

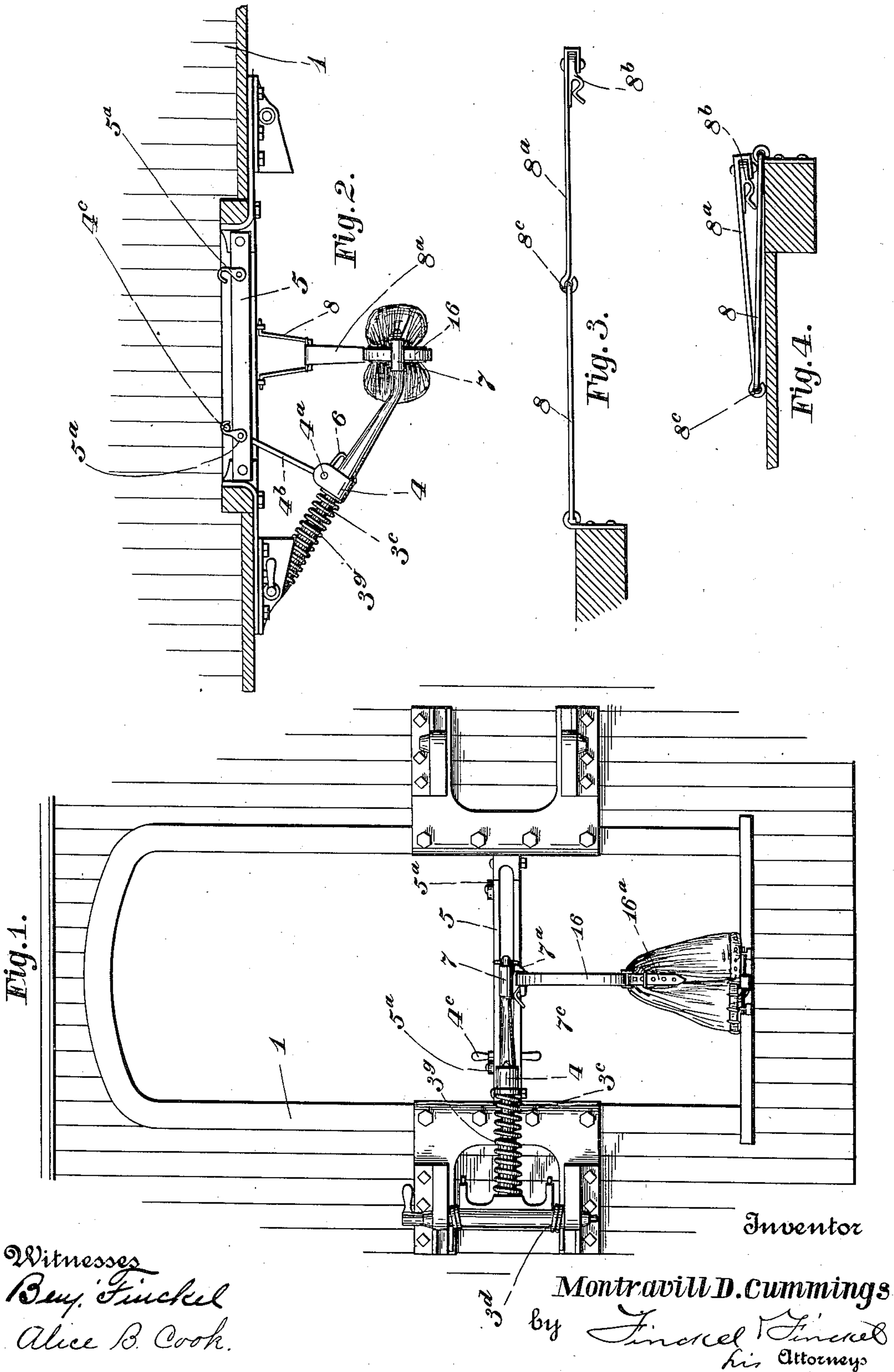
No. 843,561.

PATENTED FEB. 5, 1907.

M. D. CUMMINGS.  
MAIL SACK CATCHING AND DELIVERING APPARATUS.

APPLICATION FILED APR. 2, 1906.

3 SHEETS—SHEET 1.



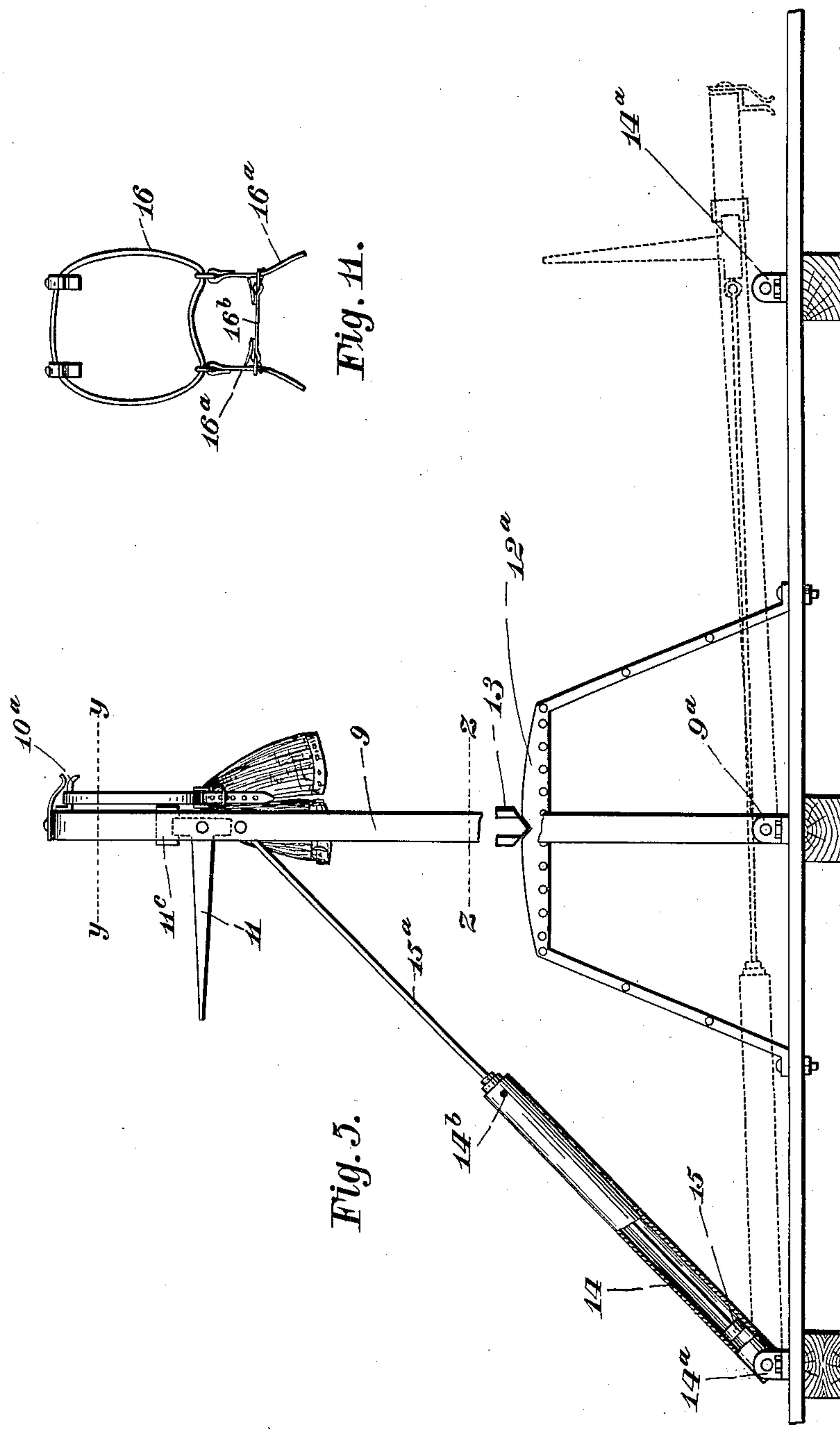
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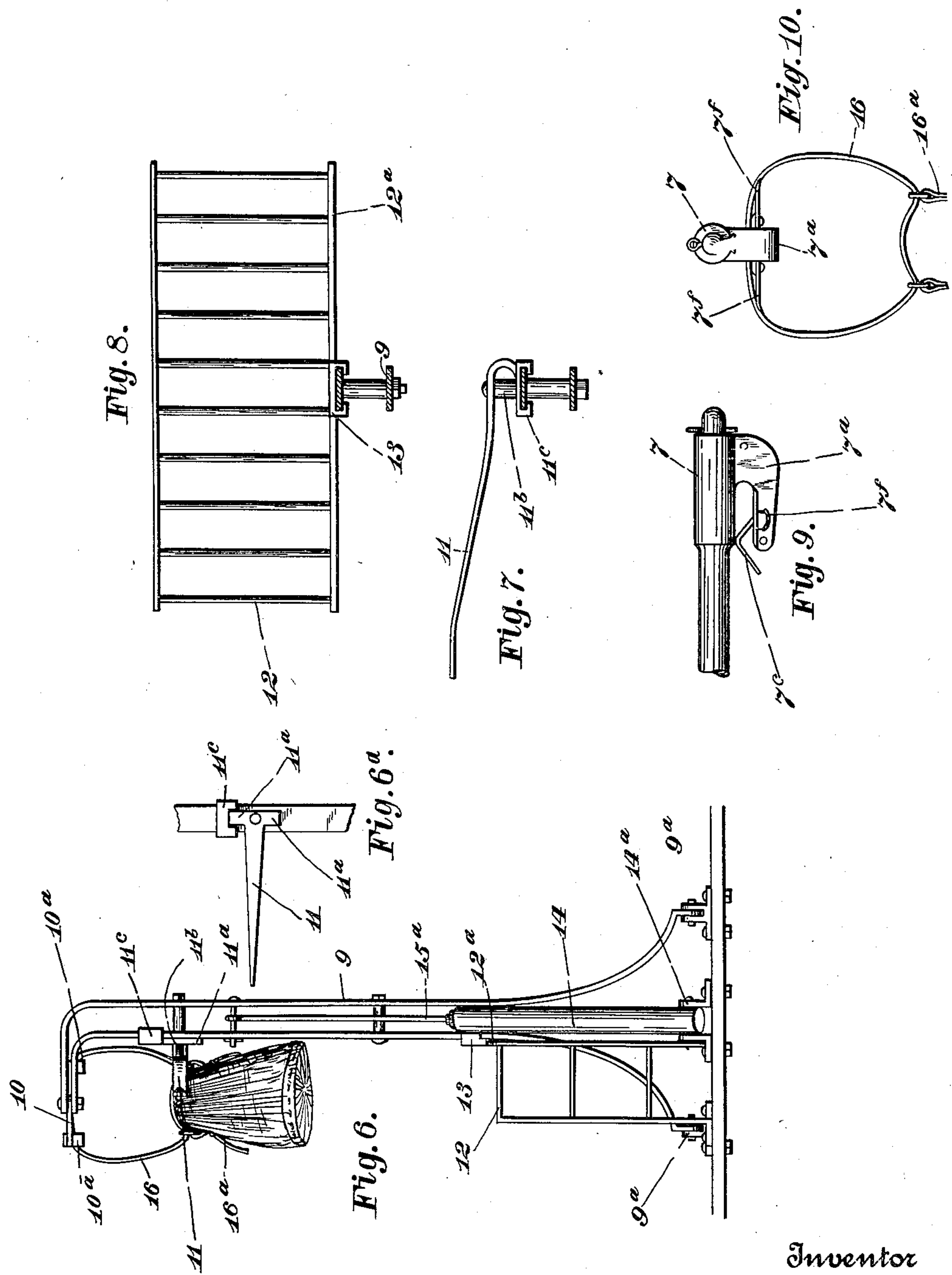


Witnesses  
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his Attorneys

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# UNITED STATES PATENT OFFICE.

MONTRAVILL D. CUMMINGS; OF COLUMBUS, OHIO.

## MAIL-SACK CATCHING AND DELIVERING APPARATUS.

No. 843,561.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed April 2, 1906. Serial No. 309,273.

*To all whom it may concern:*

Be it known that I, MONTRAVILL D. CUMMINGS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Mail-Sack Catching and Delivering Apparatus; and I do hereby 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.

The chief object of the present invention is to provide in mail-bag catching and delivering apparatus an improved track-crane, whereby the shock to the delivered bag is largely relieved and as a consequence the integrity of the contents of the bag more certainly safeguarded; but the invention also has for its object to make other important improvements in various details of mail-bag catching and delivering apparatus, whereby its functions are more certainly and safely performed.

The invention consists in the constructions set forth in the following description and pointed out in the claims appended thereto, the invention not being confined in its embodiment to the exact forms and proportions shown.

In the accompanying drawings, in which I illustrate an example of the invention, Figure 1 shows in elevation a portion of a railway-car at its doorway with a bag-catcher crane or arm applied thereto. Fig. 2 shows a top plan view with parts in section. Fig. 3 is a detail showing in edge view the extended support for steadying the lower end of the mail-bag when carried by the car-crane. Fig. 4 is a similar view of the same folded within the car. Fig. 5 is a side elevation of the track-crane depicting in full lines the crane-arm in erect bag-supporting position and in broken lines prostrate after the delivery of a sack to it. Fig. 6 is an edge elevation of the track-crane looking at the left-hand side, as shown in Fig. 5. Fig. 6<sup>a</sup> is a detail of the latch for latching the track-crane catcher-arm. Fig. 7 is a horizontal section on the line *y y*, Fig. 5, looking down. Fig. 8 is a horizontal section on the line *z z* looking down. Fig. 9 is a detail in side view of the bag-supporting end of the car-crane arm. Fig. 10 is an end view of the same. Fig. 11 is a view of an improved bag-holder.

In the several views, 1 designates the car,

which moves along the track as usual. At each side of the car-door is a bracket, and in the proper one of these (according to the direction in which the car is to move) is secured the car-crane or catcher-arm. Coiled springs 3<sup>a</sup>, engaging the base of the arm and the bracket, tend to throw the crane-arm inward. Sliding on the portion 3<sup>c</sup> of the crane-arm is a clip 4, having hingedly attached to a pin 4<sup>a</sup> therein a rod 4<sup>b</sup>, reaching inward toward the car-doorway and provided with a T-shaped end 4<sup>c</sup>, constituting also a handle by which the said rod and car-crane arm can be manipulated. The rod 4<sup>b</sup> passes through the slot of a horizontal bar 5, extending across the car-door, and this bar is provided with a pivoted hook 5<sup>a</sup> near the side of the doorway, adapted to engage the T-shaped end or handle 4<sup>c</sup> to latch the car-crane arm in its outer or operative position and against the tension of the springs 3<sup>a</sup>. The clip 4 is held yieldingly outward by means of a coiled spring 3<sup>s</sup>. The function of the coiled spring 3<sup>s</sup> is to cushion the impact of the sack when it is taken off the track apparatus by the car-crane arm.

6 is a hook to retain the sack-holding ring or device when it is by the momentum of the car brought to that point on the car-crane.

The sack-support at the outer end of the car-crane arm comprises a swiveled sleeve 7, (see Figs. 9 and 10,) upon which is cast or formed a small under-reaching hook 7<sup>a</sup> and a spring-actuated latching member 7<sup>c</sup>. Projecting laterally from each side of the hook 7<sup>a</sup> are fingers 7<sup>f</sup>, pivoted thereto so as to be yielding, said fingers being concaved or troughed on their upper sides to receive and hold in a spread-out or open condition the sack-suspending ring or loop with which the sack is directly connected. The sack-suspending ring is held spread out so that it may be surely caught by the sack-catching arm of the track apparatus, even if the car happen to have an extraordinary swaying motion as it passes the apparatus.

The car apparatus thus far described resembles that illustrated in an application for patent of the United States filed by me February 26, 1906, Serial No. 303,020.

To prevent the mail-sack from swaying independently of the motion of the car, I now provide a device comprising a yoke-like member 8, hinged to the sill of the car-doorway, and a rod 8<sup>a</sup>, hinged to said member 8, said rod 8<sup>a</sup> having at its end a spring-clip 8<sup>b</sup>,



pivoted so as to swing horizontally. The members 8 and 8<sup>a</sup> can be folded at the joint between them, so as to be placed back into the car, as seen in Fig. 4; but I provide a cross-pin 8<sup>c</sup> to prevent said joint from breaking downward when the arm is extended in sack-steadying position, as seen in Fig. 3. In practice the usual ring on the end of the sack is engaged with the clip 8<sup>b</sup>, and when the sack is taken from the car-crane by the track-crane arm, as hereinafter described, the ring readily pulls out of the clip.

Referring now to the sack-catching device at the side of the track, the character 9 designates a crane-arm or standard pivoted at its lower end to a suitable base, as seen at 9<sup>a</sup>. At its upper end the crane-arm extends inward toward the railroad-track and carries a horizontally-pivoted reversible member 10, having two clips 10<sup>a</sup> for receiving and holding distended the sack-holding ring, substantially as described in my aforesaid application for patent.

Pivoted on the upper end of the standard 9 is an arm 11 to catch the sack carried by the approaching train. This sack-catching arm 11 is pivoted on a bolt, preferably armored with a piece of rubber tubing 11<sup>b</sup> to afford a cushion for the sack caught. Said sack-catching arm can be reversed in position to catch a sack from a train approaching from the opposite direction. To latch the arm 11 in either of its operative positions, its base next the standard is provided with opposite extensions 11<sup>a</sup>, adapted to be engaged by a clip 11<sup>c</sup>, engaging but sliding on the standard, said clip being provided in the instance shown with a notch adapted to fit on one of the extensions 11<sup>a</sup>, and therefore latch the arm in proper position. This arm is so located that it will reach through the ring carrying the sack on the car and at the same time permit the car-crane arm to pass through the corresponding ring of the sack carried by the track-crane.

12 designates a stationary platform having ladder approaches to permit the station-man to mount thereon to properly adjust or to place the mail-sack to be taken by the train. The side of the platform is furnished at its edge with an upwardly-curved rail 12<sup>a</sup>, provided with a notch near its middle, and sliding on the standard 9 is a latching-clip 13, having its lower edge pointed or inclined to engage the notch of said rail. The beveled point of the clip 13 will to some extent relieve the violence of the shock occasioned by the impact of the sack delivered to the track-crane standard, but to further relieve this violence and to permit the gradual precipitation of the standard and sack to the ground and to a point where the sack shall be within convenient reach of the station-man I provide a pneumatic cushioning device comprising generally a cylinder 14, removably pivoted on a

lug 14<sup>a</sup> to the base and a piston 15 therein having its rod 15<sup>a</sup> hinged to the standard. The cylinder 14 is open at its lower end, but is provided with only a small vent 14<sup>b</sup> at its upper end, so that the air can escape only comparatively slowly. When the sack of the car is caught on the arm 11, the latching-clip 13 is thrown out of the notch of the rail 12<sup>a</sup>, after which gravity precipitates the standard to the position indicated by broken lines, Fig. 5. This precipitation, however, is comparatively slow and easy, because, as before indicated, of the resistance offered by the slowly-escaping air from the upper portion of the cylinder 14.

The sack-holder in the present instance comprises, as shown in Fig. 11, a ring 16, preferably of stiff leather or of small layers thereof, two straps 16<sup>a</sup> movably attached thereto, and a cross strap 16<sup>b</sup>, having suitable buckles at its opposite ends for attachment with the two straps 16<sup>a</sup>. When the sack is secured within the opening formed by the ring, the two straps 16<sup>a</sup>, and the cross-strap 16<sup>b</sup>, the upper ends of the straps 16<sup>a</sup>, because of their loose connection with the ring, are spread apart and assist in distending the ring, so that the catcher-arm both of the car and track-crane is more certain to pass into it.

In operation the taking and delivery of the sacks is practically simultaneous. When the sack on the track-crane is taken by the car-crane arm, said sack by reason of its inertia slips back on the arm and under the hook 6, where it is caught and held; but the inertia of the sack also pulls said arm outward and the hook 5<sup>a</sup> from engagement with the handle or cross-piece 4<sup>c</sup>, whereupon the tension of the springs 3<sup>d</sup> moves the arm inwardly toward the car-door, and therefore within easy reach of the mail clerk in the car, as set forth in my aforesaid application for patent. As hereinbefore indicated, the momentum of the delivered sack upon the standard 9 throws said standard down, and after the sack has been removed the standard may be replaced by simply lifting its free end until the latch 13 again engages the notch of the rail 12<sup>a</sup>.

By reason of the construction shown and described it will be observed that the operative parts of the apparatus may be readily reversed and the same apparatus arranged to take and deliver sacks whether the trains run in one direction or the opposite on the track. What I claim, and desire to secure by Letters Patent, is—

1. In a mail-sack-catching apparatus, the combination with a car provided with a sack-delivering arm, of means for removably suspending the sack, and means extending from the car for holding the lower portion of the sack to keep it from swaying independently of the car.

2. In a mail-sack-catching apparatus, the



combination with a car provided with a sack-delivering arm, of means for removably suspending the sack, and means for holding the lower portion of the sack to keep the sack from swaying independently of the car comprising an arm hinged to the car and provided at its free end with a clip to engage the sack.

3. In a mail-sack-catching apparatus, the combination with a car provided with a sack-delivering arm, of means for removably suspending the sack, and means for holding the lower portion of the sack to keep it from swaying independently of the car, comprising a foldable arm hinged to the car and provided at its free end with a clip to engage the sack.

4. In a mail-sack-catching apparatus, the combination with a car provided with a sack-delivering arm, of means for removably suspending the sack, and means for holding the lower portion of the sack to keep it from swaying independently of the car, comprising an arm hinged to the car and provided at its free end with a clip movable on the arm.

5. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard, means for latching the standard in upright position and means for pneumatically cushioning the standard against the impact of a sack delivered to said crane.

6. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard adapted to be precipitated, of pneumatic means for preventing the violent precipitation of said standard.

7. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard adapted to be precipitated, means for yieldingly latching the same in erect position and means for pneumatically preventing the violent precipitation of said standard.

8. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard, means for yieldingly latching the same in erect position, and means for pneumatically cushioning the standard against the impact of a sack delivered to said crane.

9. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard adapted to be precipitated, and means for preventing the violent precipi-

tation of said standard comprising a cylinder 14 pivoted near the standard, a piston in said cylinder, and a rod connecting said piston and standard, said piston being provided with a small vent only at its upper end, substantially as described.

10. In a mail-sack-catching apparatus, the combination with a standard, of a sack-catching device reversibly mounted thereon comprising a long arm and a short arm projecting laterally from said long arm, and means secured to the standard for engaging said short arm to maintain the catching device in sack-catching position.

11. In a mail-sack-catching apparatus, the combination with a standard, of a sack-catching device reversibly mounted thereon comprising a long arm and a short arm projecting laterally on either side of the long arm adjacent its connection with the standard, and a clip slidably secured to the standard and adapted to engage the said projections to hold the catching device in either of its reversible positions.

12. In a mail-sack-catching apparatus, a mail-sack-holding device comprising a ring, two straps loosely connected therewith, and a cross-strap connecting the two loose straps.

13. In a mail-sack-catching apparatus, a mail-sack-holding device comprising a ring, two straps loosely connected therewith, and an adjustable cross-strap connecting the two loosely-connected straps.

14. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard adapted to be precipitated, a stationary part adjacent said standard, and a latch sliding on said standard, said latch having an inclined end to engage the stationary part adjacent said standard.

15. In a mail-sack-catching apparatus, the combination with the car-crane arm, a hook for receiving a sack-holding ring or loop and from which a sack may be drawn by a track-crane arm, said hook provided with yielding means for spreading said ring or loop beyond the opposite sides of the hook.

In testimony whereof I affix my signature in presence of two witnesses.

MONTRAVILL D. CUMMINGS.

Witnesses:

OLIN J. ROSS,  
GEO. M. FINCKEL.