certain new and useful Improvements in Mail-Bag-Delivery Apparatus, of which the following is a specification.

This invention relates to mail-bag-delivery apparatus for moving trains, and has in view a simple and practical apparatus of this character which can be conveniently handled, while at the same time comprising positive means for freely delivering mail-pouches in such a manner that they will naturally fall or drop upon the platform or ground irrespective of the speed of the train and without danger of being drawn under the wheels.

To this end the invention contemplates a mail-delivery apparatus designed to deliver or discharge the mail-pouches at the side of a car in a direction opposite to that in which the train is moving and with sufficient force to counteract the momentum of the train, whereby the pouches will be checked from any tendency to be thrown by the momentum of the train and will therefore simply gravitate onto the platform or other place of deposit for the mail.

With these and many other objects in view, which will more readily appear as the nature of the invention is better understood, the invention consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

The essential features of the invention involved in the carrying out of the objects hereinbefore specified are necessarily susceptible to structural change without departing from the scope of the invention; but a preferred embodiment thereof is shown in the accompanying drawings, wherein—

Figure 1 is a perspective view of a mail-bag-delivery apparatus shown in its operative position swung out from the side of a car ready for the delivery of mail-pouches. Fig. 2 is a similar view at the inside of the car, showing the retracted loading position of the apparatus. Fig. 3 is a detail top plan view of the apparatus disconnected from its hang-

ers. Fig. 4 is a longitudinal sectional view on the line 4 4 of Fig. 3.

Like numerals designate like parts throughout the several views.

In carrying out the invention the delivering apparatus proper essentially comprises a semicylindrical delivery-chute 1, open at the top and at one end and of a sufficient capacity to accommodate a number of mail-pouches, such as are ordinarily employed in the handling of mail-matter on trains. One end of the semicylindrical delivery-chute has fitted therein a closing-head 2, provided with a guiding-spider 3, constituting a guide for the reciprocary piston-rod 4, carrying at one end an ejecting-plunger 5, working within the chute 1, and, at its other end carrying an actuating-piston 6, operating in a pressure-cylinder 7, rigid with and offset from the closed end of the chute 1. The pressure-cylinder 7 is formed with an air-chamber extension 8, separated from the piston-receiving portion of the cylinder by an interior partition 9, provided therein with a feed-port 10, designed to be covered and uncovered by a throttling-valve 11, preferably in the form of a gate, arranged to extend entirely across the port 10 and having an operative connection with an exteriorly-arranged valve-operating lever 12. The said pressure-cylinder 7 has fitted thereto in proper proximity to the valved partition or feeding-head 9 a pressure-release valve 13, which when opened permits of the escape of air from the cylinder 7, whereby the piston 6 and the ejecting-plunger 5 will be freely returned to their retracted or starting position. The air-chamber extension 8 is designed to receive the compressed air or other motive agent under pressure from a pressure-supply pipe 14 in communication with the interior of the air-chamber and which may be conveniently connected with one of the reservoirs of the air-brake system of the train. This pressure-supply pipe 14 is equipped with a suitable controlling-valve 15, whereby the air or other motive agent under pressure may be admitted at will into the air-chamber 8.

At the open discharging end thereof the delivery-chute 1 is equipped with spring-ac-

tuated deflecting-gates 16, which are normally held in a closed position; but opened under the impact of the mail-pouches when forced outward by the ejecting-plunger 5.

5 When this occurs and the mail-pouches pass out of the open discharging end of the chute, the tendency of the gate or gates to close or recoil serves to laterally deflect or press the mail-pouches outwardly in a direction away
10 from the side of the car, thus obviating the possibility of the suction of the train drawing the pouches under the wheels.

The delivery apparatus proper may be conveniently hung in any practical manner, but
15 preferably as shown in the drawings, which involves suspending the apparatus from hanger-rods 17 and 18, arranged at the outer side of the car-body and provided with angled lower ends 19, attached to the body of
20 the apparatus and permitting the same to be normally held within the car-body at the inner side of a door-opening 20, through which the apparatus is moved into and out of the car. This door-opening may be conveniently
25 covered and uncovered by a shutter 21, opened and closed by the movement of the apparatus. The hanger-rods 17 and 18 swing outwardly, and at their upper ends are extended through the side of the car and operatively connected
30 with a controlling-lever 22, which is manipulated for swinging the apparatus outward for mail-delivery purposes. One of the hanger-rods (designated by the numeral 17) may be provided with an intermediate swivel 23,
35 which permits the apparatus to be reversed and hung partly from another hanger-rod 18^a, if it is desired for the same to operate in the opposite direction.

After loading the delivery-chute from the
40 inside of the car and turning the pressure-supply into the air-chamber 8 the apparatus is swung outward through the door therefor, and by manipulating the valve-operating lever 12 the pressure-supply is admitted to the
45 pressure-cylinder, with the result of sharply actuating the piston thereof in a direction for forcibly ejecting the mail-pouches.

While compressed air has been described as the motive agent for operating the apparatus, it will be understood that any equivalent pressure means may be employed without departing from the spirit or scope of the invention.

Having thus described my invention, what
55 I claim is—

1. In a mail-bag-delivery apparatus, a de-

livering device having bag-ejecting means, spring-actuated deflecting means carried by said device, and means for holding said device in position for the delivery of the bags
60 in a direction contrary to the movement of the train.

2. In a mail-bag-delivery apparatus, a delivering device arranged longitudinally of the car and having its discharge end disposed in
65 the opposite direction to the movement of the car, bag-ejecting means carried by said device, and spring-actuated deflecting means also carried by said device.

3. In a mail-bag-delivery apparatus, a delivering device arranged longitudinally of the car and comprising means for discharging the bags in a direction contrary to the movement of the train and spring-actuated deflecting means for deflecting the bags off
75 from the side of the car.

4. In a mail-bag-delivery apparatus, the combination with a car-body having a side opening therein, of a delivering device movable through said side opening and having
80 bag-ejecting means, and means for swinging said device into and out of the car.

5. In a mail-bag-delivery apparatus, the combination with a car-body having a side opening therein, and a self-acting shutter for
85 said opening, of a delivering device arranged to be moved through said opening to a position within and outside of the car-body, said device comprising means for ejecting the bags in a direction contrary to the movement of
90 the train, and swinging hangers connected with said device and with the car-body, said hangers being provided with a controlling-lever disposed within the car-body.

6. In a mail-bag-delivery apparatus, a delivering device comprising an open delivery-chute provided with a deflecting-gate at its discharging end and supporting at its opposite end a pressure-cylinder having an air-chamber extension, a valved feeding-head or
100 partition separating the pressure-cylinder from the air-chamber extension, an ejecting-plunger slidably mounted within the chute, and an actuating-piston working within the pressure-cylinder and having a rod connection with said plunger.
105

In testimony whereof I affix my signature in presence of two witnesses.

NIMROD J. CURTIS.

Witnesses:

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GRACE BLANDIN.