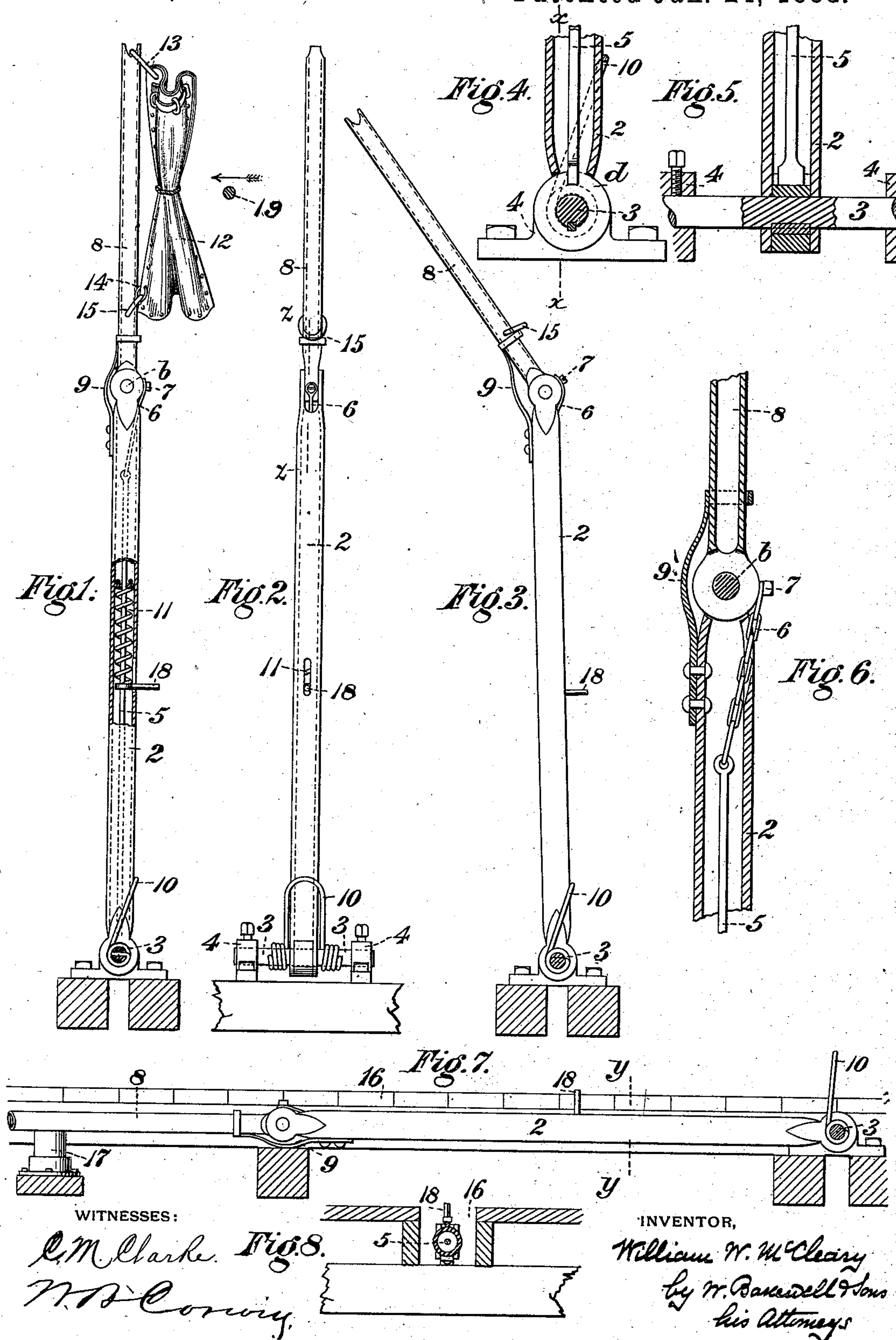


(No Model.)

W. W. McCLEARY.  
MAIL CRANE.

No. 376,781.

Patented Jan. 24, 1888.





# UNITED STATES PATENT OFFICE.

WILLIAM W. McCLEARY, OF BRADDOCK, PENNSYLVANIA, ASSIGNOR OF  
ONE-HALF TO GEORGE N. RILEY, OF SAME PLACE.

## MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 376,781, dated January 24, 1888.

Application filed September 8, 1887. Serial No. 249,093. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM W. McCLEARY, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Mail-Cranes; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an improvement in mail-bag cranes which are used in the railway mail service for the purpose of holding mail-bags in position to be seized and carried off by a mail-bag-catching device on the train. Heretofore these cranes have been stationary structures, generally consisting of an upright post having two pivoted arms which are adapted to project horizontally and to hold the mail-bag in proper position to be engaged by the catcher-arms, and a very serious objection to them is that they are unsightly, inconvenient things, obstructing the space beside the tracks, and apt to be the cause of dangerous accidents to persons incautiously jumping from passing trains.

It is the object of my invention to improve the construction of these cranes and to provide a crane which is held in an upright position by a detachable catch or support, and is arranged so that as soon as the mail-bag is seized by the passing train the catch is automatically disengaged and the crane suffered to drop out of the way.

This invention is illustrated in the accompanying drawings, in which Figure 1 is a side view of the crane in an upright position, part of the side being broken away for the purpose of illustrating the interior mechanism. Fig. 2 is a front view thereof. Fig. 3 is a side view showing the upper part deflected, illustrating the action of the train in removing the mail-bag and disengaging the catch. Fig. 4 is an enlarged vertical section of the lower part of the crane, showing its pivotal connection at the base and the catch. Fig. 5 is a vertical cross section on the line  $xx$  of Fig. 4. Fig. 6 is an enlarged vertical axial section through the parts of the crane, showing the joint connecting the parts and the mechanism whereby the catch at the base of the crane is disengaged, the section being on the line  $zz$  of Fig. 2. Fig. 7 is a side view of the crane, showing it in a horizontal position, which it assumes when

the mail-bag is removed by the passing train. Fig. 8 is a vertical cross-section on the line  $yy$  of Fig. 7, showing a recess or trench which receives the crane when it has fallen.

Like symbols of reference indicate like parts in each.

The form of crane which I show in the drawings is the one which I deem preferable for the purpose; but I desire to premise that my invention may be modified in many ways by the skilled mechanic without departing from the true spirit and intent thereof, and that the form shown in the drawings is only shown as illustrative, and is not for the purpose of restricting or limiting the invention precisely to the described arrangement of parts.

Referring now to the drawings, the crane which I show consists of two parts—a lower part or post, 2, which is pivoted at the base and provided with a catch, and an upper pivoted part, which is moved by the act of removing the mail-bag, and which serves as a trigger to disengage the catch of the post. The post 2 is pivoted on a horizontal shaft, 3, between two cheeks, 4, and is preferably made tubular in form, both for the sake of lightness in weight and for the better accommodation of the catch which sustains it in an upright position. This catch is a straight rod, 5, of metal, which is arranged axially within the tube, and at the lower end is adapted to enter a slot made in the shaft 3 or in an enlarged boss,  $d$ , thereon, Figs. 4 and 5. This rod is provided with a spring, 11, which tends to force it downward, and at its upper end is connected by a link or chain, 6, with a pin, 7, at the base of the upper arm or trigger, 8. This arm 8 is pivoted at  $b$  to the top of the post 2, and is provided with a spring, 9, which tends to keep it in an upright position in line with the post. The top of the trigger-arm 8 is preferably made in hook form, as shown, so as to afford convenient means for suspending the mail-bag. On the shaft 3, at the base of the post 2, there is a spring, 10, which, when the crane is upright, tends to push it down in the direction of the arrow  $c$  in Fig. 1.

The operation of the crane is as follows: In using the crane it is raised on the pivot 3 of its lower part or post, 2, into an upright position, as shown in Figs. 1, 2, 4, 5, and 6, and



when so raised the spring-catch automatically springs into the notch in the shaft 3, Figs. 4 and 5, and holds the crane in place. The mail-bag 12, which for this purpose is provided with rings 13 and 14 at the top and bottom, is then arranged on the arm 8 of the crane, one of the rings, 13, being adjusted on the hook at the top of the arm 8, and the other ring, 14, being a snap or divided ring, is adapted to be secured to a ring, 15, on the arm 8. The use of the snap 14 is to prevent the bag from being blown off by the wind.

After the crane has been thus set the bag is removed by the catcher on the train as follows: 19 represents the catcher-arm, of the usual construction, which moves with the train in the direction of the arrow *c*. The catcher-arm strikes the bag, and the impetus of its engagement with the arm 8 is sufficient to overcome the resistance of the spring 9 and to turn the arm 8 over on its pivot *b*, and the arm being thus inclined, as shown in Fig. 3, the catcher-arm acts on the mail-bag and, after first pulling the snap 14 from the ring 15, draws the bag entirely off the crane, as will be readily understood. The turning of the crane-arm 8 on its pivot *b* draws on the rod 5 and disengages the catch at its base from the slot in the shaft 3. The crane then by its own weight, and aided by the spring 10, falls over in the direction of the arrow *c* into a horizontal position, as shown in Fig. 7. In order to remove the crane entirely and to prevent its being an obstruction, I prefer to arrange it so that it shall fall into a trench or box, 16, Figs. 7 and 8, which may conveniently be provided with a suitable lid and lock. I also prefer to arrange a spring or rubber block or buffer, 17, in the box to break the force of the fall of the crane.

My invention may be modified in many ways, especially in the construction and shape of the upper part which supports the bag. This may even be dispensed with altogether, and the crane made in a single rigid piece held by a yielding pivot or support at the base.

These and other mechanical changes will suggest themselves to those skilled in the art.

My improved crane is a very useful and convenient article. It occupies very little room, and does not obstruct the ordinary operations or traffic of the railway; hence it may be set in places where the clumsy structures heretofore used would be useless.

In Figs. 1, 2, and 3 I show the rod 5 provided with a handle, 18, projecting outside the post 2, by means whereof the rod may be raised and the catch disengaged in cases where the officials on the train omit to catch the mail-bag, or in other cases where it is desired to lower the crane by hand. If desired, the connection between the rod and the arm 8 may be dispensed with and the crane adapted to be lowered from its upright position by the workmen of the railroad, who would disengage the catch 5 by hand, instead of causing it to be disengaged automatically by the action of the train in removing the mail-bag.

I claim—

1. A mail-bag crane having at the base a support by which it is upheld in an upright position, said support being detachable, substantially as and for the purposes described.

2. A mail-bag crane hinged at the base, substantially as and for the purposes described.

3. A mail-bag crane having a detachable catch which supports it in an upright position, and a trigger-arm connected with the catch and operated by the train, substantially as and for the purposes described.

4. A mail-bag crane having a movable catch which supports it in an upright position, and a pivoted mail-bag-supporting arm connected with the catch, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 6th day of September, A. D. 1887.

WILLIAM W. McCLEARY.

Witnesses:

THOMAS W. BAKEWELL,  
GEORGE N. RILEY.