

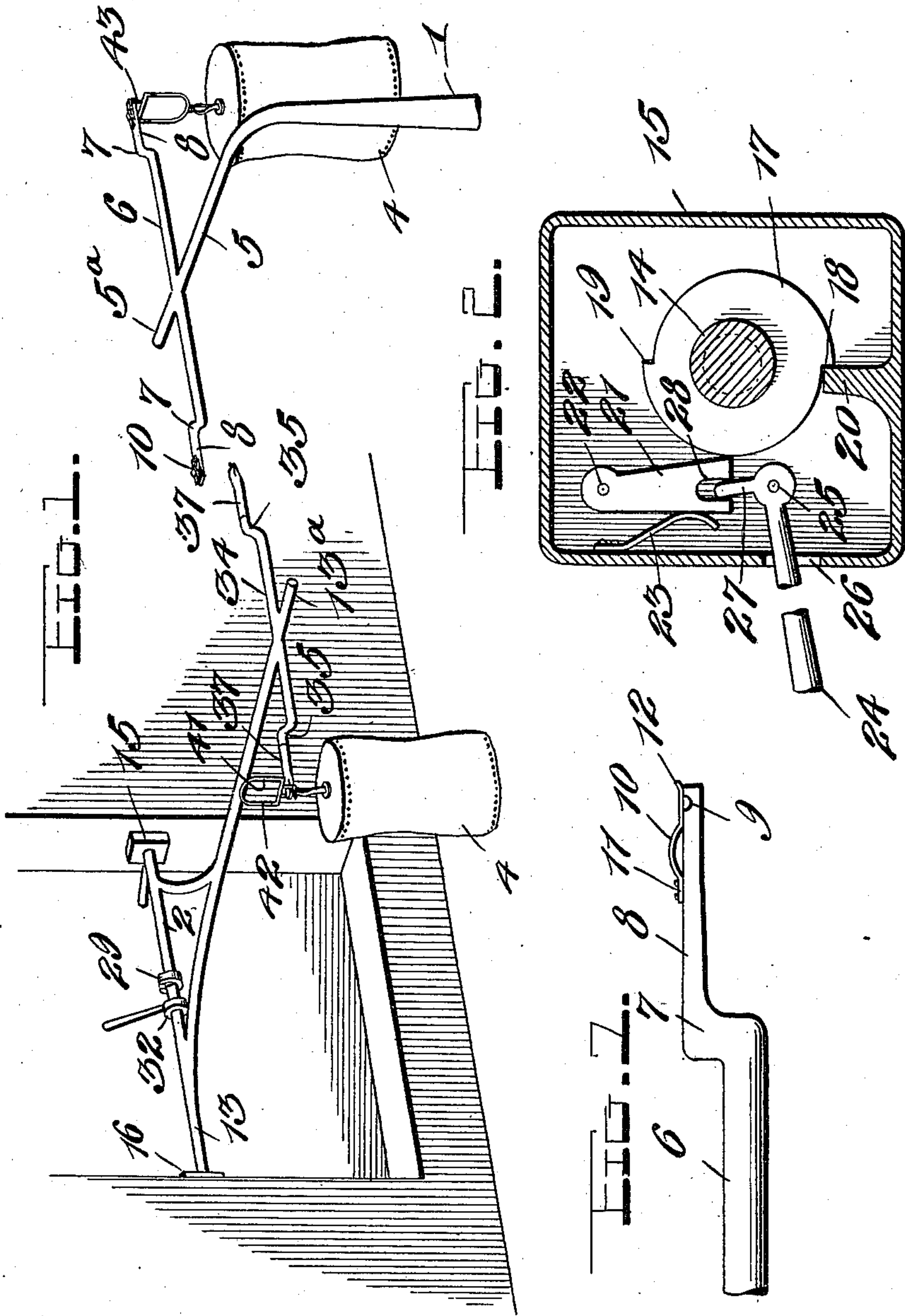
MAIL BAG CATCHER AND DELIVERER.

APPLICATION FILED DEC. 12, 1910.

996,635.

Patented July 4, 1911.

2 SHEETS—SHEET 1.



Witnesses

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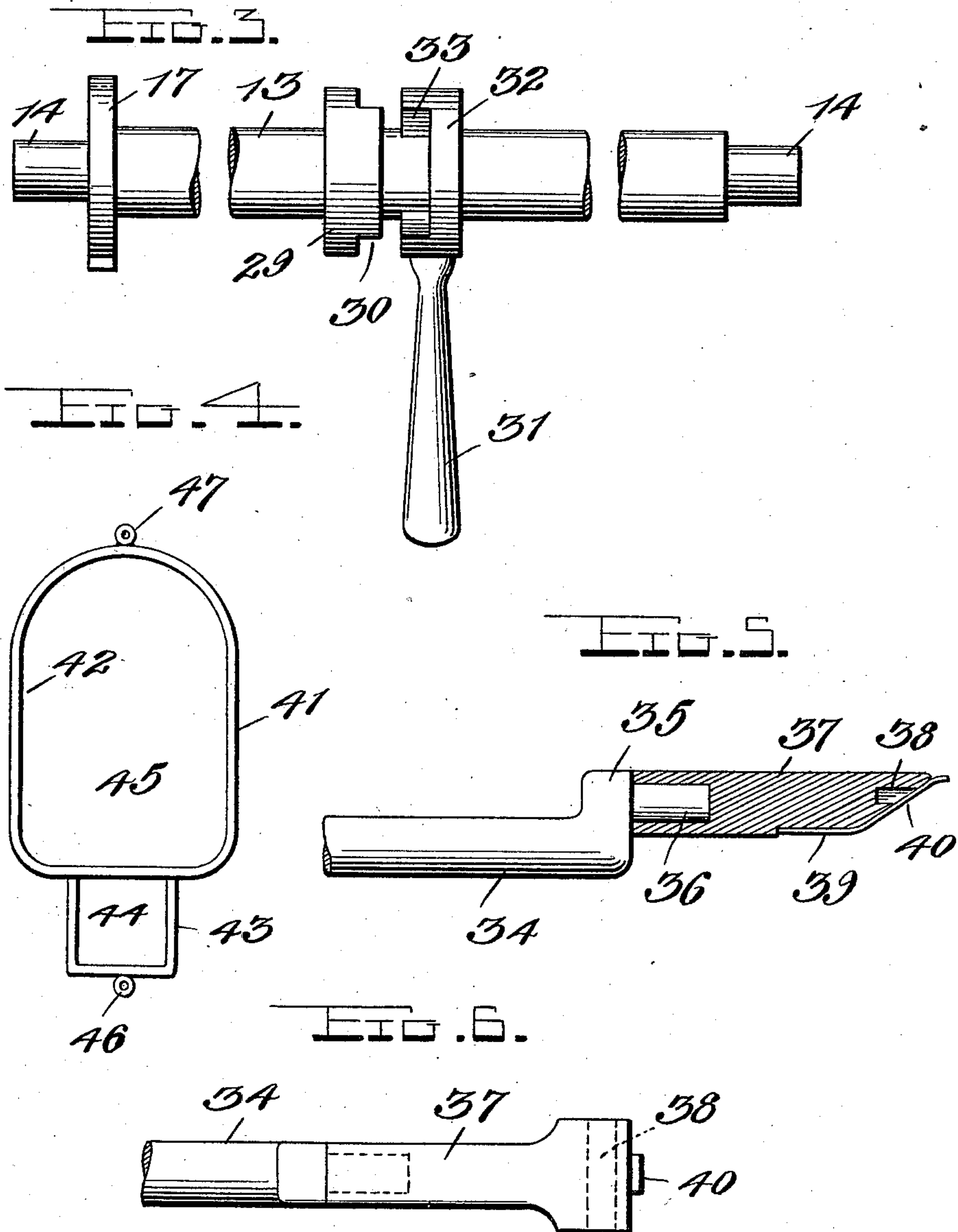
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UNITED STATES PATENT OFFICE.

CARL GEORG FRICKE AND JAMES YELICK, OF PLATTSMOUTH, NEBRASKA.

MAIL-BAG CATCHER AND DELIVERER.

996,635.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, CARL G. FRICKE and JAMES YELICK, citizens of the United States, residing at Plattsmouth, in the county of Cass and State of Nebraska, have invented certain new and useful Improvements in Mail-Bag Catchers and Deliverers, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention is an improved mail bag attaching and delivering apparatus for use on a mail car and at a station to enable mail to be delivered from or taken on by a mail car while the train is in motion, and without the necessity of stopping for that purpose, the invention consisting in the construction, combination and arrangement of devices hereinafter described and claimed.

15 In the accompanying drawings—Figure 1 is a perspective view of a mail bag attaching and delivering apparatus constructed in accordance with our invention, showing one member thereof at a fixed point and the other member mounted on a mail car. Fig. 2 is a detail sectional view through one of the bearings of the axle of the car crane. Fig. 3 is a detail plan showing parts of the crane axle and also showing the operating lever for the crane, and the toothed annulus for locking the said lever to the crane axle. Fig. 4 is a detail elevation of one of the suspending rings or links. Fig. 5 is a detail sectional view of one arm of the car crane, and Fig. 6 is a plan of the same. Fig. 7 is a detail elevation of one end of one of the arms of the crane which is mounted at the station.

20 In accordance with this invention, we provide a pair of cranes 1, 2 which are respectively mounted at a station at one side of and near the track, and in the doorway of a mail car. The crane 1 comprises a vertical post 4 which is provided at its upper end with a horizontally disposed outwardly extending arm 5. A bar 6 is disposed transversely with respect to the arm 5 at a point at a suitable distance from the outer end thereof, the said bar extending in opposite directions from the arm 5 and being provided near each end with an upturned offset 7 from which extends a finger 8. The said finger is rectangular in cross section and presents flattened upper and lower sides, and vertical side edges. Each finger is provided on its upper side near its outer end with a transverse groove or recess 9, and is also pro-

vided with a spring 10, one end of which is secured on the finger as at 11, the outer end of the spring bearing on the finger, extending across and over the groove or recess 9, and the extreme end of the said spring being upturned and curved as at 12.

25 The crane 2 comprises an arm 13 at the inner end of which is a horizontally disposed axle 14, the ends of which are respectively mounted in a bearing box or casing 15, secured in one side of the doorway of the mail car, and in a bearing block 16 secured in the other side of said doorway. Hence the crane 2 is mounted to swing in a vertical plane, may be lowered to extend outwardly from one side of the car in a horizontal position, and may be raised so as to dispose the same entirely in the doorway of the mail car so as not to project from the outer side of the mail car. That portion of the axle 14 which is in the casing 15 is provided with a stop ratchet 17 which has shoulders or teeth 18, 19, at opposite sides, the shoulder or tooth 18 being on the lower side of the said ratchet 17, when the crane 2 is turned so as to dispose its arm 13 in a horizontal position. The casing 15 is provided in its lower side with a lug 20 which engages the shoulder or tooth 18, and hence coacts therewith to support the crane 2 in lowered horizontal position. When the crane 2 is turned upwardly to a vertical position, and disposed within the doorway of the mail car, the tooth or shoulder 19 is engaged by a pawl 21 which is disposed in the casing 15, and is pivotally mounted at its upper end as at 22. A spring 23 is secured in one side of the casing, and bears against the said pawl to engage the latter with the shoulder or tooth 19. A hand lever 24 is provided which is pivotally mounted as at 25, in the casing 15, the arm of the said lever projecting rearwardly from and operating in a slot 26 in the rear or inner side of the casing 15, and the said lever being further provided with a finger 27 which engages a recess 28 in the free end of the pawl 21. It will be understood that by means of the said hand lever, the said pawl may be disengaged from the shoulder or tooth 19, to permit the crane 2 to be lowered and extended from the mail car.

30 On the axle 14 at a point at the center thereof, is a fixed annulus 29 which is provided on one side with segmental teeth 30 which may be engaged with or disengaged

from the teeth 33 of the hub portion 32 of a handle or lever 31 which is loose on said axle. By first engaging the teeth of the said lever with those of the axle 14, said lever may be employed for raising or lowering the crane 2 and when said lever is not in use, its teeth may be disengaged from the teeth 30, and the lever permitted by gravity to swing downwardly from the axle 14, out of the way.

The crane arm 13 is provided at a suitable distance from its outer end with a cross arm 34 which is provided near its end with offset upwardly extending portions 35, and with oppositely extending cylindrical studs 36 at the outer ends of the said off-sets. On each of the said studs is swivelly mounted the inner end of a finger 37 so that said fingers are adapted to turn angularly with respect to the said cross arm 34 of the car crane in a vertical plane. Each of the said fingers is provided at its outer end with a recess 38. The outer end of each finger 37 is beveled and inclined upwardly and outwardly so that the upper portion of the outer end of each finger 37 extends beyond and overhangs the lower portion thereof and each of the said fingers 37 is also provided with a spring catch 39, the horizontal inner portion of which is secured to the under side of the said finger, the upwardly and outwardly inclined arm 40 of the said spring catch extending across and above the outer end of the recess 38. Each finger 37 is rectangular in form at its outer portion cross sectionally so that it presents flat upper and lower sides and vertical side edges. We also provide links 41 for suspending mail bags from the cranes so that a bag suspended from the car crane will be taken off by the station crane, and a bag suspended from the station crane will be taken off by the car crane. Each link 41 comprises a relatively large arm 42 and a relatively small arm 43, at one end of the large arm. The arm 43 is rectangular in form and the width of the opening 44 therein, slightly exceeds the width of the fingers of the cranes so that the finger of either of the cranes may be inserted in the said arm. The relatively large arm 42 exceeds the dimensions of the smaller arm 43 both in length and width and the opening 45 in the large arm is of sufficient size to readily receive the cross arm of either of the cranes. An eye 46 is at the outer end of the smaller arm 43 and a smaller eye 47 is at the outer end of the large arm 42.

The operation of our invention is as follows: The cranes are so disposed and arranged that when the car crane 2 is lowered, and the mail car passes a station, the cross arm 34 of the car crane will pass directly below the cross arm 6 of the station crane 1. To deliver a mail bag from the car, the mail

bag will be attached by means of a snap hook or other similar device to the eye 46 of one of the links 41, and the smaller arm 43 of the said link will be disposed on the finger 37 at the rear side of the car crane with a portion of the lower side of the said link arm 43 in the recess 38 and engaged by the spring arm 40 of the catch 39. Hence the larger arm 42 of the said link will extend above the cross arm of the car crane. As the car crane moves under and past the station crane, one end of the cross arm 6 of the station crane will enter the opening 45 in the larger arm of the link 41, and the sides of the said link will strike against the arm 5 of the station crane and also against the projecting outer end 5^a of said arm, and hence said arm and its projection will disengage the link from the notch 38, and from the finger 37, and the said link will hang, by its larger arm from the station crane and with the mail bag suspended therefrom.

In order to take on a mail bag from the station crane, while the car is passing the same, and without necessity of stopping the car, a mail bag will be suspended from the eye 47 at the outer end of the larger arm of one of the links and the smaller arm 43 of the link will be placed on the finger 8 which points in the direction in which the train is moving, or in other words, the finger on the rear side of the station crane. This leaves the larger arm of the link below the cross arm of the station crane, and in the path of the cross arm of the car crane, and hence as the car crane moves under and past the station crane, the forward end of its cross arm 34 will pass through the said larger arm of the link, the crane arm 13, and its extension 13^a will simultaneously strike opposite sides of the said large arm of the link and the link will be drawn from the finger 8, the spring catch 12 releasing the smaller arm 43 of the link from the said finger, as will be understood.

It will be obvious that by appropriately hanging mail bags from the car crane, and the station crane as thus described, our improved mail bag catching and delivering apparatus may be employed to simultaneously deliver a mail bag from a moving car and take on a mail bag from a station, as the car passes the same.

We claim:—

1. The combination of a fixed crane having an arm, extending toward and at right angles to a railway track, and provided with a cross arm parallel with the track, a car crane also having an arm at right angles to the track, and a cross arm parallel therewith, the cross arm of one of the cranes being arranged to pass above that of the other, and a link for suspending a mail bag from the cross arm of either of said cranes, said link having a relatively small arm and a rel-

atively large arm, each of said arms being provided with means for attaching a mail bag thereto.

2. The combination of a fixed crane having an arm extending toward and at right angles to a railway track, and provided with a cross arm parallel with the track, a car crane also having an arm, at right angles to the track, and a cross arm parallel therewith, the cross arm of one of the cranes being arranged to pass above that of the other, and a link for suspending a mail bag from the cross arm of either of said cranes, said link having a relatively small arm and a relatively large arm, each of the said arms being provided with means for attaching a mail bag thereto, and each crane having its arm provided with an extension projecting beyond the outer side of its said cross arm for the purposes set forth.

3. In combination with a fixed receiving crane, a car crane having a horizontally disposed axle, bearings for the said axle, a ratchet stop on said axle, and provided with oppositely disposed stop shoulders, a fixed stop lug to engage one of said shoulders,

and a pawl to engage the other, said fixed stop and one of the shoulders of said ratchet stop serving to support the car crane in a downturned horizontal position, the other shoulder of said ratchet stop and the said pawl coacting to support the said car crane in upturned vertical position.

4. In apparatus of the class described, a car crane mounted to swing in a vertical plane, and having a cross arm, fingers swivelly mounted on the ends of said cross arm and a link for engagement with either of said fingers to suspend a mail bag therefrom, said swivelly mounted fingers enabling said link to remain in vertical position irrespective of the position of said crane.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

CARL GEORG FRICKE.
JAMES YELICK.

Witnesses:

J. G. MAUZY,
A. S. TIDD.