

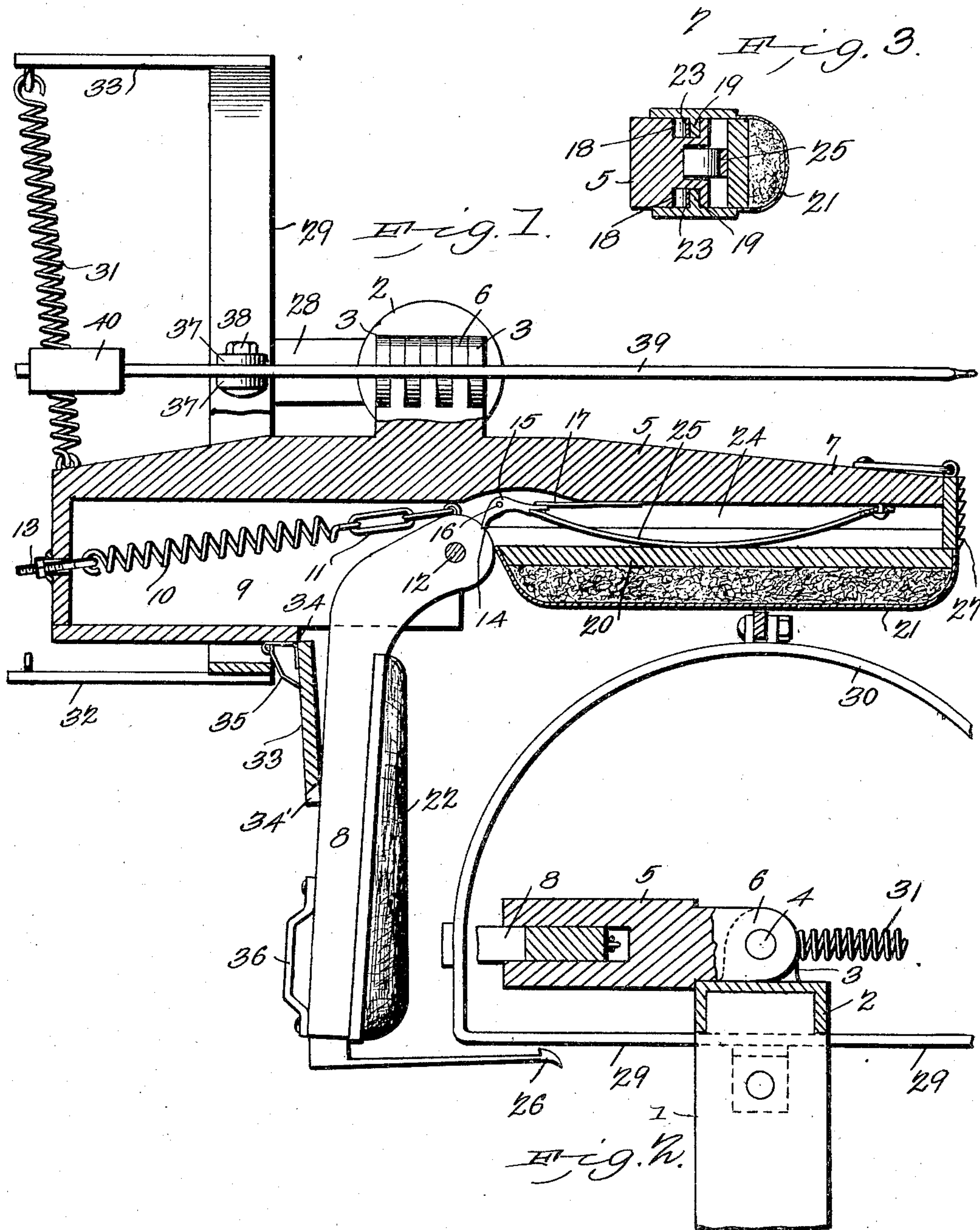
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A. P. BOWER.
MAIL CRANE.

APPLICATION FILED SEPT. 3, 1902.

NO MODEL.



Witnesses

Witnesses
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UNITED STATES PATENT OFFICE.

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ILLINOIS.

MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 725,209, dated April 14, 1903.

Application filed September 3, 1902. Serial No. 121,980. (No model.)

To all whom it may concern:

Be it known that I, ALMOND P. BOWER, a citizen of the United States, residing at Pleasanthill, in the county of Pike and State of Illinois, have invented a new and useful Mail-Crane, of which the following is a specification.

The invention relates to improvements in mail-cranes.

The object of the present invention is to improve the construction of devices for catching and holding mail bags and sacks and to provide a simple and comparatively inexpensive mail-crane of great strength and durability designed to be arranged at one side of a track and adapted to be adjusted for a train approaching it in either direction and capable of supporting a sack in position for enabling it to be caught by a train and of catching a sack or bag from the train, whereby the injury and inconvenience resulting from throwing sacks and bags from a train to the ground are prevented.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a plan view, partly in section, of a mail-crane constructed in accordance with this invention and arranged for catching a bag or sack. Fig. 2 is a detail vertical sectional view of the same. Fig. 3 is a detail sectional view on the line 3-3 of Fig. 1.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a post or upright, having its upper end slightly reduced for the reception of a metallic cap 2, which is provided with a series of ears 3 for the reception of a pintle 4 for hinging a bar or member to the top of the post or upright. The bar or member 5 is provided between its ends with a series of perforated ears 6, which register with the ears of the cap of the post or upright, and in practice the perforations or apertures of the ears will be slightly larger than the pintle to

provide a limited play or movement of the bar or member to permit the latter to be cushioned to take up the shock and jar incident to catching a bag or sack. The hinging of the bar or member to the top of the post or upright admits of the crane being arranged for catching a bag or sack from a train approaching in either direction. The outer portion or arm 7 of the bar or member 5 constitutes one of the jaws of the device, and it coöperates with a hinged or pivoted arm or jaw 8, which is spring-actuated, as hereinafter explained, and which is adapted to be set in its open position, as illustrated in Fig. 1 of the drawings, and to be tripped by a sack or bag. The inner arm or portion 9 of the bar or member 5 is hollow and constitutes a casing or housing for a coiled spring 10, which is connected by links 11 with the inner end of the arm or jaw 8, and the latter is provided at the said inner end, which is slightly bent to form an elbow, with a perforation for the reception of a pivot or pintle 12, which is mounted in suitable perforations of the sides of the hollow arm or casing 9, at the inner end thereof. The links which connect the inner end of the coiled spring with the inner end of the pivoted arm or jaw 8 permit the latter to be swung outward to the position illustrated in Fig. 1, and they are adapted to lie between the inner end of the arm and the adjacent portion of the casing or housing without binding against either part, so that they will not interfere with the operation of the crane. The outer end of the coiled spring is connected with an eyebolt 13, which is provided with a nut and which passes through the outer end of the hollow portion or casing 9. The eyebolt provides an adjustment for enabling the tension of the spring to be regulated. The hinged arm or jaw is provided at its inner end with a notch 14, forming a shoulder which is arranged to be engaged by a spring-actuated dog or pawl 15, pivoted between its ends by a pin 16 or other suitable fastening device to the bar or member 5 and located adjacent to the pivoted end of the arm or jaw 8. The pawl or dog 15 is engaged by a spring 17, secured at one end to the bar or member 5 at

the jaw 7 and having its free end bearing against the pawl or dog, whereby the latter is held against the inner end or heel of the pivoted jaw or arm 8. When the pivoted jaw or arm 8 is swung around to a position approximately at right angles to the bar or member 5, the shoulder of the inner end of the said arm or jaw 8 is carried outward beyond the pawl or dog, which snaps into the recess or notch 14 and engages the shoulder thereof. The pivoted arm or jaw will be held in its open position until tripped by the means hereinafter described.

The engaging portion or arm 7 of the bar or member 5 is provided at its opposite faces with exterior longitudinal grooves 18 for the reception of interior longitudinal ribs 19 of a movable section 20, which forms a cap for the arm or jaw 7 and which constitutes the engaging portion of the same. The outer engaging face of the section 20 is provided with a cushion 21, and the jaw or arm 8 is provided with a similar cushion 22, the said cushions being preferably formed by upholstering the parts, as shown; but any other form of cushion may be employed for preventing the device from injuring a sack or bag. The longitudinal grooves 18 are of sufficient width to permit the ribs to have a limited lateral movement, and the depressible section 20 is normally held in its extended position by means of a pair of springs 23, mounted in the grooves 18 and interposed between the rear side walls thereof and the ribs. The springs 23 are bowed and are adapted to be compressed when a bag comes in contact with the section 20. The bar or member 5 is also provided at its arm 7 with an intermediate groove or recess 24, in which is loosely arranged a bowed trip bar or lever 25, pivoted at its outer end and having its inner end arranged contiguous to the spring-engaged end of the pawl or dog 15. The trip-lever is arranged to be forced inward by the movable yieldingly-mounted section 20 of the arm or jaw 7, and when a bag or sack comes in contact with the said section 20 the pawl or dog will be thrown out of engagement with the inner end of the arm or jaw 8 and the latter will be closed by the spring, whereby the bag will be firmly gripped in the crane. The movable arm or jaw 8 is provided at its outer end with a resilient catch 26, having a head at its outer end and adapted to engage a series of teeth 27, located at the outer end of the arm or jaw 7, whereby the movable arm or jaw will be locked in its closed position. This construction not only assists in confining the bag or sack and preventing the same from working outward, but also prevents any recoil of the movable jaw or arm, so that the sack or bag cannot become accidentally released.

Secured to the post or upright is a horizontal arm 28, upon which is mounted an approximately semicircular frame 29, having an arched top portion 30. The inner arm or

casing of the bar or member 5 is arranged within the semicircular frame 29 and is adapted to be connected with the opposite sides thereof by a coiled cushioning-spring 31, adapted to take up the jar and prevent injury to the crane when a bag or sack strikes the same. The semicircular frame is provided at opposite sides with outwardly-extending arms 32 and 33, having hooks at their outer ends for the reception of the spring 31, and the said frame 29 is of sufficient size to permit the hinged bar or member 5 to swing from one side of the post or upright to the other, and the spring 31 is detachably secured to the frame to enable it to be disconnected when it is desired to reverse the frame. The limited movement of the bar or member 5 on the pivot or pintle of the post or upright will permit the cushioning action of the spring 31, and injury to the parts of the frame will thereby be prevented.

The inner hollow portion of the arm or bar 5 is provided at the outer side wall with a movable plate or section 33, hinged at 34 to the adjacent portion of the said outer wall and having its free end arranged to engage the hinged arm or jaw 8 and provided with a recess or cut-away portion 34 for the reception of the same when the arm or jaw 8 is closed. The hinged plate or portion 33 is held in its closed position by a spring 35 and is adapted to protect the housing or casing of the bar or member 5 from the weather, and it is capable of opening automatically or of being swung open by the hinged arm or jaw when the latter is open. The spring 35, which may be of any desired construction, consists of a U-shaped loop and a spring-coil, the sides of the loop being bent, as shown, but any other form of spring may be employed, if desired. The movable jaw or arm is provided with a suitable grip or handle 36 for enabling it to be readily opened, and when it is swung open the elbow or bend of the arm will engage the outer end of the hinged portion of the wall of the casing or housing, which outer end is beveled, as shown in Fig. 1, to permit the hinged plate or portion 33 to be readily opened.

The approximately semicircular frame is provided at its top with a pair of ears 37, between which is pivoted, by a bolt 38 or other suitable fastening device, a lever 39, designed to be located a sufficient distance above the hinged bar or member 5 to enable a bag to be supported in position to be engaged by a device carried by a train without such device coming in contact with the mail-crane. The lever 39 is provided at its outer end with a hook for supporting a sack, and its other end is provided with a counterbalancing-weight 40, which is adapted to be adjusted and which may be employed for swinging the lever to an upright position for arranging it out of the way.

It will be seen that the mail-crane is sim-

ple and comparatively inexpensive in construction, that it is adapted to be readily arranged for catching a bag or sack from a train approaching it from either direction, and that the inconvenience and injury resulting from throwing mail bags and sacks from a train to the ground will be prevented.

Changes in the form, proportion, size, and minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention, such as providing any suitable means for securing the depressible yieldingy-mounted section on the bar or member. The yieldably-mounted section is adapted to be drawn outward off the hinged bar or member and a hook and eye may be conveniently employed for securing it in place. When the yieldably-mounted section is removed, it will afford access to the trip bar or lever and the spring-actuated pawl or dog.

What I claim is—

1. A device of the class described comprising a support designed to be arranged adjacent to a track, a reversible bar or member movably connected with the support and arranged to swing vertically from one side to the other of the same to permit it to be arranged for cars traveling in either direction and an automatically-closing jaw mounted on and carried by the bar or member, substantially as described.

2. A device of the class described comprising a support, a reversible bar or member hinged to the top of the support and arranged to swing from one side to the other of the same to arrange it for cars traveling in either direction, an automatically-closing jaw carried by the hinged member, and means for setting and tripping the automatically-closing jaw, substantially as described.

3. A device of the class described comprising a support, a hinged member having a jaw and mounted on the support and arranged to swing to opposite sides of the same, an automatically-closing jaw carried by the hinged member, and a reversible cushioning device connected with the hinged member, substantially as described.

4. A device of the class described comprising a support, a hinged member mounted on the support and arranged to swing at opposite sides thereof, an automatically-closing jaw carried by the hinged member, means for setting and tripping the jaw, a locking device for confining the jaw in its closed position, and a reversible cushioning device connected with the hinged bar or member, substantially as described.

5. A device of the class described comprising a support, a hinged member mounted on the support and arranged to swing to either side of the same, a frame receiving the hinged member, a jaw carried by the hinged member, a spring connected with the said hinged mem-

ber, and means mounted on the frame at opposite sides thereof for detachably holding the spring, substantially as described.

6. A device of the class described comprising a support, a hinged member mounted thereon and provided with a jaw and arranged to swing to either side of the support, an open frame mounted on the support and receiving the hinged member and provided at opposite sides with arms, a weighted lever fulcrumed on the open frame and adapted to support a bag, and a spring connected with the hinged member and adapted to be secured to either of the arms, substantially as described.

7. A device of the class described comprising two jaws or bars, means for setting, tripping and closing the jaws, and a locking device carried by one jaw for engaging the other to lock the jaws in engagement with a mail-bag, substantially as described.

8. A device of the class described comprising a bar or member, an automatically-closing jaw pivoted to the bar or member, a dog pivoted between its ends and having one end engaging the jaw, a spring engaging the other end of the dog, and a movable tripping device arranged to be engaged by a sack or bag, substantially as described.

9. A device of the class described comprising a bar or member, a pivoted jaw, a dog arranged to engage the jaw, a spring for holding the dog in engagement with the jaw, a trip-lever arranged to engage the dog, and a movable section mounted on the bar or member and arranged to be engaged by a bag or sack for actuating the trip-lever, substantially as described.

10. A device of the class described comprising a bar or member, a pivoted jaw, a spring housed within the bar or member and connected with the jaw, a spring-actuated dog for holding the jaw in its open position, and a depressible tripping device arranged to be engaged by a bag, substantially as described.

11. A device of the class described comprising a bar or member provided with grooves, a depressible section arranged on the bar or member and having ribs operating in the grooves, springs located in the grooves and engaging the ribs, a jaw, a dog for holding the jaw in its open position, and a trip-lever arranged to be engaged by the movable section and adapted to throw the dog out of engagement with the jaw, substantially as described.

12. A device of the class described comprising a bar or member having a hollow portion forming a housing, a jaw pivotally connected with the bar or member adjacent to the housing, a spring located within the housing and connected with the jaw, and means for setting and tripping the jaw, substantially as described.

13. A device of the class described comprising a bar or member having a hollow portion forming a housing, a jaw pivotally connected

with the bar adjacent to the housing, a spring
located within the housing for actuating the
jaw, means for setting and tripping the jaw,
and a hinged spring-actuated plate or section
5 forming a portion of the wall of the housing
and arranged to be opened by the jaw, sub-
stantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

ALMOND P. BOWER.

Witnesses:

EDWIN JOHNSTON,
G. W. MAIN.