

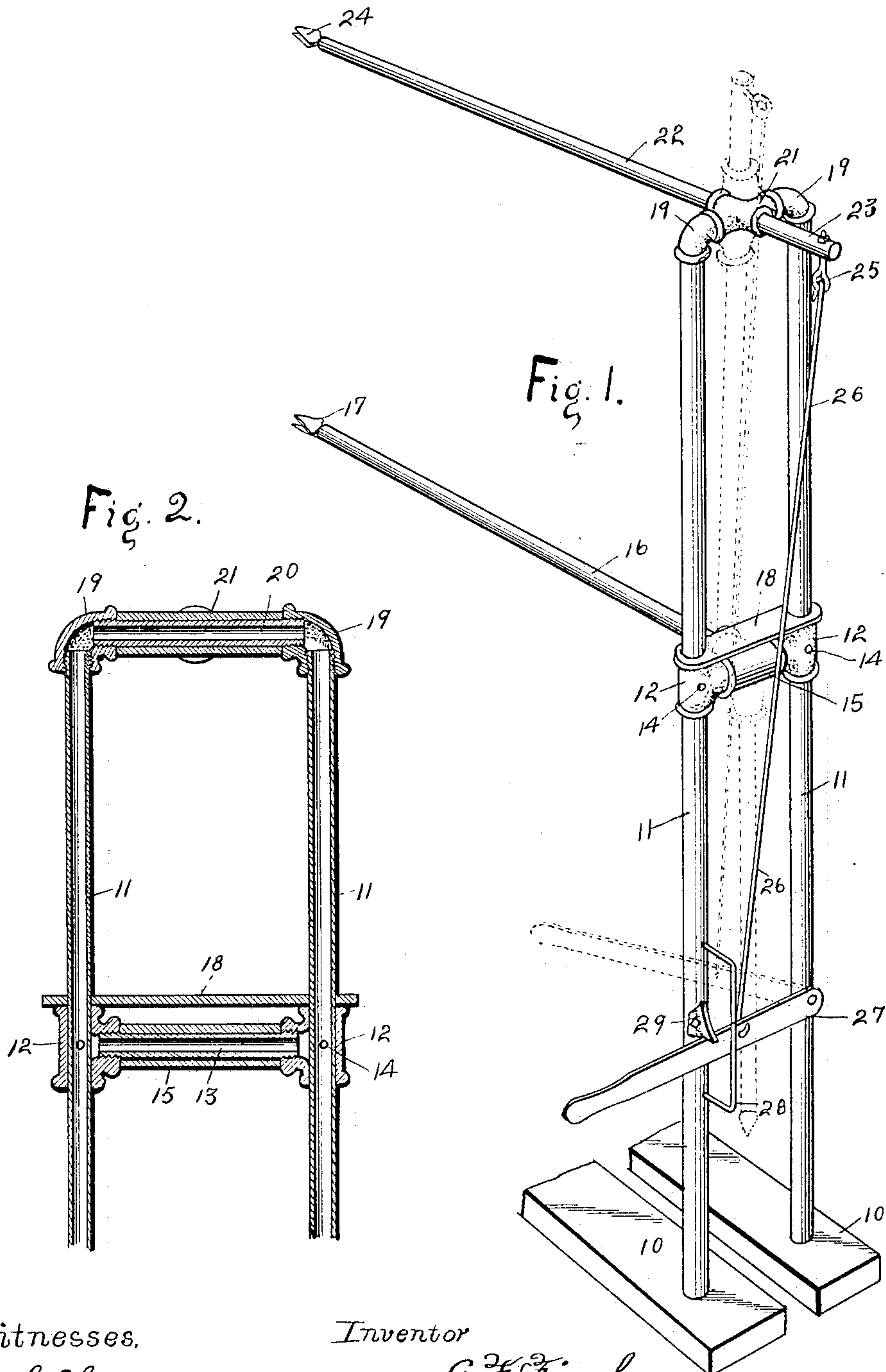
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A. F. FINCH.  
MAIL CRANE.

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NO MODEL.



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# UNITED STATES PATENT OFFICE.

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## MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 758,830, dated May 3, 1904.

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*To all whom it may concern:*

Be it known that I, ABRAM F. FINCH, a citizen of the United States, residing at Boone, in the county of Boone and State of Iowa, have invented a certain new and useful Mail-Crane, of which the following is a specification.

The objects of my invention are to provide a mail-crane of simple, durable, and inexpensive construction, especially designed to be used without a platform or ladder, and so arranged that when a mail-pouch has been removed therefrom both of the mail-pouch-supporting arms will automatically swing downwardly and away from the track, so as to avoid danger of having said arms strike passengers on railway-cars. In this connection it is to be understood that the top of a mail-pouch must be suspended about ten feet above the track-level, so that the mail-catchers carried by the mail-cars may engage said pouch, and it is also to be remembered that the arms for supporting the mail-pouch must project toward the track, so that if they are left standing in the position which they assumed in supporting a mail-pouch they become dangerous to passengers riding upon cars on the track.

More specifically my object is to provide a pivoted upper arm for supporting a mail-pouch, said arm normally hanging downwardly, so that a person of ordinary height standing upon the track-level may reach the lower end of the arm and secure the top of the mail-pouch thereto.

A further object is to provide simple and easily-operated means whereby the operator may elevate the upper arm, together with the pouch, to a substantially horizontal position and firmly lock it in such position, and, further, to provide a pivoted lower arm which may easily be elevated by the operator and attach to the lower end of the suspended mail-pouch and be held in a horizontal position by the mail-pouch, said pouch being so arranged that when the pouch is removed from the arms the lower arm will drop by gravity and automatically engage and release the lever which supports the upper arm, so that the upper arm will then be free to drop by gravity to a horizontal position.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows an improved mail-crane in position for use supported upon two extended railway-ties. The dotted lines in said figure illustrate the positions the parts assume when the mail-pouch has been removed from the arm, and Fig. 2 shows a vertical central sectional view of the upper part of the mail-crane to illustrate the details of construction.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the railway-ties. In applying my mail-crane I preferably remove two of the short ties from the track and substitute two long ties in place of them, and the mail-crane is attached to and supported by the extended ends of these long ties. The crane proper comprises two uprights 11, which may be made of metal pipe. The lower ends of these pipes are supported by the ties 10 at a suitable distance from the railway-rails. At a point about six feet above the ties or at a point that may be easily reached by the operator I place a cross-brace. This brace comprises two tees 12, which are placed on the pipes 11 and which are connected with each other by a short pipe 13, which is screwed into the tees. The tees are held in position on the pipes 11 by means of the pins 14. Upon the pipe 13 I have rotatably mounted a sleeve 15, which may also be an ordinary tee, and in one of the branches thereof is the lower mail-pouch-supporting arm 16, preferably screwed into the tee 15. This arm may also be a section of a pipe, and at its outer end is a hook 17 to receive the lower end of a mail-pouch. Any of the ordinary hooks for this purpose may be used. Immediately above the tees 12 is a plate 18, having openings in its ends through which the standards 11 are passed, said plate normally resting on top of the said tees. This plate is designed for the purpose of preventing the arm 16 from moving upwardly beyond a certain point or so far as to



engage the upper arm, and it also serves as a stop to limit the movement of the upper arm, as will hereinafter appear.

The tops of the standards 11 are connected  
5 with each other by means of elbows 19, screwed to a pipe 20, thus firmly bracing the standards relative to each other. In constructing my crane the lower arm and plate 18 are placed on the standard before the top is secured thereto. Rotatably mounted upon the  
10 pipe 20 is a sleeve 21, the ends of which engage the adjacent ends of the elbows 19. This sleeve 21 is provided with an extension on one side into which the upper arm 22 is screwed, and it is also provided with a short extension  
15 23 at its other side in line with the extension 22. On the outer end of the upper arm 21 is a hook 24, to which a mail-pouch may be attached, and on the rear end of the part 23 is  
20 an eyebolt 25, to which a rod 26 is attached. The means for elevating the upper arm comprises a lever 27, fulcrumed to one of the standards 11 at a convenient height and passed through a loop or guard 28 on the adjacent  
25 standard. Fixed to the adjacent standard within the loop or guard is a lug 29, having an inclined upper surface and a substantially horizontal shoulder at its lower end. The lever 27 passes through the loop 28 and is capable of movement vertically and also out-  
30 wardly away from the pipe 11, except as limited by the guard 28. The said rod 26 is attached to said lever 27, and obviously the upper arm 22 may be elevated by moving the  
35 lever 27 from its position shown in dotted lines in Fig. 1 downwardly to its position shown in solid lines in the same figure, and then the lever may be locked in this position by passing the lever under the lug 29. In  
40 order to lower the arm 22, it is only necessary to move the lever 27 away from the standard 11 far enough to clear the lug 29, whereupon the weight of the arm 22 will elevate the lever 27.

In practical use the parts are assembled as before described, and assuming that both of the arms are hanging downwardly and assuming that it is desired to support a mail-pouch therein the operator places the top of the  
50 mail-pouch in engagement with the hook on the outer end of the upper arm. This he may do while standing upon the ties of the railway-track, because the outer end of the arm is arranged low enough to permit this. He then grasps the lever 27 and pulls it down-  
55 wardly and places it in engagement with the lug 29. This moves the upper arm to a horizontal position and leaves the mail-pouch hanging from said arm. He then hooks the  
60 lower end of the pouch to the lower arm, whereupon the pouch is supported in position to be caught by the mail-catcher of a passing mail-car in the ordinary way. When the pouch has been removed from the arms,  
65 the lower arm 16 will drop by gravity and

forcibly strike upon the lever 27 in a direction tending to push the lever 27 outwardly from engagement with its lug 29. When the lever is released from the lug, the weight of the arm 22 will cause it to drop downwardly  
70 from the standards and it will not be in position to strike persons on railway-cars on the adjacent track. The plate 18 will prevent the lower arm from swinging upwardly far enough to engage and become caught on the  
75 upper arm and all of the working parts of the device will be thoroughly protected from the weather, so that they cannot be made inoperative on account of sleet or ice.

By securing the standards of my improved  
80 mail-crane to the railway-ties themselves I have provided means by which the supporting mail-pouch will always stand at the same height relative to the railway-track, for if the track rises and falls the pouch-support  
85 moves with it.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. An improved mail-crane, comprising a  
90 standard, an upper mail-pouch-supporting arm pivoted to the standard and having an extension in the rear of the standard, a rod pivoted to said extension, a lever pivoted to the lower portion of the standard and having  
95 said rod attached thereto, a hook for engaging and supporting the lever at its lower limit of movement and a lower mail-pouch-supporting arm pivotally secured to the standard in such position that when released it will drop  
100 by gravity and strike said lever and remove it from its hook, for the purposes stated.

2. In a device of the class described, two tubular uprights, an elbow screwed to the top of each upright, a cross-piece screwed into  
105 both elbows, an arm pivoted to said cross-piece, two tees having said tubular uprights passed through them and fixed thereto, a cross-piece screwed into the tees, and an arm pivoted to the latter cross-piece.  
110

3. In a device of the class described, the combination of two tubular standards, a fixed cross-piece at the top of the standards, an upper mail-pouch-supporting arm pivoted to the said cross-piece to swing downwardly by gravity  
115 when released, a cross-piece secured to the standards below the upper arm, a lower arm pivoted to the latter cross-piece, means for elevating the upper arm and for locking it in its elevated position, said means released by  
120 the fall of the lower arm.

4. In a device of the class described, the combination of two tubular uprights, a rigid cross-piece connecting the upper ends thereof, a mail-supporting arm pivoted to said cross-  
125 piece, having at one end a hook for engaging a mail-pouch, said end normally hanging downwardly by gravity, and means for elevating the said arm and for securing it in an elevated position.  
130



5. In a device of the class described, the combination of two parallel uprights, a rigid cross-piece at the top of the uprights, an arm pivoted to said cross-piece, a mail-pouch hook  
5 on said arm, a short extension on the other side of the cross-piece, connected with the arm, a lever fulcrumed to one of the uprights, a lug on the other upright to be engaged by the lever, and a rod connecting the lever with the said  
10 short extension.

6. In a device of the class described, the combination of two parallel uprights, a rigid cross-piece at the top of the uprights, an arm pivoted to said cross-piece, a mail-pouch hook  
15 on said arms, a short extension on the other side of the cross-piece, connected with the arm, a lever fulcrumed to one of the uprights, a lug on the other upright to be engaged by the lever, a rod connecting the lever with the said short  
20 extension, and a lower arm pivoted between the uprights, arranged when released to strike the said lever and remove it from engagement with its lug.

7. In a device of the class described, the  
25 combination of two tubular uprights, elbows

at their upper ends, a cross-piece connecting said elbows, a sleeve rotatably mounted on said cross-piece, an arm secured to one side of the sleeve, a mail-pouch hook on the outer end of the arm, a short extension secured to the  
30 other side of the sleeve in line with the arm, a lever fulcrumed to one of the uprights near its lower end, a guard for the lever secured to the other upright, a lug for the lever, secured to the upright within the said guard, a rod con-  
35 necting the lever with the said short extension, two tees secured to the uprights, a cross-piece connecting said tees with each other, a sleeve rotatably mounted upon the cross-piece, an arm fixed to the sleeve, a mail-pouch-support-  
40 ing hook in the outer end of said arm, said arm engaging said lever when released, and a stop supported by the uprights above the lower arm to limit its upward movement. substan-  
tially as and for the purposes stated.

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