(No Model.)

B. D. AYARS, Jr.

MAIL BAG DELIVERING APPARATUS.

No. 539,330. Patented May 14, 1895.

FIG. 4.

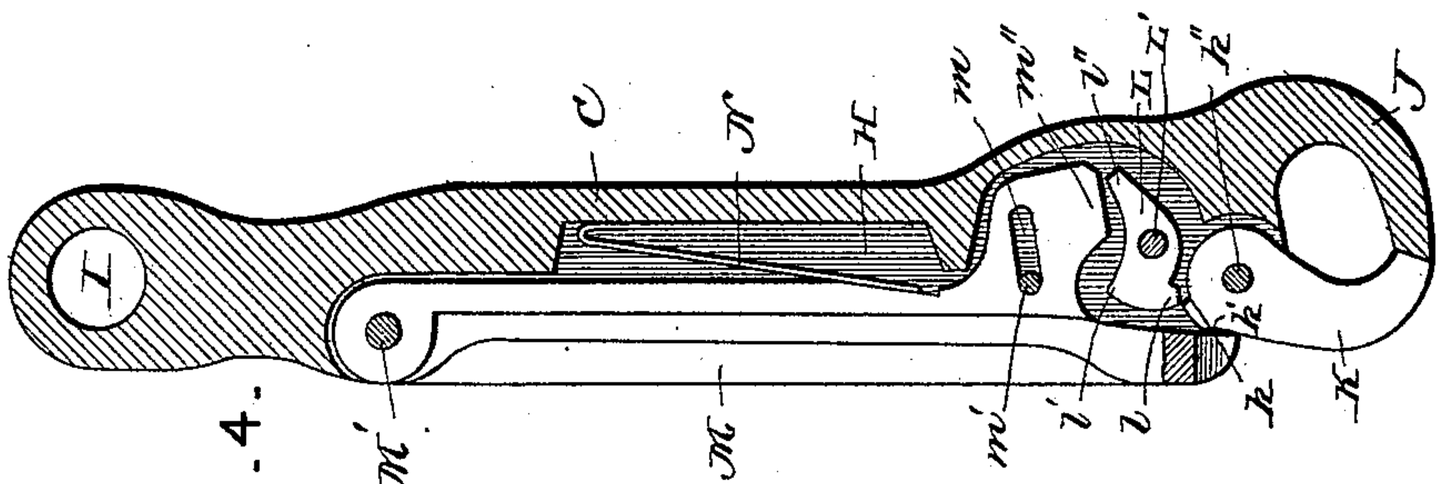

FIG. 3.

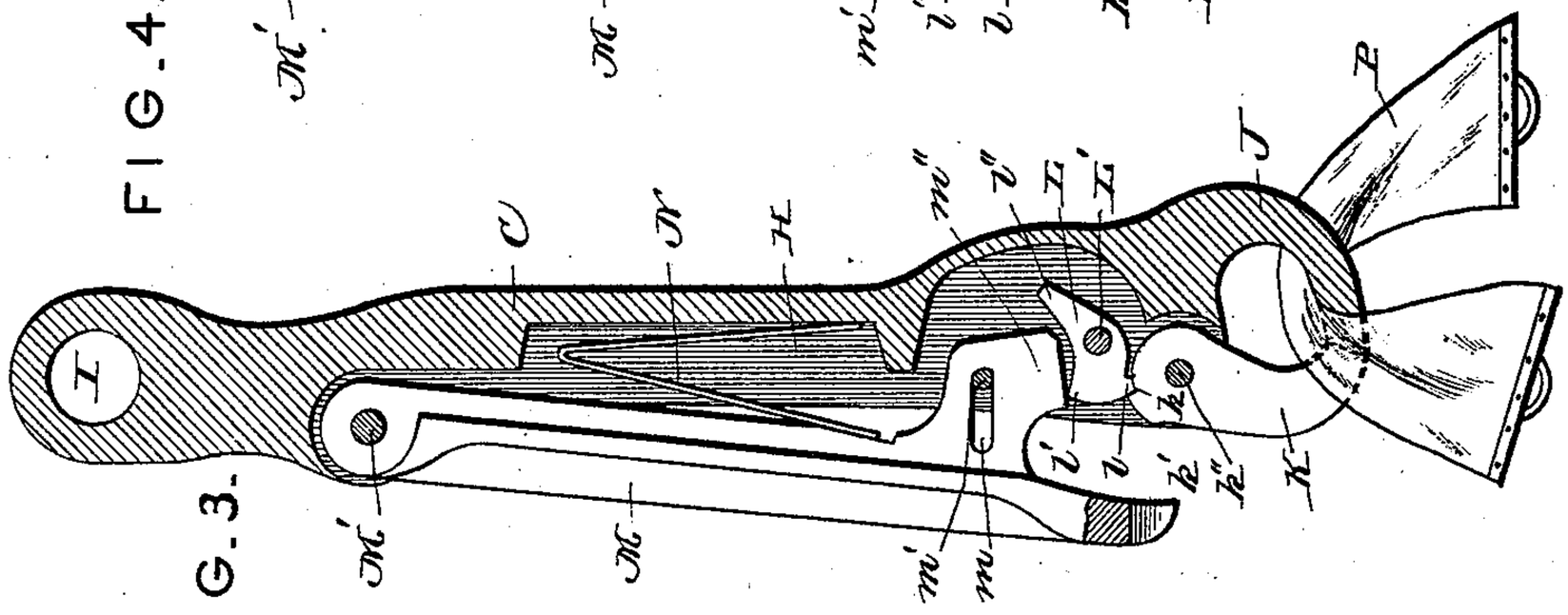

FIG. 2.

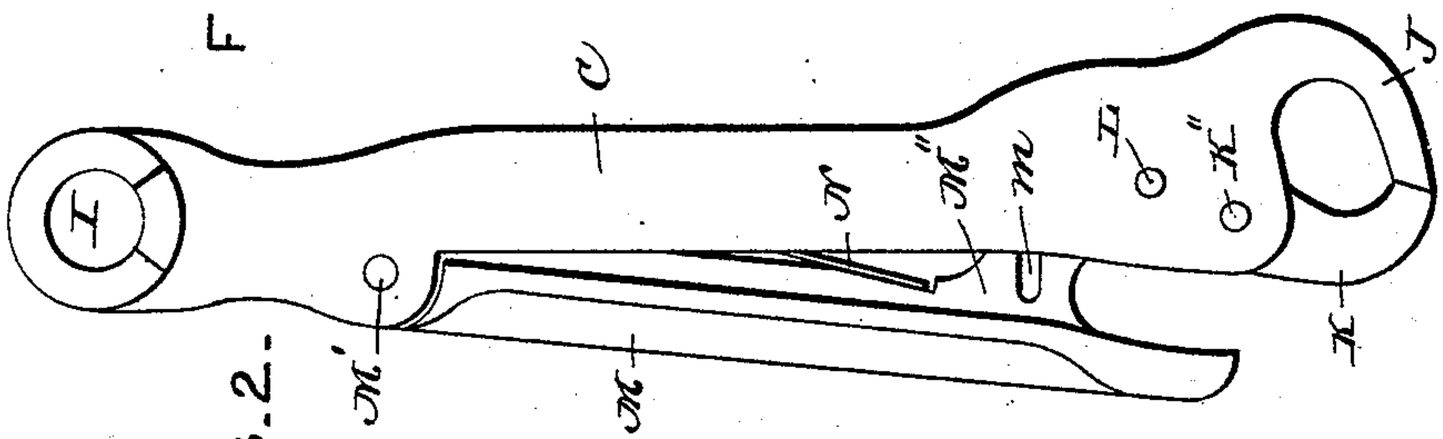

FIG. 5.

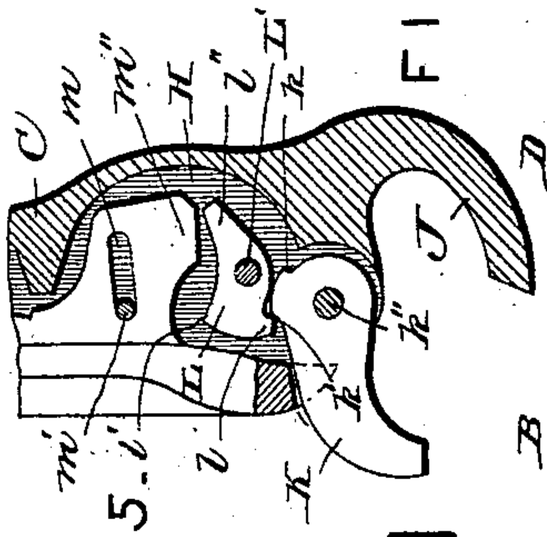

FIG. 1.

Witnesses
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UNITED STATES PATENT OFFICE.

BENJAMIN D. AYARS, JR., OF CHESTER, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE M. BUNTING AND GEORGE M. BOOTH, OF SAME PLACE, AND HOWARD W. LIPPINCOTT, OF PHILADELPHIA, PENNSYLVANIA.

MAIL-BAG-DELIVERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 539,330, dated May 14, 1895.

Application filed June 5, 1893. Serial No. 476,550. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN D. AYARS, Jr., a citizen of the United States, residing at Chester, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Trip-Arms for Mail-Bag-Delivering Apparatus, (Case B;) 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 letters of reference marked thereon, which form a part of this specification.

My invention relates to apparatus for delivering mail bags or packages from moving trains, and more especially, to that part of the apparatus described and illustrated in my application of even date herewith which I denominate the trip-arm, my invention consisting in the improved construction, arrangement and combination of parts of said trip arm which I shall now proceed to fully describe and to specifically point out in the claims hereto appended.

In the accompanying drawings, Figure 1 is a view of so much of a car and a mail-receiver as is necessary to properly explain the operation and application of my invention, the car being shown in transverse vertical section through the door, with the delivery-arm and trip-arm in position to deliver a mail-bag or package, and the receiver being shown in end elevation in proper position to receive the article delivered, a mail bag being shown in the hook. Fig. 2 is a side elevation of my improved trip-arm in position to hold and deliver the bag or package. Fig. 3 is a longitudinal section through the same, the parts being in the same positions and a mail-bag being shown in the hook. Fig. 4 is a similar section with the parts in the positions they assume when the finger is released by pressure on the trigger, and Fig. 5 is a fragmentary sectional view with the parts in the positions they assume after the finger has been released and an article delivered.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letters A is an ordinary mail or express car, of which *a* is the door jamb.

Pivoted to the side of the car in position to be swung out the door at right angles thereto is a delivery arm B substantially similar to the ordinary mail catcher. My improved trip-bar C is pivoted to the end of such arm, either directly or by an intermediate link D, as shown in Fig. 1, so as to swing parallel to the track in line with the mouth or chute E of a closed mail receiver F, which receiver has, directly in the line of travel of the trip bar, a buffer as at G.

My improved trip bar consists of a hollow body H having a pivotal opening I at its upper end, and a hook J at its lower end, the point of said hook being toward the front of the train. A finger K is pivoted on a pin *k'* in the hollow body the finger projecting downward to close the hook and make it substantially a ring, when holding a mail bag or package. This finger has notches *k* and *k'* as shown.

A dog L is pivoted on a pin L' in the hollow body of the trip bar above the finger K. This dog has a tooth *l* on its lower side to engage either of the notches *k* or *k'* of the finger K as occasion may require, and on its upper side points *l'*, *l''*.

A trigger bar M is pivoted on a pin M' in the body of the trip bar and has an inward projecting flange M'' with a horizontal slot *m* through which passes a pin *m'* secured in the body of the trip bar. The lower end *m''* of this flange engages the points *l' l''* of the dog K when desired as hereinafter explained, and a spring N holds the trigger M normally in its outer position.

The operation of my invention may be described as follows: The parts being normally in the position shown in Fig. 5 and the delivery arm B being inside the car, a mail bag P is hung on hook J either as shown, by its middle, or in any other suitable way, as for instance by passing the end loops of the bag over hook J. The tooth *l* of dog L being in the notch *k'* of finger K, the finger is rigidly held in its extended position. To release it, the trigger bar M is pressed inward until the

lower edge m'' of flange M'' impinges against the rear upper point l'' of dog L. This raises the tooth l of dog L out of the notch k' of finger K, releasing the finger so that it drops down to the position shown in Figs. 2, 3 and 4, when, by allowing the trigger to resume its normal position, the edge m'' of flange M'' bears on the front upper edge of dog L forcing tooth l into notch l' locking the finger. The delivery arm B is now swung out of the car door until it reaches the position shown in Fig. 1, substantially at a right angle to the length of the car, when the mail bag P will be exactly in line with the chute E of receiver F, and the trip bar, with the trigger bar M in advance, exactly in line with the buffer G at the top of the chute. The movement of the car continuing, the trigger bar M comes into contact with the buffer and is forced into the position shown in Fig. 4 with the bottom m'' of flange M'' in contact with the upper inner point l'' of dog L, forcing tooth l out of notch k of finger K leaving the finger free to swing on its pivot. The motion of the mail bag P causes it to slide off the hook J into the receiver and in doing so it forces finger K to the position shown in Fig. 5, the return of the trigger M to its normal position by means of spring N, forcing the tooth l into notch k' of finger K and locking the finger in its extended position. The delivery arm is now returned into the car and the apparatus is ready to receive another bag or package.

Having thus fully described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A trip arm for a mail delivering apparatus provided with a hook, a finger to operate in conjunction therewith, to hold a mail bag, a locking device to secure it rigidly in position to hold the bag, and a releasing device operated by contact with a mail receiver, substantially as set forth.

2. A trip arm for a mail delivering apparatus provided with a hook, a finger to operate in conjunction therewith to hold a mail bag, a locking device to secure it rigidly in position to hold the bag, and a releasing and relocking device operated by contact with a mail receiver substantialiy as set forth.

3. A trip arm for a mail delivering apparatus provided with a hook, a finger to operate in conjunction therewith to hold a mail bag, a dog to lock the finger in its operative position, and a pivoted trigger bar engaging said dog to release it from contact with the finger, as set forth.

4. In a trip bar for a mail delivering apparatus the combination of a hook J, a pivoted finger K to close the hook opening having two notches, a dog L having a tooth to engage one of said notches in the operative position and the other in the inoperative position of the finger, and a spring actuated trigger bar M to operate the dog, substantially as set forth.

5. In a trip bar for a mail delivering apparatus the combination of the hook J, the finger K having notches k k', the dog L having tooth l to engage notch k in the locked closed position and the locked open position of the finger, the pivoted trigger bar M having slotted flange M'', the pin m' in said slot, and the spring N for normally holding the trigger bar M in its outer position as set forth.

6. In a mail delivering apparatus the combination with a swinging arm carried by the car having a rigid hook to receive the mail bag and a locking and releasing finger, of a receiver alongside the track with an open mouth in the path of the movement of the bag, and a buffer in the line of movement of the swinging arm to operate the finger releasing mechanism, as set forth.

7. In a mail delivering apparatus the combination with a delivery arm pivoted to the car whereby it may be swung out at substantially a right angle thereto, of a vertically swinging trip arm pivoted on said delivery arm near its outer end for carrying and delivering the mail bag, and a buffer in line of movement of the trip arm to operate its trip mechanism, substantially as set forth.

8. In a mail delivering apparatus the combination with a horizontally swinging delivery arm pivoted to the car of a vertically swinging trip arm carrying the mail bag, a pivotal link connecting said vertically swinging arm with the delivery arm and an open mouthed receptacle in the line of movement of the bag, substantially as set forth.

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

BENJ. D. AYARS, JR.

Witnesses:
E. G. BRASHEARS,
S. BRASHEARS, Jr.