No. 652,584. Patented June 26, 1900.

J. H. BATES.

MAIL BAG ATTACHMENT AND DELIVERING APPARATUS.

(Application filed Dec. 7, 1898.)

(No Model.) 2 Sheets—Sheet 1.

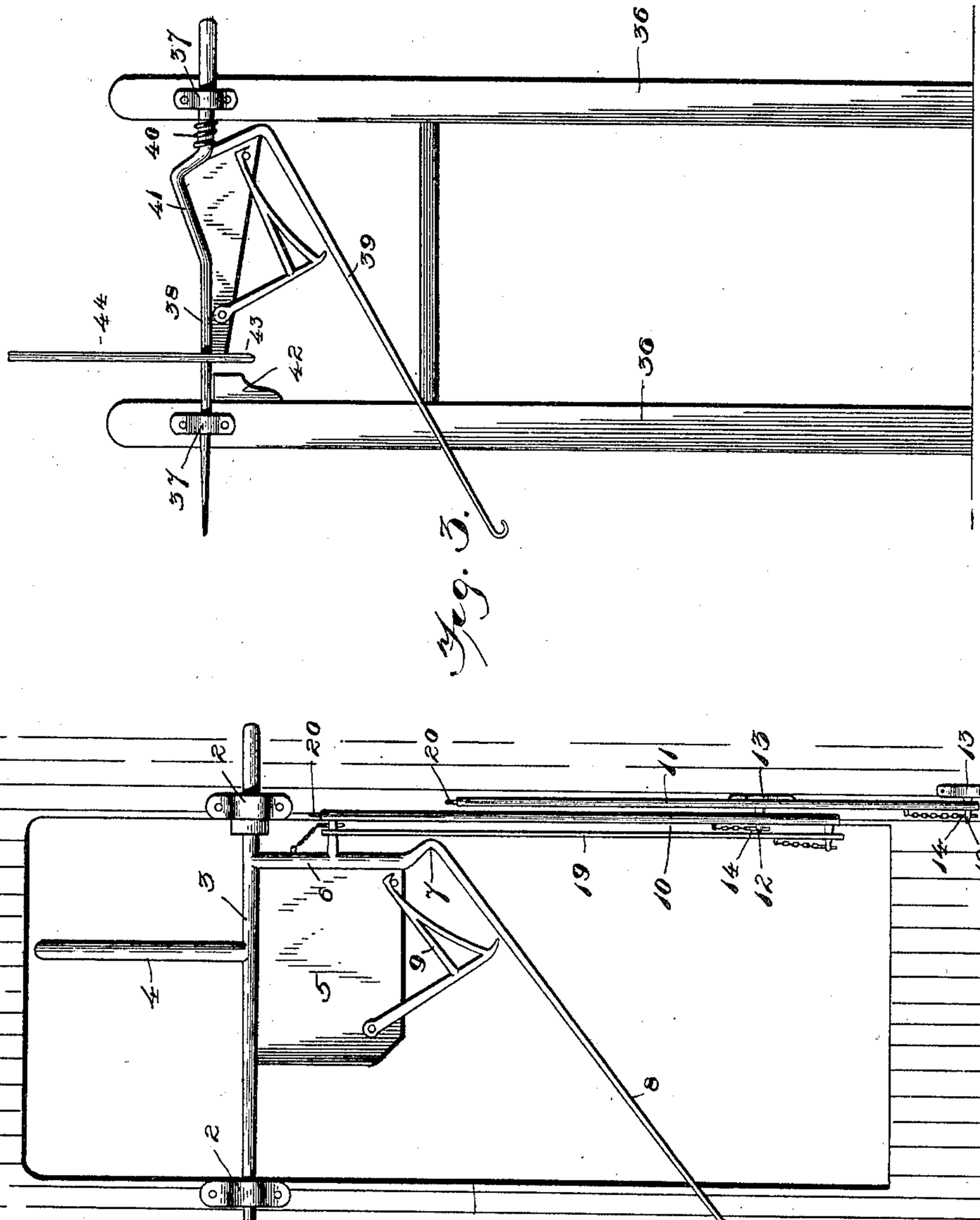

Fig. 3.

Fig. 1.

WITNESSES

T. L. Mockabee

Henry F. Byrne

INVENTOR

James H. Bates,

by John Weaderburn

Attorney

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Fig. 2.

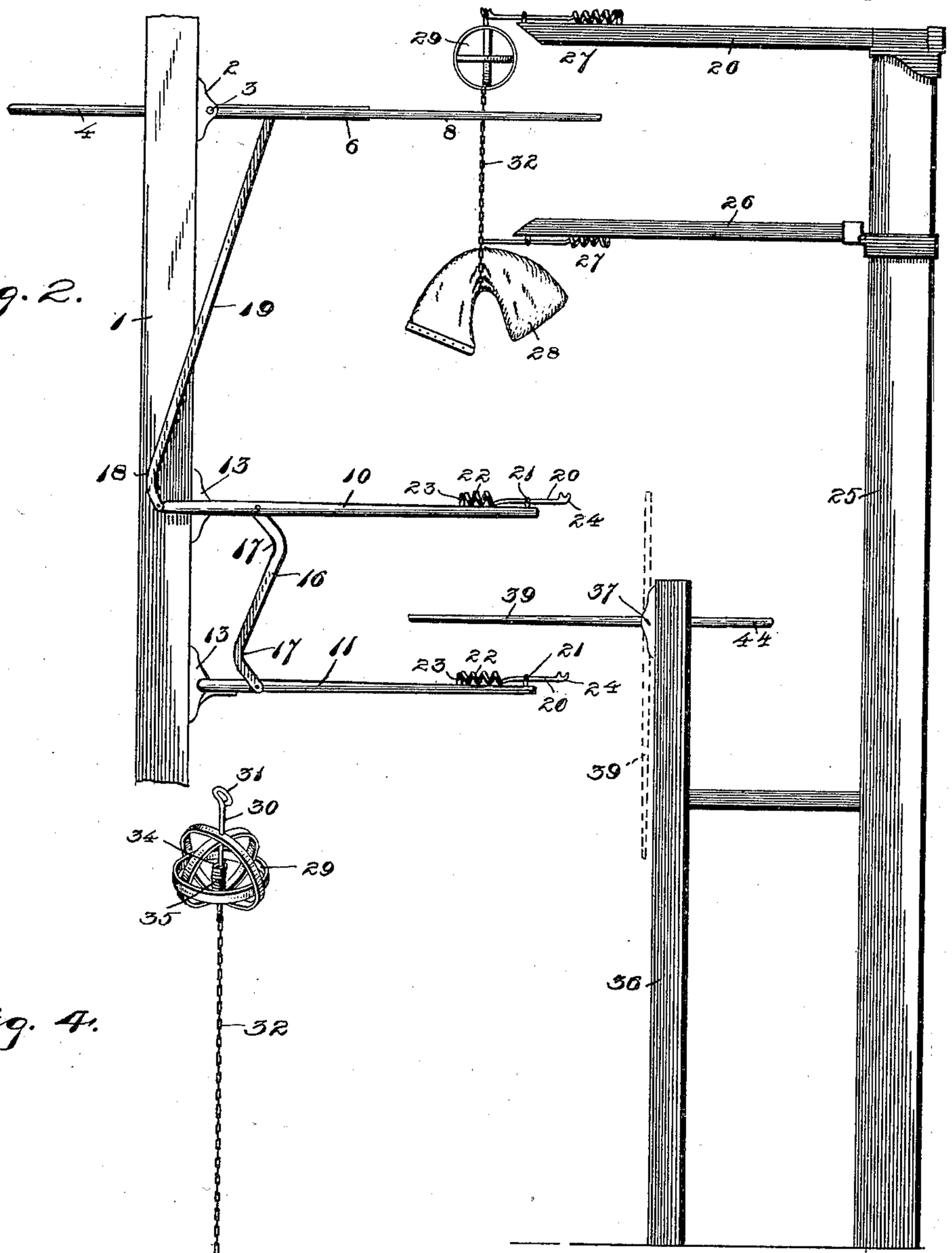

Fig. 4.

WITNESSES
T. L. Mockabee
Henry A. Byrne

INVENTOR,
James H. Bates,
by John Weaderburn
Attorney

UNITED STATES PATENT OFFICE.

JAMES H. BATES, OF SOMERSET, KENTUCKY, ASSIGNOR OF TWO-THIRDS TO HENRY G. TRIMBLE AND WILLIAM T. BATES, OF SAME PLACE.

MAIL-BAG ATTACHMENT AND DELIVERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 652,584, dated June 26, 1900.

Application filed December 7, 1896. Serial No. 614,818. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BATES, a citizen of the United States, residing at Somerset, in the county of Pulaski and State of Kentucky, have invented certain new and useful Improvements in Mail-Bag Attachments and Delivering Apparatuses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to mail-bag catching and delivery apparatus, being designed for use upon railway-cars for enabling mail-bags to be collected and distributed at the various stations throughout the line while the train is moving at full speed.

The aim of the present invention is to simplify and improve the construction of devices of this character in order that the same may be entirely automatic in operation, requiring little or no attention on the part of the attendant.

With this general object in view the invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a car, showing the doorway and the improved catching and delivery apparatus applied thereto. Fig. 2 is a side view taken at right angles to Fig. 1, showing the parts of the apparatus in their operative positions and also showing the stationary frame for catching the mail-bag and holding another bag ready to be caught by the apparatus on the car. Fig. 3 is a front elevation of the stationary crane. Fig. 4 is a detail perspective view of the suspending device by which a mail-bag is hung upon the stationary crane and upon the delivery-arms.

Similar numerals designate corresponding parts in the several figures of the drawings.

I will first describe the apparatus carried by the car.

1 designates the doorway of the car, provided on opposite sides with bearings 2, in which is journaled a rock-shaft 3, extending across the door-opening and provided with a handle 4, by means of which it may be operated. Secured rigidly to the rock-shaft 3 is a plate 5, along one edge of which extends an arm 6, the same being deflected at the outer edge of the plate 5 to form a crook or bend 7, in which the mail-bag is received, the said arm being extended thence obliquely, as indicated at 8, to engage with the mail-bag suspended on the stationary crane hereinafter described. Secured to the outer edge of the plate 5 is an L-shaped frame 9, which approaches closely to the oblique portion of the catcher-arm, and thus forms a contracted throat or entrance through which the suspending device of the bag passes, the said frame serving to prevent the accidental displacement of the bag after it is caught. In Fig. 1 the parts are shown in their folded positions, while in Fig. 2 the same parts are shown in their extended or operative positions.

10 designates the upper delivery-arm, and 11 the lower delivery-arm. These arms when in their extended position are substantially parallel to each other and arranged one above the other, as shown in Fig. 2, and said arms are provided at or near their inner ends with eyes or openings for the reception of the hinge-pins 12 of brackets 13, secured to the side of the car, said arms being maintained in place by means of stay-pins 14, passing through transverse openings in the ends of the hinge-pins 12 and connected by means of chains 15 to the car to prevent their loss. Interposed between and pivotally connecting the arms 10 and 11 is a link 16, having its opposite ends 17 reversely deflected in order to enable the arms 10 and 11 to be folded compactly against the side of the car. The upper delivery-arm 10 is extended beyond its fulcrum, where it connects pivotally with the lower deflected end 18 of a rod 19, which connects pivotally at its upper end with the catcher-arm 6. By means of this construction as the catcher is rocked into its operative position the delivery-arms are also moved into their operative positions, as shown in Fig. 2.

At the outer end of each delivery-arm is a trigger 20, pivoted at a point intermediate its ends on a vertical pin 21, so that it may swing

horizontally. Connected to the inner end of the trigger is a coiled spring 22, attached at its inner end to a pin 23 or fixed point on the delivery-arm. This spring serves to hold the trigger in longitudinal alinement with the delivery-arm and at the same time allows said trigger to swing horizontally for the purpose of releasing the bag. The trigger is formed at its outer end with a hook 24 for engaging the suspending device of the bag.

The stationary frame comprises a standard or post 25, to the upper end of which are connected horizontal arms 26, the same being spaced apart vertically and provided at their outer ends with triggers 27, similar to those on the delivery-arms above described. The mail-bag (indicated at 28) is supported from these arms 26 by means of a suspending device, which comprises a skeleton ball 29, consisting of two or more rings arranged one within the other and lying in different planes and connected at their points of intersection. At the intersection of said rings openings are formed to receive slidingly a rod 30, provided at one end with a ring or eye 31 for engagement with the upper trigger 27 of the stationary crane and connected at its opposite end to one end of a chain 32, having at its opposite end a hook 33.

Within the skeleton ball 29 is a cross-pin 34, which extends through the rod 30, and between said cross-pin and the intersection of the rings forming the skeleton ball is interposed a coiled spring 35, which surrounds the rod 31, thus yieldingly supporting the rod 30 and allowing the same to slide through the skeleton ball as the mail-bag is snatched by the catcher on the car. In suspending the bag the chain 32 is passed around the central portion of the bag and the hook 33 engaged with one of the links of the chain. The ring 31 is now engaged with the trigger on the upper arm 26, while the trigger on the lower arm is engaged with one of the links of the chain, as shown in Fig. 2, and the arms 26 are of sufficient length to hold the mail-bag in such position as to expose the suspending-chain 32 to the catcher on the train. When the oblique portion 8 of the catcher strikes the chain 32, said chain is carried inward beyond the frame 9 and into the crook 7, whereupon the weight of the bag causes the skeleton ball 29 to settle and rest upon the catcher in a manner that will be readily understood. The weight of the bag also serves to depress the catcher, thus carrying the bag into the door-opening and folding the delivery-arms 10 and 11 against the car. In placing a bag upon the delivery-arms the same may be folded inward for facilitating such operation, and afterward the handle 4 may be vibrated for moving the delivery-arms upward, after which the weight of the bags suspended thereon will keep said arms in horizontal position.

Arranged in front of the post 25 is a pair of spaced uprights 36, having bearings 37 for the reception of the rock-shaft 38 of a catcher 39, similar to that mounted on the car and described above. This catcher is adapted to be rocked into a horizontal position, as shown in full lines in Fig. 2, for receiving the bag from the train, or in a vertical position, as indicated in dotted lines in the same figure. The rock-shaft 38 is mounted slidingly in the bearings 37 and is normally slid forward or toward the direction in which the train is coming by means of a coiled spring 40, surrounding the rock-shaft 38 and interposed between one of the bearings 37 and a projection 41 on the catcher. On the forward post is a rest 42, adapted to receive the outwardly-projecting end 43 of the operating-handle 44 of the rock-shaft, whereby the catcher may be supported in its horizontal or operative position. When the bag is received in the catcher 39, the force of the same moves the rock-shaft 38 in its bearings, compressing the spring 40, which serves to cushion the shock, and moving the projection 43 of the handle 44 off the rest 42, whereupon the weight of the bag will cause the catcher to gravitate to its vertical position. (Shown in Fig. 3 and in dotted lines in Fig. 2.)

Any reasonable number of mail-bags may be engaged with the suspending-chain 32, after which the chain is suspended upon the triggers above described. By folding the delivery-arms against the car the operation of suspending a bag thereon is greatly facilitated.

The apparatus above described is simple in construction and economical in manufacture. The combined reach of the catcher and deliverer enables the crane to be set at a sufficient distance from the track to reduce the liability of persons on the train becoming injured by contact therewith. The apparatus is also reliable in operation and by insuring the proper catching and delivery of the bags prolongs the life thereof. The device will also operate in any kind of weather and is entirely automatic in action.

It will be understood that the apparatus is susceptible of various changes in the form, proportion, and minor details of construction, which may accordingly be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed as new, and desired to be obtained by Letters Patent, is—

1. Spaced and substantially-parallel delivery-arms having provision for suspending a mail-bag, and a link interposed between and connecting said arms causing them to move simultaneously in the same direction, a mail-bag catcher, and a connection interposed between said catcher and one of said delivery-arms whereby said arms operate simultaneously with the catcher but in a different direction therefrom, substantially as described.

2. The combination with pivoted and spaced delivery-arms, of an S-shaped link interposed between and pivotally connected to said arms between their points and fulcrums and having

its opposite ends reversely deflected, and means for vibrating one of said arms, substantially as described.

3. The combination with a mail-bag delivery-arm, of a trigger fulcrumed intermediate its ends on a vertical axis at the outer end of said arm and formed at its outer end to engage with the suspending device of the mail-bag, and a contractile spring secured at one end to said trigger and attached at its opposite end to a fixed point on the delivery-arm, substantially as described.

4. A suspending device for the purpose described, comprising a chain provided at one end with a hook and having a skeleton ball at its opposite end, said ball consisting of a plurality of rings intersecting at diametrically-opposite points, substantially as described.

5. A suspending device for the purpose described, comprising a chain comprising a plurality of links and provided at one end with a hook and having at its opposite ends a ball yieldingly connected thereto, substantially as described.

6. A suspending device for the purpose described, comprising a skeleton ball, a rod slidingly mounted in said ball and provided at one end with a ring or eye and at its opposite end with a chain having a hook at its extremity, and a spring surrounding said rod within the ball for yieldingly supporting said rod, substantially as described.

7. A suspending device for the purpose described, consisting of a chain provided at one end with a hook and having at its opposite end a skeleton ball comprising two or more rings arranged one within the other and lying in different planes, the said rings being connected at the points where they intersect or cross each other, substantially as described.

8. A suspending device for the purpose described, comprising a ball, a hook, and a flexible connection interposed between said ball and hook, substantially as described.

9. A suspending device for the purpose described, comprising a ball, a hook, a flexible connection between said ball and hook, and a link attached to said connection intermediate its ends and forming a part of said connection, substantially as described.

10. A suspending device for the purpose described, comprising a ball, a hook, and a chain connecting said ball and hook, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

J. H. BATES.

Witnesses:
R. G. HAIL,
JOHN M. HAIL.