

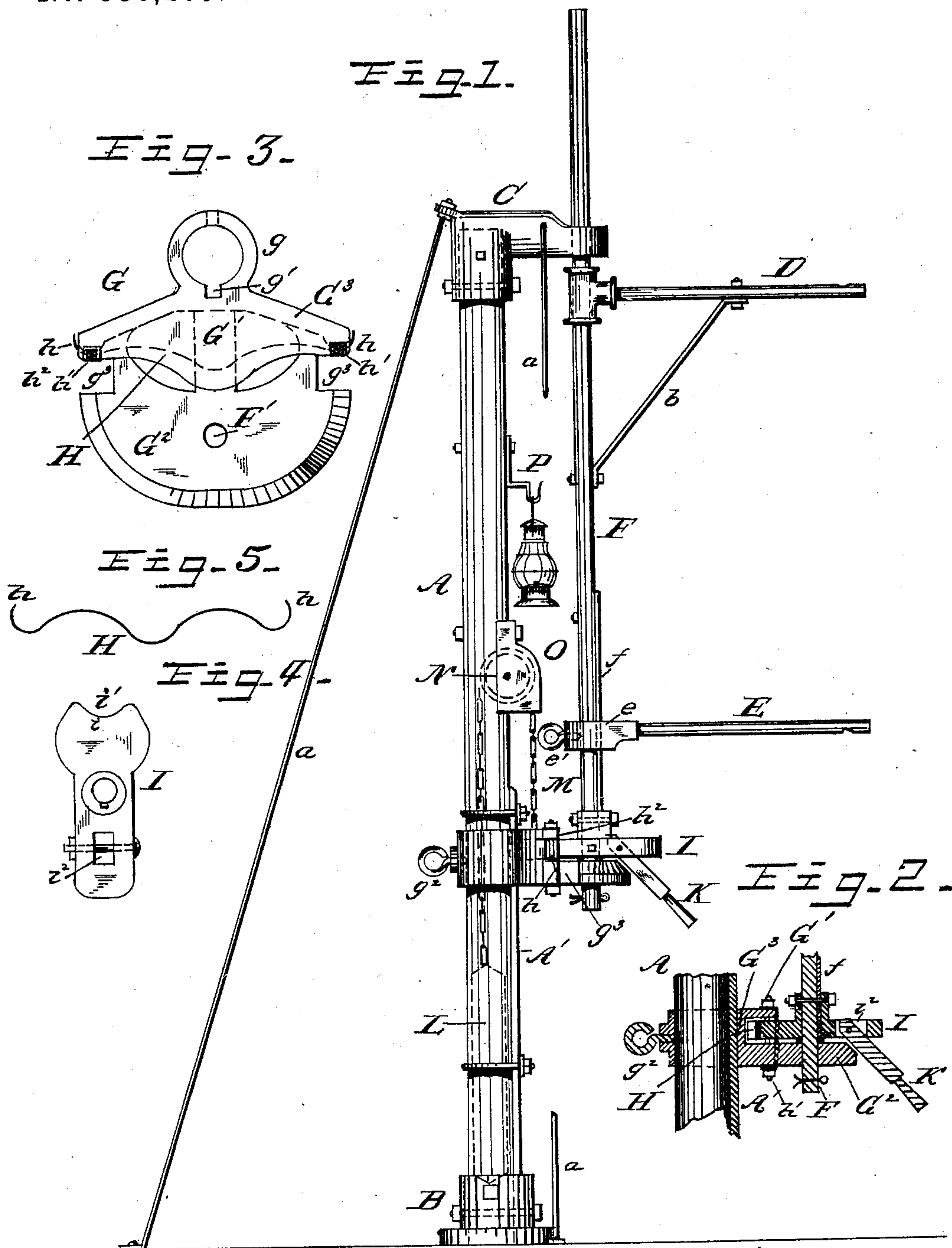
(No Model.)

W. R. ANDREWS.

MAIL CRANE.

No. 358,103.

Patented Feb. 22, 1887.



Witnesses

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MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 358,103, dated February 22, 1887.

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To all whom it may concern:

Be it known that I, WILBERT R. ANDREWS, a citizen of the United States, residing at La Junta, in the county of Bent and State of Colorado, have invented certain new and useful Improvements in Mail-Cranes, of which the following is a full, clear, and exact description.

My invention relates to railway-mail-service appliances; and its object is to improve the construction and increase the efficiency of the cranes which are used to support the mail-bags in position to be caught by a passing train. As ordinarily constructed these cranes consist of a post with one or two arms or jibs swinging in a horizontal plane, on which the mail-bag is hung. In order that the bag may be on a level with the car-door, it is necessary to suspend it so high from the ground that a platform or a short ladder is required to enable the agent to hang it on the jib of the crane. My invention provides for raising and lowering the crane, so as to dispense with this platform or ladder. Furthermore, unless some means is afforded for locking the crane at right angles to the track, it is liable to be blown about by the wind out of reach of the gripper on the mail-car. Such locking device, however, must be capable of yielding to allow the crane to swing around out of the way when the bag is struck by the gripper; and on single-track roads it must be so arranged as to yield to trains passing in either direction. There should also be means for retaining the crane with the jibs or arms parallel with the track when not in use, to prevent its being accidentally swung out into the way of passing trains.

My invention aims to accomplish all these objects; and to this end it consists of certain combinations and arrangements of parts composing an adjustable revolving mail-crane, as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of my improved crane. Fig. 2 is a vertical section of a portion of the main post or standard, the sliding bracket, and the lower end of the revoluble post. Fig. 3 is a plan view of the sliding bracket. Fig. 4 is a plan

view of the holding-dog. Fig. 5 is a plan view of the steel spring in the sliding bracket.

Similar letters indicate corresponding parts in all the views.

The main post A is hollow, and consists, preferably, of a suitable length of iron pipe. It is firmly secured to a base-plate, B, in a vertical position. A cap, C, is fastened upon its upper end, and it is steadied and braced by guy-rods *a a a*, the upper ends of which pass through flanges on the cap C, where they are tightened by suitable nuts, while their lower ends are anchored in the ground two or three feet from the base-plate B.

The crane proper is composed of two arms or jibs, D E, for supporting the mail-bag, carried on a revoluble post, F, which turns freely in bearings in the cap C, and in a vertically-adjustable bracket, G. The post F projects above the cap C, as shown, in order to allow it to be lowered without being drawn out from its bearing in said cap. The upper arm, D, is rigidly held in position at right angles to the post by a brace, *b*. The lower arm, E, is inserted in a socket, *e*, which is fitted to slide upon the revoluble post F, and may be retained at any point by the set-screw *e'*, being prevented from turning on the post by a spline, *f*, attached to or formed integral with the post. The arms and post may advantageously be formed of iron pipe, as indicated in the drawings.

The adjustable bracket G, which supports the revoluble post F, is preferably made of cast-iron, in substantially the form shown. It has an eye, *g*, which fits the main post A, and a groove, *g'*, engaging with the spline A' on the main post, keeps the bracket from swiveling or turning on the post. A set-screw, *g''*, serves to secure the bracket at any desired height.

The bracket is provided with two flanges, G' G², projecting from the upper and lower edges of the web G³, which juts out from one side of the eye *g*. The lower flange, G², extends beyond the upper one, being substantially semicircular in shape, and preferably having its upper corner chamfered away, as shown. Near its center is a hole, F', in which is stepped the lower end of the revoluble post F.

In the pocket between the flanges $G' G^2$ and the web G^3 is seated a spring, H. Fig. 5 gives an edge view of this spring, which is made of a flat strip of steel, and is somewhat similar in shape to an ox-yoke. A hook, h , at each end of the spring engages with the end of the web G^3 , and prevents any lengthwise displacement of the spring, while two bolts, h' , passing through both flanges $G' G^2$ in front of the hooks h , keep the spring from slipping out of the pocket in which it rests. In front of each bolt is a protecting-plate, h^2 . The purpose of this spring is to yieldingly lock the revoluble post F when it is turned so as to bring the jibs or arms D E into position to deliver the mail-bag to the catcher on a mail-car, as shown in Fig. 1. This is accomplished by a holding-dog, I, which is secured upon the lower portion of the post F and rests on the flange G^2 . The rear end of this dog is rounded, and its length is such that when the post F is turned to swing the jibs D E out at right angles with the railroad-track the dog presses against the front face of the spring H and forces it back into its pocket in the bracket. The end of the dog is cut away at i , preferably in a curved line, to form a rounded notch, i' , as shown, in which the central curve of the spring seats itself when the dog is at right angles to the same and holds the dog and post F quite firmly in this position, although a smart pull on the arms or on the dog will crowd the spring back and allow the post to turn in either direction. The other end of the dog is provided with a slot, i^2 , in which is pivoted a latch, K, which rides upon the chamfered edge of the flange G^2 . When the post F is turned to bring the arms D E parallel with the track, the latch K drops into one or the other of two notches, g^3 , in the flange G^2 , and retains the post and arms in that position.

The bracket G, post F, jibs D E, dog I, and latch K are counterbalanced by a weight, L, which slides in the hollow main post A, and is connected with the bracket by a chain or rope, M, passing over a pulley, N, in the housing O, which is fastened to the main post.

At any convenient place is provided a hook, P, upon which may be suspended a lantern or other signal, which is preferably located at about the same height as the mail-bag, in order to aid the mail-clerk who manipulates the gripper.

The operation of my improved mail-crane is as follows: The arms D E being parallel with the track, the operator loosens the set-screw g^2 and pulls down the bracket G, which brings the arms D E within reach, thus obviating the necessity of mounting a platform or a ladder to get at them. The mail-bag is now suspended between the upper and lower jibs, the latter being adjusted up or down on the post F to suit the length of the bag. The bracket G is then slid up until the bag is at the proper height to be caught by the gripper on the mail-car. The latch K is then lifted

out of the notch g^3 , and the post F is turned until the arms D E are at right angles with the track, when the spring H seats itself in the notch i' in the dog I, and holds the arms securely in this position against displacement by high winds or other accidental causes. When the bag is struck by the gripper, the force of the blow disengages the concave end of the dog from the spring H and throws the arms around parallel with the track. When the dog strikes the plate h^2 , the latch K drops into the notch g^3 , which prevents the arms from rebounding and locks them out of the way of passing trains and safe from being blown about by the wind.

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

1. The combination, with a main post, of a vertically-adjustable crane having two jibs, one of which is vertically adjustable, substantially as shown and described, and for the purpose set forth.

2. The combination, with a main post provided with a cap, of a vertically-adjustable bracket carried on said post, and a crane mounted in bearings in said cap and bracket, substantially as and for the purpose set forth.

3. The combination, with a main post provided with a cap, of a vertically-adjustable bracket carried on said post, a crane mounted in bearings in said cap and bracket, and means for yieldingly locking said crane at right angles with the railroad-track substantially as and for the purpose set forth.

4. The combination, with a main post provided with a cap, of a vertically-adjustable bracket carried on said post, a crane mounted in bearings in said cap and bracket, means for yieldingly locking said crane at right angles with the railroad-track, and means for retaining said crane parallel with the track when not in use, substantially as and for the purpose set forth.

5. The combination, with a mail-crane, of a dog rigidly secured to the post of the crane and having a cut-away portion at one end, and a spring bearing against the end of said dog and adapted to engage with the cut-away portion to yieldingly lock the crane, substantially as and for the purpose set forth.

6. The combination, with the main post A, of the bracket G, a spring, H, seated in said bracket, and a revoluble post, F, stepped in said bracket and provided with a dog, I, bearing against said spring H, substantially as and for the purpose set forth.

7. The combination, with the main post A, of the bracket G, having the flange G^2 , provided with a notch, g^3 , the flat spring H, the revoluble post F, having arms D E, and a dog, I, provided with the notch i' and latch K, substantially as and for the purpose set forth.

8. The combination, with the main post A, having cap C, of the vertically-adjustable bracket G, the counter-balance L, the post F,

having the fixed jib D, and the adjustable jib E, said post being stepped in the bracket G and sliding in a bearing in the cap C, substantially as and for the purpose set forth.

- 5 9. The combination, with the main post A, of the adjustable bracket G, having the flange G', web G³, and flange G², the flat spring H, seated in the pocket formed by said web and flanges, with its hooked ends h resting against

the ends of the web G³, the bolts h', the post 10 F, and the dog I, bearing against said spring, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WILBERT R. ANDREWS.

Witnesses:

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D. M. SAMUEL.