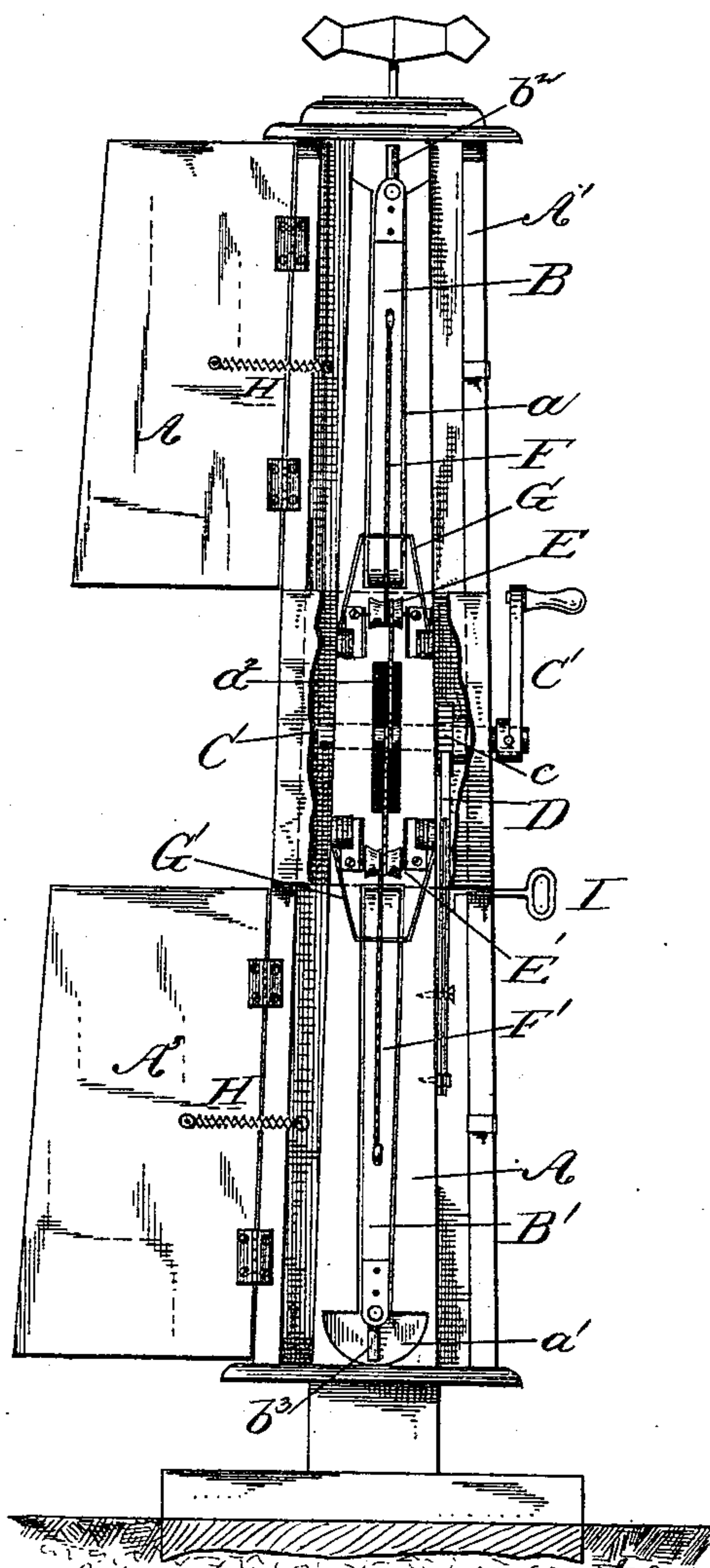


E. BOYER & G. GILMETT.

No. 386,960.

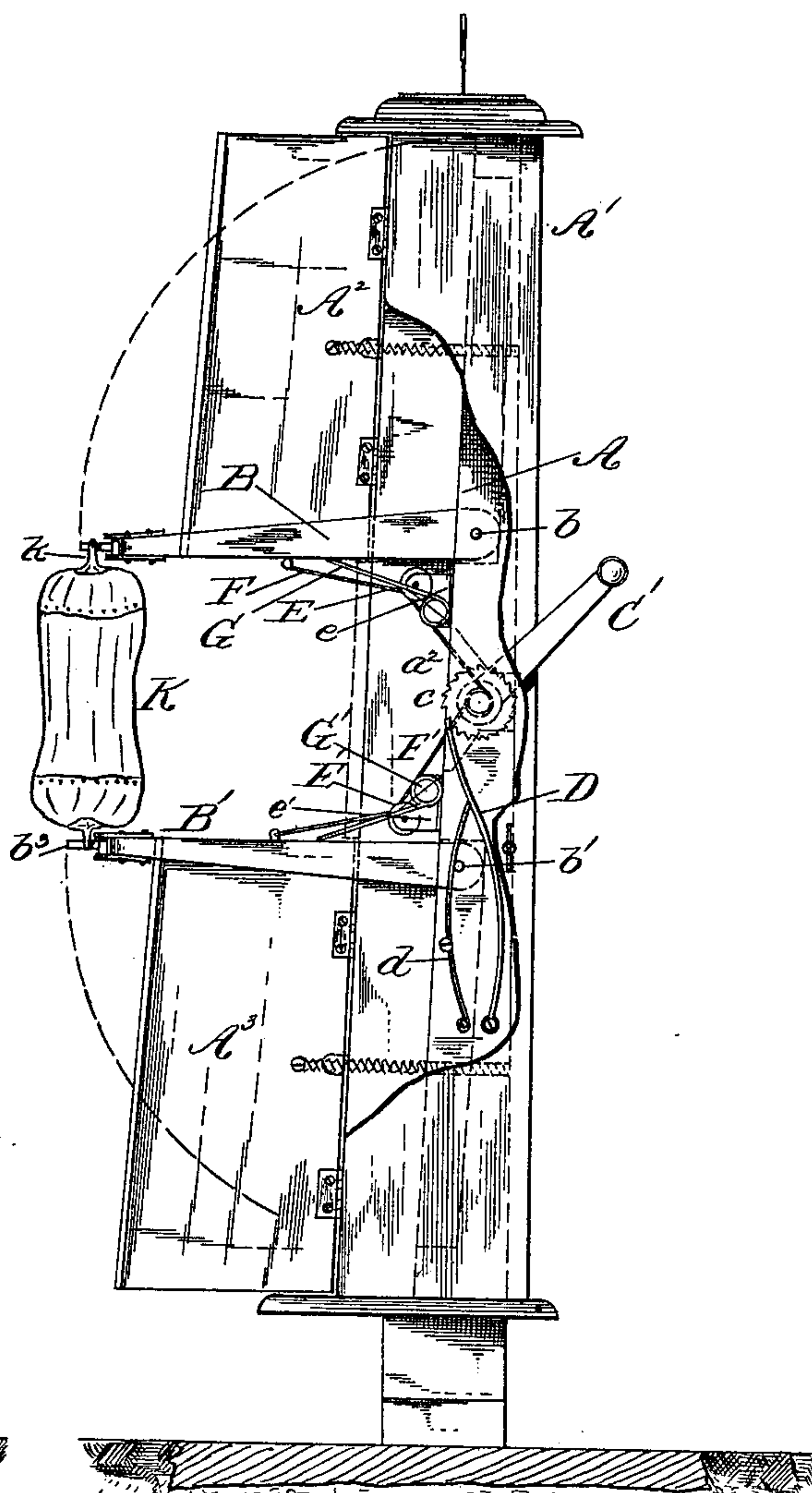
Patented July 31, 1888.

Fig. 1.



Witnesses,
Frank W. Mattingly.
Robinson White.

Fig. 2.



Inventor.
Bugebe Boyer & Gaspard Gillette.
By their Attorneys,
Hunting Wright.

UNITED STATES PATENT OFFICE.

EUZEBE BOYER AND GASPARD GILMETT, OF GARDEN, MICHIGAN.

MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 386,960, dated July 31, 1888.

Application filed March 31, 1888. Serial No. 269,042. (No model.)

To all whom it may concern:

Be it known that we, EUZEBE BOYER and GASPARD GILMETT, citizens of the United States, residing at Garden, in the county of Delta and State of Michigan, have invented certain new and useful Improvements in Mail-Cranes; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to the cranes used to suspend a mail-bag alongside of a railroad-track in a position to be engaged by the catcher on the mail-car.

The object of the invention is to dispose of the arms of the crane when not in service in such a manner as to protect them from the weather, and prevent them from projecting into proximity with passing trains, and thereby endangering the life or limbs of the train-men and passengers.

The invention consists of a suitable post provided with two hinged arms lying normally in a substantially vertical position, but which can be turned out to an approximately horizontal position against the force of suitable springs that act to return them to their normal position when the arms are released.

In the accompanying drawings, Figure 1 is a front elevation of our improved crane, partly broken away; and Fig. 2 is a side elevation, also broken away in part to show the mechanism.

The same reference-letters are used in both figures.

Near the track is set up a post, A, in the face of which are formed two recesses, a a' , one above the other, to receive the two arms B B', which are hinged to the post A at their upper and lower ends, respectively, at the points b b' . Pivoted to the free end of each arm is a short finger, b^2 b^3 , which moves freely in a plane at right angles to that in which the arm swings. The end of each recess a a' is enlarged in order that these fingers may be received therein in whatever position they may be when the arms are thrown back into the

recesses. The distance between the hinged ends of the arms is about equal to the length of a mail-bag. Midway between the recesses that receive the arms and in line with the same is a slot, a^2 . A shaft, C, passes transversely through the post A and across the slot a^2 , and is provided with a crank-handle, C', and a ratchet-wheel, c . A pawl, D, fastened to the post A, engages with the ratchet-wheel, being normally pressed against it by a spring, d . Above and below the slot a^2 and adjacent to the hinged ends of the arms B B' are pulleys E E', located in line with the recesses a a' and the slot a^2 , and suitably journaled in standards e e' . A cord, F F', is attached to each arm near its free end, and runs to the shaft C, making one turn around its respective pulley E E'.

Secured to the post A, near the hinged end of each arm B B', is a spring which engages with its respective arms and forces it normally to its seat in the recess a . We prefer to use U-shaped springs G G', in each leg of which is formed a coil, as shown, to give the requisite resiliency. The middle of the spring bears against the arm, while the ends are fastened to either side of the post. A casing, A', surrounds the post A and the parts attached to it, the shaft C, however, projecting through one side of the casing, so that the crank C' is on the outside of the same. The front of the casing is divided into three parts, the upper and the lower of which, A^2 A^3 , are hinged to form doors, the height of these doors corresponding to the length of the hinged arms B B'.

Each door is provided with a suitable spring, H, for closing it, which may be a spiral spring, as shown, having one end attached to the door and the other to the casing. In one side of the casing A', near the pawl D, is a key-hole, through which may be inserted a key, I, to engage with the pawl and throw it off from the ratchet-wheel c . Instead of a removable key, a permanent handle may be provided. The operation of the crane is as follows: Normally the parts stand as shown in Fig. 1, with the exception that the doors A^2 A^3 are closed. Upon turning the shaft C by means of the handle C', the cords F F' are wound upon the shaft, drawing the arms B B' simultaneously out of

their recesses $a\ a'$ into a horizontal position, as shown in Fig. 2. The arms push open the doors $A^2\ A^3$ against the tension of the springs H. The pawl D, engaging with the ratchet-wheel c , prevents the shaft from turning backward, and the arms are thus held out against the tension of the U-shaped springs $G\ G'$.

The mail-bag K is provided with loops k at each end, which are slipped over the pivoted fingers on the ends of the arms $B\ B'$. The key I is then turned to disengage the pawl D from the ratchet-wheel, allowing the springs $G\ G'$ to exert their force upon the arms, which tend to fly apart, and consequently hold the bag extended a full length in the best position to be caught. When the catcher on the mail-car strikes the bag, the pivoted fingers turn into a position parallel with the track and allow the bag to slip off. The arms are now free to move, and are thrown back by the springs $G\ G'$ into their recesses $a\ a'$, while the doors $A^2\ A^3$ instantly close automatically, shutting up the mechanism in the casing, and effectually protecting it from the weather.

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

1. The hereinbefore-described mail-crane, provided with two hinged arms and inclosed in a casing having doors arranged in the line of movement of said arms, and provided with means for closing them automatically when the arms are received within the casing, substantially as set forth.

2. The hereinbefore-described mail-crane, having two spring-actuated arms and inclosed within a casing provided with spring-actuated doors arranged in the line of movement of said arms, and adapted to be pushed open by the arms when they are swung outward and to close automatically when the arms are received within the casing, substantially as described.

3. A mail-crane having two hinged arms,

springs for holding them normally in a vertical position, and mechanism for bringing them simultaneously to an approximately-horizontal position against the tension of the springs, substantially as described.

4. The combination, with the post A, of the arms $B\ B'$ hinged thereto, the springs $G\ G'$, bearing against the arms, the shaft C, arranged between the hinged arms, and the cords $F\ F'$, attached to the arms and to the shaft, substantially as described.

5. The combination, with the post A, of the arms $B\ B'$ hinged thereto, the U-shaped springs $G\ G'$, bearing against the arms, the shaft C, between the hinged arms and carrying the ratchet-wheel c , the spring-pawl D, engaging with the ratchet-wheel, the pulleys $E\ E'$, and the cords $F\ F'$, attached to the arms and to the shaft and running over the pulleys $E\ E'$, and means for disengaging the pawl from the ratchet-wheel, substantially as described.

6. The combination, with the post A, having the recesses $a\ a'$ and slot a^2 , of the casing A' , having the spring-actuated doors $A^2\ A^3$, the arms $B\ B'$, hinged in the recesses and provided with the pivoted fingers $b^2\ b^3$, the shaft C, passing through post A and casing A' and across slot a^2 , and provided with the ratchet-wheel c , the pawl D and its spring d , the crank C' , outside the casing, the cords $E\ E'$, attached to the arms $B\ B'$ and to the shaft, the U-shaped springs $G\ G'$ bearing against the arms $B\ B'$ and the key I, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

EUZEBE ^{his} ~~mark.~~ BOYER.

GASPARD GILMETT.

Witnesses:

ANTOINE DELOISE,
EDWARD L. FOOTE.