(No Model.) 3 Sheets—Sheet 1.

A. P. HAUSS.

MAIL BAG CATCHER AND DELIVERER.

No. 480,385. Patented Aug. 9, 1892.

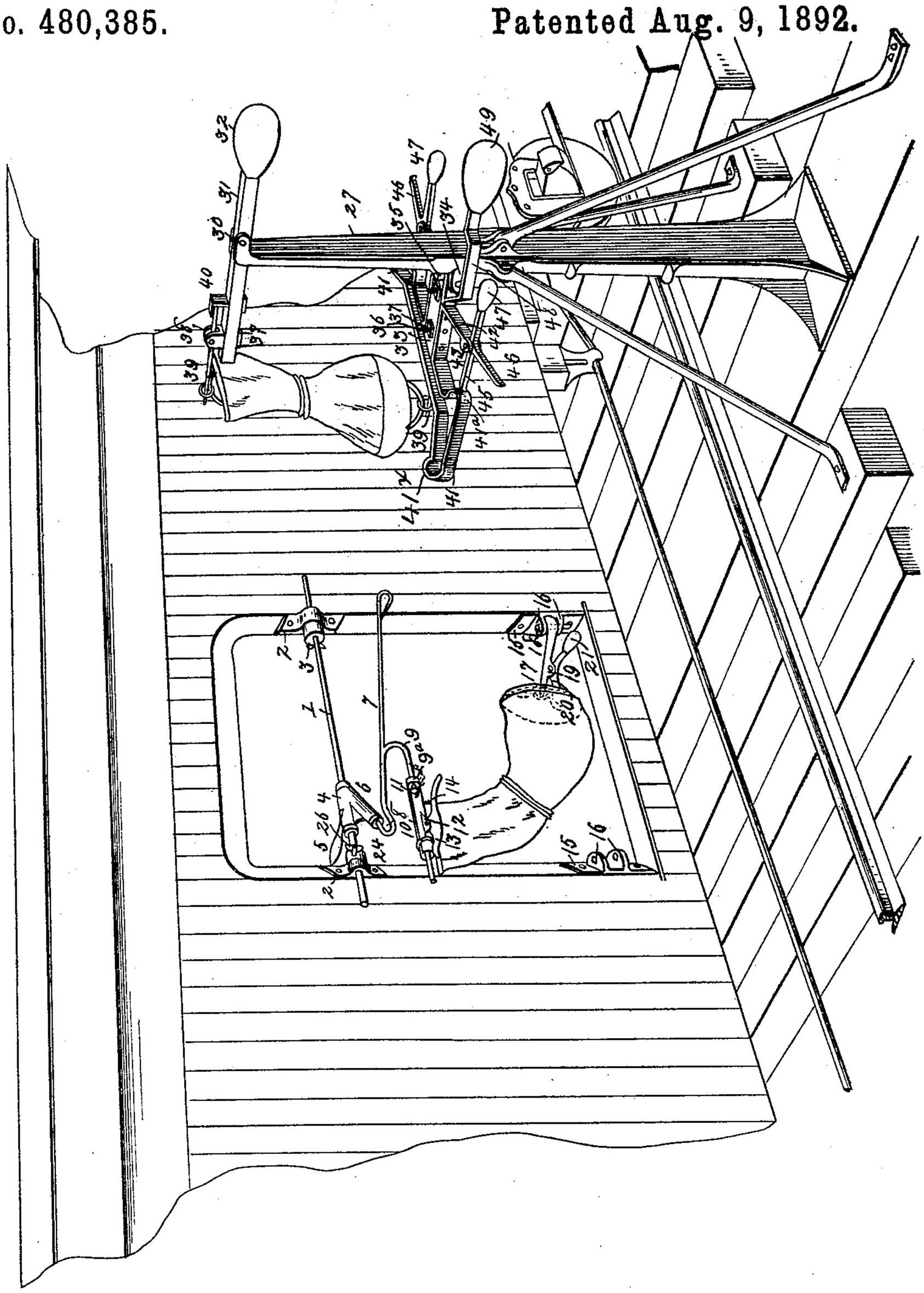

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

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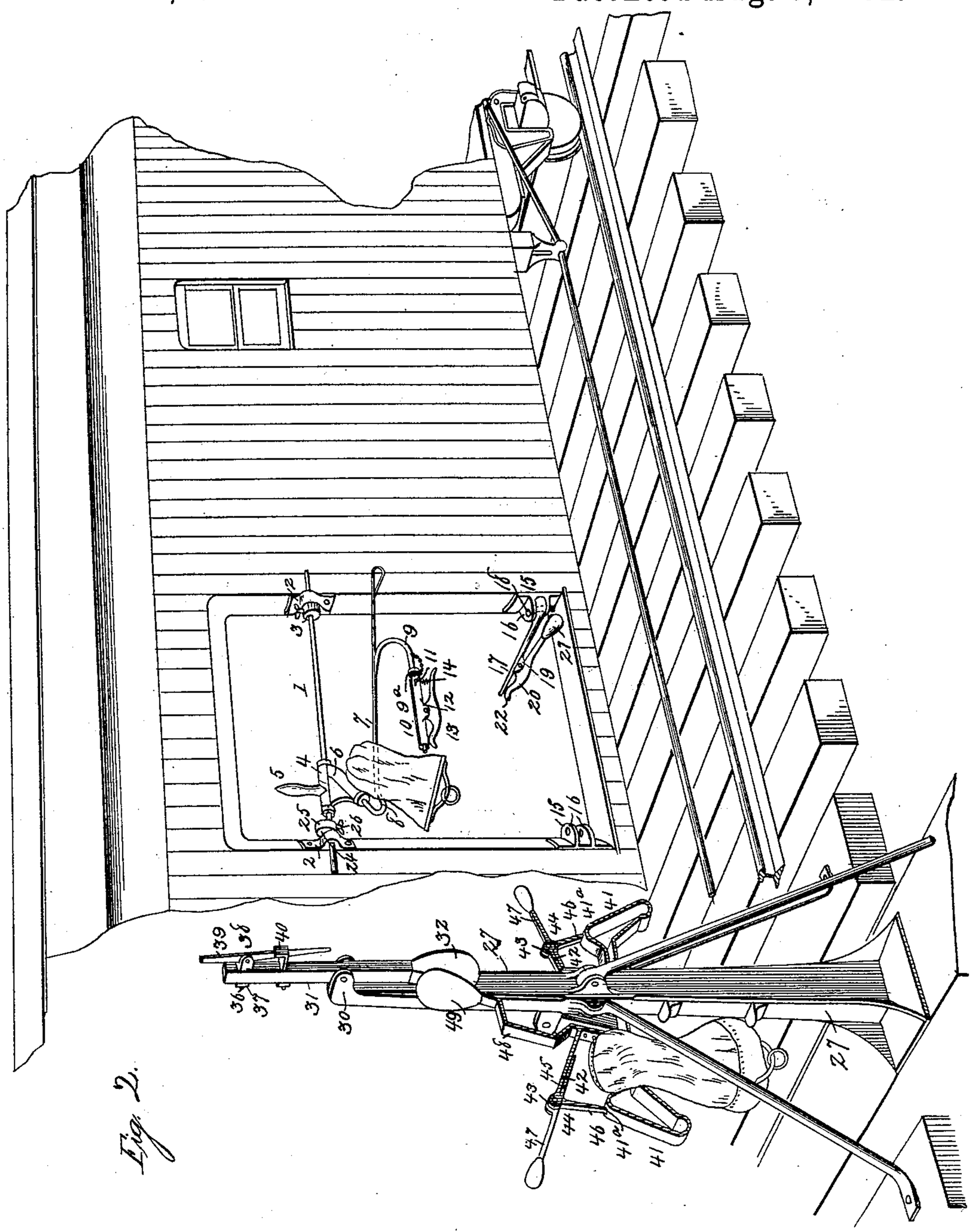

Fig. 2.

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Fig. 3.

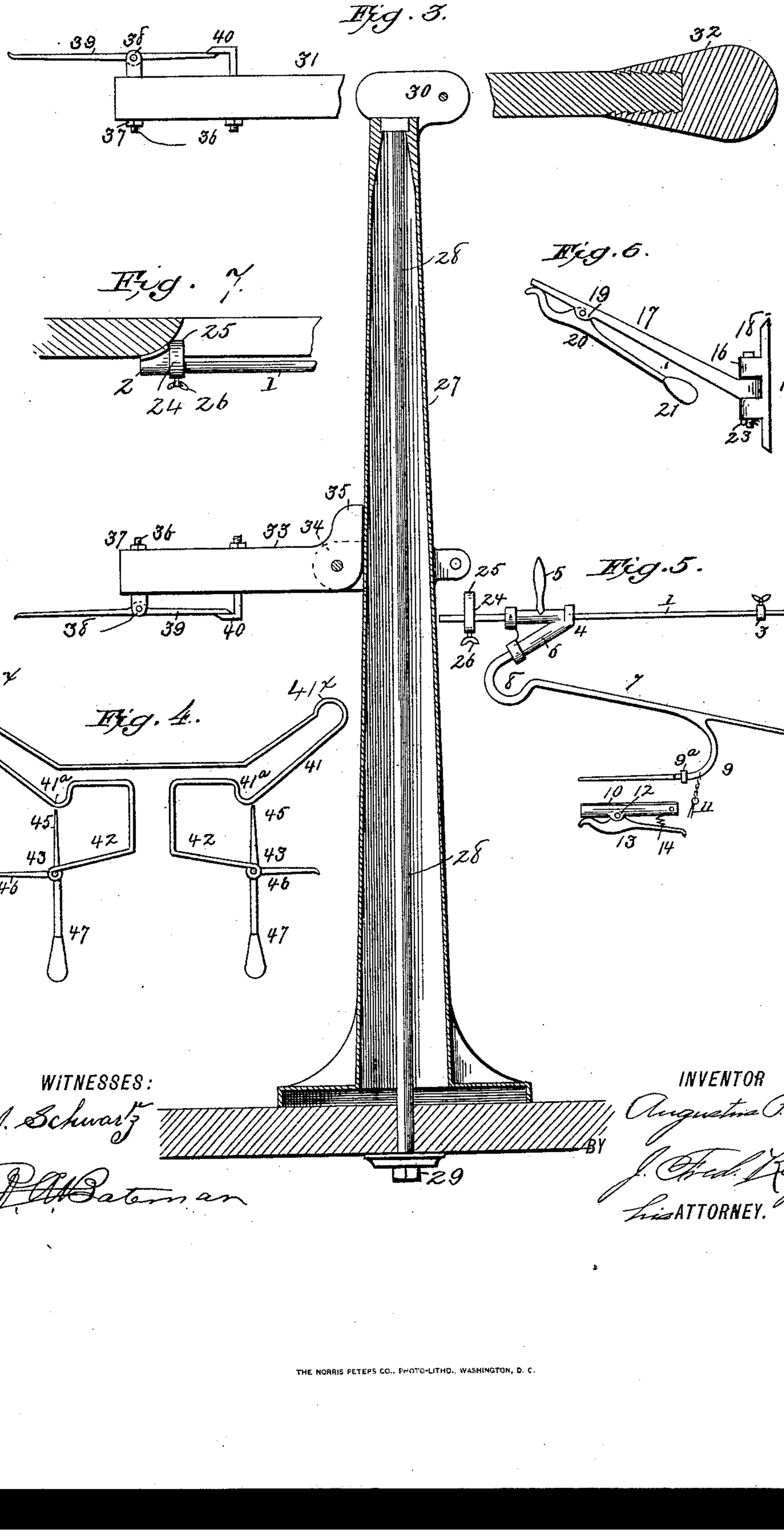

Fig. 6.

Fig. 7.

Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

AUGUSTUS P. HAUSS, OF NEW ALBANY, INDIANA.

MAIL-BAG CATCHER AND DELIVERER.

SPECIFICATION forming part of Letters Patent No. 480,385, dated August 9, 1892.

Application filed November 3, 1891. Serial No. 410,735. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS P. HAUSS, a citizen of the United States, residing at New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Mail-Bag Catchers and Deliverers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in means or devices for automatically and simultaneously receiving and delivering mail-pouches from swiftly-moving railway-trains.

The object of the invention is to provide devices for the above purposes which shall be simple and economical in construction and durable and effective in use, the arrangement and combination of the parts composing the same being such that there is no liability of the device not properly performing its intended work.

The present invention is designed more particularly as an improvement upon the invention described and claimed in Letters Patent No. 431,461, which were granted to me July 1, 1890, and my invention will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view showing the several parts as they appear just before the mail-pouches are received and delivered. Fig. 2 is a perspective view showing the several parts just after the mail-pouches have been received and delivered. Fig. 3 is a side elevation of the stationary crane at the side of the track with its upper and lower arms, &c. Fig. 4 illustrates in detail the receiver which is attached to the lower arm of the crane. Fig. 5 illustrates in detail the mail-pouch catcher and deliverer detached from the car. Fig. 6 is a detail view of the bracket and weighted clamp for holding the lower end of the pouch at the car-door. Fig. 7 is a detail view illustrating the operation of the cam-stop, hereinafter described.

Referring to the several parts by their designating-numerals, 1 indicates the rock-shaft or bar on which the catcher-arm is mounted, this bar tapering slightly in diameter from one end to the other, as shown, and being removably fitted in bearing-brackets 2 2, which are secured at the sides of the door at the proper height, a collar 3, which is movably held in place by a set-screw on the larger end of the shaft, holding it in position, so that by loosening the said set-screw and moving the collar the shaft can be removed from the brackets 2 and reversed therein at the end of a trip. Upon the shaft 1 is mounted the casting 4, having an operating-handle 5 and formed with the inclined socket 6, in which is secured the inner end of the catcher-arm 7. This arm is inclined outward, as shown, and is curved into a semicircle at 8 at its inner end to form a curved receptacle for the mail-pouch which it takes from the crane at the side of the track. From the catcher-arm 7 curves back the delivery-arm 9, which is formed at a suitable distance from its extremity with a collar 9^a. On the straight outer end of this delivery-arm fits the tubular body 10 of a spring-clamp, this clamp being held in place by a spring-key 11, passing through an aperture in the tubular body 10 and in the end of the arm. On one side of this body 10 are formed bearing-lugs 12, between which the clamping-finger 13 is pivoted, a spring 14, secured between the side of the tubular body and the inner end of the pivoted finger, normally pressing its outer end in contact with the body 10.

Near the lower part of the doorway, at each side thereof, are secured brackets 15 15, adapted to receive and support the weighted clamp which holds the lower end of the mail-pouch, which is suspended from the delivering-arm 9. These brackets are curved to correspond with the curvature of the rounded jamb of the door and are suitably secured thereto by screws or otherwise. Each bracket is formed with two outwardly-extending lugs 16, between which the inner end of the clamp-bar 17 is pivoted on a removable bolt 18. This bar is provided with the lugs 19, between which is pivoted the arm 20, having a weighted lower end 21, which normally holds the extremity of its curved upper end 22 in contact with the end of the bar 17. A spring-key 23, (see Fig. 6,) passed through the aper-

tured lower end of the bolt 18, holds the latter in place and permits of its being removed to change the weighted clamp to the bracket at the other side of the door at the end of a trip. A stop-collar 24 is eccentrically secured on the rock-shaft 1 near the end of the same and is so adjusted when secured by its set-screw 26 that it will prevent the catcher-arm from being turned up too far, as will be readily understood, as when the handle 5 is pressed down to raise the catcher-arm, as shown in Fig. 1, the cam projection 25 will come in contact with the jamb of the door, and thus prevent the catcher-arm from being raised too high, which might disconnect the mail-bag from its end clasps.

27 indicates the stationary body of the crane at the side of the track, which is formed of cast, wrought, or malleable iron, and a solid bar 28 of one and one-half or two inch iron runs from the top down through the center of the tubular body 27 of the crane, a heavy washer and nut 29 being secured on the threaded lower end of this rod beneath the base-support of the crane. Upon the top of the crane is centrally pivoted between bearings 30, formed at the top of the crane, the upper arm 31, having a weight 32 at its outer end. The ends of the bearing-plates 30, through which the pivot-bolt passes, extend back to the side of the post, so that when the arm 31 is raised into its horizontal position it rests upon the top of the crane-post and is thus held in its horizontal position when the upper end of the mail-pouch is attached to it. The lower crane-arm 33 is pivoted at its inner end between bearing-lugs 34 on the side of the crane, the inner end of this arm being bent up at right angles at 35, so that it forms a stop, which when the arm is raised up holds it at a horizontal position and prevents its being raised above that position.

Through the outer end of each of the crane-arms passes a pivot 36, having a nut 37 on its inner end, which holds it in place, while permitting it to turn freely. The end of each of these pivots, which may be termed its "outer" end, is formed with a recessed head 38, in which is pivoted a finger 39. When the fingers are extending in direct line with the crane-arms, their inner ends are engaged under the hooked ends of stop-hooks 40 40, which are secured in the crane-arms, as shown.

In operation to secure the mail-pouch which is to be delivered to the train in position the upper and lower crane-arms are raised into their horizontal positions and the rings at the upper and lower ends of the mail-pouch are engaged on the outer slightly-curved ends of the fingers 39, the inner ends of these fingers being engaged under the hooks 40, as clearly shown in Fig. 3 of the drawings. It will now be seen that when the catcher-arm 7 comes in contact with the mail-pouch the pivots 36 of the fingers 39 will turn around freely, and the mail-pouch will thus be freed without any resistance to the pull of the catcher-arm and without any danger of pulling the end rings loose from the pouch or of tearing the end straps thereof, which would be certain to occur if the fingers were not pivotally mounted in this manner, so that they can turn freely to either side.

The automatic receiver, which is illustrated in Fig. 4 in detail, is bolted to the outer end of the lower crane-arm and is formed of a single piece or band of flat iron, (the corner edges of which are beveled to prevent their cutting the mail-pouch,) which is curved and bent, so as to form the long outer arms 41 41 and the short inner arms 42 42, as shown.

It will be seen that by forming my receiver of a band of metal which is curved or doubled upon itself, as shown, I form round curved outer ends $41^{\times}$ at the outer ends of the long main arms 41, which thus present a broad semicircular curve at their ends for contact with the mail-bags. This is a most important feature of my invention, for, while the single sharp-pointed receiver-arms now in use invariably tear and punch holes in the mail-bags and injure and destroy a large number of them in that manner, my receiver possesses the practical advantage that its broad semicircular ends $41^{\times}$ will not tear, rip, or punch holes in a mail-bag. I invented this feature of my mail-bag catcher and deliverer especially to overcome this difficulty and as an improvement on the sharp-pointed receiver-arms now used, as I had had practical experience of this difficulty. The ends of the short inner arms are recessed to form the lugs 43 43, and in these recessed ends are pivotally mounted the automatic weighted guards or securing devices 44 44. These guards are formed each of three arms 45 46 47, extending at right angles to each other, the end of the outer arm 47 being weighted, as shown.

In operation when the receiver is opened to receive the pouch from a train the arms are swung out until the inner arm 45 extends across from the end of the short arm 42 of the receiver to the curved point 41^{a} of the long arm 41. When the mail-car reaches the crane, the operator has swung the delivering-arm 9, with the receiving-arm 7, outward by means of the handle 5, so that the inclined end of the long arm 41 will catch the pouch suspended from the delivering-arm, and as the pouch enters the space between the short arm 42 and the inner part of the long arm it swings the inner arm 45 of the guard in and brings the end of the middle arm 46 in contact with the point 41^{a} of the long arm, the guard thus automatically closing in on the bag, and thus securing it in the receiver. As the pouch to be delivered to the train is at the same instant caught by the catcher-arm 7, the crane-arm is thus freed and swings down under the weight of the mail-pouch, as shown in Fig. 2, when the weight of the outer end of the outer arm 47 will automatically keep the end of the middle arm of the guard in contact with the point 41^{a} of the outer arm 41, as shown in the

said view. A rearwardly-extending curved bar 48 is bolted to the inner end of the lower crane-arm, and the outer end of this bar is provided with a weight 49, which serves to counterbalance the weight of the metal receiver at the inner end of the arm when the arm is being raised and the mail-pouch adjusted between the upper and lower arms.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood. It will be seen that the upper ring of the mail-pouch to be delivered from the train is engaged by the spring-clamp on the end of the delivery-arm 9, as shown in Fig. 1, while the lower ring of the pouch is engaged by the weighted clamp 17 20, and that the rings will be readily released by both of these clamps when the arm 41 of the receiver on the lower crane-arm engages with the pouch, thus preventing the rings from being torn or pulled from the pouch.

The several parts are so constructed that they can be readily reversed at the end of a trip, except those on the stationary crane, which are constructed to take and deliver the pouches of trains running in either direction.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a mail-pouch-handling device, the combination of the horizontal bar, the casting mounted thereon and having the operating-handle, the catcher-arm 7, mounted in said casting, the curved delivery-arm 9, and the spring-clamp consisting of the tubular body 10, fitting the end of the delivery-arm, means for retaining the said body in position on the arm end, and the pivoted spring-actuated clamping-finger 13, mounted on the tubular body, substantially as set forth.

2. The combination, with an end clasp arranged at the lower part of the car-door and the reversible horizontal bar 1, of the casting mounted on said bar and having the operating-handle and the catching and delivering arms 7 and 9, and the spring-clamp mounted on the end of the delivering-arm, consisting of the tubular body 10 and the pivoted spring-actuated clamping-finger 13, substantially as set forth.

3. The combination, with the crane-arms, of the pivots 36, formed at their outer ends with the recessed heads 38, the finger 39, pivoted in said recessed heads, and the hooks 40, adapted to engage the inner ends of the fingers when the latter are "set," substantially as set forth.

4. The combination, with a crane-post, of a block secured thereto and a mail-bag receiver secured to said block, said receiver consisting of a flat metallic band, the ends of which are bolted to the flat sides of the block and which band is doubled upon itself to form the broad semicircular receiving ends, substantially as set forth.

5. The combination, with a pivoted crane-arm, of the double collector and receiver consisting of a band of metal curved upon itself to form the long outer arms 41, having the broad semicircular ends $41^{\times}$ curved at the points 41^{a}, and the short inner arms 42, substantially as set forth.

6. The combination, with the pivoted lower crane-arm, of the automatic double receiver consisting of the body-piece bent to form the long outer arms 41, curved at the points 41^{a}, and the short inner arms 42, recessed at their ends to form the lugs 43, and the automatic guards pivoted in the said recessed ends and formed with the inner arms, the middle arms 46, and the weighted outer arms 47, substantially as and for the purpose set forth.

7. A mail-bag receiver consisting of a single piece of material, the intermediate portion of which upon each side of the center is doubled upon itself to form a receiving-arm, the doubled portion being formed into substantially a semicircle at the outer end of the arm and extended nearly to the center of the main portion of the material and then bent at an angle thereto and extended parallel with the similarly-bent portion of the other arm to form a point of attachment to the crane-post, and each end being then bent outwardly in the same plane with the arm upon that side to form a receptacle for the mail-bag, substantially as set forth.

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

AUGUSTUS P. HAUSS.

Witnesses:
THOS. P. BYRN,
R. M. WILCOXSON.