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PATENTED FEB. 5, 1907.

M. LASKA.
MAIL CRANE.

APPLICATION FILED MAY 4, 1906.

2 SHEETS—SHEET 1.

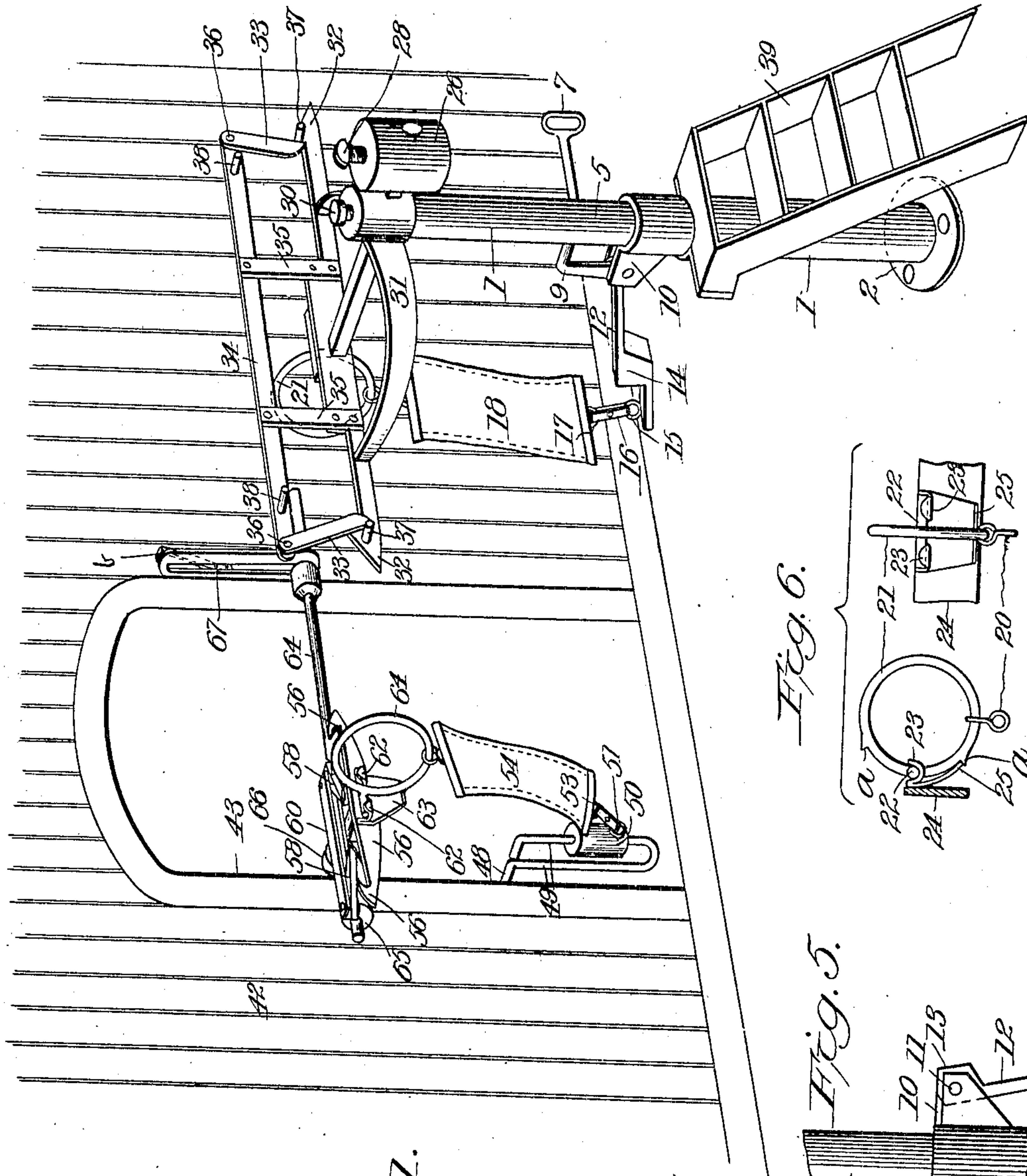


Fig. 1.

Fig. 6.

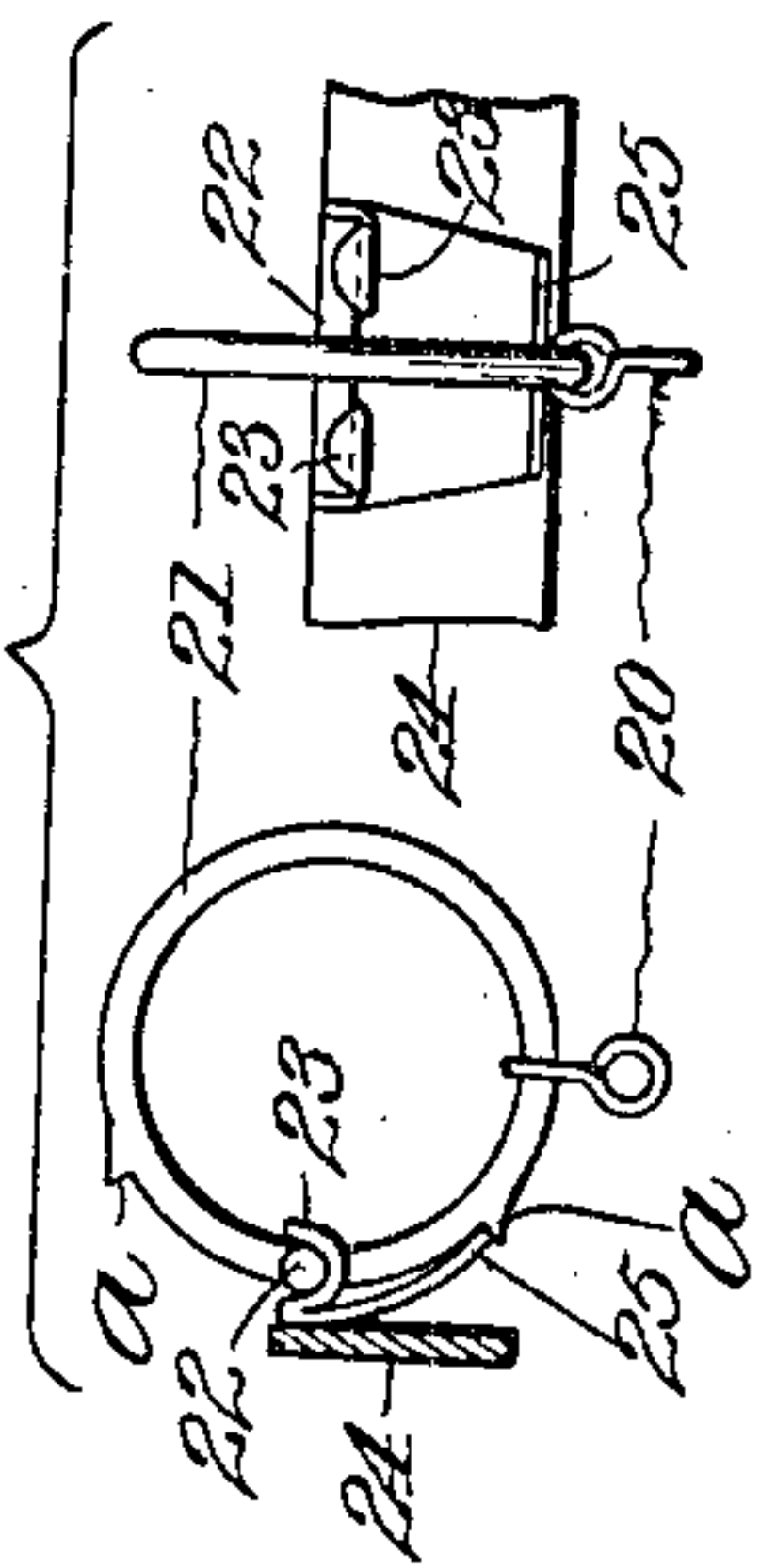
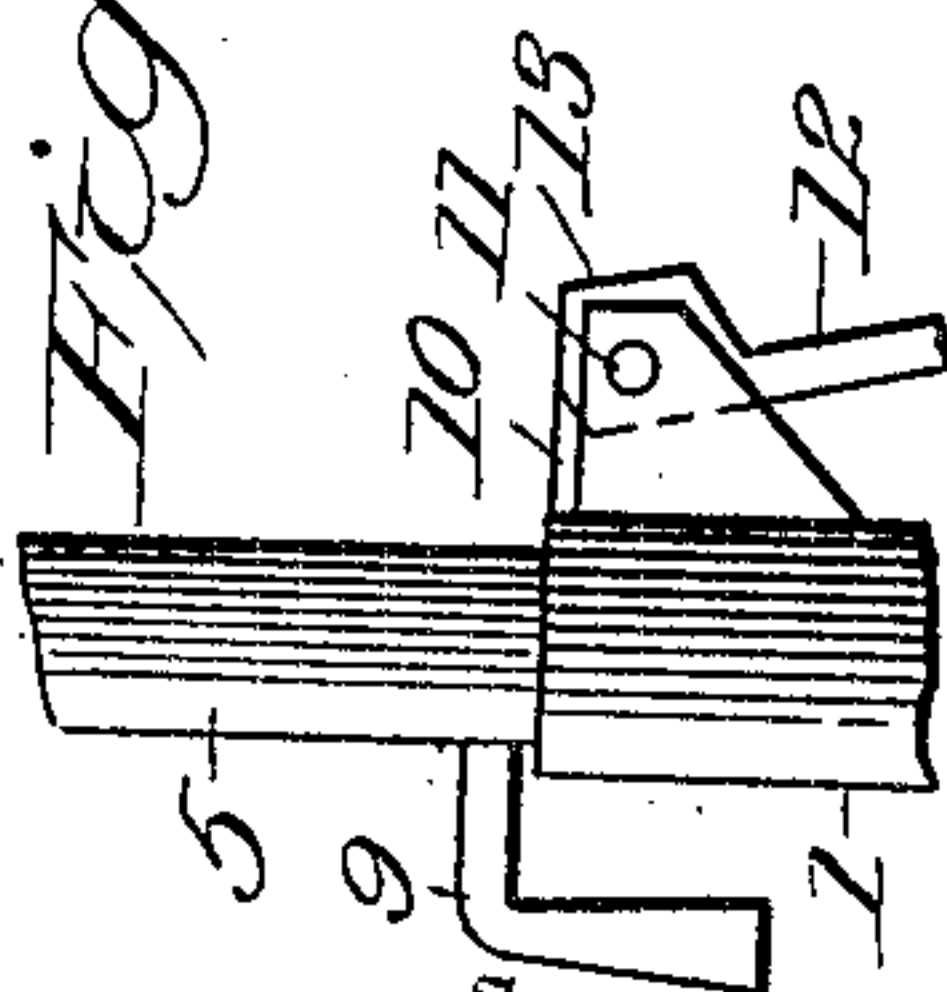


Fig. 5.



Witnesses

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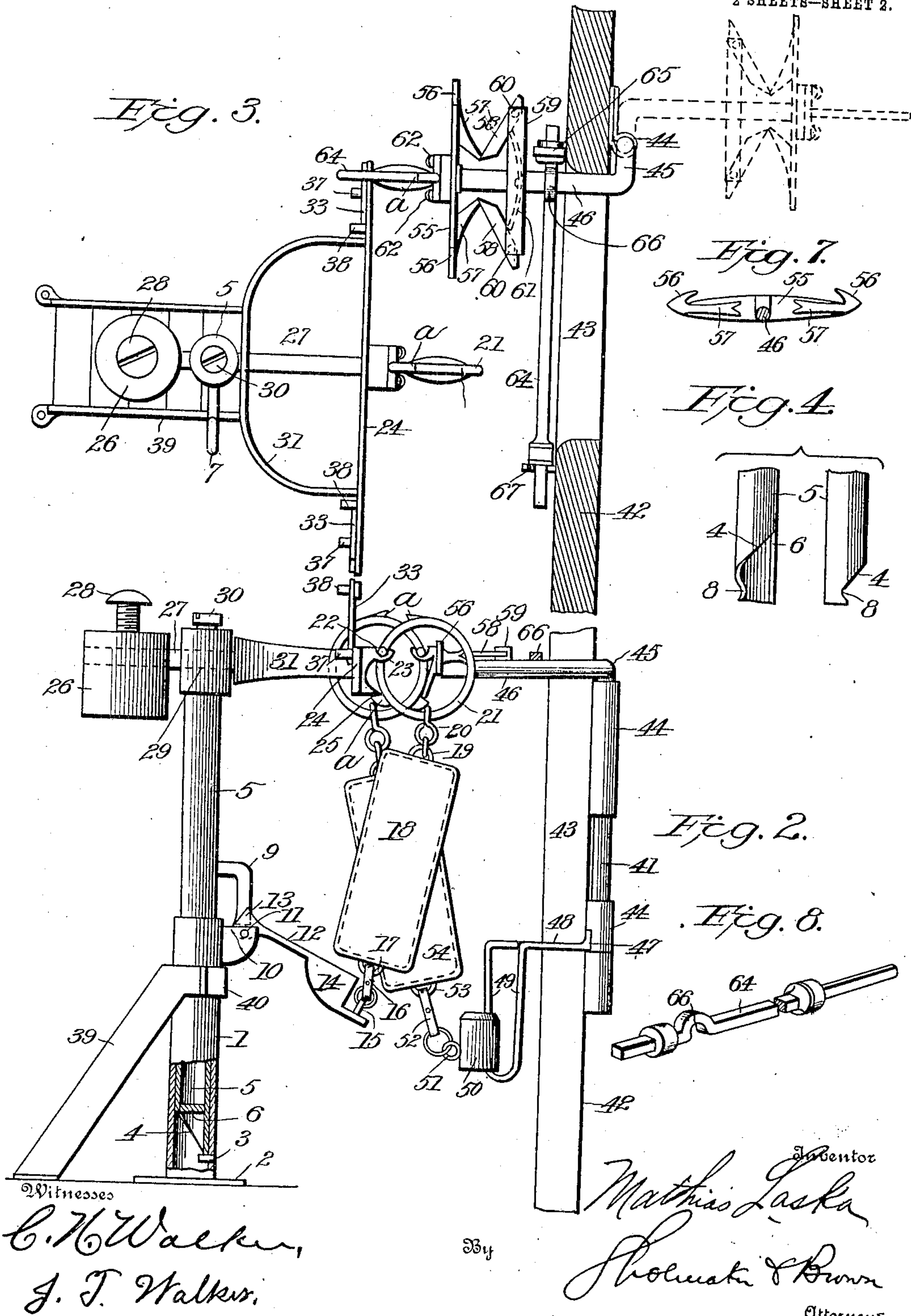
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

MATHIAS LASKA, OF NEW ORLEANS, LOUISIANA.

MAIL-CRANE.

No. 843,467.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed May 4, 1906. Serial No. 315,262.

To all whom it may concern:

Be it known that I, MATHIAS LASKA, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Mail-Cranes, of which the following is a specification.

This invention relates to mail-cranes.

One object of the invention is to provide means whereby a mail-pouch may be delivered to and taken from a moving train regardless of the speed of the latter.

Another object resides in the provision of cooperating cranes, one along the track and the other carried by a car, for the delivery and discharge of mail-pouches to passing trains.

A still further object is to provide means whereby mail-pouches may be firmly supported by cooperating mail-cranes for the safe delivery from one crane to the other of the pouches carried by them.

It is still further designed to provide mechanism so constructed and arranged as to insure the delivery to and discharge from moving trains of the mail-matter and to arrange the mechanism in such manner as to obviate the necessity of the trainmen, mail clerks, or others from exposure to the weather, cinders, and the like, as well to overcome possible injury to the attendants by reason of throwing themselves partly out of the car-door, as is the custom in some instances in the delivery and reception of mail-matter from and to the passing trains.

With the above and other objects in view the present invention consists in the combination and arrangement of parts hereinafter more specifically referred to, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes may be made in the form, proportion, size, and minor details within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of one embodiment of my invention. Fig. 2 is a vertical sectional view taken through the track and car-cranes. Fig. 3 is a horizontal sectional view through the car, the dotted lines showing certain positions of parts. Fig. 4 is a detail view of the lower end of the standard of the track-crane. Fig. 5 is a detail view of the upper end of the hollow base, showing the spaced ears. Fig. 6 is

a detail view of one of the rings for the support or suspension of the mail-pouches. Fig. 7 is a transverse sectional view through the supporting-bracket 46 of the car-crane, illustrating the hooks 57, carried by the arm 55; and Fig. 8 is a detail view of the lever for locking the car-crane in operative position.

Referring now more particularly to the accompanying drawings, I will first describe my improved track-crane mechanism.

The reference character 1 indicates an elongated hollow base, having its lower end flanged, as at 2, whereby it may be firmly supported in vertical position. This hollow base has a pin 3, arranged within its interior, for the support of the standard 5, mounted for rotation within the base. The lower end of the standard is in the form of a spiral cam, as indicated at 4, and immediately above this cam there is formed a shoulder 6. When the crane is thrown away from the tracks—that is, when the crane is at rest—the standard rests upon the pin 3 by reason of the shoulder 6 engaging the pin. To rotate the standard, I provide a projection 7, and by lateral pressure thereupon the standard will rotate upwardly by reason of the lower cam edge thereof riding upon the aforesaid pin 3. This upward rotation of the standard is limited by reason of a notch 8, formed in the cam edge of the standard, engaging the pin 3. The standard carries a projection 9, which moves upwardly and rotates therewith to a position directly over the spaced ears 10 in the rear and at the upper end of the hollow base. By means of a suitable pivot-pin 11 the inner end of an arm 12 is secured to said ears. This arm performs a dual function. It has its inner end provided with an extension forming a catch 13, designed to engage behind the projection 9 to lock the track-crane in operative position. The outer end of the arm 12 is weighted, as at 14, whereby it has a normal tendency to assume its downward position. The outer end of this arm is also provided with an eye 15, with which is engaged a spring-hook 16 for detachable engagement with the eye 17 at the lower end of a mail-pouch 18. This pouch 18 is the one to be delivered to the passing train, and it has its upper end provided with an eye 19, to which is engaged a link or the like 20, slidably secured to the pouch-supporting ring 21. This ring has a cross-piece 22, designed to be seated in the

spaced seats 23 of the horizontal arm 24 of the track-crane. In this position the supporting-ring lies between said seats 23, and it has projections *a*, one of which is designed to engage beneath the lip 25 of the horizontal arm 24. By reason of the two projections *a* the ring may be supported from either side of its cross-piece 22. When the supporting-ring is thus supported from the horizontal arm 24, with the mail-pouch secured thereto and by its lower eye 17 to the spring-hook 16, the weighted end of the arm 12 is raised to lock the crane in operative position by throwing its inner end behind the corresponding projection of the standard, and the weight of the pouch will prevent the supporting-ring from leaving its seat upon the horizontal arm 24 of the crane. If the pouch is not heavy enough to exert a downward pull upon the supporting-ring, the weighted arm will do so, and thereby firmly support the pouch. It will thus be seen that the weighted arm 12 performs a dual function.

When the pouch 18 is taken from the track-crane by a passing car in a manner herein-after explained, the arm 12 drops, pulling its latch portion away from behind the projection 9 of the standard, permitting reverse rotation of the latter by reason of its own weight and the peculiar form of cam edge mounted upon the pin 3 within the base. I provide a counterbalance-weight 26, which is detachably mounted upon an arm 27 by means of a suitable screw or other element 28. This arm 27 is designed principally to support the aforesaid horizontal arm 24, and it is passed through an opening 29 in the upper end of the standard and secured adjustably therein by means of a screw or other suitable element 30. A curved arm 31 connects the ends of the horizontal arm 24 with the arm 27, and by reason of the aforesaid mounting of the arm 27 the track-crane may have its upper elements adjusted to assume different positions with respect to distance toward and away from the rolling-stock tracks.

The track-crane is not only designed to support mail-pouches for deliverance to passing trains, but it is also designed to catch and take away from passing trains pouches carried by the latter, and for this purpose I form a hook 32 at each end of the aforesaid horizontal arm 24, each of which is adapted to cooperate with a latch 33 at each end of a second horizontal arm 34, the arms 24 and 34 being held in spaced relation by the connecting-pieces 35. The corresponding latches 33 are pivoted to the upper or second horizontal arm 34 by means of suitable pivot-pins 36 for cooperation with the corresponding hooks at the ends of the first or lower horizontal arm. Each hook 32 has a lateral projection 37, forming a stop to limit the outward swing of the corresponding latch 33, the latches lying

normally in engagement with its corresponding stop 37, there being a stop 38 formed at each end of the upper horizontal arm to limit the inward movement of each of the latches 33. The manner in which the track-crane takes mail from a passing train will be understood by a further reading of this description, and before proceeding further it might be remarked that in the event any of the parts of the track-crane should become deranged or broken or for any reason it should be desired to inspect the elements at the top of the crane such may be readily reached by way of a ladder 39, rigidly secured at its lower end in any suitable manner to a base or to the ground, with its upper or top end engaged firmly with the hollow base by means of a suitable strap 40.

Now taking up the construction of the car-crane I provide a swinging member 41, which is hinged to the inside of the car 42, adjacent the door-opening 43, by means of suitable hinges or straps 44. The upper end of the member 41 is turned horizontally, as at 45, and then again turned to form a horizontal bracket 46, the turn 45 permitting the car-crane to be swung in and out of the door-opening 43 of the car, with the bracket 46 in engagement with the side edge of the opening when the crane is swung outwardly of the car. The lower end of the swinging member 41 is directed horizontally, as at 47, to lie parallel with the portion 45 at the upper end thereof and again directed at a right angle and horizontally to form a lower bracket 48, which terminates in spaced vertical members 49, upon one of which vertical members is slidably mounted a weight 50, having an eye 51, to which one end of a spring-hook 52 is secured for detachable engagement with an eye 53 at the lower end of a mail-pouch 54, all for a purpose presently understood.

Secured in any suitable manner to the outer end of the bracket 46 is a cross-arm 55, provided with a hook 56 at each end. These hooks 56 are directed upwardly, and at each end of the cross-arm there is arranged another hook 57, directed horizontally, each having its free end bifurcated, as at 58', to receive the free end of a latch member 58, pivoted one at each end of an arm 59, secured in any suitable manner to the aforesaid upper bracket 46 in the rear of the said cross-arm 55. This cross-arm 59 is U-shaped in cross-section, and it is within the sides of the arm that the latch members 58 are pivoted by means of a pivot-pin 60. To hold the free ends of the latch members in engagement with the bifurcation of the corresponding hook of the arm 46, I provide a flat spring 61, which is in bow form, with its extremities bearing against the corresponding latch.

The outer face of the first-named cross-arm 55 of the bracket 46 is provided with the same form of spaced seats 62 as those secured

to the horizontal arm 24 of the track-crane, there being also a lip 63, arranged to coöperate with the seats 62, for the same purpose as that set forth in connection with the track-crane. Suffice it to say, therefore, that the ring 64 for supporting the mail-pouch 54 is the same in form as the ring for supporting the first-mentioned mail-pouch and that the mail-pouch is held firmly upon the seats 62 and in engagement with the lip 63 by reason of the weight 50 having connection with the lower end of the pouch 54. When the swinging car-crane is swung outwardly of the car, it may be held firmly by a locking-bar 64, pivoted to one side of the car on the outside of the latter, as at 65, and provided with a bend or notch 66, designed to engage over or embrace the upper bracket 46 when in its horizontal position. The free end of this locking-bar 64 works in a slotted guide 67 upon the side of the door opposite its pivot, and this slotted guide has its slot tapering upwardly, so as to create a binding action upon the locking-bar to hold it in its raised position when it is desired to swing the car-crane into the car. If desired, a spring *b* may coöperate with the guide to hold the outer end of the lever up.

In the use of my invention mail clerks are not exposed to the weather or to flying cinders, in that they do not have to throw themselves partly out of the door of the car. A mail-pouch may be readily disposed upon the car-crane in a manner now well understood, when the crane can be easily swung outwardly and locked firmly by means of the locking-bar 64. When in this position, with a pouch supported or carried by it, it is not necessary for a mail clerk or other person to see that the pouch is taken at the proper station, for the reason that when a pouch is upon the car-crane when the latter is thrown to its proper position outwardly of the car, the pouch is in alinement with the upper and lower horizontal arms 24 and 34 of the track-crane, and as soon as the pouch of the car-crane reaches these arms of the track-crane the upper ring of the mail-pouch passes between the horizontal arms 24 and 34, lifting the corresponding latch 33 of the upper arm 34 and causing the ring at the lower end of the pouch to be jerked out of the spring-catch of the hook 52 of the weight 50 of the car-crane. Now, to permit of a simultaneous transmission or delivery of a mail-pouch from the outside to the inside of the car, the pouch is disposed upon the aforesaid seats 23 of the horizontal arm 24 of the track-crane when the upper ring of the pouch is disposed in alinement with the outer or first-named cross-arm of the bracket 46 of the car-crane, and subsequently to the taking of the pouch from the car-crane by the track-crane the said cross-arm of the bracket 46 engages the upper ring of the pouch upon the

track-crane and takes said ring in between the bifurcated hooks 57 and the corresponding latch member 58 of the inner or second-mentioned cross-arm of the bracket 46.

From the foregoing it will be understood that by reason of the hooks and latches at each end of the arms or cross-pieces of certain parts of the track and car cranes that pouches may be taken or delivered, or both simultaneously regardless of the direction of travel of the train.

What is claimed is—

1. A device of the character described comprising a track-crane provided with a weight, and a car-crane pivotally mounted within the car and provided with a weight, each weight being adapted to exert a pull upon the mail-pouch.

2. A device of the character described comprising a track-crane mounted for swinging movement, means for limiting the swinging movement of the track-crane, means for detachably supporting a mail-pouch upon the track-crane, means for locking the track-crane at one limit of its movement, means for detachably connecting the last-named means to the mail-pouch, a car-crane, means for supporting a mail-pouch upon the car-crane, the car-crane having swinging movement, means for locking the car-crane at one limit of its movement, a weight carried by the car-crane, means connecting the weight and the mail-pouch carried by the car-crane, and means carried by each crane to take the mail-pouch from the other crane.

3. A crane comprising a hollow base member provided with an internal projection, a standard provided with a cam-surface at its lower end to ride upon said projection upon rotation of the standard, and an arm pivoted upon said base member to lock the standard at one limit of its movement.

4. A crane comprising a hollow base member provided with an internal projection, a standard provided with a cam-surface at its lower end to ride upon said projection upon rotation of the standard, an arm pivoted upon said base member to lock the standard at one limit of its movement, and another crane arranged for coöperation with the first-mentioned crane, and means for locking the second-mentioned crane at one limit of its movement.

5. A crane mounted to swing upwardly upon rotation, a counterbalancing means adjustably mounted upon the crane, and a second crane coöperating with the first-mentioned crane.

6. A device of the character described comprising a track-crane including a standard mounted at its lower end to swing upwardly bodily, means for locking the standard in its upward position and permitting it to return automatically to its normal position, a counterbalancing-weight, a car-crane

coöperating with the track-crane, and means for locking the car-crane in its position for coöperation with the track-crane.

7. A device of the character described comprising a track-crane provided with a weight, and the car-crane provided with a weight, each weight having means for detachable engagement with a mail-pouch.

8. A device of the character described comprising a track-crane including a rotatable standard mounted at its lower end to force it upwardly upon rotation in one direction, a counterbalancing-weight and a car-crane coöperating with the track-crane.

9. A device of the character described comprising a track-crane including a standard mounted for upward rotation, means for locking the standard in its upward position, means carried by the crane to support a mail-pouch, the pouch having connection with the said locking means, a car-crane coöperating with the track-crane, and means whereby the standard of the track-crane may return to its normal position automatically when the pouch is taken therefrom by the car-crane.

10. A device of the character described comprising a track-crane including a base, a standard mounted for upward swinging movement within the base, means at the upper end of the standard to support and receive separate mail-pouches, an arm pivoted to the base for locking the standard at the limit of its upward swinging movement, said arm being weighted at its outer end and having connection with one end of the mail-pouch supported by the crane, a counterbalance-weight carried by the crane, a car-crane mounted for swinging movement into and out of the car, means mounted at the upper end of the car-crane to support and receive separate mail-pouches, a weight carried at the lower end of the car-crane, said weight having sliding movement and arranged for connection with the lower end of the mail-pouch supported by the car-crane, a bar for locking the car-crane at the limit of its outward swing, the two cranes coöperating with each other whereby each crane may take from and deliver to the other crane the mail-pouch carried thereby, the track-crane returning to its normal position automatically when the pouch is taken therefrom by the car-crane.

11. A device of the character described comprising a track-crane including a standard mounted to rotate upwardly, an arm adjustably connected to the upper end of the standard, means carried by the said arm to counterbalance the movement of the standard, a second arm carried by the first-named arm, means carried by the second arm for the support of a mail-pouch, and a car-crane coöperating with the track-crane.

12. A device of the character described

comprising a track-crane, means carried by the crane to support a mail-pouch, a ring connected to the mail-pouch and provided with a laterally-directed member for engagement with said means, and a car-crane coöperating with the track-crane.

13. A device of the character described comprising a crane, means carried by the crane for the support of a mail-pouch, a weight and means pivotally connected with the weight for connection with the mail-pouch.

14. A device of the character described comprising a crane for the support of a mail-pouch, a car-crane for the support of a mail-pouch, a weight for each pouch and means pivotally connected to each weight for connection with the respective pouch.

15. The combination with a crane provided at its upper end with spaced seats and a lip beneath the seats; of a mail-pouch having a ring connected at one end thereof, the ring having a cross-piece for engagement upon opposite sides of the ring in said seats, the ring lying between the seats and provided with a shoulder for engagement with said lip.

16. The combination with a crane provided at its upper end with spaced seats and a lip beneath the seats; of a mail-pouch having a ring connected thereto and provided with a cross-bar for engagement with said seats, the ring having a shoulder upon each side of the cross-piece for engagement interchangeably with the aforesaid lip.

17. The combination with a crane provided with a seat; of a mail-pouch; a ring having connection with the pouch and provided with a laterally-directed member for engagement in said seat.

18. The combination with a crane provided with spaced seats; of a mail-pouch provided with means having projections for engagement in said seats.

19. The combination with a crane provided with spaced seats and a lip; of a mail-pouch provided with means having projections for engagement with the seats and lip.

20. The combination with a crane provided with spaced seats and a lip; of a mail-pouch provided with means having projections for engagement in said seats and other projections for interchangeable engagement with said lip.

21. As a new article of manufacture, a supporting-ring for mail-pouches provided with a cross-bar and with a projection upon each side of the cross-bar.

22. As a new article of manufacture, a supporting-ring for mail-pouches provided with a cross-bar and with a projection for coöperation with the cross-bar.

23. A rotatable crane for the support of a mail-pouch, and weighted means for locking the crane at one limit of its rotatable move-

ment, the mail-pouch having connection with said locking means to hold the latter in operative position.

24. A rotatable crane for the support of a mail-pouch, and a vertically-swinging weighted member for locking the crane at one limit of its movement, said member being held in operative position by the mail-pouch.

25. A rotatable crane, a swinging crane, the cranes coöperating with each other to take away and deliver a mail-pouch from and to each other, a weighted member having engagement with the pouch to be taken from one crane to the other, one of said weighted members coöperating with the rotatable crane to lock it in operative position.

26. A rotatable crane carrying a swinging weighted member, a swinging crane, carrying a sliding weighted member, each weighted member having detachable engagement with a mail-pouch.

27. A rotatable crane having a swinging weighted member, a swinging crane having a sliding weighted member, each weighted member having means for detachable engagement with a mail-pouch and one of the said members coöperating with the rotatable crane to hold the latter in operative position.

28. A rotatable crane for the support of a mail-pouch, and means for locking the crane in operative position, said means being released from its operative position when the mail-pouch is taken from the crane.

29. A rotatable crane for the support of a mail-pouch, and means for locking the crane in operative position, said means having detachable connection with the mail-pouch and released upon withdrawal of the pouch from the crane.

30. In a device of the class described, a rotatable crane for the support of a mail-pouch, means for locking the crane in operative position, said means having connection with the mail-pouch and released from operative position when the pouch is taken from the crane, and another crane coöperating with the first-named crane.

31. A rotatable crane for the support of a mail-pouch, means for locking the crane in operative position, said means having connection with the mail-pouch and released from operative position when the pouch is taken from the crane, and a counterbalancing-weight mounted upon the crane.

32. A crane comprising a base provided with a projection and a standard provided with a cam-surface at its lower end to ride upon said projection upon rotation of the standard.

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

MATHIAS LASKA.

Witnesses:

JOHN DOTTS,

CHAS. HAINEBACH.