

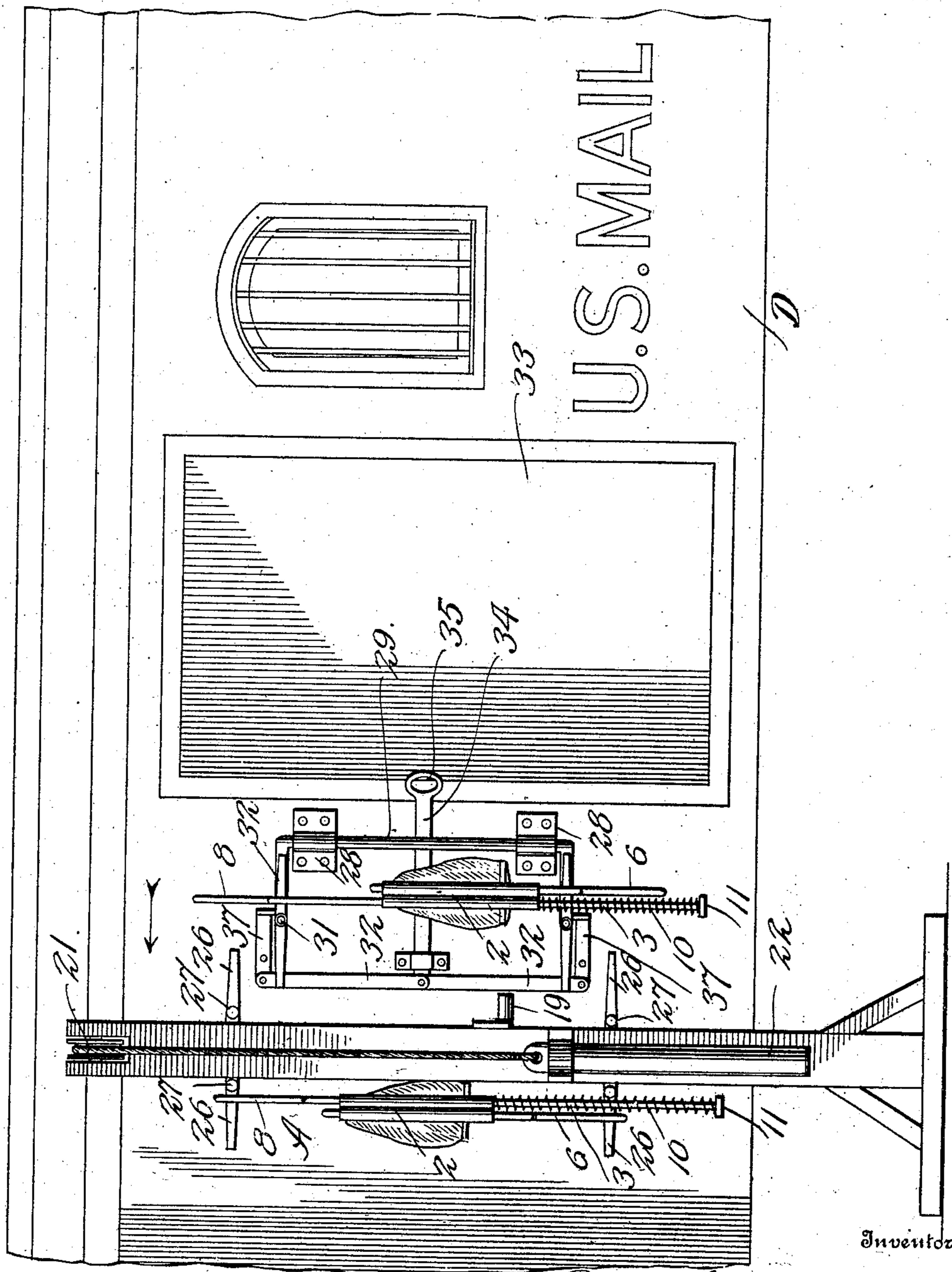
No. 850,690.

PATENTED APR. 16, 1907.

P. H. SUDBROCK.
MAIL BAG DELIVERY APPARATUS.

APPLICATION FILED FEB. 9, 1907.

2 SHEETS—SHEET 1.



Witnesses
Geo. Schman
Wm. Ragger

Fig. 1.

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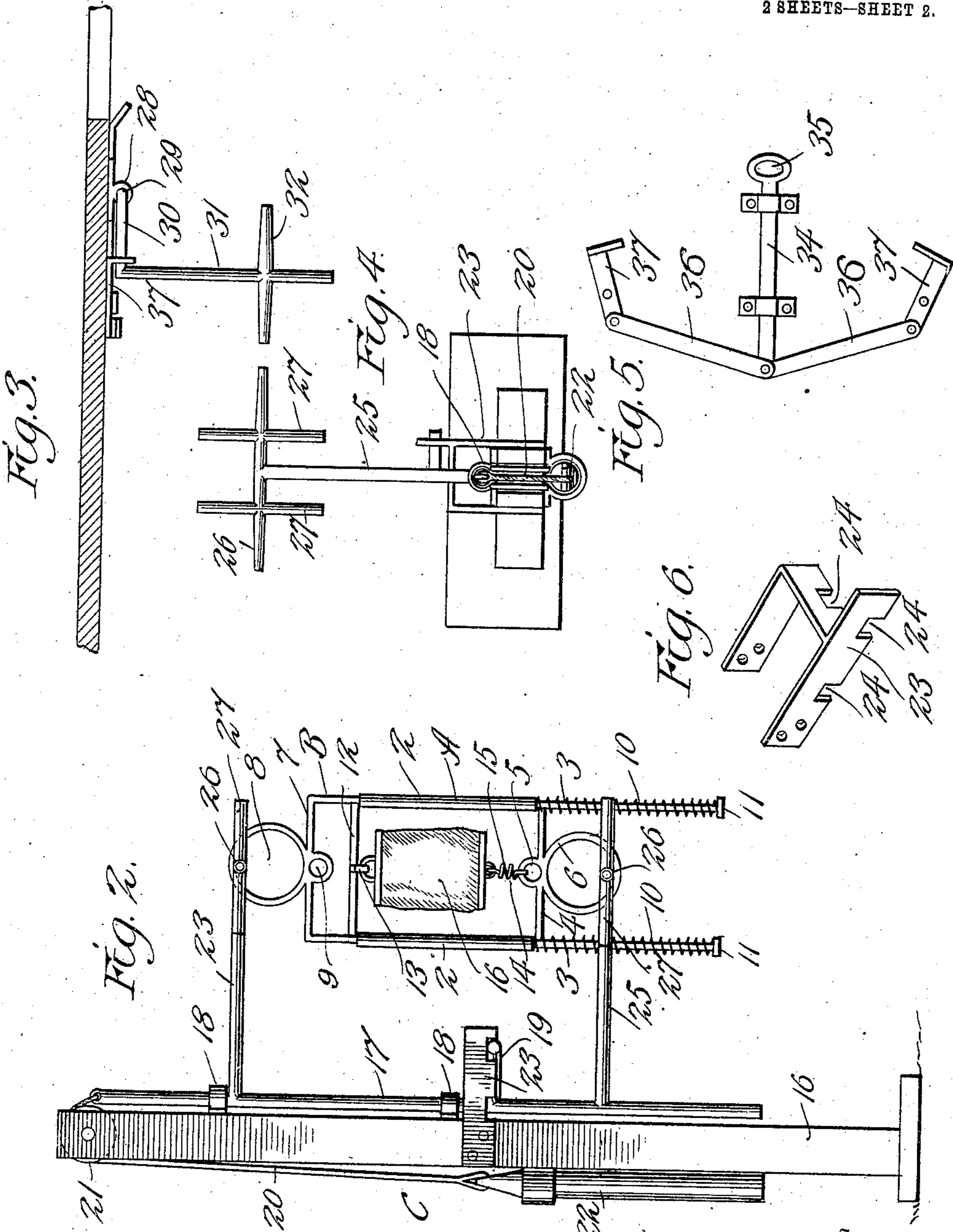
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UNITED STATES PATENT OFFICE.

PETER HUGO SUDBROCK, OF NEW MELLE, MISSOURI.

MAIL-BAG-DELIVERY APPARATUS.

No. 850,690.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed February 9, 1907. Serial No. 356,634.

To all whom it may concern:

Be it known that I, PETER HUGO SUDBROCK, a citizen of the United States, residing at New Melle, in the county of St. Charles and State of Missouri, have invented new and useful Improvements in Mail-Bag-Delivery Apparatus, of which the following is a specification.

This invention relates to apparatus for handling mail-bags or for transferring such bags to and from moving trains, and it has for its object to provide simple and effective devices whereby this result may be accomplished in an easy and efficient manner and with less liability of injuring the bags than by means heretofore usually employed for this purpose.

Further objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists, essentially, in an improved frame wherein a mail-bag of ordinary construction may be suspended, said frame being adapted to be supported in such a manner as to be conveniently and surely transferred to or from a train while the latter is in motion.

The invention further consists in an improved means for supporting and catching said frame.

The invention further consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred construction of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be resorted to when desired.

In the drawings, Figure 1 is a side elevation of a railway mail-car equipped with the improved apparatus, showing also a mail-bag crane supporting a mail-bag that is to be delivered to the car, the apparatus of the latter supporting a bag that is to be transferred to the crane. Fig. 2 is a side elevation of the crane, showing a bag supported in position for delivery. Fig. 3 is a top plan view of the train apparatus. Fig. 4 is a top plan view of the crane. Fig. 5 is a detail view of a portion

of the train apparatus. Fig. 6 is a perspective detail view of the locking or securing mechanism connected with the crane.

Corresponding parts in the several figures are denoted by like characters of reference.

The invention primarily includes a mail-bag-supporting device A, comprising an approximately rectangular frame 1, the side members of which are provided with sleeves 2 2, whereby said frame is slidably mounted upon the lugs or side members 3 3 of a yoke B. The lower cross-bar 4 of the frame 1 is provided with two vertically-disposed rings or hoops 5 and 6, the lower one of which, 6, is of much larger diameter than the upper one. The top cross-bar 7 of the yoke B carries two similar vertically-disposed hoops 8 and 9, the upper one of which, 8, is of much larger diameter than the lower one. Upon the extended lower ends of the side members 3 3 of the yoke B are disposed coiled springs 10, which are confined between the lower ends of the sleeves 2 2 and buttons 11 at the lower extremities of the lugs 3, said springs serving to force the frame 1 automatically in an upward direction upon the yoke B. The upper cross-bar 12 and the ring or hoop 5, connected with the lower cross-bar of the frame 1, are provided with hoops 13 and 14, the latter of which includes a coiled spring 15. Said hoops will serve to support in position a mail-bag 16 of ordinary construction, said mail-bag being provided with rings or links adapted for engagement with the hoop members 13 and 14.

The mail-bag crane C, which forms a part of the present invention, comprises an upright 16, supporting a vertically-disposed rock-shaft 17, which is vertically slidable in suitable bearings 18 upon the post or upright. The rock-shaft is provided with a convenient arm or handle 19, whereby it may be manipulated, said arm being preferably of angular shape. Connected with the upper end of the vertically-slidable rock-shaft 17 is one end of a flexible element, such as a cord or cable 20, which is guided over a pulley 21 at the upper end of the upright 16, and to the other end of which is attached a weight 22, whereby the rock-shaft 17 and its related parts will be counterbalanced. Suitably connected with the upright 16 is an arm or bracket 23. (Shown in detail in Fig. 6 of the drawings.) Said bracket is provided in its under side with notches 24, adapted to engage the angular operating-arm 19 in the

various positions occupied by the latter when the rock-shaft 17 is turned or oscillated in its bearings. The rock-shaft is provided with radially-extending arms 25, each of which carries at its outer end a cross-bar 26, it being understood that the arms 25 are disposed approximately in a vertical plane, one above the other, and that the cross-bars 26 are likewise disposed in an approximately vertical plane approximately at right angles to the plane of the arms 25. Each of the cross-bars 26 is provided with transverse bars 27, that are suitably spaced from the arms 25. The latter arms are suitably spaced from each other for the ends of the cross-bars 26 to engage the large hoops or rings 6 and 8 of one of the bag-supporting frames or devices A when the latter is extended—that is to say, when the frame 1 is moved against the tension of the springs 10 upon the legs or side members 3 3 of the yoke B, so as to force the said hoops or rings 6 and 8 apart, so that when said hoops or rings are adjusted upon the cross-bars 26 of the arms 25 the tension of the springs 10 will be exerted to move the said rings or hoops in the direction of each other, thus causing them to grip and frictionally engage the cross-bars 26, upon which the bag-carrying frame or device will thus be held with some degree of security and in such a manner that the greater portion of the rings or hoops 6 and 8 will be exposed in the open space intermediate of the arms 25.

Journalled in suitable bearings 28 upon the side of the mail-car D is a rock-shaft 29, having cranks 30, provided with laterally-extending arms 31, provided near their outer extremities with cross-bars 32. The distance between the arms 31, having the cross-bars 32, is so calculated that the axes of the cross-bars 32 shall approximately coincide with the centers of the rings or hoops 6 and 8 of the mail-bag-holding frame or device A, which is supported in position for delivery upon the crane, which has already been described. A frame A of a construction entirely identical with that which has already been described and supporting a mail-bag that is to be delivered from the mail-car will be supported upon the cross-bars 32 of the car apparatus or crane; but the small rings or hoops 5 and 9 of said device will be adjusted upon the cross-bars 32. It follows that the large rings or hoops 6 and 8 of the frame or device thus supported will be held in such position that the centers of said rings or hoops will be in approximate alinement with the cross-bars 26 of the crane C.

The rock-shaft 29 will be supported adjacent to the door 33 of the mail-car, so that by rocking or oscillating the said shaft the extremities of the arms 31, having the cross-bars 32, may be projected through said door. For the purpose of maintaining the rock-shaft in position for operation there is pro-

vided a latch or locking device including a slide 34, having at one end a handle 35, whereby it may be conveniently operated. The opposite end of said slide is connected by links 36 with pivoted hook members 37, that are adapted to engage the cranks 30 of the rock-shaft 29 when said cranks lie in engagement with the side of the car, as will be best seen in Fig. 3 of the drawings.

The crane C is to be erected in a convenient position alongside of the railroad-track, and the rock-shaft 29 and related parts is to be connected with the mail-car in such a manner that when the rock-shaft is adjusted in operative position the axes of the cross-bars 32 shall be disposed approximately in the same vertical plane as the axes of the cross-bars 26, carried by the arms 25 of the rock-shaft 17 upon the crane. It is also obvious that the mail-bag-carrying frame or device that is to be delivered to a passing train is to be adjusted upon the ends of the cross-bars 26 that are distant from the approaching train. It is likewise evident that the mail-bag-supporting device that is to be delivered from the train is to be adjusted upon the ends of the cross-bars 32 that are distant from the crane which is being approached by the train.

By manipulating the handle 19 the rock-shaft 17 upon the post or upright of the crane may be lowered and turned to a position in which the arms 25 are approximately parallel to the railroad-track while a mail-bag-holding device is being adjusted in position for delivery to a passing train or is being removed after having been received from a passing train. The rock-shaft 29, connected with the mail-car, may also be conveniently manipulated to swing the extremities of the arms 31 through the door of the car to enable a mail-bag-holding device to be readily adjusted in position or detached, as the case may be.

When the frames or devices A A have been adjusted in position, as will be best seen by reference to Fig. 1 of the drawings, the train moving in the direction indicated by an arrow, the ends of the cross-bars 26 which are near the approaching train will engage the rings or hoops 6 and 8 of the device A, connected with the train apparatus, and will slide the said device A off the cross-bars 32, upon which it is supported. In like manner and almost simultaneously the cross-bars 32 will engage the rings or hoops 6 and 8 of the device A, supported by the crane, and will detach said device from the crane as the train passes by. By the expansion of the springs 10 as the devices A A are being detached from their respective supports the frames 1 will be moved upward upon the yokes B and the hoops 6 and 8 will thus be carried toward each other, so as to grip the receiving arms or cross-bars, upon which they will be securely held until they are manually removed.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains. The construction is simple and the operation thoroughly efficient, and it will be noted that the mail-bags will not be directly engaged by the delivering or receiving apparatus, and they will consequently be saved from excessive wear.

Having thus fully described the invention, what I claim as new is—

1. In apparatus for transferring mail-bags, a supporting frame or yoke, a bag-holding frame having sleeves slidably engaging the side members of said yoke, and springs upon said side members engaging the sleeves to force the bag-holding frame in the direction of the cross-bar of the yoke.

2. A supporting frame or yoke having a cross-bar provided with rings or hoops in combination with a bag-holding frame slidably engaging the side members of the supporting frame or yoke, said bag-holding frame having a cross-bar provided with rings or hoops.

3. A supporting frame or yoke having a cross-bar provided with rings or hoops in combination with a bag-holding frame slidably engaging the side members of the frame or yoke, said bag-holding frame having a cross-bar provided with rings or hoops, and springs upon the side members of the yoke or frame for forcing the bag-holding frame in the direction of the cross-bar of said yoke.

4. A supporting frame or yoke having a cross-bar provided with a large and a small ring or hoop, in combination with a bag-holding frame slidably mounted upon the side members of the supporting yoke or frame, said bag-holding frame being provided with a large and a small ring or hoop formed upon the cross-bar which is distant from the cross-bar of the yoke, and springs upon the side members of the frame or yoke whereby the bag-holding frame is forced in the direction of the cross-bar of the frame or yoke.

5. A supporting frame or yoke having a cross-bar provided with rings or hoops in combination with a bag-holding frame having sleeves slidably engaging the side members of the frame or yoke, said bag-holding frame being provided with rings or hoops formed upon the cross-bar which is distant from the cross-bar of the yoke; bag-support-

ing hooks connected with the bag-supporting frame; and suitably-arranged springs for forcing the bag-holding frame in the direction of the cross-bar of the supporting frame or yoke.

6. In mail-bag-transferring apparatus, a bag-supporting device comprising slidably-connected spring-actuated frames having rings or hoops connected therewith in combination with a supporting device comprising a rock-shaft having arms provided with cross-bars adapted to engage the rings or hoops of the supporting device.

7. In mail-bag-transferring apparatus, a bag-holding device comprising slidably-connected spring-actuated frames each provided with a pair of rings or hoops of different dimensions, in combination with supporting-rings consisting of a rock-shaft having arms provided with cross-bars adapted to engage the rings or hoops of the holding device, and means for locking the rock-shaft against oscillation.

8. In mail-bag-transferring apparatus, a bag-holding device comprising slidably-connected spring-actuated frames provided with rings or hoops of different dimensions, in combination with a supporting device including a rock-shaft supported for slidable movement longitudinally of its axis, means for counterbalancing said rock-shaft, arms connected with the rock-shaft and having cross-bars adapted to engage the rings or hoops of the bag-holding device, and means for locking the rock-shaft in different positions against oscillation.

9. In mail-bag-transferring apparatus, a crane including an upright having a rock-shaft provided with suitably-spaced radially-extending arms having cross-bars, means for securing the rock-shaft in various positions against oscillation, a rock-shaft supported upon a mail-car adjacent to the door of said car and having suitably-spaced arms provided with cross-bars, means for locking said rock-shaft against oscillation, and a bag-holding device comprising slidably-connected spring-actuated frames each provided with rings or hoops of different dimensions, one of said frames being also provided with bag-holding hooks.

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

PETER HUGO SUDBROCK.

Witnesses:

THEODORE BORBERG,
WALTER BORBERG.