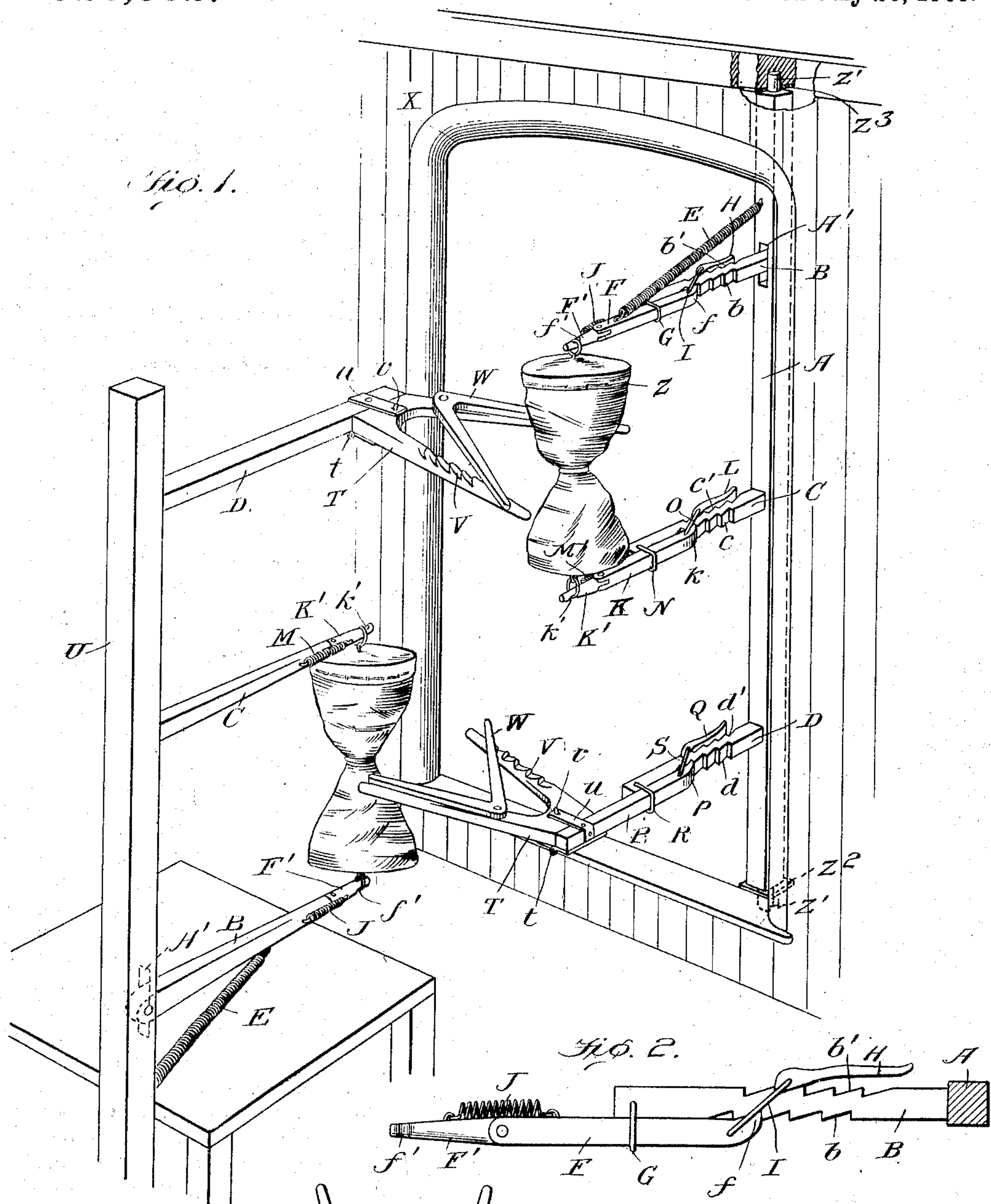


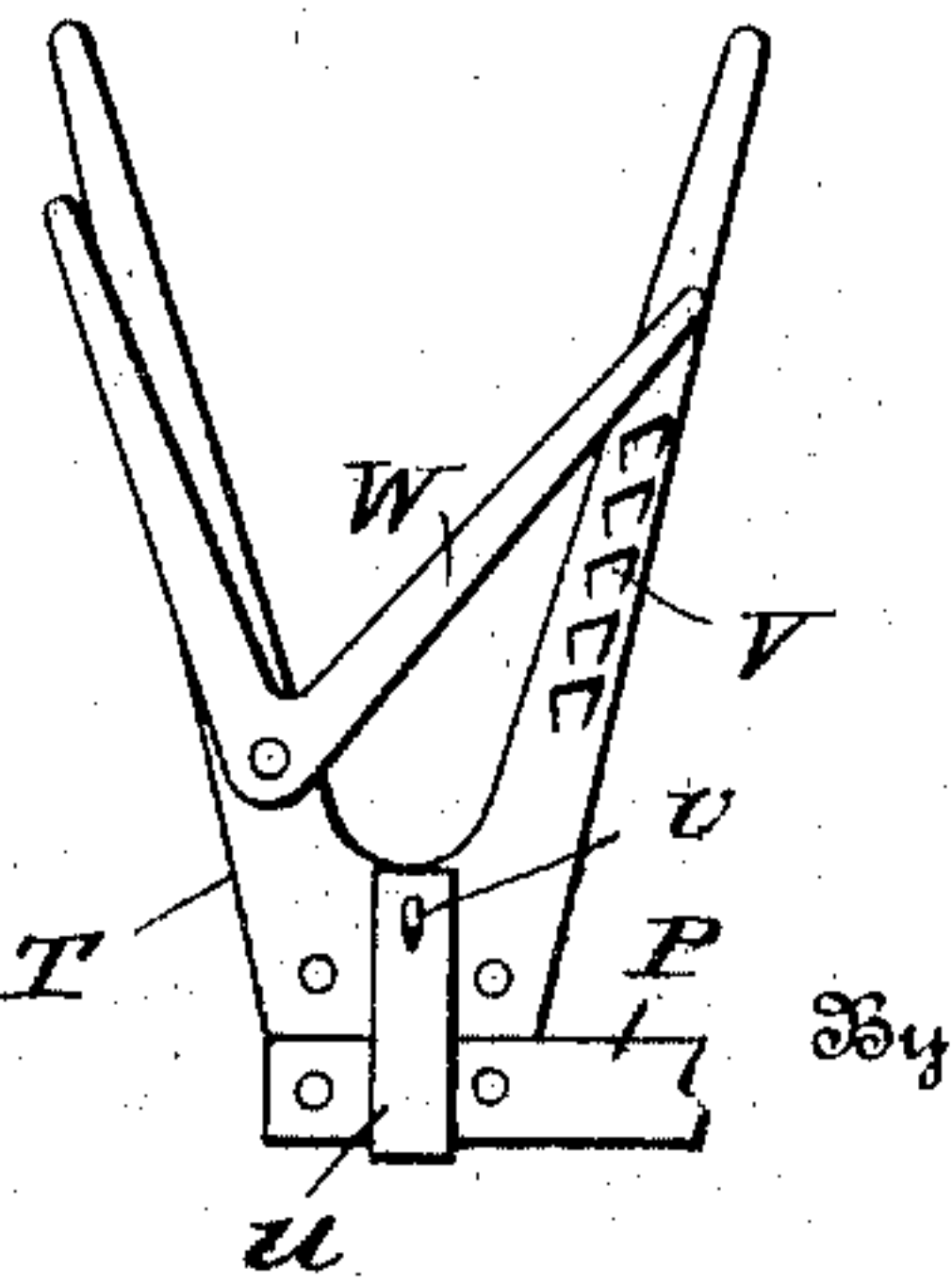
J. J. CRUSE.
MAIL BAG CATCHING AND DELIVERING DEVICE.
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MAIL-BAG CATCHING AND DELIVERING DEVICE.

No. 928,502.

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To all whom it may concern:

Be it known that I, JAMES JEFFERSON CRUSE, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Mail-Bag Catching and Delivering Devices; 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.

This invention relates to mechanism for holding, delivering and catching mail bags, in which the ends of the bag are held yieldingly by an upper and a lower means of support on a car or along the track, the bag being caught about the middle by a device along the track or on another car, and thus removed from said supports or mail bag holding arms and retained by such device. Mechanism of this kind has sometimes been arranged in sets of three members two of said members being the said supports or arms and the other member being the mail bag catching device above referred to. In such cases the two coöperating sets respectively on the train and along the track or on two passing trains have naturally been arranged in a complementary way, with the catching device of each set on a horizontal plane between the planes of the supporting devices of the other set, one mail bag catching device being therefore above the mail bag holding arms of its own set and the other catching device being below the corresponding arms of its set.

The chief object of the present invention is to improve such mechanism thus arranged in complementary sets by making its action more reliable, adapting it to different conditions, guarding against accident and maintaining a high standard of strength and durability.

To these ends the said invention consists in the construction and combination of parts hereinafter more particularly set forth and claimed.

In the accompanying drawings Figure 1 represents a perspective view of mechanism applied to a car and station embodying my invention; Fig. 2, a detail plan view of one of the extensible bag holding arms; and Fig. 3, a similar view of one of the bag catching devices and the adjustable arm carrying the same.

A designates a standard shown as attached to a car X, though equally adapted to location along the track and provided with three outwardly extending arms B C and D arranged in vertical series. The upper arm B is pivoted in a recess A' of said standard, for upward turning under the stress of a spring E when the weight of the mail bag Z is withdrawn, but it is held horizontal by such weight. To provide for shortening and lengthening said arm at will, an outer section F of the same is arranged to slide lengthwise over the main inner part or section thereof and through a guide loop G attached to the latter, the rear end of section F being formed into a dog f which engages at will any one of a longitudinal series of teeth b on said main inner section. The side of the latter opposite to said series is provided with a corresponding series of teeth b' similarly engaged by a pawl H, which is pivotally supported by a metallic connecting loop I, passing also through the rear part of section F. To adjust this section forward or backward this pawl and the dog f are freed from the teeth b b' with which they have been respectively engaged, the said section is slipped forward or backward the distance between one tooth or two teeth or more and said dog and pawl are then made to engage again with other teeth of the same series. The outer end of the section F is provided with a pivoted terminal finger or tip F' which is adapted to turn backward so that it will not receive or inflict injury by brushing against any object. It is normally held yieldingly in alinement with section F by a spring J attached to the latter, and after yielding, is returned to such position thereby. The middle arm C has the same construction of extensible outer section K, dog k, pawl L, guide loop N, connecting loop O, teeth c and c' finger or tip K' and spring M operating as above described. It is preferably rigid with standard A. Hence there is no need of a spring corresponding to J nor of the recess A', and the arm C, as shown, will remain always horizontal. Each of the fingers F' and K' is provided with a small notch f' or k' for receiving and detachably retaining rings at the top and bottom of the mail bag Z; or any other suitable provision may be made for permitting the mail bag to be conveniently taken from said fingers, but holding it upright in the space between them with at-

attachment to said fingers at its top and bottom until such action occurs. These arms B and C together constitute a pair of mail bag holding arms, presenting the bag outward to be caught and taken at a station or other fixed point along the track, or by a passing train.

The lower arm D of standard A has an extensible outer section P similar to the sections F and J of the arms B and C and is also provided with pawl Q, dog p, guide-loop R connecting loop S and teeth d and d' all substantially like those of corresponding parts of arms B and C. There is no terminal finger or yielding tip; but at the forward end of section P a V-shaped integral frame T is connected by a hinge t and a strap u, said hinge permitting said frame to fold down at will and said strap engaging a stud v on said arm to hold said frame rigidly horizontal, with its diverging bars presented in the direction of travel: or if the standard A be set up beside the track the said arms will be presented in the opposite way. A V-shaped catch W is pivoted at its apex on top of one of said bars near the arm D and may turn over the top of the frame into reverse position, being thereafter held in such position by its weight and by any one of a series of teeth V in the top of the other diverging bar of the frame. When ready for use one arm or bar of catch W extends across the open space of frame T, and the motion of the train or trains will cause the middle part of the mail bag on the bag holding arms of the other standard U, which is fixed beside the track or carried by another train, to strike against said bar and turn said catch, thereby inclosing the middle part of said bag between said catch and the apex of the frame as in a pocket, so that said bag is drawn off from the said arms and supported in said frame until detached by an attendant. This latter action requires the turning back of the catch into its former position, ready to receive another bag. The said frame and catch thus constitute a mail bag catching device. The other standard U is provided with arms B C and D in reverse order, D being at the top and the opening A' at the bottom and the arm B turning downward instead of upward under the action of the spring E, which is arranged below it, not above it as before described. The mail bag catching device of standard U is arranged opposite the middle of the space between the arms B C of standard A and the arms B C of standard U are arranged to present the middle of the mail bag opposite the mail bag catching device of standard A above described. In other respects the arms B C D may have the same construction in both cases. Either set of arms B C D may however dispense with the extensible outer sections F K P, herein-

before described, of course including the special parts and constructions incident to such extensibility—the loops, teeth, pawl and so forth—as shown in Fig. 1 attached to standard U. In this case, the pivoted fingers or tips are attached directly to the main parts of the said arms, there being no other parts or sections; but as these tips or fingers and the springs acting on them do not differ at all in form or function from those already described, the same letters of reference are retained for them on the drawings, to avoid confusion. The same is true of the frame and catch of the mail bag catching device supported by standard U.

The adjustability of the length of the arms B C D compensates for any variation in the distance between the car and the devices along the track, such as may occur on different roads or be incident to repairs and changes of construction: but this is sufficiently provided for by making one of the sets thus adjustable, the other set having the simpler and cheaper construction of the arms shown as attached to standard U. Of course the arms will ordinarily be operative and satisfactory, if all have this simpler construction, the measurements and conditions of the road and rolling stock remaining unchanged. Also the fingers at the ends of arms B and C may be rigid, whether the said arms be adjustable as to length or not, and will leave the mechanism still operative. But this change is at some risk and certain detriment.

The standard A, when carried by a mail car, as shown in Fig. 1, is pivotally supported within the same, so that it may be turned out through the door-way of the car for delivering or catching the mail and turned in again out of the way when not needed, its extensible arms being contracted temporarily to permit such operation. The ends of said standard are provided with journals Z' which turn in metallic bearings Z², attached respectively to the door sill and to any convenient fixed part of the structure. While delivering or receiving the mail bag, the standard A may be held steady by hand or by any convenient catch.

The standards along the track may be permanent in one position or if preferred, may be pivoted to turn their arms away from the train at will, being revolved and held, like the standard, on the car.

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

1. A mail bag catching device consisting of a V-shaped frame having notches or teeth on one of its diverging bars and a V-shaped catch adapted to be turned by the mail bag into reverse position and engage the said notches, locking said bag between the said catch and frame substantially as set forth.

2. A mail bag catching device consisting of a V-shaped frame having notches or teeth on top of one of its diverging bars and a V-shaped catch pivoted to the other bar of said frame, adapted to be arranged in part across the space between the bars of the frame to be struck and turned by the mail bag and also adapted in reverse position to engage, said notches and lock said bag in said frame substantially as set forth.

3. A mail bag catching device consisting of a horizontal arm, a frame hinged thereto for folding vertically on one side of said arm, detachable means for locking said frame in horizontal position and a catch pivoted on said frame and adapted to be struck by the mail bag, as the latter is carried into said frame by the movement of a train, said catch being turned thereby for holding said mail bag in said frame substantially as set forth.

4. A V-shaped frame, in combination with an arm, means for attaching said frame to said arm and allowing the former to fold down at will, a strap and stud for detachably holding said frame horizontal and presented to receive a mail bag entering the same by the motion of a train and a V-shaped catch pivoted on said frame and adapted to be turned by the impact of said bag for locking the latter in said frame substantially as set forth.

5. A pair of mail bag supporting arms which have pivoted spring-pulled terminal fingers adapted to hold a mail bag removably between them at its top and bottom, in combination with a third arm arranged in vertical series with the other two and provided with a mail bag catching device.

6. In combination with a standard having a recess, a horizontal arm pivoted in said recess and allowed by the latter to incline in a vertical plane out of the horizontal position, a spring tending to draw said arm into said inclined position and a rigid arm also attached to said standard, said arms being adapted to receive a mail bag on their tips while the first mentioned arm is in horizontal position and hold it removably between them by engaging it at the top and the bottom.

7. A pair of extensible and contractible bag holding arms, each consisting of a main part, a longitudinally adjustable section, means for locking said section to said part in any position of such adjustment and a pivoted spring-held terminal finger adapted to yield in the direction of motion of the mail bag as the latter is struck and caught and to permit said bag to slip from it substantially as set forth.

8. A mail bag holding arm, provided on opposite sides with two series of teeth, in combination with an extensible section

adapted to engage at will any tooth of one of these series, a movable pawl adapted to engage the teeth of the other series, means for connecting said pawl and section to effect such engagement together, means for guiding said section in its adjustment along the main part of said arm and a yielding bag-holding tip on the end of said section substantially as set forth.

9. A mail-bag holding arm, provided on opposite sides, with a series of teeth, in combination with a section movable endwise along the same and having a dog formed thereon to engage the teeth of one of said series, a pawl pivoted to the main part of said arm and engaging the other series of teeth, a guide loop attached to the main part of said arm and surrounding said section and another loop connecting said pawl to said section substantially as set forth.

10. In combination with a mail bag catching device, an arm and extensible section therefor, means attached to said section for engaging the main part of said arm on opposite sides and means for guiding the said section as it is adjusted longitudinally substantially as set forth.

11. In combination with a standard, a pair of mail bag holding arms and an additional arm all attached thereto and a mail bag catching device attached to this additional arm, each of these three arms being provided with a section which is adjustable outward and inward and means attached to said section for engaging the main parts of said arms on two opposite sides substantially as set forth.

12. In combination with a pair of standards, two extensible mail bag holding arms attached to one of said standards, a third arm also attached thereto and extensible, a mail bag catching device carried by this third arm, another pair of mail bag holding arms on the other standard which are provided with yielding tips, but not extensible, a third arm on this latter standard and a mail bag catching device on this latter arm substantially as set forth.

13. In combination with a mail car, a standard pivoted within the same, provided with a mail-bag holding means and mail bag catching means and with extensible and contractible arms adapted to be presented outwardly through the doorway or returned within the car, according to the direction in which the said standard is turned, substantially as set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES JEFFERSON CRUSE.

Witnesses:

E. W. TOWNES,

R. A. MUTH.