

J. E. BOYLE.
MAIL BAG CATCHING AND DELIVERING APPARATUS.
APPLICATION FILED APR. 1, 1908.

904,676.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.

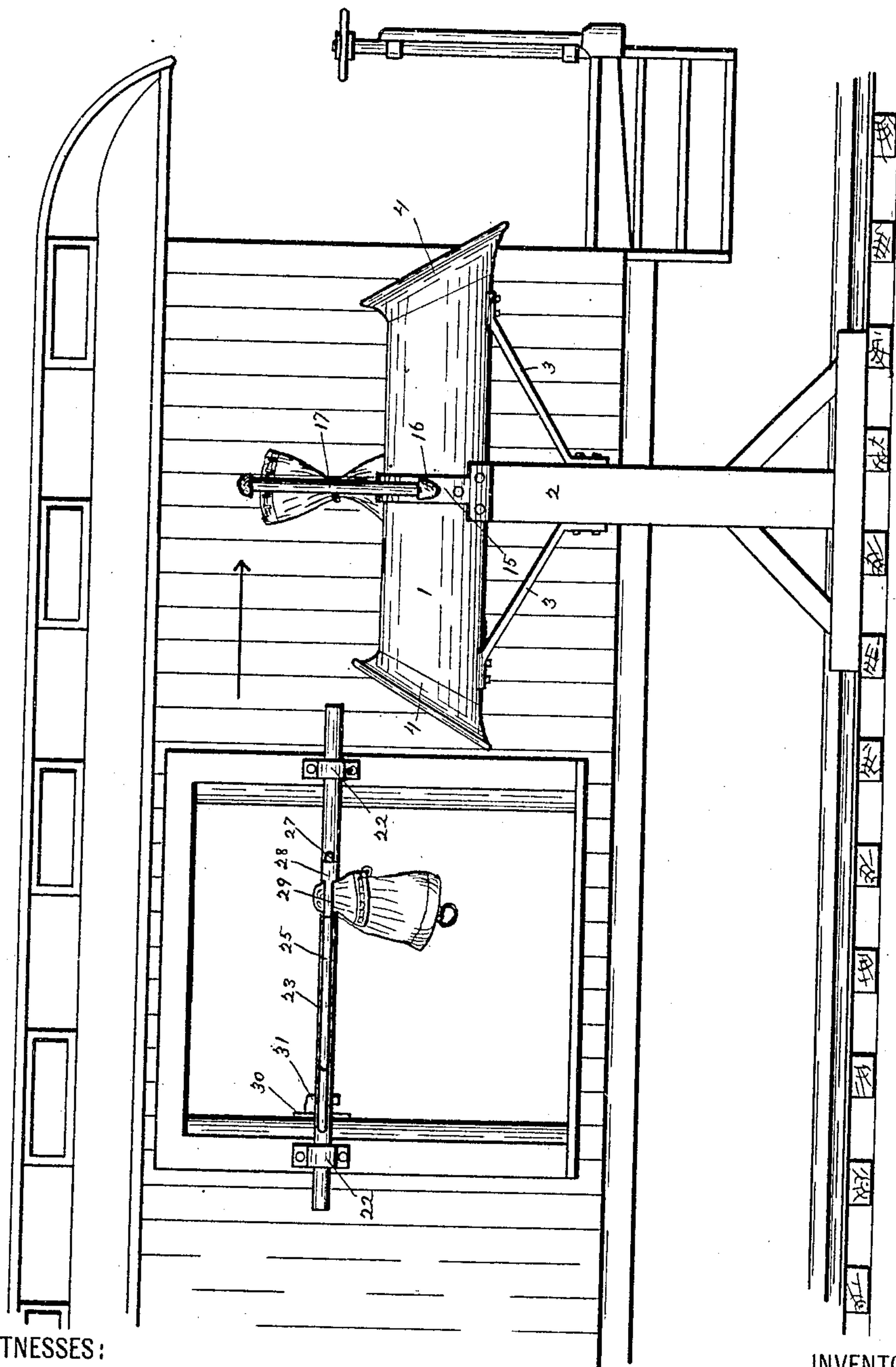


Fig. 1

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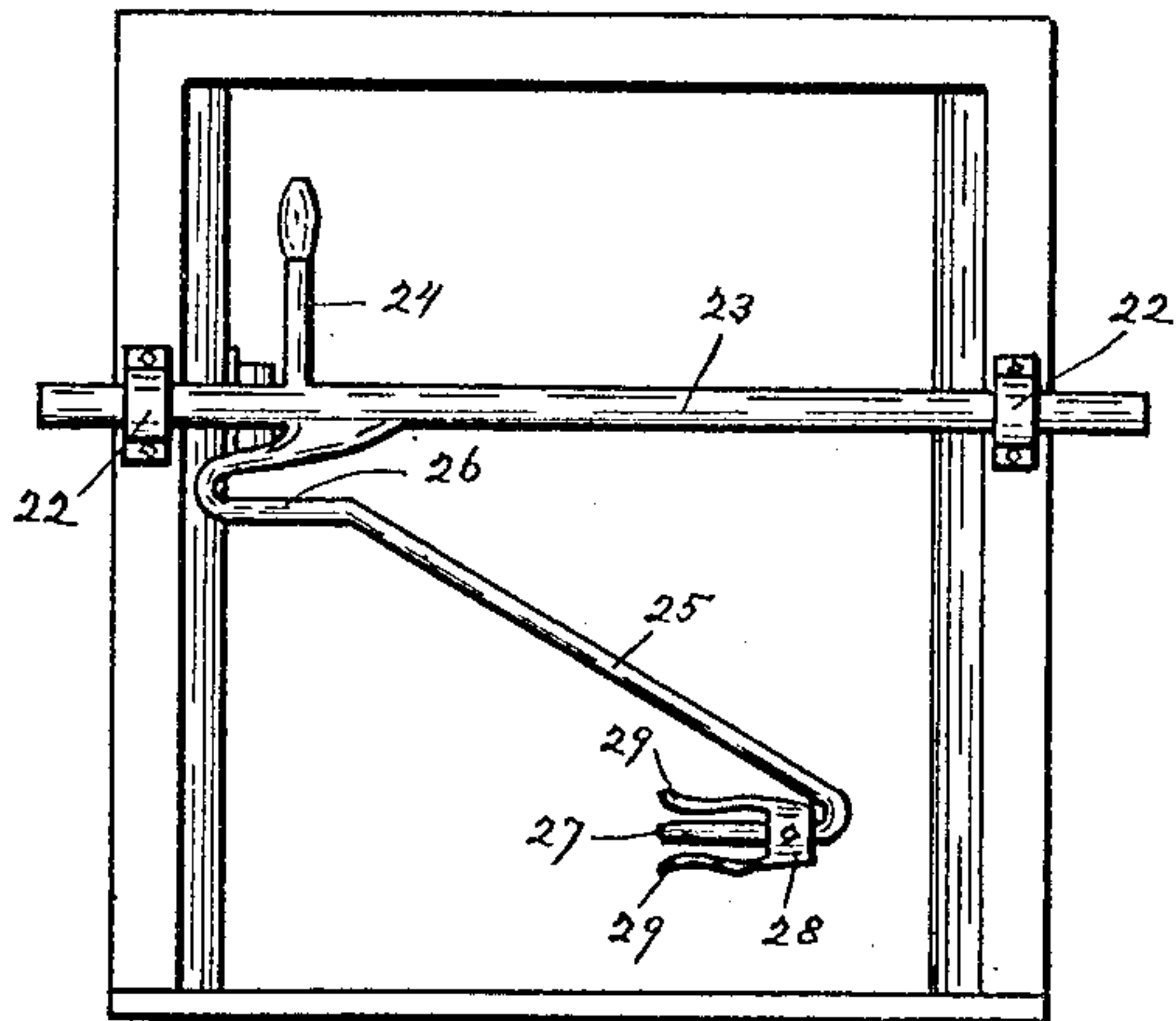


Fig 2

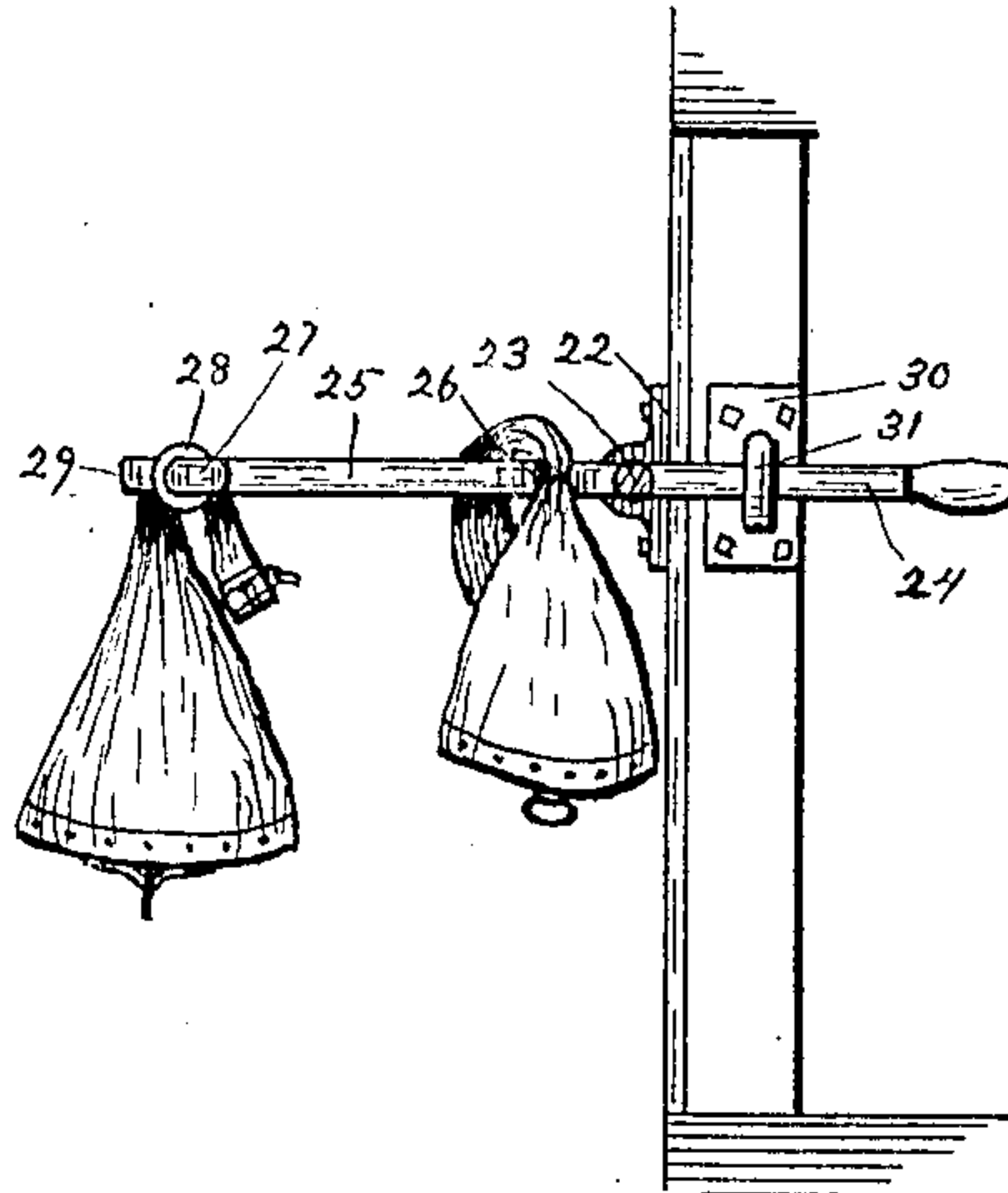


Fig 3

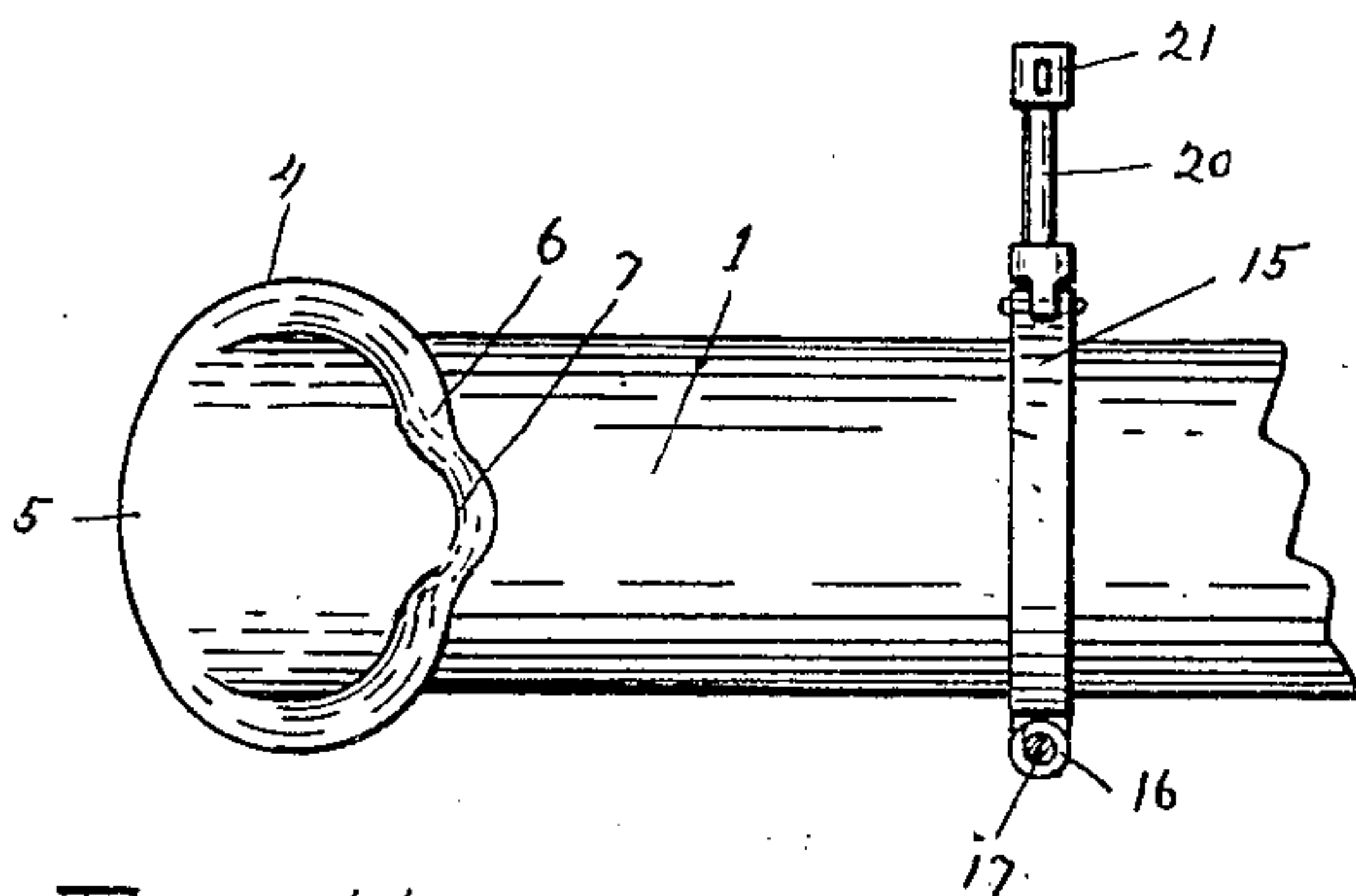


Fig 4

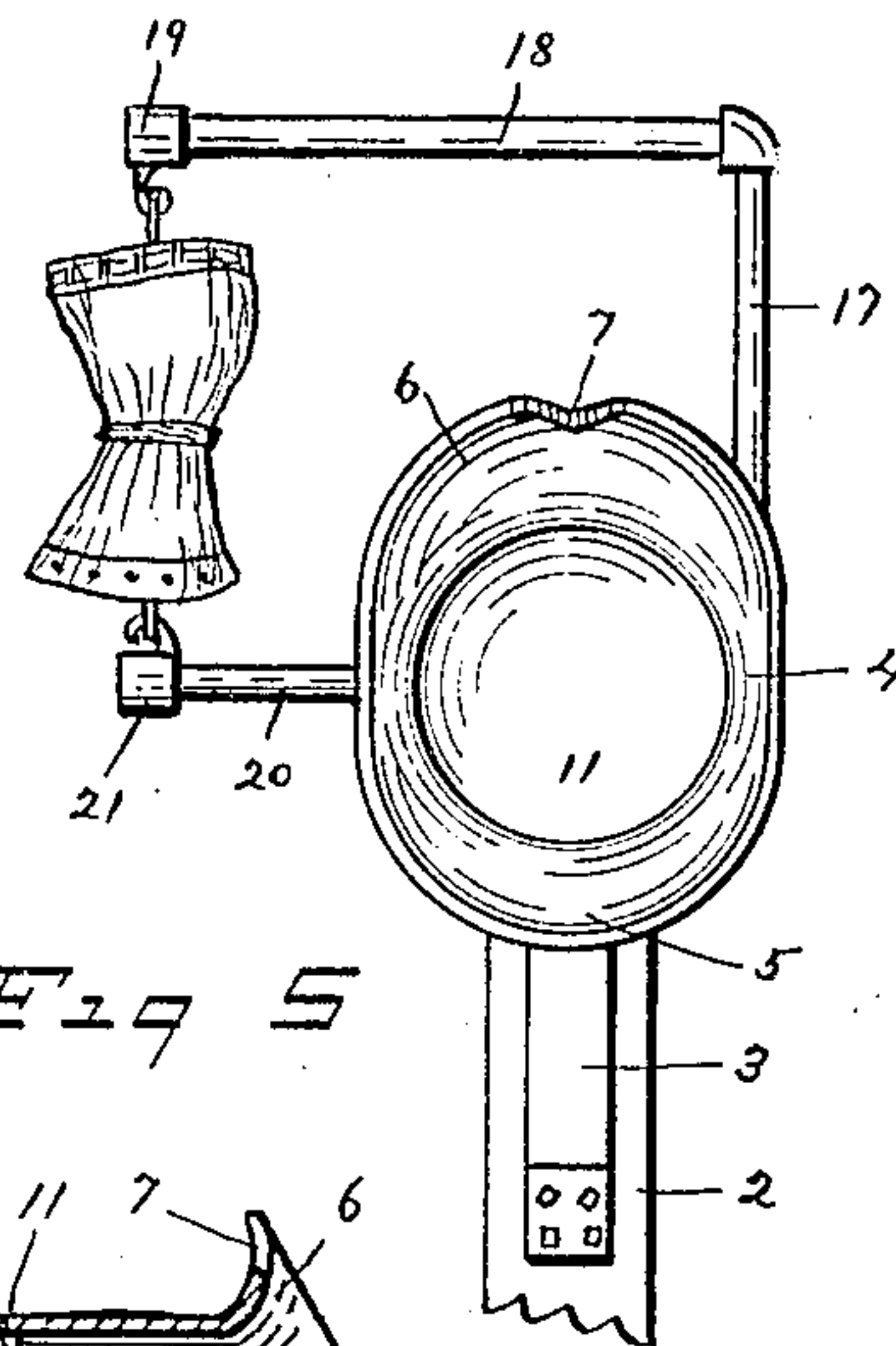


Fig 5

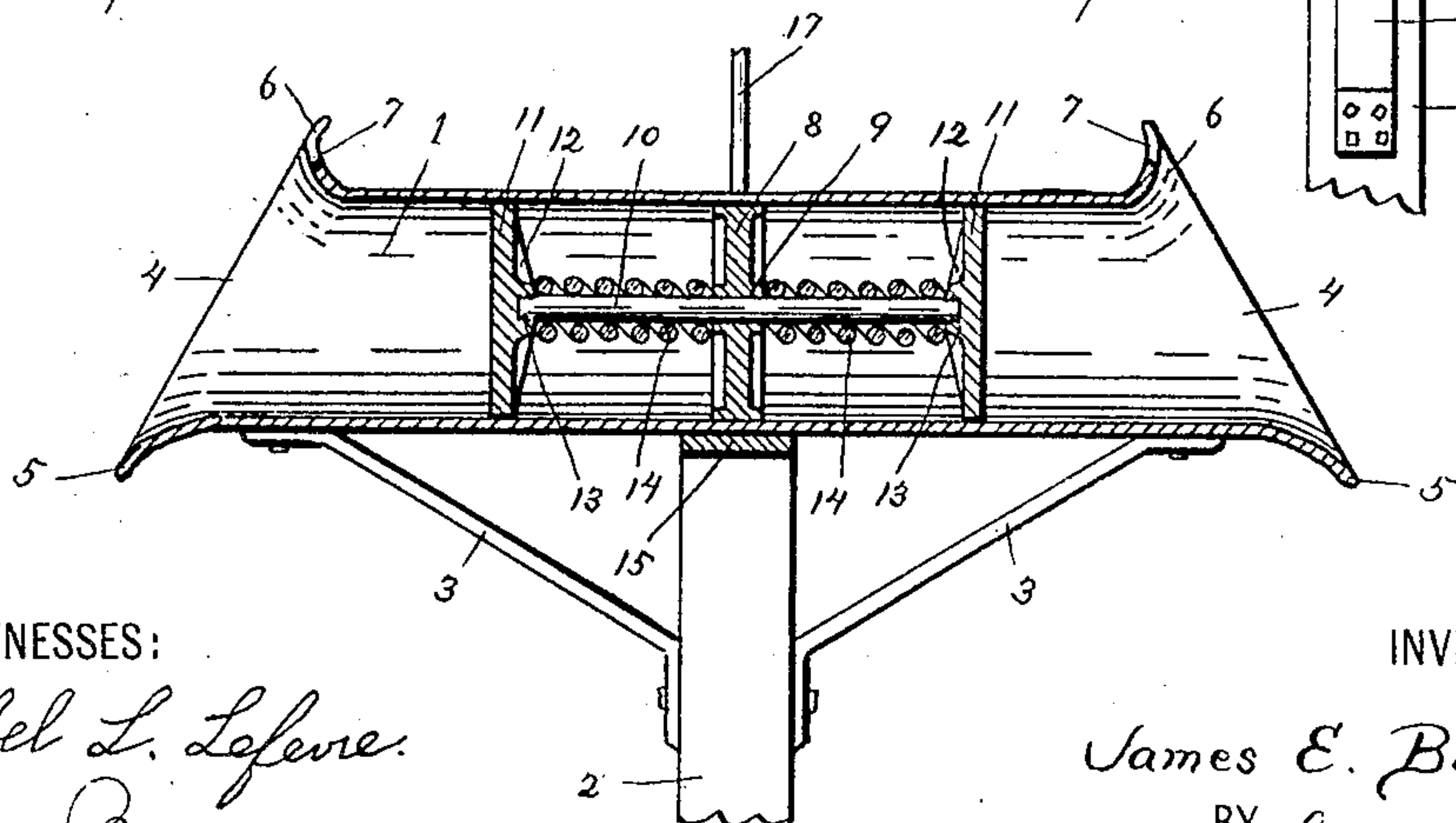


Fig 6

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UNITED STATES PATENT OFFICE.

JAMES E. BOYLE, OF LANCASTER, PENNSYLVANIA.

MAIL-BAG CATCHING AND DELIVERING APPARATUS.

No. 904,676.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed April 1, 1908. Serial No. 424,521.

To all whom it may concern:

Be it known that I, JAMES E. BOYLE, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Mail-Bag Catching and Delivering Apparatus, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to devices for delivering and catching up mail in bags at the same time from moving trains, from and to the apparatus placed alongside the track taken in coöperation with the mechanism provided for that purpose on the car.

The objects of my invention are, first, to provide suitable means on the car whereby a mail bag can be caught and one or more delivered at the same time by only one act of the operator and without danger of damage to the bags or their contents: second, to improve the construction and operation of the present mechanism attached to the car: thirdly, to provide a new, novel, durable and efficient means alongside the track for receiving and securing the bags from the car and for supporting the bag to be caught by the device upon the car: fourth, to provide an apparatus which will be always in readiness for operation in connection with a train moving in either direction without having to be set or operated by hand in any way, and also which will be operative with several bags at the same time and without any adjustment for bags of different sizes or weights, and which will receive the bags without danger from sudden stoppage, while the device which is attached to the car may be quickly detached and may be readily changed from side to side or to operate in the opposite direction.

With these objects in view, my invention consists in the improved construction, arrangement and combination of parts hereinafter more fully described in the specification and pointed out in the claims, but it is understood that slight changes may be made in the construction without departing from the spirit of the invention.

Like reference figures designate corresponding parts in all the figures of the drawing.

In the drawing:—Figure 1, is a side elevation of part of a car with my device attached, showing a mail bag in position for

delivery, and a side elevation of my delivery receptacle placed alongside the track, with a bag in position for catching. Fig. 2, is a side elevation of a car doorway, showing my catching and delivering arm in position when not in use. Fig. 3, shows a view of the door jamb, with my device extended and showing a bag caught and one in position for delivery. Fig. 4, is a partial top plan view of my delivery receptacle, with the crane shown partly in section. Fig. 5, is an end elevation of my delivery receptacle, showing a bag in position upon the crane for catching. Fig. 6, is a longitudinal section of my delivery receptacle, with part of the crane and standard removed.

In the drawings:—1, indicates a cylindrical tube supported upon the upright post 2, and braced thereto by the braces 3, and provided with the bell-shaped flaring ends 4, formed with the lower lip 5, extending beyond the upper lip 6, while the upper lip 6, is slightly indented at the point 7. Within said tube, midway its ends is secured the partition 8, which is formed with a center bearing 9, in which is slidably mounted a piston rod 10, to the ends of which are secured the heads 11, in any suitable manner, and here shown as formed with ribs 12, and a boss 13, into which are screwthreaded the ends of the piston rod 10, while embracing the piston rod 10, with their ends bearing against the heads 11, and the partition 8, are provided the coiled tension springs 14.

The heads 11, are here shown as fitting the inner surface of the tube in close contact, but they may be made of smaller diameter and provided with packing rings to secure a perfect air-tight fit.

Surrounding the outer surface of the tube 1, and secured to the top of the post 2, is the supporting ring 15, which is secured to the edge of the partition 8, through the side of said tube 1. Said ring 15, is provided upon one side of said tube 1, with the boss 16, into which is screwthreaded the upright post 17, which supports the cross arm 18, of the crane, to the outer end of which is secured the bag hook 19. To the opposite side of the ring 15, is hingably attached the lower arm 20, of the crane, to the outer end of which is secured the bag hook 21.

Rotatably and slidably mounted within the bearing brackets 22, secured to the car door frame is the rod 23, near one end of which is formed, integral therewith, the

hand lever 24, extending at right angles thereto, and to the opposite side of which, integral therewith and extending in the same plane, is the catching and delivering arm 25, which is formed with the catch loop 26, near its juncture with said rod 23, and it is also provided with the hooked end 27, as shown, while upon said hook 27, is secured the collar 28, which is formed with the projecting spring arms 29, which cooperate with said hook 27, in forming a spring catch.

To the door jamb is secured the plate 30, formed with a downwardly extending hook 31, adapted to engage and retain the hand lever 24, to retain the catching and delivering arm 25, in a horizontal position and from any lateral movement when set.

The delivery receptacle having been placed alongside the track parallel to the car and in such a position that when the arm 25, is extended, the catch formed of the hook 27, and springs 29, will pass just above and in a line with the depression in the upper lip of the tube.

The operation is as follows:—The mail bag to be caught is suspended in the usual way by its ends from the hooks of the crane, while the bag to be delivered is folded over near its top and slipped upon the hook 27, where it is retained by the action of the spring arms 29, which grip it and prevent its accidental removal. This operation may be done while the arm 25, is in a downward position and the bag resting upon the floor of the car.

As the train approaches the receptacle the arm 25, with the bag is raised by depressing the hand lever 24, and secured at right angles to the car by engaging said hand lever under the hook 31. In this manner as the car moves forward and passes the receptacle, the upper lip of said receptacle strikes the bag just below the clamp, driving it off of said clamp, and the momentum of the train will force said bag into the mouth of said receptacle and against the head, forcing in said head and piston, while the air contained within the compartment formed between said head and the partition, will act as a cushion and save the bag from the danger of damage by a sudden stoppage, while upon removing the bag from the receptacle the heads will readjust themselves by the action of the spiral springs, so that the device is always set to operate in either direction.

As soon as the bag is delivered the arm will pass on its way over the mouth of the receptacle and engage and secure in the usual way the bag suspended from the crane, when said arm may be released and the bag delivered into the car.

It will be readily seen that the rod carrying the arm 25, may be quickly detached and placed upon the opposite side of the car, and it will further be noted that said

device upon the car may be used in connection with the usual crane at stations where the receiving receptacle is not provided.

The invention having thus been described, what I claim as new and desire to secure by Letters Patent is:—

1. In a mail bag catcher and deliverer for cars, a bag-holding-clamp formed on the usual bag-catching arm, near the outer end thereof, and comprising a hook formed upon said arm in a direction parallel to the car, a spring clamp formed of two arms joined at their rear ends to a collar embracing and secured to said hook.

2. In a mail bag catcher and deliverer for cars, a bag-holding-clamp formed on the usual bag-catching arm, near the outer end thereof, and comprising a hook formed upon said arm in a direction parallel to the car, a spring clamp formed of two arms joined at their rear ends to a collar embracing and secured to said hook, a plate secured to the door jamb and provided with a downwardly extending hook adapted to embrace and detachably retain the hand-lever of said bag-catching arm.

3. A mail bag catching and delivering apparatus for a station, comprising a tube having a mouth adapted to be struck by and to receive a bag supported and extended from the car by suitable means, means for mounting said tube in proper relation to the car, means for guiding the entrance of the bag into said tube, means for cushioning the impact of said bag, means for automatically adjusting said cushioning device, and means for supporting the bag to be caught by said car.

4. In a mail bag receiver, for receiving the bag from a moving car, a tube supported upon a standard and placed in a parallel relation to the car, and provided with a flaring mouth at each end thereof, the lower lips of said mouths extending beyond the upper lips, and said upper lips formed with a depressed portion to guide the entrance of the bag, means for reducing the impact of the bag within said tube, means for automatically adjusting said impact reducing device and means for supporting the bag to be caught by the car.

5. In a mail bag receiver, for receiving the bag from a moving car, a tubular receptacle, suitably supported in proper relation to said car, and having its ends provided with flaring mouths, a partition secured within said tube, a bearing provided in the center of said partition, a piston rod slidably mounted within said bearing, piston heads secured to the ends of said piston rod and in slidable contact with the inner surface of said tube, coiled springs surrounding said piston rod between said piston heads and said partition, air chambers formed within said tube.

6. In a mail bag receiver, a tubular re-

ceptacle suitably supported upon the road
bed and in relation to the moving car, and
provided with flaring ends, a center wall se-
cured within said receptacle, piston heads
5 carried on the ends of a piston rod mounted
within a bearing in said wall and auto-
matically adjusted to equal distances from
said wall by the action of coiled springs sur-
rounding said piston rod, a supporting band
10 encircling said tubular receptacle near its
center and secured thereto, a standard se-
cured to said band upon one side of said re-
ceptacle, an arm secured to the upper end
of said standard and extending over the top
15 of said receptacle at right angles thereto and
terminating in a bag catch, an arm hingably
secured to said band on the opposite side
from said standard and extending in a paral-

lel relation to the first arm and provided
with a bag catch. 20

7. In a mail bag catching and delivering
apparatus, the coöperation of a catching and
delivering arm mounted upon the car, and
a tubular receptacle supported upon the road
bed in a suitable relation to the car and 25
provided with a shock absorber composed
of air chambers formed within said recep-
tacle and provided with automatic readjust-
ing means.

In testimony whereof I affix my signa- 30
ture in presence of two witnesses.

JAMES E. BOYLE.

Witnesses:

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