

(No Model.)

3 Sheets—Sheet 1.

A. P. HAUSS.
DELIVERING AND RECEIVING MAIL CRANE.

No. 548,364.

Patented Oct. 22, 1895.

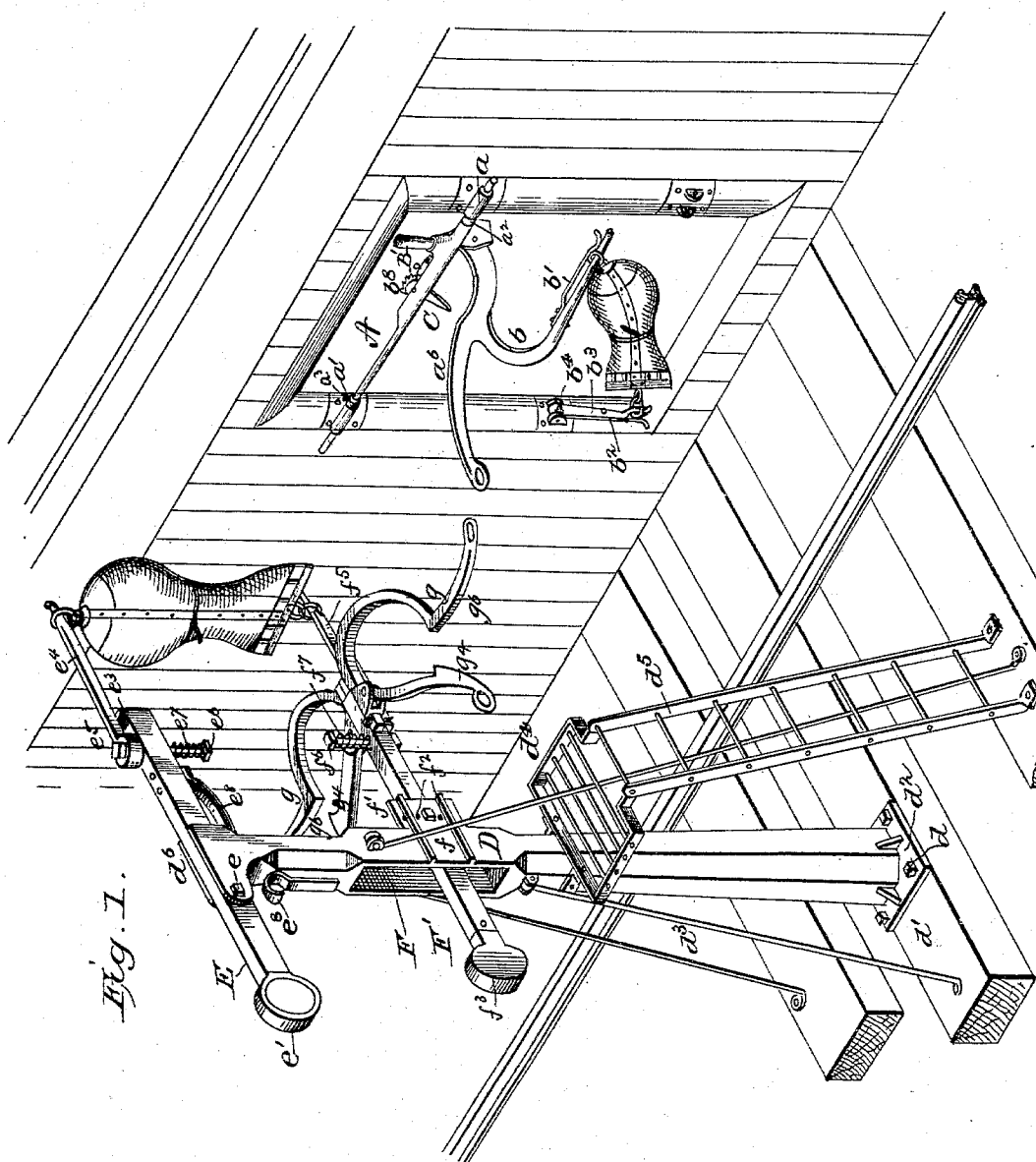


Fig. 1.

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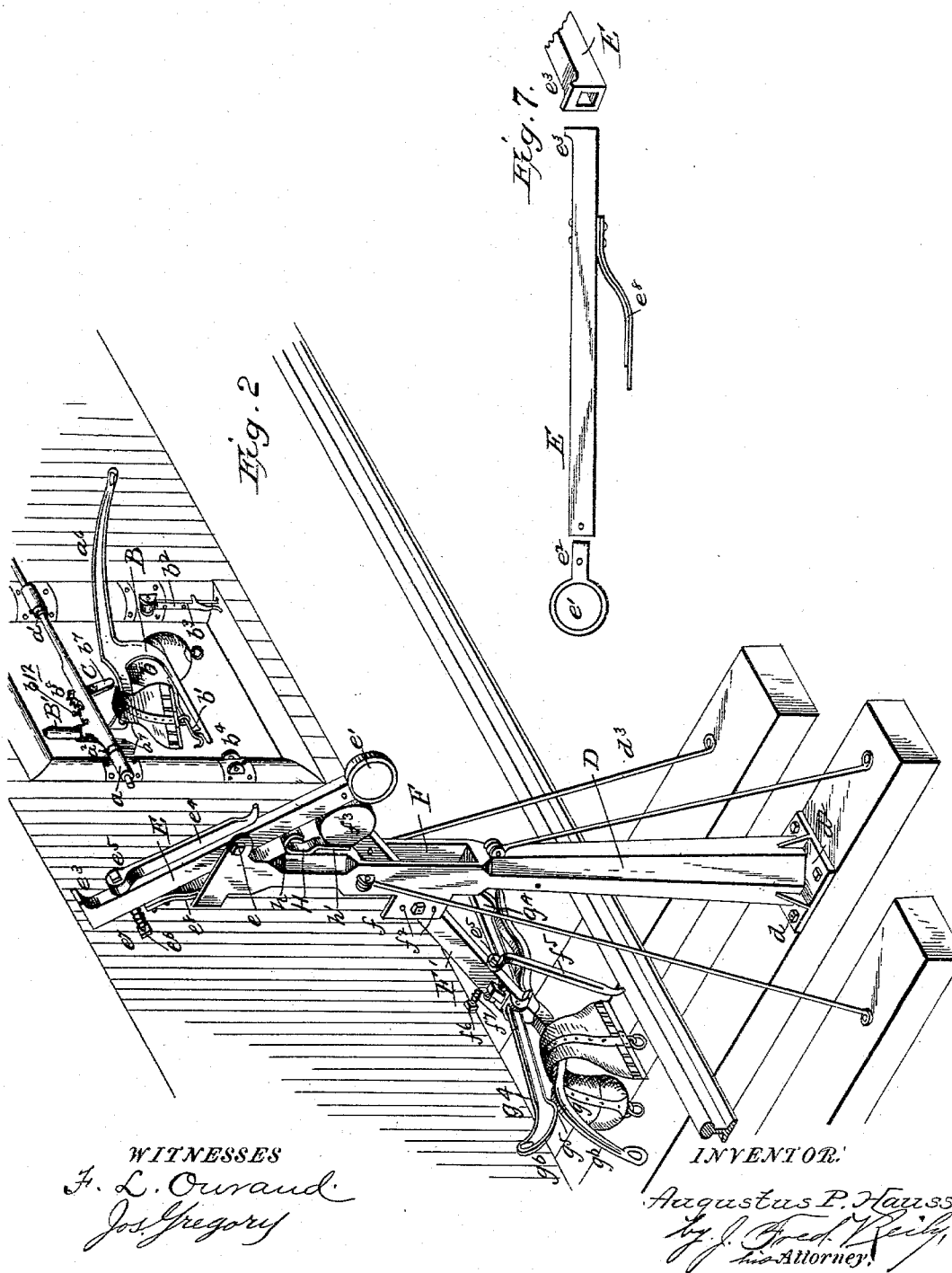
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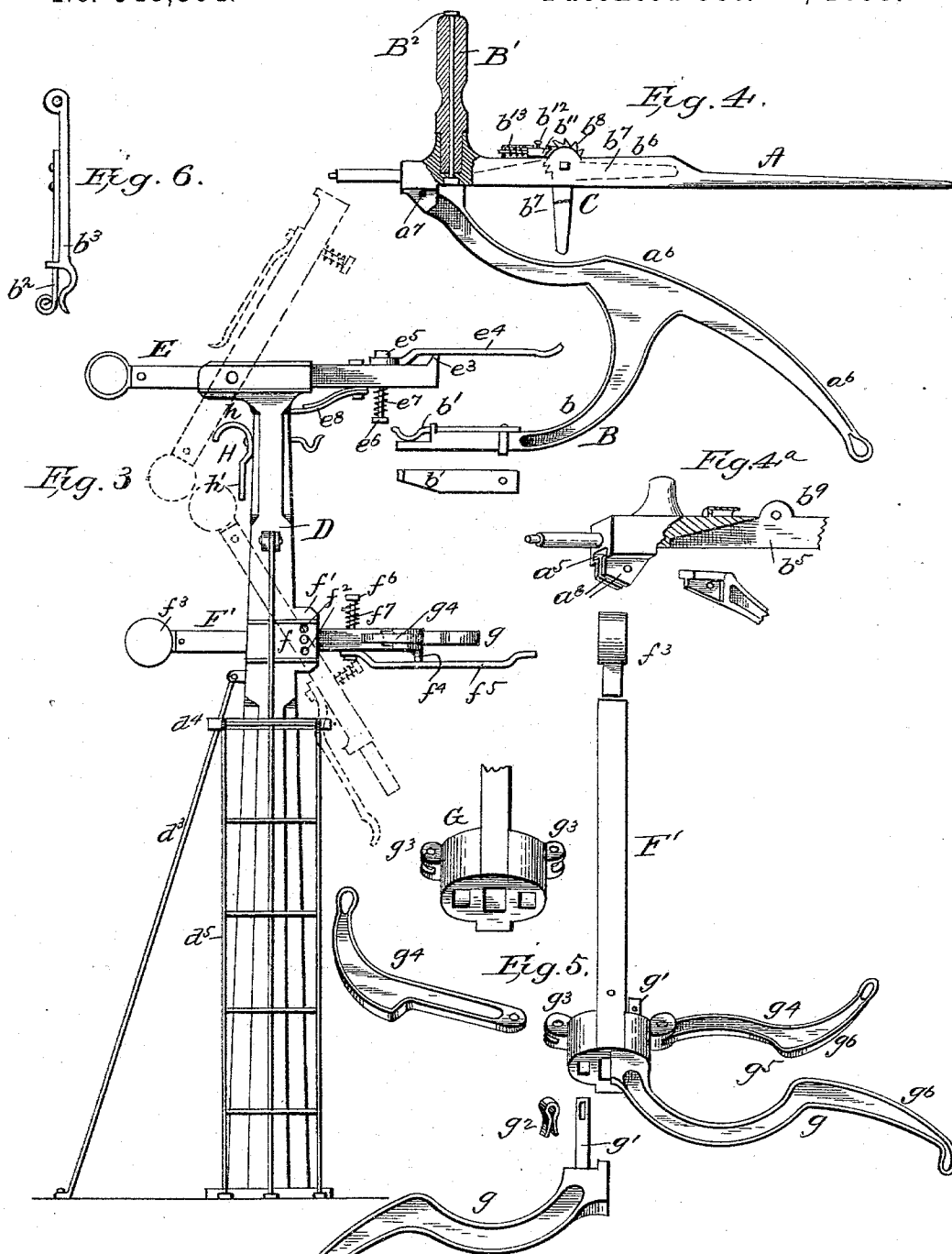
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UNITED STATES PATENT OFFICE.

AUGUSTUS P. HAUSS, OF NEW ALBANY, INDIANA.

DELIVERING AND RECEIVING MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 548,364, dated October 22, 1895.

Application filed March 2, 1895. Serial No. 540,281. (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 Delivering and Receiving Mail-Cranes; 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.

This invention contemplates certain new and useful improvements in mail-bag receiving and delivering apparatus designed to be used at points where mail-pouches are received and delivered by a moving railway mail-car.

The object of the invention is, first, to provide a simple and efficient device to be placed on a mail-car and adapted to operate in conjunction with a receiving and delivering apparatus or crane adjacent a railway-track, and, second, to provide an apparatus which shall be simple and durable and which will simultaneously receive a mail-pouch from a swiftly-moving train and securely hold the same, and also deliver a second pouch to said train without interfering with the receiving operation.

The invention comprises the novel features of construction, and also the detail combination and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective, illustrating my improved crane while supporting a mail-pouch. Fig. 2 is a similar view after the pouch has been removed. Fig. 3 is a view in side elevation. Figs. 4 and 4^a are detail views of the receiving-arm. Figs. 5 and 6 are views of the receiving and delivering device designed to be used on a railway mail-car. Fig. 7 illustrates in detail the upper crane-arm.

Referring to the drawings, A indicates the catcher bar or casting, the rounded ends of which are removably mounted in bearings *a*, secured to the sides of the door-frame of a railway mail-car, collars *a'* *a*² on said rounded

end preventing lateral movement of said catcher-bar. The collar *a'* is adjustably held in place by a thumb-screw *a*³, and by loosening the latter said collar may be moved, whereby the bar A can be taken out of its bearings and reversed when the car is to be run in an opposite direction. In a socket *a*⁵ in bar A is designed to be secured the inner end of an approximately semicircular arm *a*⁶, the said arm being additionally secured in place by a rod or bolt *a*⁷, passed through ears *a*⁸, projecting from bar A, said inner end of arm *a*⁶ being inserted between said ears. The delivery-arm B is secured to the arm *a*⁶ in any suitable manner, or it may be made integral therewith, said arm being curved at *b* and having a spring-catch *b'* secured on its outer end, said catch being designed to receive the ring in one end of a mail-pouch, the ring in the other end of the latter being held in a similar catch *b*², secured to an arm *b*³, pivoted at *b*⁴ to the side of the car. In a chamber or recess *b*⁵, formed in an enlargement *b*⁶ of arm A, is pivoted a clamp or locking device C, which comprises a body formed of two arms *b*⁷, extended at right angles to each other, and an upper rounded portion *b*⁸, extended up through a slot *b*⁹ in the top of said chamber or recess, said rounded portion having ratchet-teeth *b*¹⁰ on its periphery, which are designed to be engaged by a spring-pressed pawl *b*¹², seated in a barrel *b*¹³, mounted on catcher-bar A. The catcher-bar is provided with a handle B', which is secured in position by a rod or bolt B², passed through said bar and said handle, as shown.

D designates a metallic crane-post, preferably of cast-iron, which is supported by nutted bolts *d*, secured in a cross-tie *d'* and passed through a base-plate *d*² of said post. Suitable brace-rods *d*³ serve to additionally support said post. A platform *d*⁴ is secured to said post D, and access is had thereto by means of a ladder *d*⁵. The post D is preferably cast with a hollow core, and its sides are enlarged at the top thereof into flanges or brackets *d*⁶, between which is pivoted the upper arm E of the crane, a pivot-bolt *e* being passed through said flanges or brackets and said upper arm. This arm E is also cast hollow and at its inner end is provided with a counterbalancing-weight *e'*, which is provided

with an elongated portion e^2 , designed to enter the hollow end of arm E and be secured therein in any suitable manner. At the other end of said arm is a flange or struck-up portion e^3 , against which is designed to bear a rod or arm e^4 , which is pivoted at e^5 by a bolt e^6 passed therethrough and through said arm E. The rod or arm e^4 is designed to have a limited up-and-down movement, the flange e^3 serving as a fulcrum, said movement being limited, however, by a coil-spring e^7 , secured on the extended portion of bolt e^6 , said spring serving as a cushion for said rod or arm. A plate or leaf spring e^8 is also designed to act as a cushion for the arm E when the mail-pouch is supported thereby, and also to compensate for any sudden jerk or jar caused by the sudden removal of the mail-pouch from its support.

In an opening F of post D is pivoted the lower arm F', which is adjustably supported by a pivot-bolt f , passed through flanges or extended portions f' of the sides of said post. These flanges are provided with a vertical series of holes f^2 for the pivot-bolt f , whereby said arm F' may be placed on a higher or lower plane to accommodate pouches of different lengths. The opening F is of tapering formation, being higher or wider at its outer end, said opening being so formed in order that arm F' may have a free up-and-down movement therein. The arm F' is also provided at its inner end with a counterbalancing-weight f^3 , similar to weight e' , the other end of said arm being provided with a flange f^4 , rod or arm f^5 , securing-rod f^6 , and spring f^7 , which are identical in operation and construction with the same features or elements on arm or bar E. The outer or forward end of this arm F' is enlarged at G, and from the end of this enlargement extend two arms g , said arms being at right angles to said arm F' and secured thereto in any suitable manner, or they may be formed integral therewith. I prefer, however, to form these arms g with stems g' , which fit in the open end of enlargement G and are there secured by spring-keys g^2 . Adjacent these arms g and pivotally secured between lugs or ears g^3 of the enlargement G are two arms g^4 , which, together with arms g , are provided with approximately hook-shaped ends g^5 , the hooked portions of the pivoted arms being designed to coincide with the corresponding portions of said rigid arms, and act in conjunction therewith to form jaws g^6 for receiving a mail-pouch from a moving train. The arms E and F' may be cast with a hollow core, if desired, or they may be made solid, as may be found convenient; but I prefer the former construction.

A spring H is secured on the inner side of post D, said spring having a curved upper portion h and an elongated lower portion h' . This spring is designed to serve as a cushion to break the shock experienced by the arms E and F' when the same separate by reason

of the mail-pouch supported thereby being removed, the weighted ends of said arms being designed to come in contact with said spring.

The operation is as follows: The mail-pouch to be delivered by the mail-car is secured at one end to the delivery-arm B, the other end thereof being secured to catch b^2 of the arm b^3 . At the same time the pouch to be taken on by said car is supported by the upper and lower arms E and F' of the crane A by means of the rods or arms $e^4 f^5$ being passed through the upper and lower rings, respectively, of said pouch. As the mail-car approaches, the receiving-arm a^6 strikes the mail-pouch supported by the crane about midway between said upper and lower arms and draws the same off the rods or arms by which it is supported, the leaf-spring e^8 and coil-springs e^7 and f^7 serving to break any shock or jar caused by said receiving-arm striking said pouch. As soon as the pouch is drawn off by the car the counterbalancing-weight on arm E will draw the latter out of a horizontal line, in which position it will remain until another pouch is to be supported thereby, said weighted end resting against the spring H. Simultaneous with the foregoing operation the delivering-arm B of the mail car passes out a second pouch, which is engaged by one or the other of jaws g^6 , the pivoted member g^4 thereof falling on said pouch and securely holding the same until removed therefrom by an attendant. As the pouch is taken on by arm a^6 of the mail-car, said pouch will strike against one of the arms b^7 of clamp C, which will securely hold said pouch on said arm.

From what has been said it will be seen that I have produced a mail-bag catching and delivering apparatus which is efficient in operation, and as the same comprises but few parts it is not liable to readily get out of order or be deranged.

I claim as my invention—

1. A metallic post, an arm or bar pivoted on the upper end thereof, a second arm or bar pivoted to said post below said former arm, each of said arms having a counterbalancing weight at one end and an upturned portion or flange at its other end, and bars or fingers pivotally connected to said arms or bars and designed to bear on said flanges, substantially as and for the purpose set forth.

2. A metallic post, an arm or bar pivoted on the upper end thereof, a second arm or bar pivoted to said post below said former arm, each of said arms having a counterbalancing weight at one end and an upturned portion or flange at its other end, a bar or finger designed to bear against each of said flanges, pivot bolts for said bars or fingers, and coil springs encircling said pivot bolts, substantially as and for the purpose set forth.

3. A metallic post having flanges at its upper end, an arm or bar pivotally mounted between said flanges, a second arm or bar extended through said post and below said

former arm, brackets or flanges in which said latter arm or bar is pivoted, each of said arms or bars being provided with a counterbalancing weight at one end and a flange at its other end, bars or fingers designed to bear against each of said flanges, pivot bolts for securing said bars or fingers to said arms or bars, and coil springs encircling said pivot-bolts, substantially as and for the purpose set forth.

4. A metallic post having flanges at its upper end, an arm or bar pivotally mounted between said flanges, a second arm or bar extended through said post and pivotally mounted below said former arm or bar, each of said arms or bars being provided with a counterbalancing weight at one end and a flange at its other end, bars or fingers designed to bear against each of said flanges, pivot bolts for securing said bars or fingers to said arms or bars, coil springs encircling said pivot bolts, and a plate or leaf spring secured to the underside of said lower arm or bar, substantially as and for the purpose set forth.

5. A mail bag catcher, comprising a metallic post, an arm or bar pivoted thereto, a rigid arm secured to the outer end of said arm or bar, a second arm pivoted to the end of said arm or bar and designed to bear against said rigid arm, and means for holding said former pivoted arm or bar in a horizontal position.

6. A mail bag catcher, comprising a metallic post, an arm or bar pivoted thereto, and having an enlargement at the outer end thereof, a rigid arm secured to the said enlargement, a second arm pivoted to said enlargement and designed to bear against said rigid arm, and means for holding said former pivoted arm or bar in a horizontal position, substantially as set forth.

7. A mail bag catcher, comprising a metallic post, an arm or bar pivoted thereto, and having an enlargement at the outer end thereof, one or more rigid arms projecting from said enlargement, said arms being of approximate hook-shape, one or more arms pivoted to said enlargement and designed to bear against said rigid arms, and means for holding said former pivoted arm or bar in a horizontal position, substantially as set forth.

8. A mail bag catcher, comprising a metallic post, an arm or bar pivoted thereto and having an enlargement at the outer end thereof, one or more rigid arms of approximate hook-shape projecting from said enlargement, ears or lugs also projecting from said enlargement, movable arms also of approximate hook-shape pivoted between said ears or lugs and designed to bear against said rigid arms, and means for holding said former pivoted arm or bar in a horizontal position, substantially as set forth.

9. A metallic post, an arm or bar pivoted to the upper end thereof, a second arm or bar pivoted on said post below said former arm or bar, each of said arms or bars being provided with a counterbalancing weight at one end

and a spring-held bar or finger pivoted to the other end thereof, rigid arms secured on the outer end of said lower arm or bar, and pivoted arms designed to bear thereagainst, substantially as and for the purpose set forth.

10. The herein-described apparatus for receiving and delivering mail pouches, comprising a pivoted bar provided with an enlarged portion having a recess or chamber formed therein, a locking clamp pivoted within said chamber, said clamp being composed of an upper ratchet portion projecting through a slot in said recess or chamber and two lower retaining arms, a spring-pressed pawl sliding in said chamber and adapted to engage said ratchet portion, a receiving arm projecting from said pivoted bar, and a delivering arm formed integral with said receiving arm, substantially as set forth.

11. The herein-described apparatus for receiving and delivering mail pouches, comprising a pivoted bar provided with an enlarged portion having a recess or chamber formed therein, a locking clamp pivoted within said chamber, said clamp being composed of an upper ratchet portion projecting through a slot in said recess or chamber and two lower retaining arms, a spring-pressed pawl sliding in said chamber and adapted to engage said ratchet portion, a receiving arm projecting from said pivoted bar and extending beneath said clamp, a delivering arm formed integral with said receiving arm, a spring-clamp secured on said delivering arm at its outer end, and a second spring-clamp secured to an adjacent portion of a car, substantially as set forth.

12. A metallic post having upper and lower crane-arms pivotally mounted therein, said lower arm having an enlarged end portion provided with holes or openings therein, the receiving arms having reduced ends inserted in said openings, and spring-keys for securing said receiving arms in said holes or openings, substantially as set forth.

13. A mail pouch handling device, comprising a crane-post having an upper arm pivoted thereto, flanges projecting from the outer edges of said post and provided with a vertical series of adjusting apertures, and a lower crane arm adjustably pivoted between said flanges by a removable pivot bolt, said arm being also projected through a slot or opening in said post, substantially as set forth.

14. A mail pouch handling device, comprising a crane-post, pivoted upper and lower crane arms supported by said post, and a spring buffer secured to said post, said buffer having an upper curved portion and a lower elongated portion, substantially as set forth.

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

AUGUSTUS P. HAUSS.

Witnesses:

MASTEN L. CLEMENTS,
THOMAS P. BYRN.