

B. CHAMBERLAIN.
MAIL CATCHER AND DELIVERER.

(Application filed Jan. 19, 1899.)

(No Model.)

2 Sheets—Sheet 1

FIG. 2.

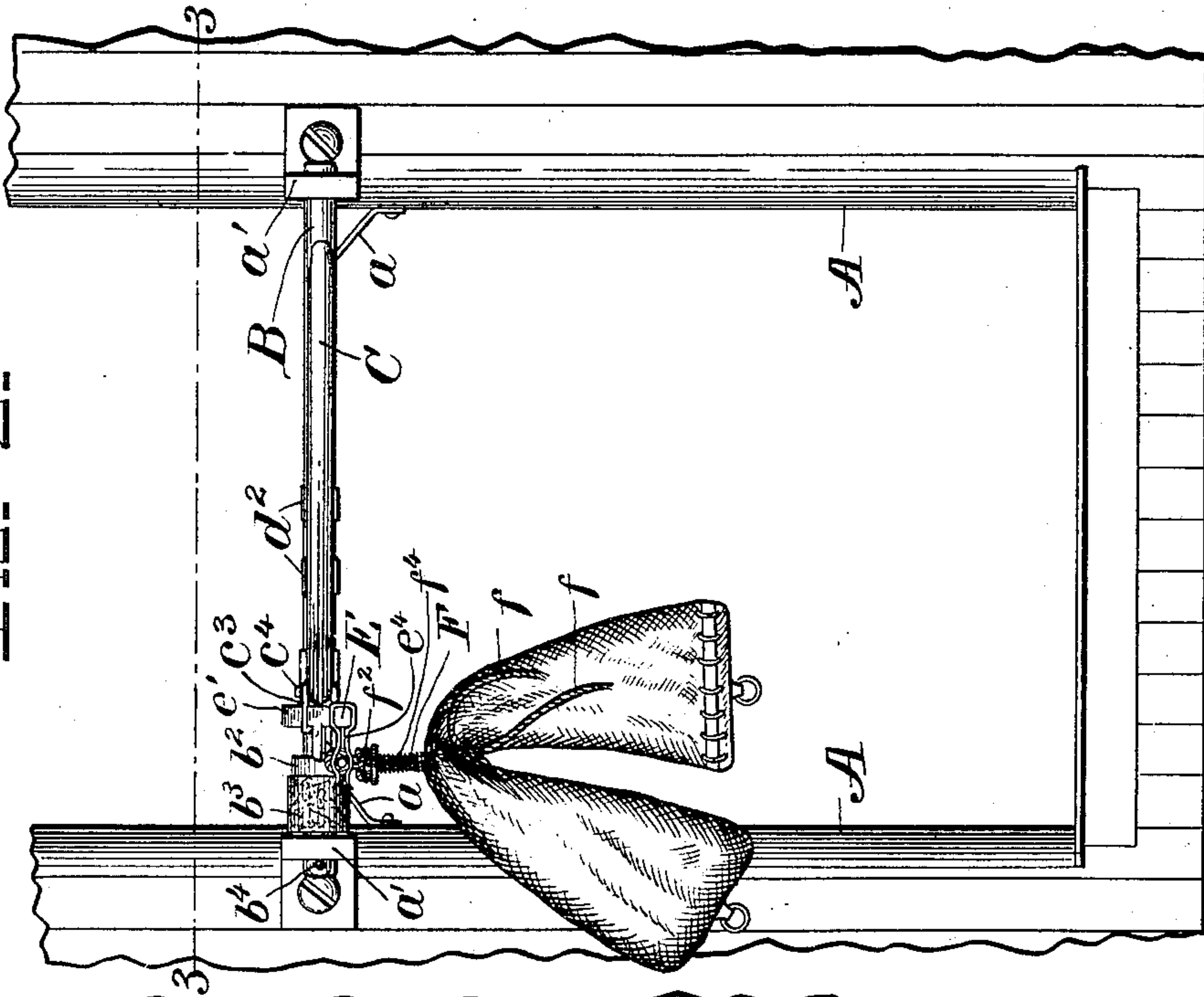
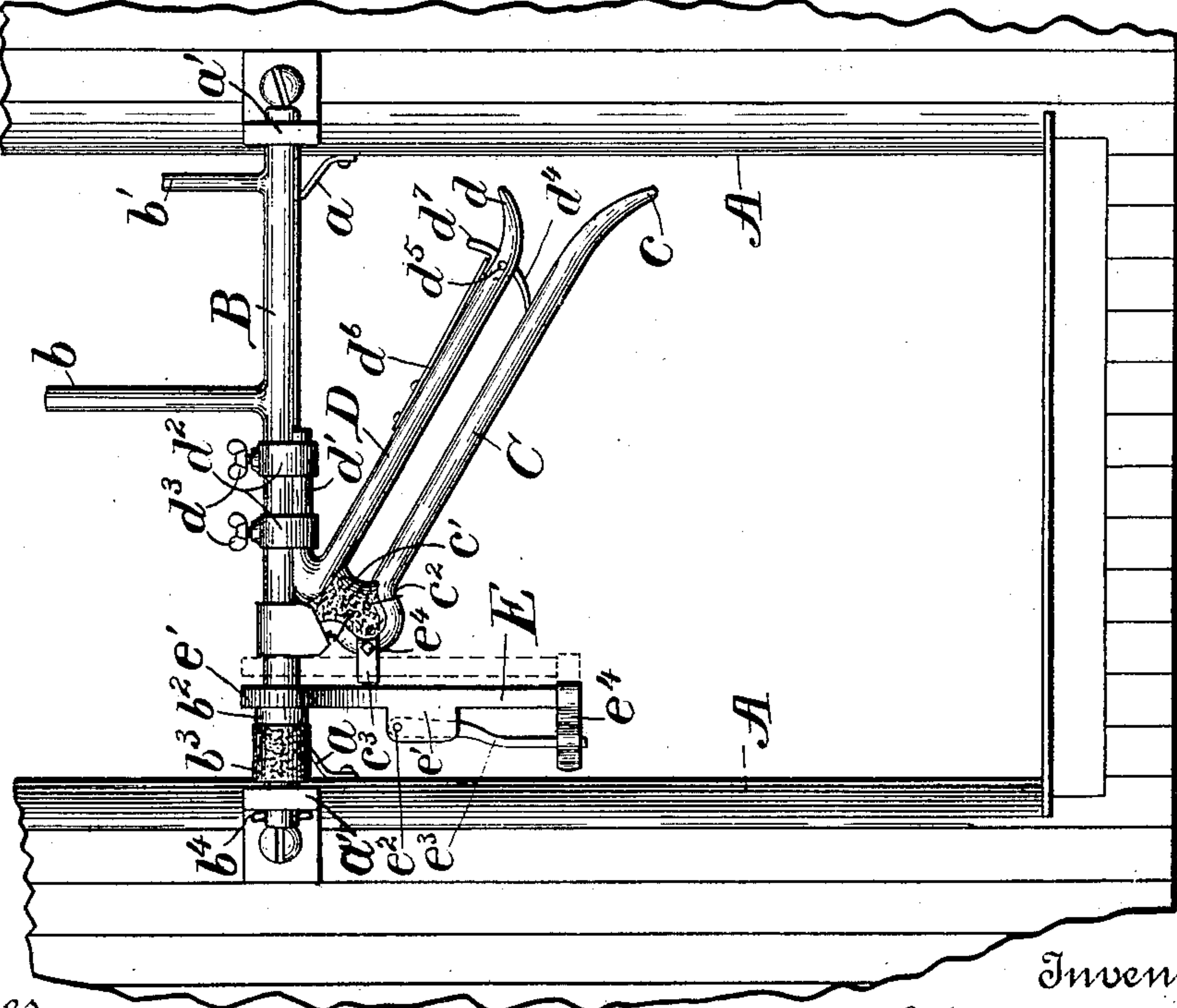


FIG. 1.



Witnesses

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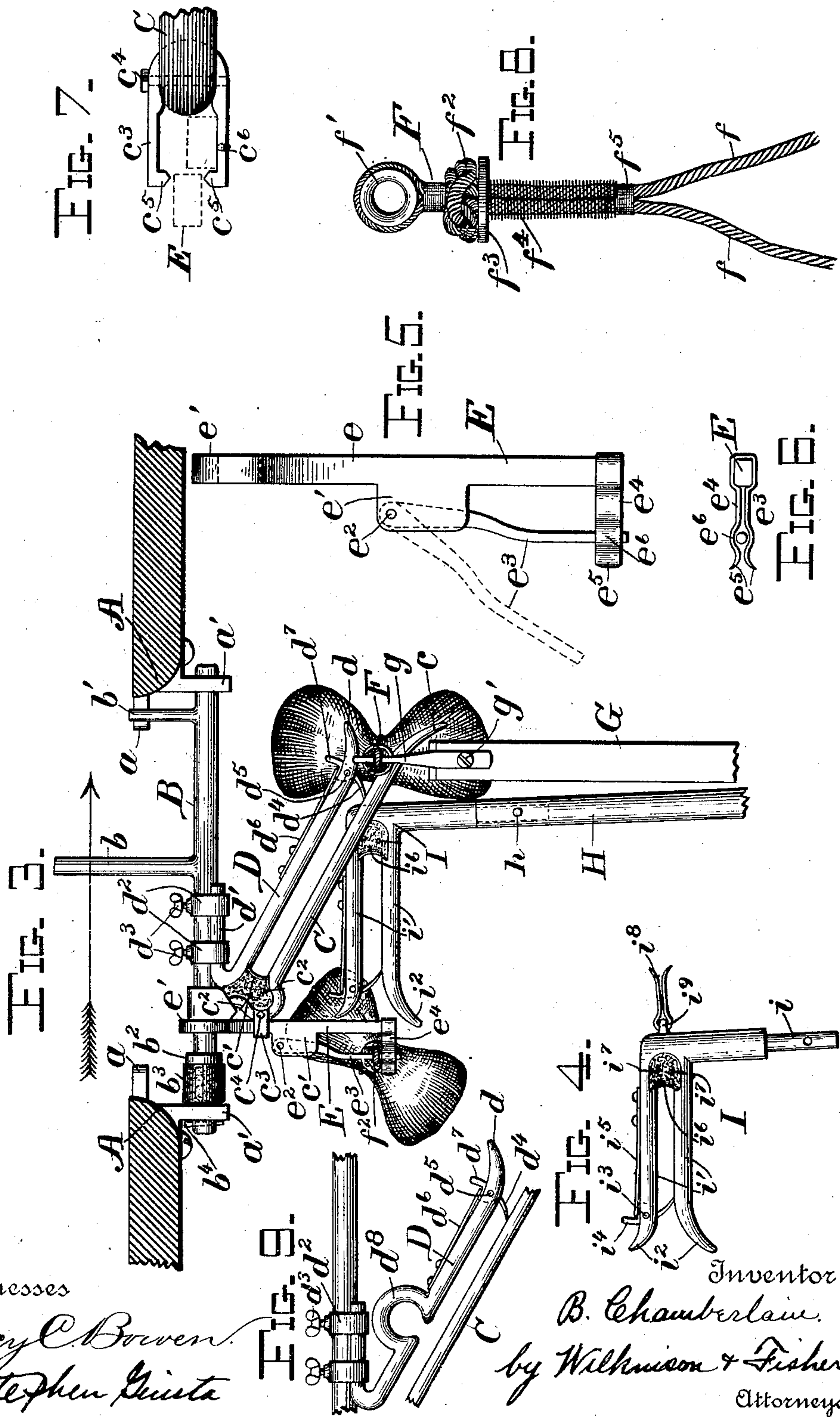
B. Chamberlain.
by Wilkinson & Fisher.
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Witnesses
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UNITED STATES PATENT OFFICE,

BLANCHARD CHAMBERLAIN, OF BELLEFONTAINE, OHIO.

MAIL CATCHER AND DELIVERER.

SPECIFICATION forming part of Letters Patent No. 632,101, dated August 29, 1899.

Application filed January 19, 1899. Serial No. 702,705. (No model.)

To all whom it may concern:

Be it known that I, BLANCHARD CHAMBERLAIN, a citizen of the United States, residing at Bellefontaine, in the county of Logan and State of Ohio, have invented certain new and useful Improvements in Mail Catchers and Deliverers; 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.

My invention relates to improvements in devices for catching and delivering mail-bags, by means of which mail may be taken on and delivered from a moving railway-train.

The objects of my invention are to provide means whereby a mail bag or bags may be taken from a crane located at the side of the track, or whereby a mail bag or bags may be delivered to said crane, or whereby both of these transfers may be made simultaneously without interfering with each other.

Further objects of my invention are to provide means for making the transfers mentioned which will be practically automatic in action and which will be easily operated, effective, and inexpensive, which will subject the bags to the minimum amount of strain and wear and which means may be applied with fewer changes and at much less expense than is the case with other systems to the appliances now commonly used for catching and delivering bags, as set forth, for instance, in my former patent, reissued February 8, 1898, No. 11,649.

With these objects in view my invention consists in the construction and combinations of parts, as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a part of a postal car, showing the door-jambs with my improved mail catching and delivering device attached thereto in the position it would naturally assume when not in use. Fig. 2 is a side elevation of the same, showing a mail-bag attached to the delivery portion of the device, which is shown in the position assumed when a mail-bag is to be delivered. Fig. 3 is a cross-section, looking downward, on the line 3 3 of Fig. 2. Fig. 4 is a top view of the receiving-hook of the crane. Fig. 5 is a top view of the

outer part of the delivery-arm. Fig. 6 is an end view of the same. Fig. 7 is a detail side view showing the supporting-hook for the delivery-arm. Fig. 8 is a perspective view of the sling by means of which the bags are suspended, and Fig. 9 is a top plan view showing a modification of the removable catcher-arm.

A represents the door-jambs of a railway mail-car, to which are attached stops *a* on the inside and brackets *a'* on the outside, in which is journaled the catcher-rod B, which is provided with an operating-handle *b*, a stop-arm *b'*, a collar *b²*, a rubber buffer *b³*, and a securing-pin *b⁴*, all of these features, broadly speaking, being old except the stop *a* and the stop-arm *b'*. Cast upon or otherwise secured to the rod B is the catcher-arm C, curved outward at the end *c*. This arm belongs to one of the usual types.

D represents a removable arm, which is one of the important features of my invention. Its outer end is curved, as at *d*, and its inner end *d'* is bent so as to form a hook. This hook is concaved to fit around the rod B, or each of them may have a flat portion. These concentric or flat portions engage with each other and keep the arm and rod in the same position with respect to each other when they are fastened together, which is done by means of the collars *d²*, each of which is provided with a set-screw *d³*. Near the outer end of the arm D it is provided with a slot, in which is pivoted at *d⁵* a retaining-dog *d⁴*, normally held in the position shown in Fig. 3 by the spring *d⁶*, which is fastened to the arm D.

The position and arrangement of the parts are such that the arms C and D form a parallel track with a flaring mouth, closed under ordinary conditions by the dog *d⁴*, which latter, however, will yield to the blow of the sling carrying a mail-bag, but will fly back to its original position under the action of the spring *d⁶* as soon as the sling has passed it.

In Fig. 9 is shown a modification of the removable catcher-arm. It is the same as has been already described, except that it is provided with a circular projection *d⁸*, provided with a perforation just large enough to allow the sling to pass therethrough, so that it may be conveniently removed by the clerk from the track formed by the catcher-arms C and

D. The rearward portion of this track is closed by a buffer c' , of rubber or other suitable material, held upon the arm C by wires c^2 .

Near the rear end of the arm C an open catch c^3 is fixed by means of a screw c^4 . This catch is provided with projecting beveled ends c^5 , forming a mouth for the reception of the delivery-arm E, and is preferably made of stout spring metal. This arm is one of the principal features of my invention. It consists of a flat bar e , provided on its inner end with a circular enlargement e' , which is perforated and swings freely on the rod B. Near the center of the arm E are two parallel ears e' , in the rear part of which, at e^2 , is pivoted a supporting-pin e^3 , upon which fits one of the slings carrying a mail-bag. The rear part of this pin is flattened to fit between the ears e' , and the front part is slightly bent outward to afford plenty of room for the sling. The outer end of the pin e^3 is secured in the spring-catch e^4 , which is fastened to the forward end of the arm E. The catch e^4 is provided with flaring lips e^5 and an enlarged portion e^6 , in which the end of the pin e^3 rests. The catch e^4 is not intended to support any considerable portion of the suspended mail-bag, which is carried almost entirely by the pin e^3 , but simply to hold the pin e^3 in position and to prevent the sling from slipping off the pin. The arm E is suspended freely on the rod B, so that it can be swung (when in the position shown in full lines in Fig. 1) into the car by the mail-clerk. The bag carried by a sling is placed on the pin e^3 , which is swung into the catch e^4 , and the arm E slid into the position shown in dotted lines in Fig. 1, resting in the depression c^6 of the catch c^3 . The apparatus is then ready to deliver a mail-bag, when the handle b is pulled down until the stop-arm b' reaches and rests upon the stop a .

The sling in which the bags are secured is shown in Fig. 8. It consists of a wire rope or an ordinary rope, strap, or chain F doubled upon itself and having free ends f . The doubled part is secured together by a fastening f^5 , terminating in a loop, in which is secured an eye f' . At f^2 the rope is double-knotted to form a projection large enough to prevent the sling from falling between the arms C and D. Below the knots f^2 is a washer f^3 , which usually acts as a support for the sling, although the knots f^2 are large enough for this purpose. Below the washer f^3 is a spiral spring f^4 , which is used simply to prevent wear of the rope, while at the same time it is perfectly flexible. Of course a covering of rawhide, of spun yarn, or any flexible and wear-resisting material may be used instead of this spring. The advantages of this arrangement are that the wear and tear upon the mail-bags are reduced to a minimum and that two or more mail-bags may be suspended from the same sling.

The bag which is to be caught is suspended from the ordinary crane, having the swing-

ing weighted arm G, on which a pin g is pivoted at g' . The pin g engages the eye f' of the sling. The receiving part of the crane is substantially the same as is shown in my re-issued Patent No. 11,649, dated February 8, 1898, already referred to. Therefore only a fragment is shown. H represents a swinging arm which carries a reversible receiving-hook I. The arm H has a socket (shown in dotted lines in Fig. 3) into which fits a reduced portion i of the hook I. A pin h , passing through the arm H and hook I, holds the latter in its proper position.

The hook I is composed of the substantially parallel arms i' , flaring outward at i^2 . A retaining-dog i^4 is pivoted at i^3 in a slot in one of the arms i' and is normally held in the position shown in Fig. 4 by the spring i^5 , fastened to one of the arms i' . The hook is provided with a rubber buffer i^6 , held in place by wires i^7 . It is also provided with an eye i^9 , carrying a spring-catch i^8 , which is slipped over the rope f of the sling F, thus holding the swinging arm H in proper position for the hook I to catch the sling of the bag delivered from the car in windy weather and also preventing the bag hung from the pin g from swinging out of position when the wind is high.

The operation is as follows: Suppose a mail-bag is to be delivered from and another received upon the car. The postal clerk swings the arm E into the car, passes the pin e^3 through the eye f' of the sling carrying the bag, swings the pin into the catch e^4 , and slips the arm E into engagement with the hook c^3 . As the station is approached, the clerk presses down the handle b until the stop-arm b' comes into contact with the stop a . By this time (or soon after) the parts will be in the position shown in Fig. 3, the arrow showing the direction of motion of the car. The arms C and D pass around the sling supported on the pin g and slip it off said pin, which is free to swing, if it should be necessary. The sling carrying the bag falls upon the arms C and D, the washer f^3 resting upon said arms. The dog d^4 yields and permits the sling to pass it, when it is at once snapped back into engagement with the arm C by the spring d^5 , thus securely holding the sling and bag. Meanwhile the sling and accompanying bag supported on the pin e^3 have reached the hook I. The arms i' pass around the sling, which is carried forward until it strikes the buffer i^6 . The shock frees the pin e^3 from the spring-catch e^4 . The pin swings backward, (see the dotted lines in Fig. 5,) the sling slips off the pin e^3 and falls until the washer f^3 rests upon the arms i' , the spring-operated dog i^4 preventing the sling from slipping out of engagement with the arms i' . After passing the station the handle b is gradually released, and the weight of the bag and of the apparatus itself brings the latter into the position shown in Fig. 1. The dog d^4 is then pressed against the arm D, the projecting

portion *d'* being used for this purpose, and the sling and bag allowed to slide out. The releasing of the bag from the hook I and the operation when only one bag is handled, whether it is received or delivered, are plain without further explanation.

One of the chief advantages of the particular form in which I have embodied my invention is that by the use thereof the mail-bag and supporting-crane may be located fully twelve inches farther from the track, owing to the shape and position of the catcher-arms C and D. This is a very important point. In the systems now in use the mail-bags are hung so close to the track that serious accidents often occur by reason of the engineers or firemen leaning out of the cab-window and being struck by the mail-bag or by the crane. Similar accidents often occur also to the trainmen on freight trains especially. Another of the advantages of my invention is that the two chief features of improvement, the arms D and E, are separable parts and may be directly applied to the ordinary forms of mail-bag catchers without any material changes of the latter. In fact, the old catcher rod and arm may be used without any changes whatever, except the addition of the hook *c*³ to the arm C, which is a very simple and inexpensive matter. If, however, the apparatus were to be built new as a whole, the details could advantageously be varied. For example, the arms C and D and the portions securing them to the rod B could all be made in one piece, and it is obvious that many other changes might be made without departing from the spirit of my invention. I therefore wish it to be distinctly understood that I do not limit myself to the exact details shown and described.

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

1. In a mail catcher and deliverer, a catcher-rod provided with a handle and with two substantially parallel catcher-arms, inclined to said rod and adapted to receive a sling, substantially as described.

2. In a mail catcher and deliverer, the combination of supporting-brackets, and a catcher-rod rotatably mounted in said brackets, said catcher-rod being provided with a handle and with two substantially parallel catcher-arms with a flaring mouth, forming a track inclined relatively to the catcher-rod and adapted to receive a sling, substantially as described.

3. In a mail catcher and deliverer, the combination of a rotatable catcher-rod, provided with a handle and a catcher-arm, and a second catcher-arm removably secured to said catcher-rod substantially parallel to the first-named catcher-arm, substantially as described.

4. In a mail catcher and deliverer, the combination of a rotatable catcher-rod, provided with a handle and a catcher-arm, and a deliv-

ery-arm slidably and rotatably mounted on said catcher-rod, substantially as described.

5. In a mail catcher and deliverer, the combination of a rotatable catcher-rod provided with a handle and a catcher-arm, a delivery-arm slidably and rotatably mounted on said catcher-rod and means for causing said catcher-rod and delivery-arm to rotate in unison, substantially as described.

6. In a mail catcher and deliverer, the combination of a car, brackets secured to said car, an immovable stop mounted on the inside of the door-jamb, a catcher-rod rotatably mounted in said brackets and provided with a stop-rod, a handle, a catcher-arm and a collar, and a rubber cushion on said catcher-rod, substantially as described.

7. In a mail catcher and deliverer, the combination of a car, brackets secured to said car, an immovable stop mounted on the inside of the door-jamb, and a catcher-rod, rotatably mounted in said brackets and provided with a handle, a stop-rod and two substantially parallel catcher-arms, substantially as described.

8. In a mail catcher and deliverer, the combination of a catcher-rod provided with a handle and a catcher-arm, a second catcher-arm substantially parallel to the first catcher-arm, means for removably securing said second catcher-arm to the catcher-rod and a cushion or buffer between said catcher-arms, substantially as described.

9. In a mail catcher and deliverer, the combination of supporting-brackets, a catcher-rod mounted in said brackets, said rod being provided with a handle and with two substantially parallel arms, said arms forming a flaring mouth at the outer extremity, a spring-actuated dog to normally close said mouth and a buffer or cushion secured to said arms, substantially as described.

10. In a mail catcher and deliverer, the combination of a car provided with a stop and with brackets, a catcher-rod mounted in said brackets and provided with a handle, and a stop-rod and two substantially parallel catcher-arms, a spring-actuated dog and cushions, one of said cushions being secured to said catcher-arms, substantially as described.

11. In a mail catcher and deliverer, the combination of a catcher-rod provided with a handle and a catcher-arm, a delivery-arm rotatably and slidably mounted on said catcher-rod and means connected to said catcher-arm for causing the delivery-arm and catcher-rod to rotate in unison, substantially as described.

12. In a mail catcher and deliverer, the combination of supporting-brackets, a catcher-rod provided with a handle and with a catcher-arm and rotatably mounted in said brackets, a delivery-arm rotatably and slidably mounted on said catcher-rod and a catch secured to said catcher-arm, substantially as described.

13. In a mail catcher and deliverer, the combination of a car provided with brackets and

a stop, a catcher-rod provided with a stop-rod, a handle and a catcher-arm, a catch secured to said catcher-arm and a delivery-arm slidably mounted on said catcher-rod, substantially as described.

14. In a mail catcher and deliverer, the combination of a catcher-rod, two substantially parallel catcher-arms secured to said rod, and in an inclined position relatively thereto, and a cushion secured between said catcher-arms at the rear end, substantially as described.

15. In a mail catcher and deliverer, the combination of a rotatable catcher-rod provided with a handle, with a collar and with two parallel inclined catcher-arms, a cushion secured between said catcher-arms at the rear end, and a cushion on said catcher-rod in contact with said collar, substantially as described.

16. In a mail catcher and deliverer, a delivery-arm provided with a perforated extension at one end, a spring-catch at the other end and a pin pivoted in ears located between the ends, substantially as described.

17. In a mail catcher and deliverer, the combination of a removable catcher-arm having one end bent so as to form an acute angle to the arm, said end being concaved on one side, and having the other end bent so as to form an obtuse angle to the arm and having a slot, a dog pivoted in said slot and extending on both sides of the arm and a spring, substantially as described.

18. In a mail catcher and deliverer, a catcher-hook composed of two substantially parallel arms with a flaring mouth, one of said

arms being slotted, a dog pivoted in said slotted arm, a spring and a cushion in said hook, substantially as described.

19. In a mail catcher and deliverer, the combination of a catcher-hook, provided with a spring-catch on its rear, and means for suspending a mail-bag, substantially as described.

20. In a mail catcher and deliverer, the combination of a pin, supports for said pin, a mail-bag and a sling, consisting of a rope doubled on itself forming a loop, a knot or its equivalent and a spiral spring surrounding part of the doubled portion of the rope, substantially as described.

21. A sling for supporting a mail-bag, consisting of a rope doubled on itself and fastened together for a part of its length forming a loop, an eye in said loop, supporting means located beneath said loop and a covering of wear-resisting material below said means, substantially as described.

22. A sling for supporting a mail-bag, consisting of a rope doubled on itself and fastened together for a part of its length forming a loop, a metal eye in said loop, a knot, a washer, and a spiral spring surrounding part of the doubled portion of the rope, substantially as described.

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

BLANCHARD CHAMBERLAIN.

Witnesses:

PERCY C. BOWEN,
CLARENCE A. BATEMAN.