

H. R. LADD.
MAIL BAG CATCHING AND DELIVERING APPARATUS.
APPLICATION FILED JULY 26, 1908.

981,436.

Patented Aug. 17, 1909.

SHEETS-SHEET 1.

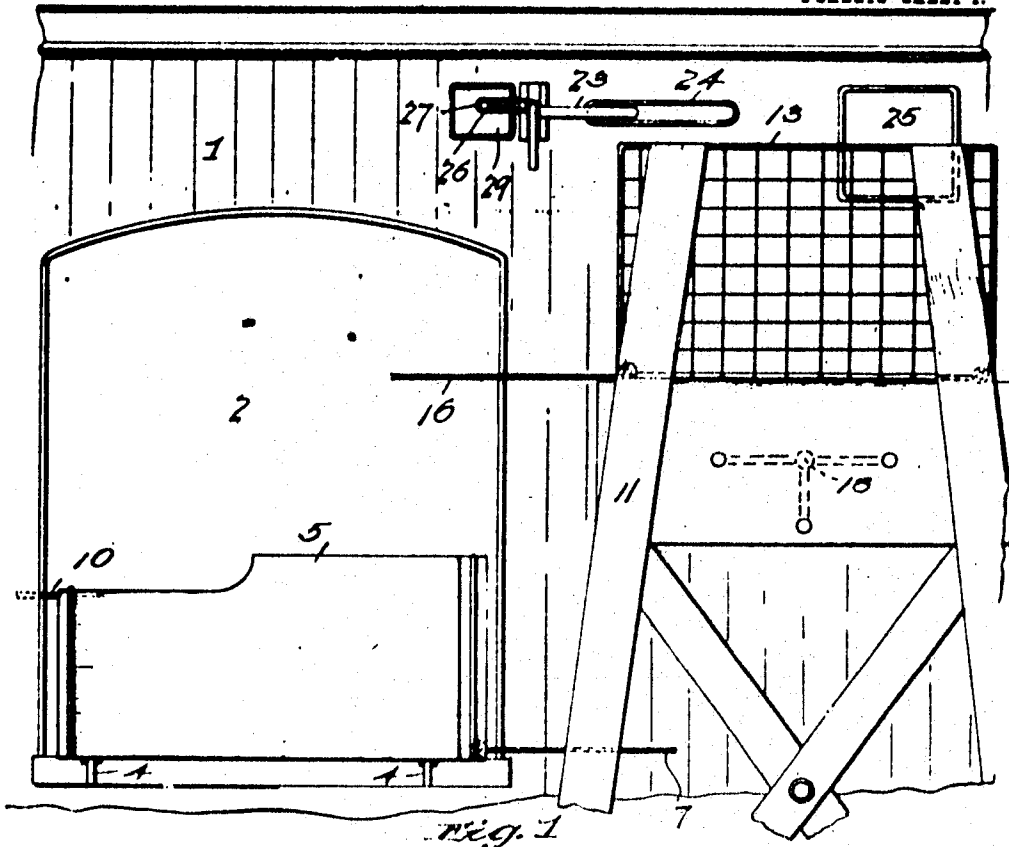
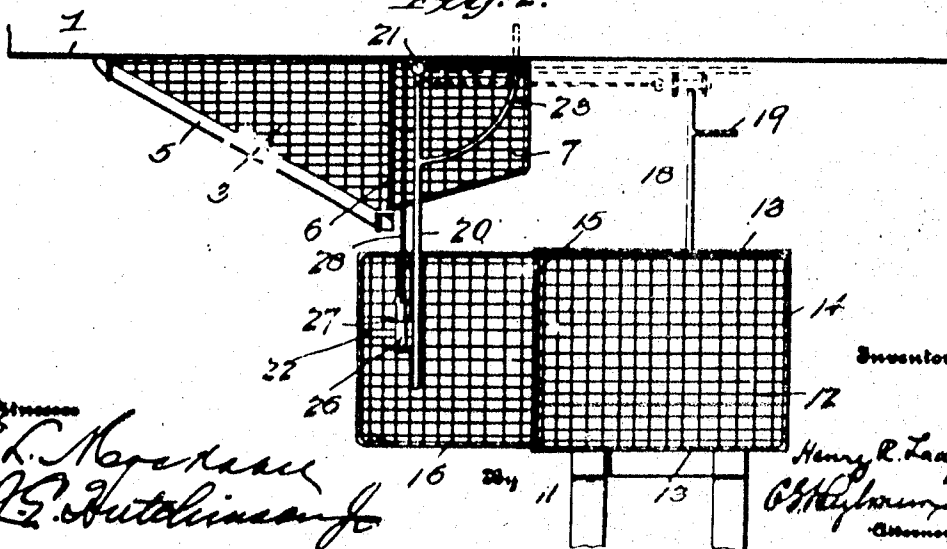


Fig. 1

Fig. 2.



Inventor

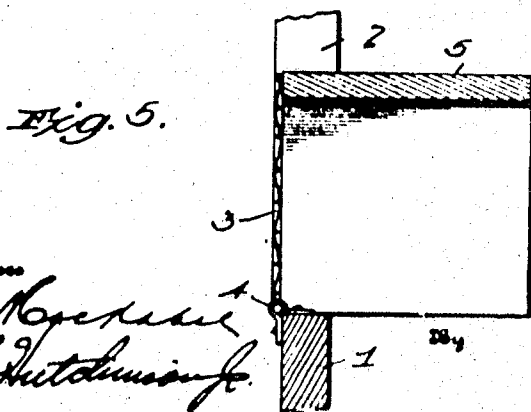
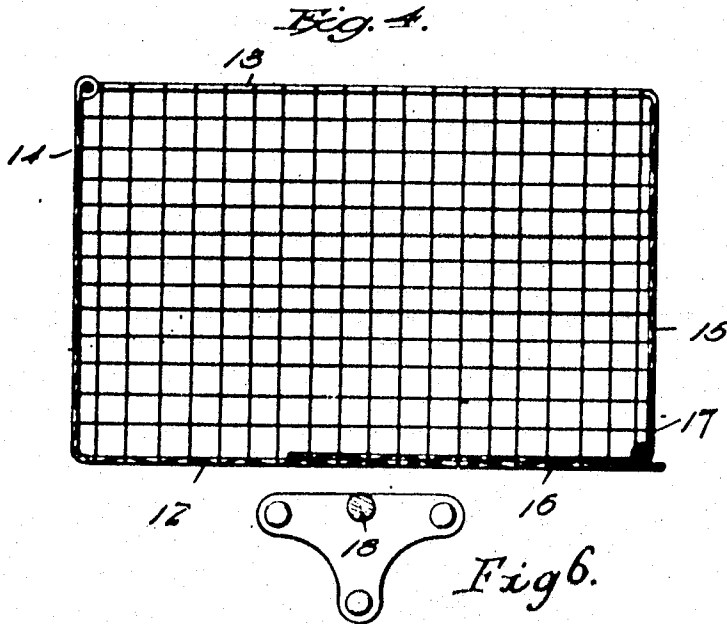
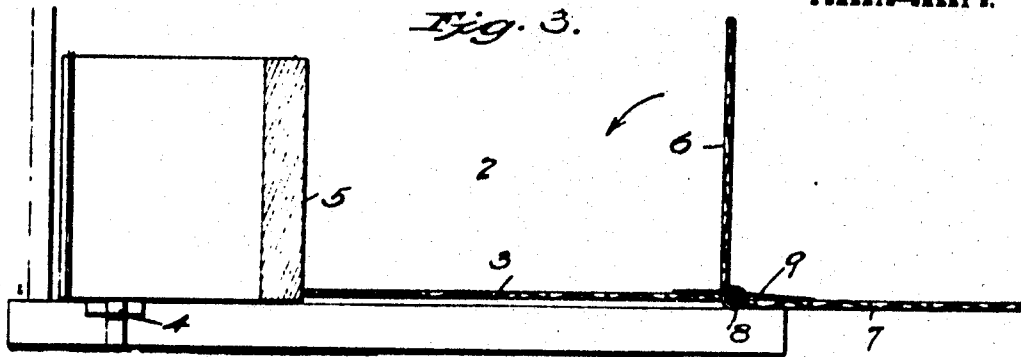
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MAIL BAG CATCHING AND DELIVERING APPARATUS.
APPLICATION FILED JULY 22, 1906.

931,436.

Patented Aug. 17, 1909.
3 SHEETS—SHEET 2.



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HENRY R. LADD, OF WASHINGTON, DISTRICT OF COLUMBIA.

MAIL-BAG CATCHING AND DELIVERING APPARATUS.

No. 931,436.

Specification of Letters Patent.

Patented Aug. 17, 1909

Application filed July 25, 1908. Serial No. 645,395.

To all whom it may concern:

Be it known that I, HENRY R. LADD, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Mail Bag Catching and Delivering Apparatus, of which the following is a specification.

My invention relates to new and useful improvements in mail bag catching and delivery apparatus, of that type particularly designed for use on moving trains whereby the trains deliver and receive mail bags at stations without stopping.

The primary object of the invention is to provide means of the character set forth which will be particularly simple in construction, and efficient and durable in operation and use.

A further object is to provide a catching and delivery apparatus which will reduce to a minimum the likelihood of the bags becoming torn while being caught and delivered.

The invention consists in the improved construction and arrangement of parts in operative combination to be more fully described hereinafter and the novelty of which will be particularly pointed out and distinctly claimed.

I have fully and clearly illustrated my invention in the accompanying drawings to be taken as a part of this specification, and wherein—

Figure 1 is a view in side elevation of a part of a car, and a crane equipped with my improved catching and delivery apparatus. Fig. 2 is a top plan view of the parts shown in Fig. 1. Fig. 3, is an enlarged detail view, partly in section of the catching devices designed to be employed in connection with a car. Fig. 4 is a longitudinal central section through a catcher as employed in connection with a crane, as at stations. Fig. 5 is a transverse section through a catcher for a car, showing the same thrown in through the car door as when not in use. Fig. 6, is a detail sectional view of the delivery arm with which the crane is provided.

Referring to the drawings by numerals of reference:—1 designates the side wall of a car body, the same being of any of the well known constructions. This side wall 1, is formed with an opening 2, which may be the usual door opening or an opening dis-

ting therefrom. Supported on the lower edge of said opening is a mail bag catching device which receives and deflects into the car, the mail bag or bags which may be suspended from the usual crane, or preferably from a crane of novel construction which I will describe hereinafter.

I will now proceed to describe the construction of the mail bag catching device.

3 designates a bottom member consisting of a flat plate which is preferably of reticulated or wire mesh material of sufficient rigidity and strength to adapt it to the purposes for which it is employed. This bottom member, as shown in Fig. 2, is in the form of a right angled triangle, the long side of which is hingedly connected as at 4, to the lower edge of the door opening 2, so that said bottom member may be thrown down to assume a horizontal position, as shown in Fig. 2, or be turned up into a vertical plane as shown in Fig. 6. This bottom member is arranged with its short side turned toward the forward end of the car, and rising from the outer edge of said member, or its inclined edge is a vertical buffer wall 5, which may be of wood metal or any suitable material, said wall being of a length substantially coextensive with the outer edge of the bottom member. Upon reference to the drawings it will be seen that the said bottom member and vertical wall form a pocket which is open at the short side of said bottom member, said pocket projecting out beyond the side wall of the car body, in position to receive a mail bag suspended from a crane. It will be evident that if the car is moving forward, that the mail bag will be struck by said buffer wall and being released from the crane will be deflected by said wall into the car through the opening 2.

Means is provided in connection with the bottom member and buffer wall for preventing the mail bag from accidentally dropping from the front edge of the pocket and not being deflected into the car as intended. This means comprises a gate member or closure comprising members 6, 7, of reticulated material secured to each other along adjacent edges and arranged in planes substantially at right angles to each other, said gate member being hingedly secured, as at 8, to the short side of the bottom member 3, along the line of connection between said members 6 and 7. A spring 9 is employed

in connection with the hinge of the gate member to normally maintain the same with the member 7 in a horizontal plane, and the member 6 in a vertical plane, said member 6 normally closing the forward end of the pocket when the latter is extended into operative position for catching the mail bags.

It will be seen, that, in operation, the mail bag will first strike the vertically extending member 6, and the latter will be thrown rearward as indicated by the arrow in Fig. 3, and the horizontal member 7 will then follow behind the bag and insure the same hitting the buffer wall 5 and being deflected into the car. After the operation just described the spring 9 will return the gate member to its normal catching position as indicated in Fig. 3.

The catching device when not in actual use for catching the bags may be swung upwardly and inwardly by virtue of its hinged connection 4, so that the member 5 is turned within the car through the door opening 2, so as to no longer project beyond the car body.

Any means may be provided for supporting the catching device in horizontal catching position, a laterally projecting stop 10, secured to the buffer wall and adapted to engage the adjacent edge of the opening when the catching device is thrown outwardly being sufficient for the purpose stated.

The catching device as above described, is particularly adapted for use in connection with mail cars, but with slight alterations may be successfully employed in connection with cranes for receiving bags from a car. In Figs. 1 and 2 of the drawings I have illustrated an embodiment of the invention as employed with cranes, the crane being indicated at 11, and being of any well known or preferred construction. Supported at the upper portion of this crane is a rectangular receptacle comprising a bottom 12, side walls 13, 13, and an end wall 14, the opposite end of the receptacle being left open. Pivoted to the edge of the bottom 12, at the open end of the receptacle is a gate member similar to that above described, and comprising members 15, 16 set at right angles to each other and pivoted to said receptacle along their meeting edges. A spring 17, may also be provided for normally swinging the gate member on its pivot so that the member 15 will stand vertically at the end of the receptacle and the member 16, be horizontal. It will be seen that a mail bag suspended from a car will upon striking the member 15, drop into the receptacle, and the member 16 will be thrown up to close the end of the receptacle, and retain the bag therein. The member 16 will be held in the position stated as long as the bag rests upon the member 15 which it will be understood has been thrown

down upon the bottom of the receptacle. As soon as the bag is removed from the receptacle the spring will return the gate member to its normal position.

The crane may be provided with a laterally projecting arm 18 having a finger 19, at one end to support a mail bag in position to be struck and caught by the catching device on the car.

The car is also provided with means for holding a bag in position to engage and be caught by the receptacle on the crane. This means comprises an arm 20 pivotally connected at one end to the car wall, as at 21, to swing in a horizontal plane, and having at its opposite end a finger 22, to support a mail bag. This arm 20 is provided with an actuating member 23, which passes through a slot 24 in the car wall, into the interior of the car where it can be conveniently grasped to swing the arm on its pivot. When it is desired to place a bag on the finger 22, the arm is swung on its pivot until the end bearing said finger takes a position opposite an opening 25, in the car wall through which the bag may be thrust, and the arm is then swung back to hold the bag in position to strike the catcher on the crane.

In order to prevent the bag from being dropped from the finger 22 while the arm is being moved to its outer position I provide a latch 26 sliding in ears 27, 27 on the arm 20 and crossing the finger 22, as shown so as to prevent the loop on the bag from sliding therefrom. It will be understood that this latch will be withdrawn when the arm is in outer position and before a crane is reached, a rod 28 extending to a point within the car through an opening 29 being employed for this purpose, said rod serving as a convenient means for moving the bolt back and forth.

As far as practicable, the parts of the catching device whether used on a car or on a crane, are formed of wire mesh or perforated material so that snow or dust or dirt will not rest thereon but will flow therefrom. It will be noted that the bottom of the catching device on the car, the parts of the gate member shifted therewith, and substantially the entire receptacle when used upon a crane is formed of this open mesh material.

What I claim is:

1. In a device of the character described, the combination with a car body having an opening, of a catching device comprising a horizontally disposed bottom member, a vertical buffer wall rising from said bottom member, and inclined outwardly from a point adjacent the car wall, whereby a bag striking said wall will be deflected through the opening into the car, and a gate member arranged between the outer end of said buffer wall and the car wall.

2. In a device of the character described, the combination with a car body having an opening, of a catching device comprising a horizontally disposed bottom member, a vertical buffer wall rising from said bottom member, and inclined outwardly from a point adjacent the car wall, whereby a bag striking said wall will be deflected through the opening into the car, and a spring actuated gate member arranged between the outer end of said buffer wall and the car wall.

3. In a device of the character described, the combination with a car body having an opening, of a catching device comprising a horizontally disposed bottom member, a vertical buffer wall rising from said bottom member, and inclined from a point adjacent the car wall, whereby a bag striking the said wall will be deflected through an opening into the car, and a vertically extending gate member located between the outer end of said buffer wall and the car body, said member being horizontally pivoted adjacent the forward end of said bottom member.

4. In a device of the character described, the combination with a car body having an opening, of a catching device comprising a horizontally disposed bottom member, a vertical buffer wall rising from said bottom member, and inclined from a point adjacent the car wall, whereby a bag striking the said wall will be deflected through an opening into the car, and a vertically extending gate member located between the outer end of said buffer wall and the car body, said member being horizontally pivoted adjacent the forward end of said bottom member, and

means to normally maintain said gate member in a vertical position.

5. In a device of the character described, the combination with a car body having an opening, of a catching device comprising a horizontally disposed bottom member, a vertical buffer wall rising from said bottom member and inclined outwardly from a point adjacent the car wall, whereby a bag striking said wall will be deflected through the opening in the car, a gate member consisting of spaced members disposed at right angles to each other, and pivoted at their meeting edges on a horizontal pivot at the forward end of the bottom member.

6. In a device of the character described, the combination with a car body having an opening, of a catching device comprising a horizontally disposed bottom member, a vertical buffer wall rising from said bottom member and inclined outwardly from a point adjacent the car wall, whereby a bag striking said wall will be deflected through the opening in the car, a gate member consisting of space disposed at right angles to each other, and pivoted at their meeting edges on a horizontal pivot at the forward end of the bottom member, and means to maintain the said gate member with one of its plates vertical and the other in horizontal position projecting forwardly therefrom.

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

HENRY R. LADD.

Witnesses:

F. L. BYRON,
HENRY E. COOPER.