T. F. CURTIS.

MAIL BAG CATCHING AND DELIVERING APPARATUS.

APPLICATION FILED JULY 3, 1909.

938,985. Patented Nov. 2, 1909.

Fig. 1.

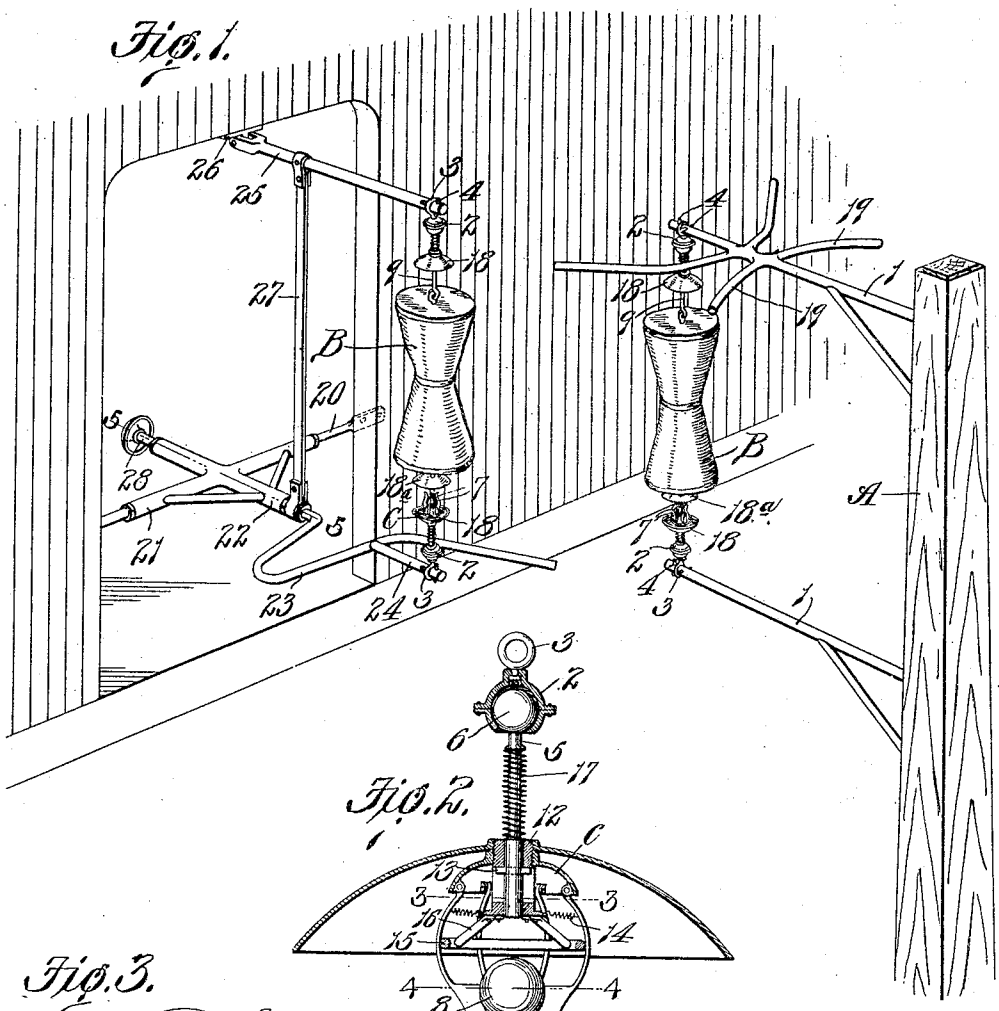


Fig. 2.

Fig. 3.

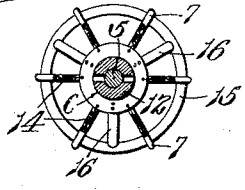


Fig. 4.

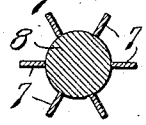
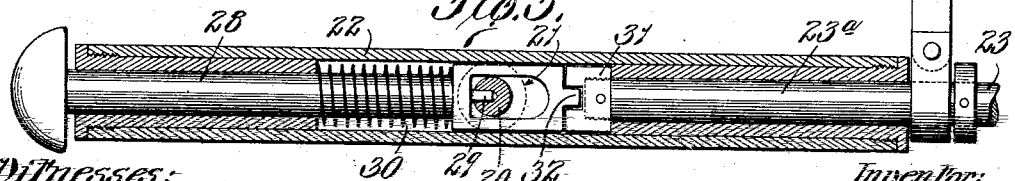


Fig. 5.



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UNITED STATES PATENT OFFICE.

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MAIL-BAG CATCHING AND DELIVERING APPARATUS.

938,985. Specification of Letters Patent. Patented Nov. 2, 1909.

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To all whom it may concern:

Be it known that I, THOMAS F. CURTIS, a citizen of the United States, residing at Pineville, Bell county, Kentucky, have invented a certain new and useful Improvement in Mail-Bag Catching and Delivering Apparatuses, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to mailbag catching and delivering apparatuses.

The main object of my invention is to provide an apparatus of the character described that is compact and of simple construction.

Another object is to provide an improved catching and delivering apparatus which normally occupies an inoperative position on the outside of the car wall but which can be moved quickly into operative position by the mail clerk inside of the car, the catcher being so constructed that it can be adjusted in two different positions.

Another object is to provide an apparatus of the character described in which the means that sustains the mailbag in position is so constructed that the bag can yield or move slightly when it is engaged by the catcher, thus reducing the shock on the bag and preventing the eyes or rings in the ends of the bag from being torn out of same. And still another object is to provide a mail-bag catching and delivering apparatus in which the means that sustains the bag in operative position comprises yielding grippers that engage approximately ball-shaped devices pivotally connected to the ends of the bag, said grippers being mounted on carriers that are connected to a supporting means by universal joints.

Other objects and desirable features of my invention will be hereinafter pointed out.

Figure 1 of the drawings is a perspective view illustrating my improved mailbag catching and delivering apparatus arranged in operative position; Fig. 2 is an enlarged vertical sectional view of one of the carriers and yielding grippers that form part of the means for sustaining the bag in operative position; Fig. 3 is a horizontal sectional view taken on approximately the line 3—3 of Fig. 2; Fig. 4 is a horizontal sectional view taken on approximately the line 4—4 of Fig. 2; and Fig. 5 is an enlarged sectional view of the catcher carried by the car, said view being taken on approximately the line 5—5 of Fig. 1.

Referring to the drawings which illustrate the preferred form of my invention, A designates a crane or other suitable support arranged at one side of a railway track and provided with a pair of laterally projecting arms 1 that are provided at their outer ends with means for sustaining the mailbag B in an approximately vertical position. Said means comprises yielding grippers mounted on carriers that are connected to the arms 1 and adapted to engage approximately ball-shaped devices connected to the opposite ends of the bag B, and as the carriers and grippers on both of said arms are of the same construction, I will only describe those that are supported by the upper arm 1.

Referring to Fig. 2 of the drawings which clearly illustrates this feature of my improved apparatus, 2 designates a socket member provided with a swiveled eye 3 that is adapted to receive the upper arm 1, said arm being provided with pins or projections 4 that prevent the eye 3 from moving longitudinally of said arm.

A carrier C is slidingly mounted on a shank 5 provided at its upper end with a ball-shaped head 6 that is seated in the socket member 2, and a plurality of yielding grippers 7 are pivotally connected to said carrier for engaging a ball-shaped device 8 that is fastened to the upper end of the bag B. In the construction herein shown, said device 8 is provided with a shank 9 having an eye 10 that is interlocked with an eye 11 on the upper end of the bag B, but it will, of course, be obvious that the device with which the yielding grippers coöperates, could be connected to the bag in various other ways without departing from the spirit of my invention. The part of the carrier to which the yielding grippers 7 are pivotally connected, preferably consists of an approxi-

mately inverted dish-shaped member that is fastened to a block 12 having a bore through which the shank 5 passes, said shank being provided with a cross-pin 13 that enters a slot in the block 12 and thus prevents the carrier from rotating relatively to said shank. The grippers 7 are drawn toward each other by means of coiled contractile springs 14 connected at their inner ends to the block 12 and at their outer ends to the grippers 7, as shown clearly in Fig. 2, thus causing the grippers to yieldingly engage the ball-shaped device on the bag.

I prefer to provide some suitable means for limiting the inward movement of the grippers, and in the construction herein shown, said means consists of a ring 15 arranged inside of or between the grippers and connected to a spider 16 that is secured to the lower end of the block 12, but it will, of course, be obvious that various other means could be substituted for accomplishing the same result without departing from my broad idea.

A coiled expansion spring 17 is arranged on the shank 5 between a shoulder on the upper end of said shank and the block 12 that forms part of the carrier, and a hood 18 is connected to said block so as to protect the carrier and grippers from the weather. If desired, a hood 18[a] similar to the hood 18, previously described, can be connected to the shank of the ball-shaped device 8 that is fastened to the lower end of the bag B.

The catcher or device on the crane A for removing the bag from a moving train preferably consists of pairs of forks 19 that project laterally in opposite directions from the upper arm 1 on said crane. The car, of course, is provided with means for sustaining the mailbag in position so that it will be engaged by the catcher on the crane, and also with means for removing the bag that is held in position between the arms 1 on said crane, and as said means forms one of the novel features of my present invention, I will now describe same.

The bar 20 that extends transversely across the door-opening in the side wall of the car, as shown in Fig. 1, forms a support for a sleeve 21 that is provided with a right angularly disposed tubular-shaped portion 22 in which a catching device 23 is journaled, said catching device being provided with an arm 24 to which a gripper carrier is connected. An arm 25, that is pivotally connected at its inner end to a bracket 26 on the car wall, is arranged above the catching device 23, as shown in Fig. 1, and a link 27 is connected to the arm 25 and also to the shank of the catching device 23 so as to cause said parts to move in unison, the arm 25 being provided at its outer end with a gripper carrier. The gripper carriers on the arms 24 and 25 are of the same construction as those on the crane previously described so that a detailed description of same is not deemed necessary.

The sleeve 21 is loosely mounted on the rod 20 so that a mail clerk inside of the car can grasp the inner end of the tubular-shaped portion 22 and swing the arm 25 and the catching device 23 into an inoperative position against the outer face of the side wall of the car, said arm and catching device being retained in their operative position, as shown in Fig. 1, by means of a spring-pressed plunger 28 in the tubular-shaped device 22 that is provided with a pin 29, as shown in Fig. 5, that enters a slot in the bar 20. A coiled spring 30, which surrounds said plunger, tends to hold the pin 29 thereon in the slot in the bar 20 so as to hold the catching device 23 and the arms 24 and 25 in operative position at right angles to the side wall of the car, but whenever said plunger is retracted the sleeve 21 and the parts carried thereby can be rotated so as to move the arms and the catching device into inoperative position.

In order that the catching device 23 may be used when the car is traveling in either direction I have so constructed said catching device that it can be adjusted into two different positions. The shank 23[a] of the catching device is journaled in the outer end of the tubular-shaped member 22, as shown in Fig. 5, and said shank is provided at its inner end with a head 31 having a slot that receives a projection 32 on the inner end of the spring-pressed plunger 28. When said plunger is retracted the projection thereon will be withdrawn from the slot in the head 31 and the catching device 23 can then be turned in the opposite position from that shown in Fig. 1.

One of the principal advantages of a catching and delivering apparatus of the construction herein shown is that it is compact and comprises few parts, and still another advantage is that it reduces the shock on the bag when said bag is engaged by the catching device owing to the fact that the universal joints between the shank 5 and the supporting means therefor permits the bag to move or yield slightly in the direction in which the catching device is traveling.

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

1. In an apparatus of the character described, mailbag sustaining means comprising a plurality of yielding grippers, and a device connected to one end of the bag and provided with an approximately ball-shaped head that is adapted to be engaged by said grippers.

2. In an apparatus of the character described, mailbag sustaining means comprising a plurality of yielding grippers, a de-

vice connected to one end of the bag and provided with an approximately ball-shaped head that is adapted to be engaged by said grippers, and a member carrying said grippers and connected to a support by means of a universal joint.

3. A mailbag sustaining device, comprising a shank provided with an approximately ball-shaped head, a socket member for receiving said head, a carrier mounted on said shank, and yielding grippers connected to said carrier.

4. A mailbag sustaining device, comprising a shank provided with an approximately ball-shaped head, a socket member for receiving said head, a carrier mounted on said shank, a plurality of grippers pivotally connected to said carrier, and yielding means for drawing said grippers toward each other.

5. A mailbag sustaining device, comprising a shank provided with an approximately ball-shaped head, a socket member for receiving said head, a carrier mounted on said shank, a plurality of grippers pivotally connected to said carrier, yielding means for drawing said grippers toward each other, and means for limiting the inward movement of said grippers.

6. In a mailbag sustaining device, a shank connected to a support by means of a universal joint, grippers carried by said shank for engaging a device on one end of a mailbag, and means on said shank for protecting said grippers from the weather.

7. In a mailbag sustaining device, a socket member, a shank provided with an approximately ball-shaped head that fits in said socket member, a carrier loosely mounted on said shank and provided with yielding grippers, means for limiting the inward movement of said grippers, and a hood on said carrier for protecting said grippers.

8. In a mailbag sustaining device, a shank connected to a support by a universal joint, a carrier loosely mounted on said shank, a spring interposed between said carrier and a shoulder on said shank for holding the carrier in a certain position, grippers pivotally connected to said carrier, means for exerting yielding pressure on said grippers, and a device pivotally connected to one end of a mailbag and provided with an approximately ball-shaped head that is adapted to be engaged by said grippers.

9. In a mailbag sustaining device, a shank connected to a support by a universal joint, a carrier loosely mounted on said shank, a spring interposed between said carrier and a shoulder on said shank for holding the carrier in a certain position, grippers pivotally connected to said carrier, means for exerting yielding pressure on said grippers, a device pivotally connected to one end of a mailbag and provided with an approximately ball-shaped head that is adapted to be engaged by said grippers, a device on said carrier that limits the inward movement of said grippers, and a hood on said carrier for protecting the carrier and grippers from the weather.

10. In a mailbag catching and delivering apparatus, a support that extends transversely across a door opening in the side wall of the car, a member rotatably mounted on said support, a reversible arm carried by said support to which the lower end of a mailbag is adapted to be connected, a cooperating pivotally mounted arm on the car to which the upper end of said mailbag is adapted to be connected, and means for causing said arms to move in unison when the member on said support is rotated.

11. In a mailbag catching and delivering apparatus, a support that extends transversely across a door opening in the side wall of the car, a member rotatably mounted on said support, a reversible arm mounted on said support to which the lower end of a mailbag is adapted to be connected, a cooperating pivotally mounted arm on the car to which the upper end of said mailbag is adapted to be connected, means for causing said arms to move in unison when the member on said support is rotated, and means for locking said member in such a position that the arms project laterally from the side of the car.

12. In an apparatus of the character described, a support arranged transversely of a door opening in the side wall of a car, a member rotatably mounted on said support and provided with an arm having means for connecting the lower end of the mailbag thereon, a pivotally mounted upper arm having means for connecting the upper end of a mailbag thereto, a link connecting said arms together for causing them to move in unison when the member on said support is rotated, a catching device on said lower arm, and a device mounted on said member and coöperating with said support to lock said arms in an operative position.

13. In an apparatus of the character described, a support arranged transversely of a door opening in the side wall of a car, a sleeve rotatably mounted on said support and provided with a laterally projecting tubular-shaped portion, a mailbag catcher journaled in said tubular-shaped portion, and means for locking said catcher in a certain position.

14. In an apparatus of the character described, a support connected to the side wall of a car, a member journaled on said support and provided with a tubular-shaped portion, a mailbag catcher having a shank that projects into said tubular-shaped portion, means for holding said catcher in a certain position and also locking said member to said support, an arm on said

catcher provided with yielding grippers for engaging a device on the lower end of the mailbag, an arm pivotally connected at its inner end to the side wall of the car and provided with yielding grippers for engaging a device on the upper end of the mailbag, and a link connected to said upper arm and to the shank of said catcher.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 29 day of June 1909.

THOMAS F. CURTIS.

Witnesses:
H. B. JONES,
GEO. H. REESE.