No. 808,317. PATENTED DEC. 26, 1905.

C. E. TEETER.

MAIL DELIVERING CRANE.

APPLICATION FILED APR. 17, 1905.

2 SHEETS—SHEET 1.

FIG. 1

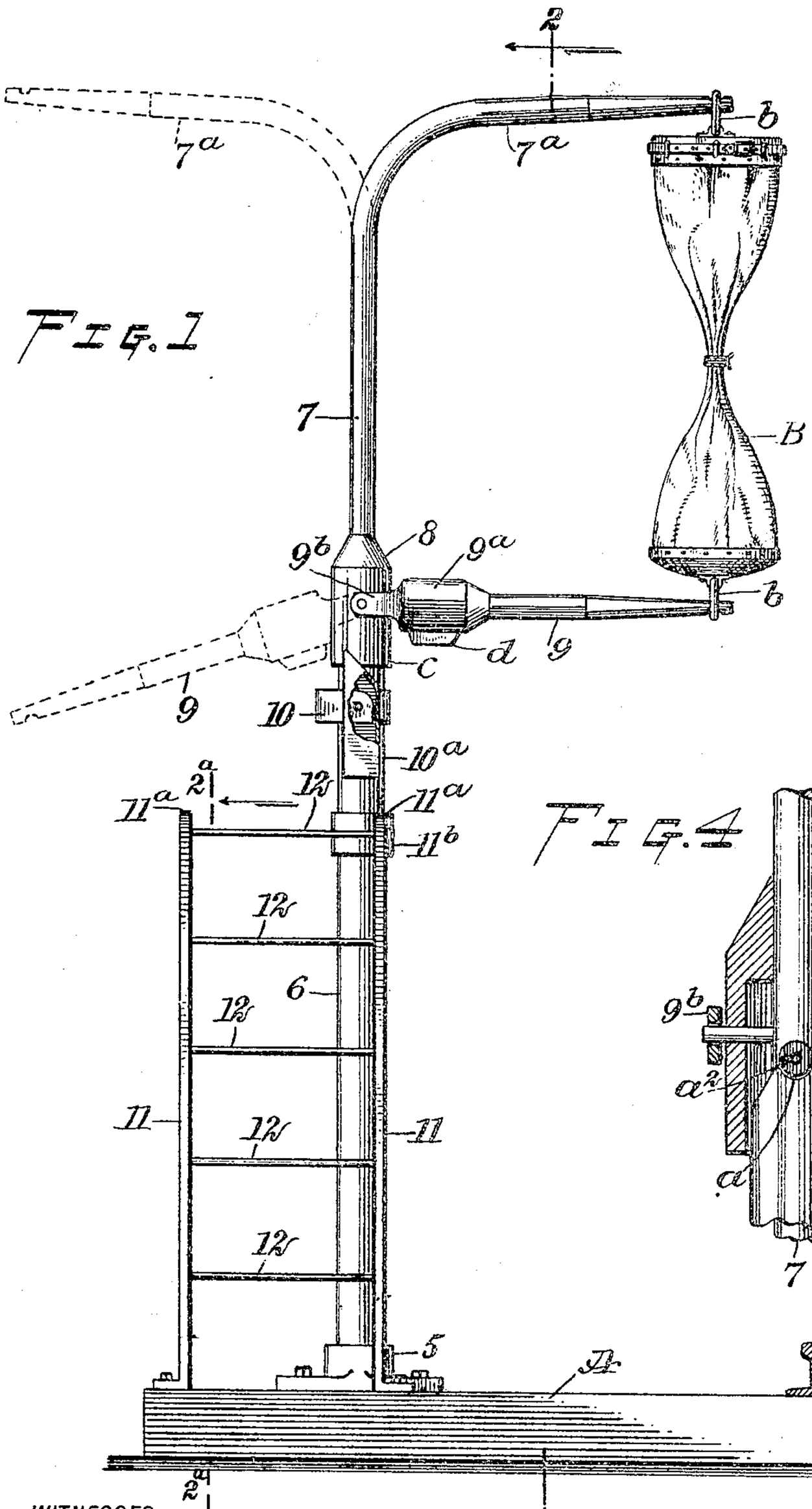


FIG. 4

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2 SHEETS—SHEET 2.

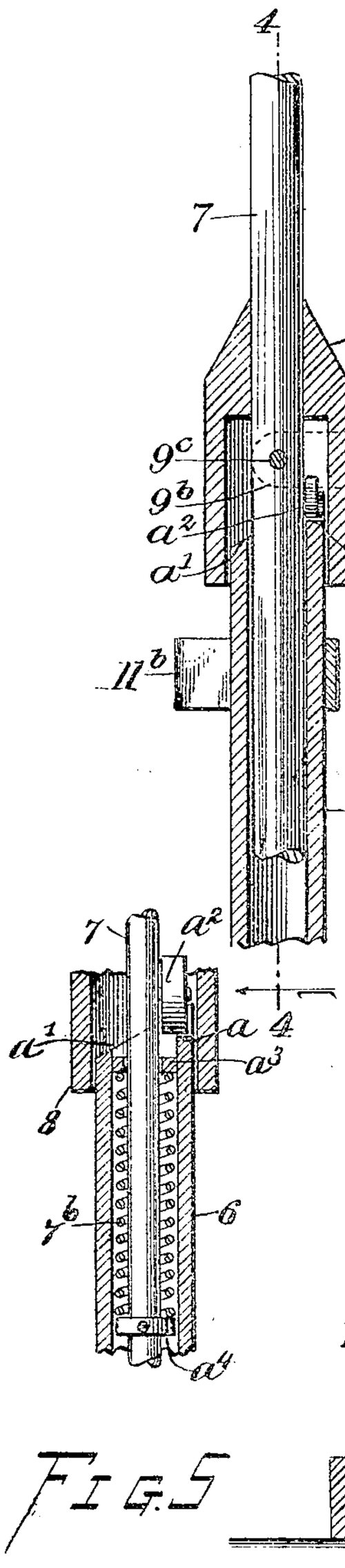


FIG. 3

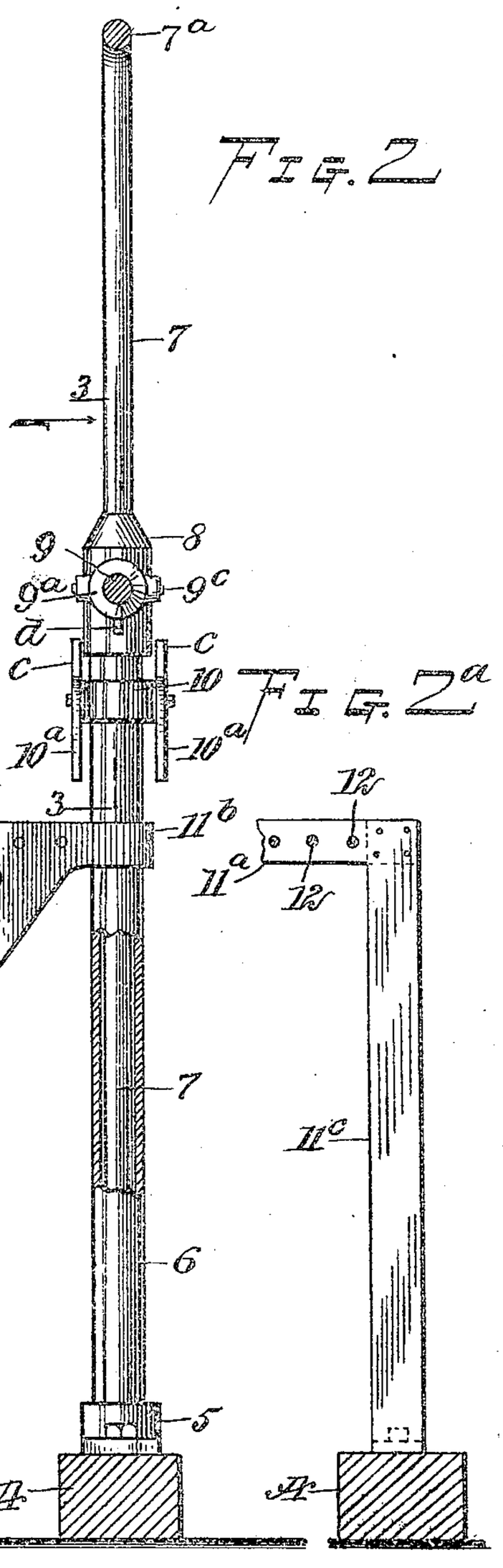


FIG. 2

FIG. 2a

FIG. 5

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MAIL-DELIVERING CRANE.

No. 808,317. Specification of Letters Patent. Patented Dec. 26, 1905.

Application filed April 17, 1905. Serial No. 255,929.

To all whom it may concern:

Be it known that I, CHARLES EDWARD TEETER, a citizen of the United States, and a resident of Springfield, in the county of Greene and State of Missouri, have invented a new and Improved Mail-Delivering Crane, of which the following is a full, clear, and exact description.

This invention relates to means for supporting a mail-bag at a station along a railroad, so that the bag may be caught by a person or device on a moving mail-car, and thus deliver the mail-matter thereto without stopping the train,

The object of the invention is to provide novel details of construction for a mail-delivering crane which adapt it for reliable and very convenient service, enable the production of the crane from metal mainly in tubular form, and in a large degree obviate the liability of snow or ice obstructing the operation of the improved crane.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of the improved crane arranged at the side of a railroad and supporting a mail-bag for delivery. Fig. 2 is a partly-sectional side view substantially on the line 2 2 in Fig. 1, seen in direction of the arrow. Fig. 2^a is a partly-sectional side view of a ladder employed, the section being substantially on the line 2^a 2^a in Fig. 1. Fig. 3 is an enlarged sectional side view of details, taken substantially on the line 3 3 in Fig. 2. Fig. 4 is a vertical sectional view taken substantially on the line 4 4 in Fig. 3; and Fig. 5 is a sectional side view of a detail of the invention, showing an additional feature of construction.

In the drawings which show the construction and operation of the invention, A A represent two of a series of cross-ties for a railroad at a station where mail is received and delivered from and to cars that traverse the railroad, and A′ is an end view of one track-rail for the road. Upon one of the cross-ties A, at a suitable distance from the track-rail A′, a base-block 5 is secured, and from said block upwardly projects a tubular post 6, which is a portion of the mail-crane, the post being supported vertically by means that will be hereinafter described.

The swinging portion of the crane consists of a standard 7, preferably formed of a tube, which is bent to produce an arm 7^a on an upright portion, and toward its free end this laterally-projecting arm is preferably tapered somewhat, as shown in Fig. 1. The standard 7 has such relative diameter as will permit a portion of the same to be inserted within the hollow post 6, seat on or in the base-block 5, and fit loosely in the post. A hood 8 in the form of an inverted cylindrical cup is mounted upon the standard 7 and thereto secured at a point which adapts it to fit loosely over the upper end of the post 6.

An arm 9, about equal in length with the arm 7^a, is a coacting member that is held to rock to and from a horizontal plane, preferably by the means shown, comprising the following details: Upon the end of the arm 9 that in service is near the standard 7 a spring-box 9^a is mounted and secured by one end, said hollow fixture having two joint-plates 9^b, extended from its free end at opposite points. These joint-plates being parallel with each other are spaced apart a proper distance to adapt them to loosely embrace the hood 8. The joint-plates 9^b are pivoted upon the hood 8 by a transverse pin 9^c, that passes through the standard 7 also, and in the box 9^a a coiled spring 9^d is placed, that has two projecting end portions which are disposed at a right angle to each other, one end portion being secured upon the hood and the other one on the inner surface of the spring-box, which adapts the spring to throw the arm 9 from a horizontal position and incline its free end downward, as shown by dotted lines in Fig. 1.

The upper end of the post 6 is notched in its side wall at a point opposite the diametrical center thereof, as shown at *a* in Fig. 4, and at the rear side of this concave notch the wall of the post is cut away on an incline downward, as indicated at *a′* in the same figure. The notch *a* is positioned at the side of the post 6 which is directly opposite the railroad-track.

Upon the standard 7 opposite the diametrical center of the spring-box 9^a a small wheel

a^2 is pivoted, which is designed to ride up the incline a' when the arm 7^a is turned toward the railroad-track and to rest in the notch a, which will dispose the arms 7^a and 9 at a right angle with the track-rail A', this engagement of the wheel and notch being designed to retain the arms projected toward the railroad when a mail-bag is placed thereon.

In order to afford additional means for enforcing the engagement of the small wheel a^2 within the notch a, a spring 7^b is employed, which is shown in operative position in Fig. 5, this being the preferred construction.

The spring 7^b is mounted upon the standard 6 and at its upper end has contact with a collar a^3, which is affixed upon the inner surface of the hollow post 6 near the notch a, the lower end of said spring being pressed upon by a collar a^4, adjustably secured on the standard 7.

It will be seen that the tension of the spring 7^b may be accurately adjusted by an adjustment of the collar a^4, and thus reinforce the weight of the standard 7 and arm 7^a for preventing an accidental displacement of the wheel a^2 when it is seated in the notch a, and the arms 7^a and 9 are extended toward the railroad-track, holding a mail-bag in position to be caught by a moving car.

A notch is formed in the upper and lower side of the arms 7^a 9, respectively, for the reception of rings or loops b b on the ends of a mail-bag B, and to place the bag on the arms it is preferably first engaged with the upper arm 7^a and then the lower arm 9 is rocked upward against stress of the spring 9^d, which will press down on said arm when the lower ring on the mail-bag is placed thereon and hold the mail-bag in place, as shown in Fig. 1.

Upon the post 6 immediately below the hood 8 a suitable bracket 10 is secured, and on said bracket at opposite points two similar latch-plates 10^a are pivoted at points near their upper ends, the weight of the lower ends of the latch-plates causing them to normally hang vertically and parallel with each other. The upper ends of the latch-plates 10^a are sloped in the same direction as indicated in Figs. 1 and 2 at c. A catch-lip d in the form of a plate-like flange projects down from the spring-box 9^a.

When the lower arm 9 is held parallel with the upper arm 7^a by an engagement of the rings or loops b b on the mail-bag B with the ends of said arms, the catch-lip d will be raised sufficiently to have clearance from the sloped upper ends of the latch-plates 10^a, so that the standard 7 may be rotated. If, however, the arm 9 is not so engaged and is inclined downward by stress of the spring 9^d, the catch-lip will be so depressed as to have contact with the upper ends of the latch-plates, as will be hereinafter further explained.

To facilitate the connection of a mail-bag with the arms 7^a 9, a step-ladder is provided, comprising the following details: Two side bars 11 11 are spaced apart by rungs 12, and, as shown in Fig. 2, that represents a side elevation of the ladder, each of the similar side bars is bent edgewise at a suitable angle near the upper end, thus affording a horizontal upper portion 11^a, said upper portions being likewise spaced apart by rungs. One member 11^a is positioned opposite the post 6 when the ladder is erected from one of the cross-ties A whereon the lower ends of the side bars 11 are secured, and upon the end of said frame member 11 which contacts with the post a sleeve 11^b is formed or secured, which embraces the post and affords support thereto. Upon the other side frame member 11^a, at the end opposite from the post 6, an upright leg 11^c is secured by its upper end, said leg being erected from the same cross-tie whereon the post is supported, the leg appearing in Fig. 2^a of the drawings.

It will be noted that the upper horizontal extension of the ladder affords a platform whereon one may stand while adjusting the mail-bag.

When the crane is to be arranged for service, it is turned around, if otherwise adjusted, until the arms 7^a 9 extend away from the track. Then the mail-bag B is hung on the arms as hereinbefore described, which will raise the outer end of the arm 9 so that said arm will become horizontal and the catch-lip d be permitted to pass over the upper ends of the latch-plates 10^a. The arms 7^a 9 and the mail-bag B are now turned toward the railroad-track, and when the wheel a^2 rides to the top of the incline a' said wheel will drop into the concave notch a, thus temporarily locking the arms and bag extended from the standard 7 at a right angle to the track A', this being enforced by the spring 7^b, as before explained.

It will be seen that when a mail-car in a train is drawn along on the track and is provided with the usual catcher device when the latter grabs the mail-bag B the arms 7^a 9 will be given a turning movement in the direction of movement of the car.

The grabbing or catching device on the car strips the rings or loops b b from the arms 7^a 9, and the rotatable movement given to the standard 7 by the impact of the bag-catcher device upon the bag B will cause the arm 9 that has been rocked down by the spring 9^d to pass over the platform at the top of the ladder already described.

It will be noted that the downward inclination of the released arm 9 will correspondingly depress the latch-lip d and that said lip will ride over the sloped upper end of the pivoted latch-plate toward which it has been turned, due to the rocking movement of said latch-plate 10^a, so that when the arms 7^a 9 are carried above the platform of the ladder they will be locked from turning toward the track-

rail A′ by the abutment of the catch-lip *d* upon either latch-plate 10ª toward which the arms may swing.

It will be noticed that after the mail-bag has been removed the arms 7ª 9, which have supported it, will by the novel construction of the parts be automatically turned into a position directly above the platform already described at the side of the crane farthest removed from the railroad-track for reuse, as occasion may require.

Obviously the ladder and platform may be placed between the crane-post and the railroad-track, if this is desired.

The provision of the hood 8 and its relative location adapts it to protect the locking means that is between the post 6 and standard 7, so that snow or ice cannot obstruct the turning movement of the standard and arms thereon. Furthermore, the location of an expansible spring 9ᵈ in the spring-box 9ª serves to protect the spring and insure the depression of the arm 9 at all times.

As the crane is mainly constructed from iron or steel tubular material, it will be seen that the device is light, strong, and durable, not liable to get out of working order, is very convenient and reliable in service, and may be manufactured at moderate cost.

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

1. In a mail-crane, the combination with a stationary upright hollow post, a standard having a portion thereof held to turn in the post, a fixed arm on the upper end of the standard, a mating arm pivoted at one end on the standard near the upper end of the post, a spring carried by the pivoted arm and adapted to incline said arm downward, means carried by the post and arm for temporarily holding the arms extended in one direction, said means being reinforced by an expansible spring, and means actuated by the turning of the standard, adapted for holding the standard and locking the arms projected in an opposite direction.

2. In a mail-crane of the character described, the combination with a stationary upright tubular post, a standard having its lower portion held to turn in the post, and an arm extended laterally at the upper end of the standard, of a lower mating arm having a spring-box on one end, leaf-plates extended from the box and pivoted on the standard, a catch-lip on the lower side of said spring-box, latch-plates pivoted on the post whereon the catch-lip will engage for holding the standard from turning when the arm inclines downward, and a spring in the box adapted for pressing the arm into a downwardly-inclined position.

3. In a mail-crane of the character described, the combination with a stationary upright tubular post, of a standard having its lower portion occupying and rotatable in the post, spaced arms extended in the same plane laterally from the standard, and means for temporarily holding the arms from swinging, consisting of a notch formed in the upper edge of the post, the remaining portion of the edge being sloped away from the notched portion, and a wheel on the standard which may enter the notch when the standard is turned, and thus retain the arms stationary until they are forcibly pushed in either direction of turning movement.

4. In a mail-crane of the character described, the combination with a stationary upright tubular post, of a standard having its lower portion occupying and rotatable in the post, spaced arms extended in the same plane laterally from the standard, a depending hood covering the upper end of the post, and means for temporarily holding the arms from swinging, consisting of a notch in the upper edge of the post, the remaining portion of the edge being sloped away from the notched portion, and a depending wheel on the standard within the hood, the wheel being adapted for seating in the notch when the standard is turned.

5. In a mail-crane of the character described, the combination with an upright post, of an inclined step-ladder held stationary at the bottom of the post, a level platform on the upper end of the inclined step-ladder, a depending leg on one side member of the platform, and a sleeve on the other side member thereof that receives and supports the upper end of the post.

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

CHARLES EDWARD TEETER.

Witnesses:

C. P. LLOYD,

J. B. ARRINGTON.