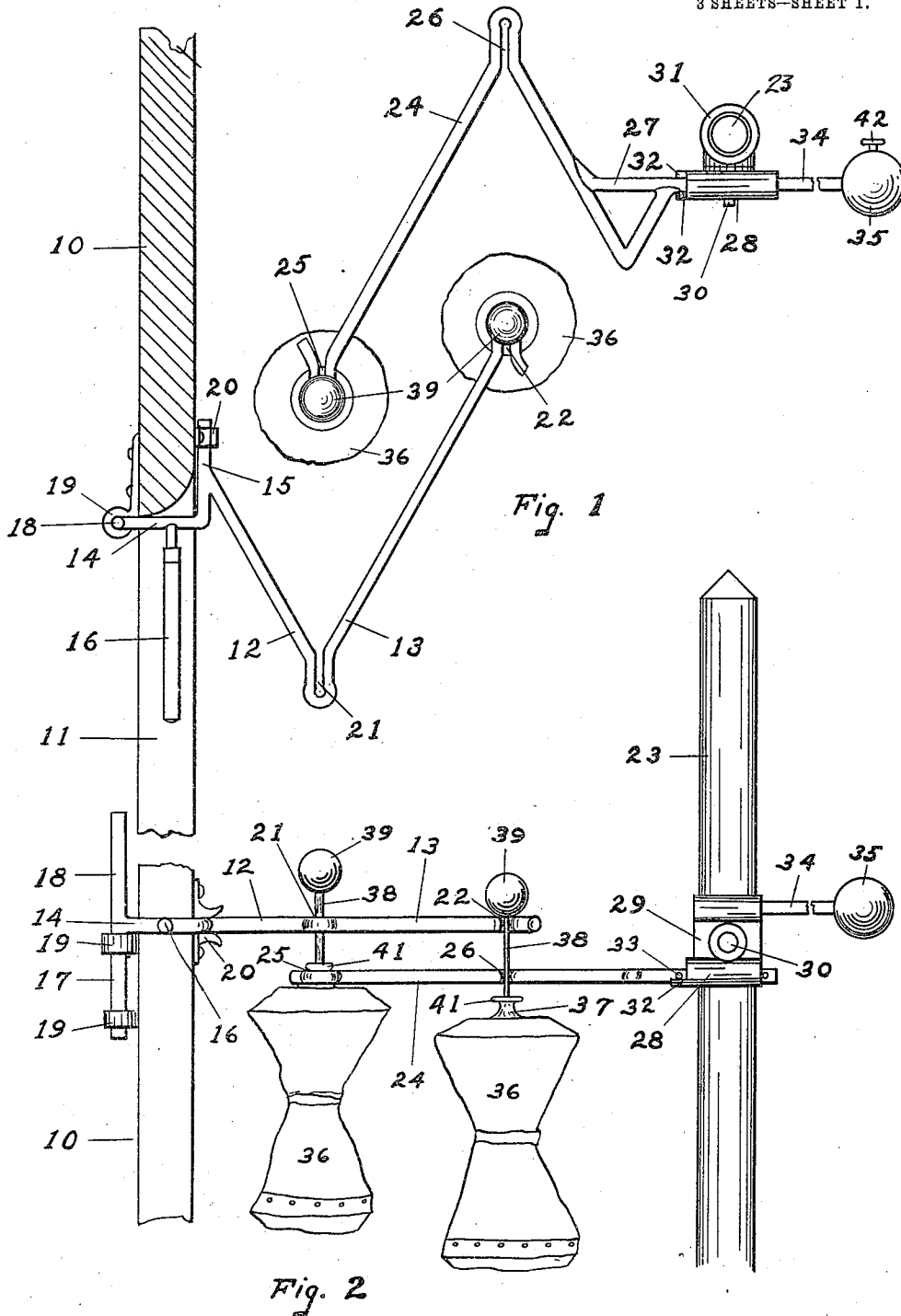


G. H. MUELLER.
MAIL BAG DELIVERY APPARATUS.
APPLICATION FILED MAY 12, 1909.

945,853.

Patented Jan. 11, 1910.

3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2

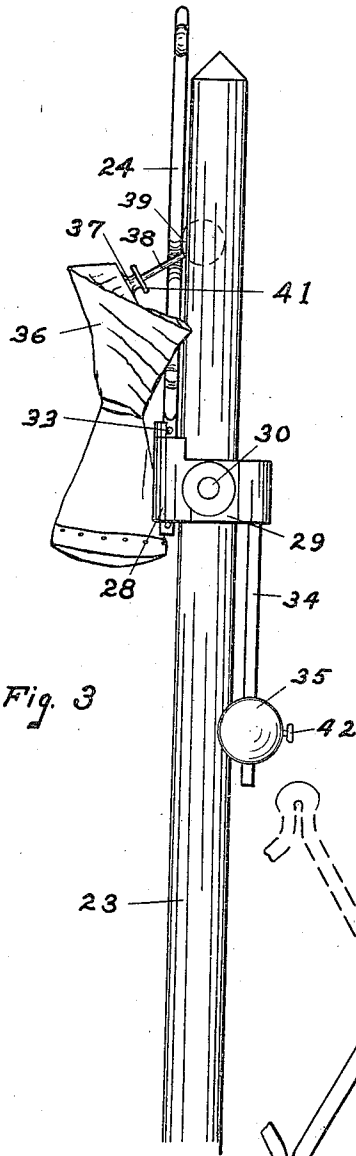


Fig. 3

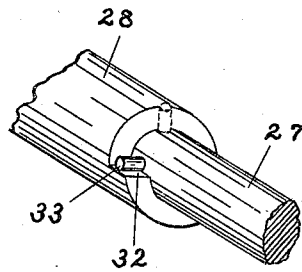


Fig. 4

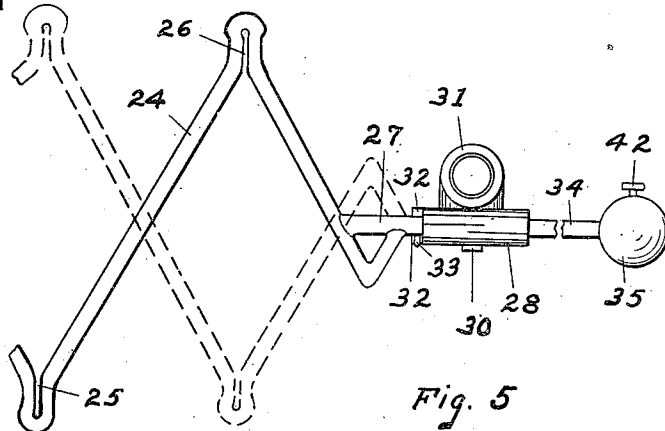


Fig. 5

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3 SHEETS—SHEET 3.

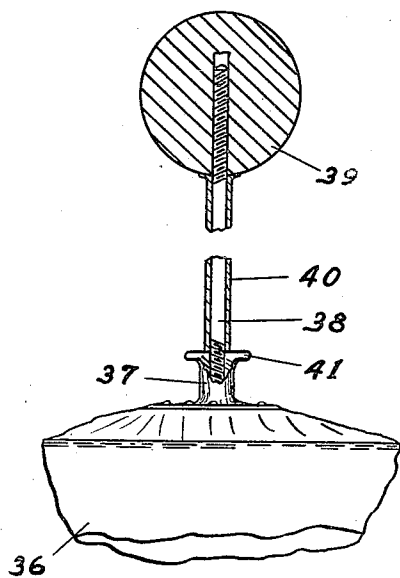


Fig. 6

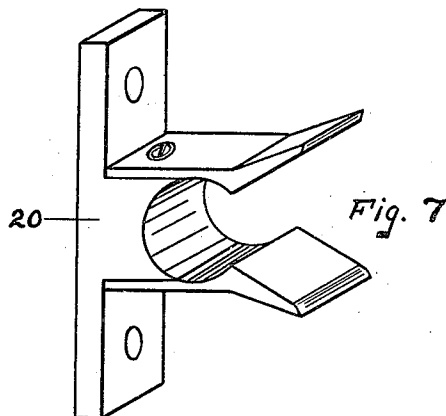


Fig. 7

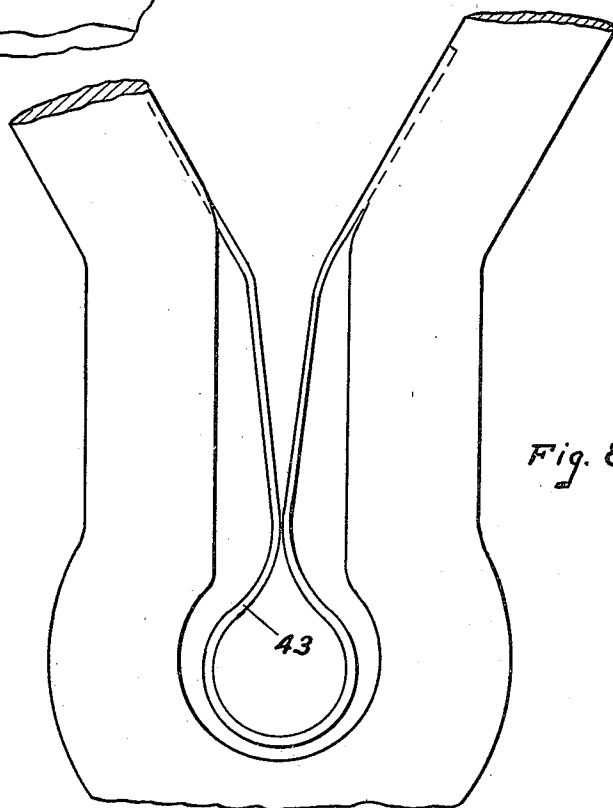


Fig. 8

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UNITED STATES PATENT OFFICE.

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MAIL-BAG-DELIVERY APPARATUS.

945,853.

Specification of Letters Patent. Patented Jan. 11, 1910.

Application filed May 12, 1909. Serial No. 495,444.

To all whom it may concern:

Be it known that I, GOTTFRIED HENRY MUELLER, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Mail-Bag-Delivery Apparatus, of which the following is a specification.

The present invention is designed to provide a simple and efficient apparatus for effecting an exchange of mail bags between a moving mail car and a holding device on a station platform.

The invention also has for its object to equip the station platform with a holder which automatically swings the bag out of the way after the exchange has been effected.

With the foregoing objects in view, the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the drawings hereto annexed forming a part of this specification, in which drawings—

Figure 1 is a plan view of the apparatus. Fig. 2 is an elevation thereof. Fig. 3 is an elevation of that portion of the apparatus which is located on the station platform, showing the position thereof after the exchange of bags has been made. Fig. 4 is a detail in perspective of a portion of said platform apparatus. Fig. 5 is a plan view illustrating the manner in which the bag holder of the station platform may be reversed. Fig. 6 is a sectional detail of the mail bag suspension device. Fig. 7 is a perspective view of a catch carried by the car. Fig. 8 is a plan view of a portion of a modified form of bag holder.

Referring to the drawings, 10 denotes the side wall of a railway mail car, and 11 is the door opening thereof. Mounted in the door opening so as to swing through the same into and out of the car, is a bag-holding arm comprising two angularly disposed portions 12 and 13, respectively. At the inner end of the portion 12 are branches 14 and 15 extending at a right angle with respect to each other. To the branch 14 is connected a laterally extending handle 16, and the inner end of said branch is formed into stems 17 and 18, which extend vertically in opposite directions. The stem 17 is shown as extending into hinge knuckles 19 secured to the wall 10 on the inside of the car. By providing this hinge connection for the bag-holding

arm, the same may be swung into and out of the car through the door opening 11. The hinge knuckles are mounted adjacent to one edge of the door opening. The bag-holding arm may be reversed by taking the stem 17 out of the hinge knuckles, and placing the stem 18 thereinto. This enables the arm to be adjusted according to the direction in which the car is traveling.

To the outside of the car wall, adjacent to the door opening, is secured a catch for holding the bag-holding arm stationary, and preventing it from swinging into the car before the exchange of bags takes place. This also permits the mail clerk to attend to his other duties. The catch comprises a pair of spring fingers 20 between which the branch 15 is placed. This catch is shown in detail in Fig. 7.

At the junction of the portions 12 and 13 of the bag-holding arm is a crotch 21, and at the outer end of the portion 13 is a crotch 22. These two crotches are presented in opposite directions, and their function will be presently described.

The apparatus on the station platform, or adjacent to the track, is mounted on a standard 23. On this standard is mounted a bag-holding arm 24 similar to the one carried by the car, it being also provided with crotches 25 and 26. When the two arms are in operative position, the crotches 21 and 25 are in alinement, and the crotch 22 is in alinement with the crotch 26. The crotch 21 is presented in the same direction as the crotch 25, and the crotch 22 is presented in the same direction as the crotch 26.

From the inner end of the arm 24 projects a stem 27 which is rotatably mounted in a sleeve 28 carried by a bracket 29 pivoted at 30 to a sleeve 31 secured to the standard 23. A pivotal support for the arm 24 is thus had, the pivot being arranged to permit the arm to swing in a vertical plane. The stem 27 is rotatably mounted in the sleeve in order that the arm 24 may be reversed, so as to grab and deliver a bag irrespective of the direction from which the car is approaching the station. For holding the arm in operative position, and preventing it from turning in the sleeve 28, one end of the latter is formed with shoulders 32 which are engageable by a pin 33 projecting from the stem 27. On the bracket 29 is also mounted an arm 34 which projects in the opposite direction from the arm 24, and carries at its outer end a

weight 35, the function of which will be presently made clear.

The mail bag to be used with the herein described apparatus is provided with a suspension device in order that it may be hung in the crotches of the bag-holding arms. This suspension device is shown in detail in Fig. 6, in which the upper end of a mail bag 36 is shown. To this end of the bag is securely fastened in any suitable manner a screw-threaded socket-piece 37 into which is screwed a rod 38 of suitable length carrying at its outer or upper end a knob or ball 39. The rod is covered with leather or other cushioning material indicated at 40. The socket-piece is of a shape to fit the crotches of the bag-holding arms, and at the upper end of the socket-piece is an outstanding flange 41.

The operation of the apparatus may be summarized as follows: The bag to be delivered to the station is hung in the crotch 22, and the bag-holding arm is swung by the handle 16 out of the car, the arm being secured by the catch 20. The bag to be delivered to the car is hung in the crotch 25 of the arm 24. This crotch is located a greater distance from the pivot 30 than the crotch 26. The weight 35 will be adjusted to balance the bag suspended in the crotch 25, whereby the arm 24 is held horizontally and outwardly presented from the standard, which is its operative position. It will be noted from Fig. 2 that the two bag-holding arms are in different vertical planes in order that they may pass each other without interference. When the arms pass each other, the suspension rod of the bag held by the arm 24 passes into the crotch 21, and the suspension rod of the bag held by the car arm passes into the crotch 26, whereby the exchange of bags is effected. The impact of the bag swings the car arm and the bag thereon into the car.

The crotch 26 is so located with respect to the pivot 30, that the weight of the bag delivered to said crotch is overbalanced by the weight 35, whereby the arm 24 is swung upwardly toward the standard 23 by said weight, as shown in Fig. 3, thus taking the bag out of the way. The weight is slidably mounted on the arm 34, in order that it may be adjusted to the average weight of the mail matter delivered to the station, and it is held at adjustment by a set screw or other suitable means 42.

The crotches of the respective bag-holding arms are spaced apart sufficiently to prevent the bags from striking each other. The outer crotches are also located in advance of the inner ones, which spaces the bags sufficiently to prevent interference when the exchange takes place.

The flange 41 is provided to prevent the bag from dropping out of the crotch in

which it is held prior to the exchange, the bag being held by placing the socket-piece 37 in the crotch. After the exchange, the bag is held in the crotch by the knob 40, said crotch being entered by the rod 38. The suspension device is readily removed from the bag upon unscrewing the rod 38.

Fig. 8 shows a looped spring 43 mounted in the crotch, said spring engaging the suspension device and firmly gripping the same.

I claim:

1. In a mail bag delivery-apparatus, a support, an arm pivotally mounted on the support to swing in a vertical plane, bag-holding and bag-receiving means on the arm, and means for holding the arm horizontally and outwardly presented from the support in position to receive and deliver a bag, said means operating to swing the arm upwardly in the direction of the support when the bag held by the arm is removed and another bag is delivered to the arm.

2. In a mail bag delivery-apparatus, a support, an arm pivotally mounted on the support to swing in a vertical plane, and bag-holding and bag-receiving means on the arm located respectively at different distances from its pivot, the bag-receiving means being nearest to the pivot, and a weight connected to the arm to balance the bag held by the bag-holding means.

3. In a mail bag delivery-apparatus, a support, a bracket pivotally mounted on the support, an arm rotatably mounted on the bracket to permit reversal, means for holding the arm at adjustment, bag-holding and bag-receiving means on the arm located at different distances from the pivot of the bracket, and a counterweight carried by the bracket.

4. In a mail bag delivery-apparatus, a support, a bracket pivotally mounted on the support, a sleeve carried by the bracket, and having shoulders at one of its ends, a stem rotatably mounted in the sleeve, a pin projecting from the stem and engageable with the shoulders of the sleeve to limit the rotary movement of the stem, an arm projecting from the stem, bag-holding and bag-receiving means on the arm located at different distances from the pivot of the bracket, and a counterweight carried by the bracket.

5. In a mail bag delivery-apparatus, the combination with a mail car having hinge knuckles mounted adjacent to its door opening, of a bag-holding arm having oppositely presented stems at one of its ends adjustably engageable with the hinge knuckles.

6. In a mail bag delivery-apparatus, the combination with a mail car having a catch mounted adjacent to the door opening, of a bag-holding arm having angularly disposed branches at one of its ends, one of said

branches being hinged to the car, and the other branch being engageable by the catch.

7. In a mail bag delivery apparatus, an arm carried by the car, and an arm mounted
5 adjacent to the track, said arms being located in different vertical planes, and each of said arms having a pair of spaced crotches, the crotches of one arm being in
10 alinement with the crotches of the other arm, in combination with a mail bag having suspension means adapted to enter the
15 crotches.

8. In a mail bag delivery apparatus, an arm carried by the car, and an arm mounted
15 adjacent to the track, said arms being mounted in different vertical planes, and each of

said arms having a pair of spaced crotches, the crotches of one arm being in alinement with the crotches of the other arm, in combination with a mail bag having suspension
20 means engageable with a crotch of one of the arms, and a rod on said suspension means adapted to enter a crotch of the other arm, and a knob on the rod for retaining the
25 same in said crotch.

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

GOTFRIED H. MUELLER.

Witnesses:

H. E. SMITH,
NETTIE KING.