No. 753,501. PATENTED MAR. 1, 1904.

# M. LALLY.

## MAIL BAG CRANE.

APPLICATION FILED AUG. 10, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

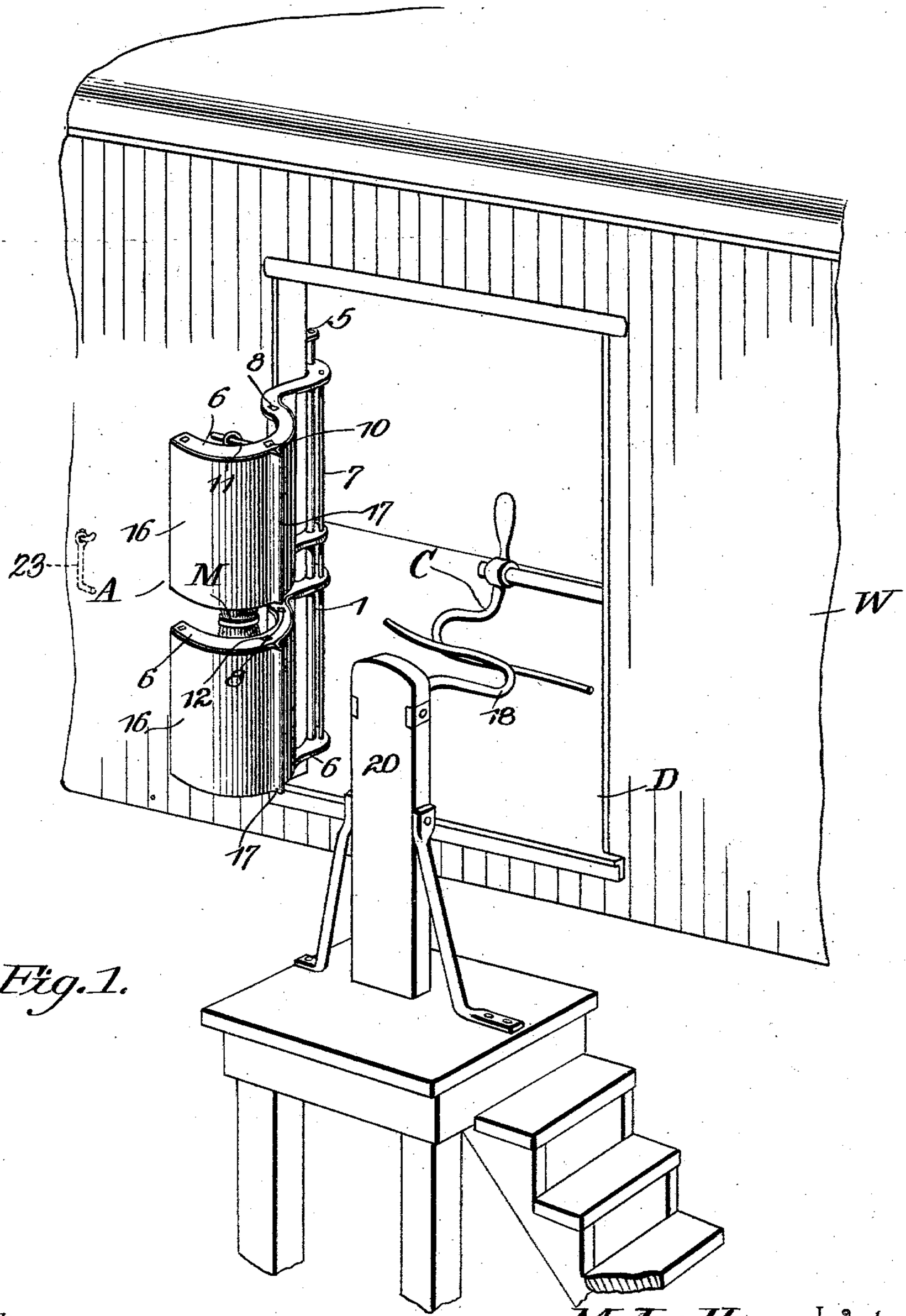


Fig. 1.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

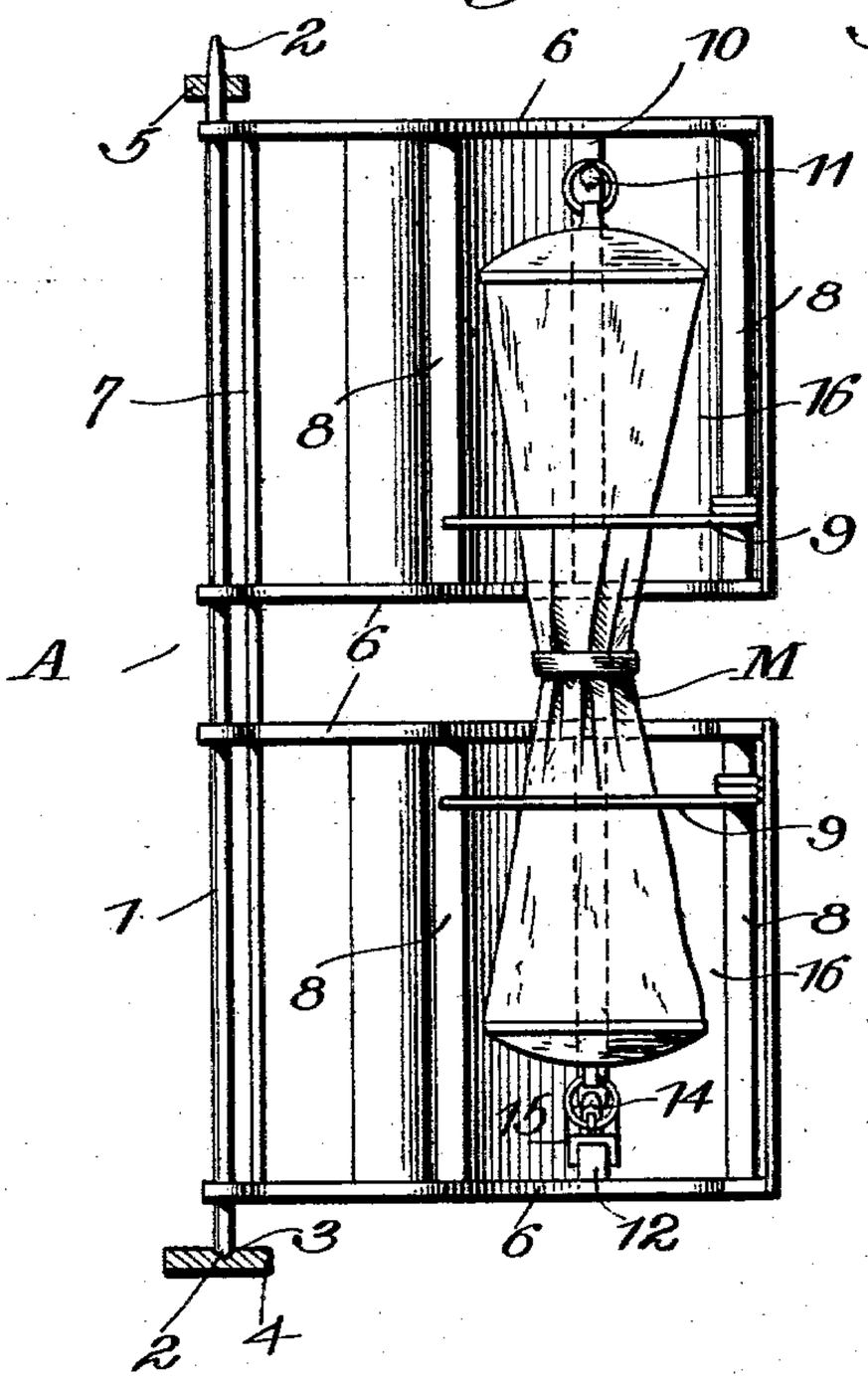



Fig. 3.

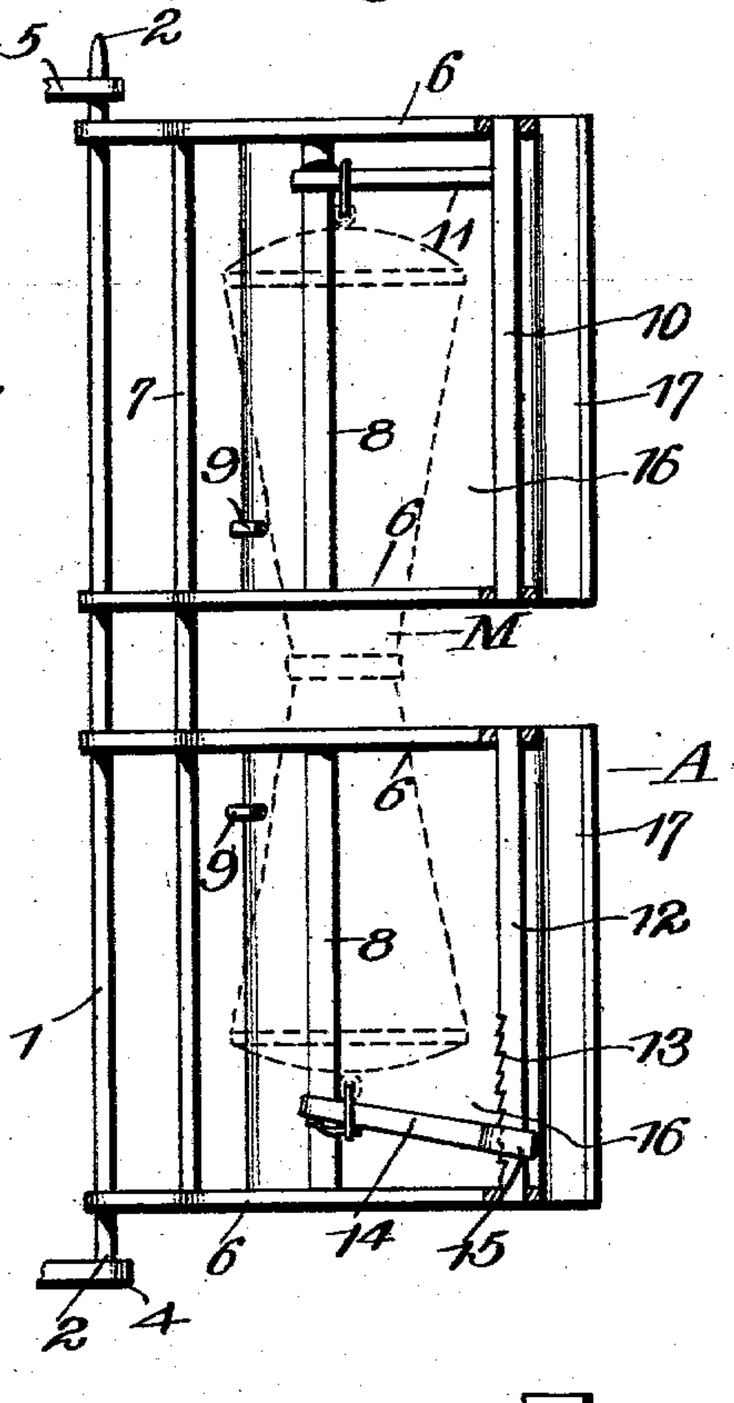



Fig. 4.

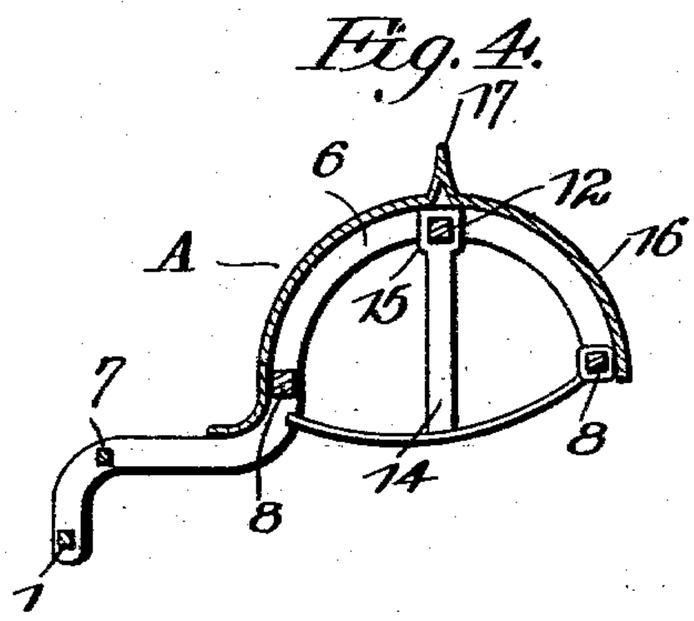
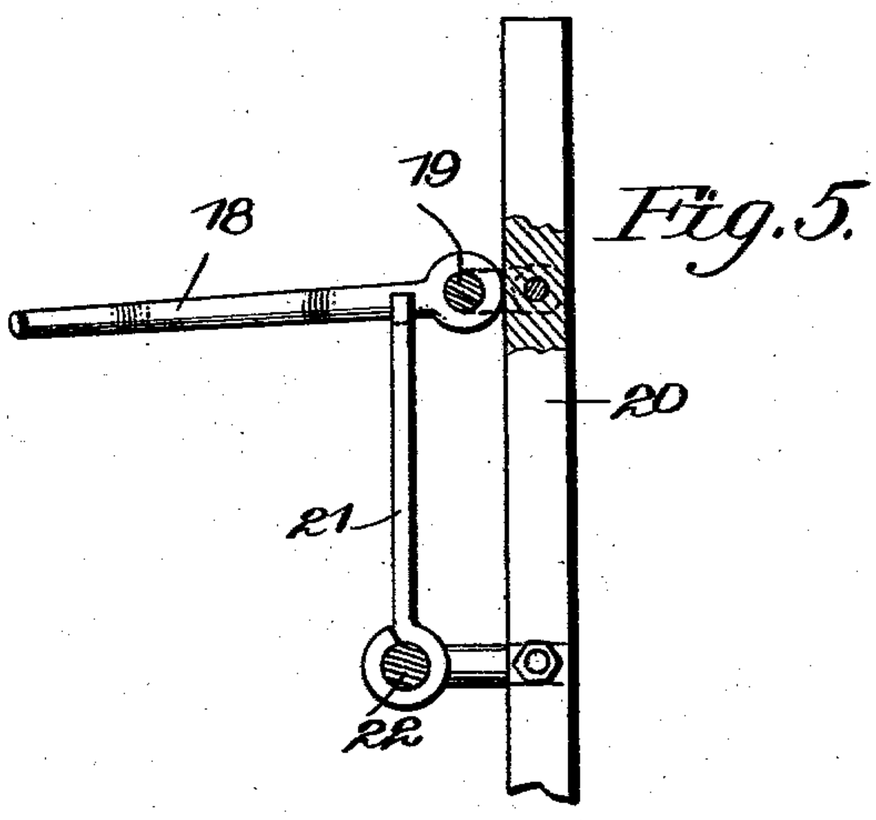



Fig. 5.

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No. 753,501. Patented March 1, 1904.

# UNITED STATES PATENT OFFICE.

MICHAEL LALLY, OF NORTH LAWRENCE, OHIO.

## MAIL-BAG CRANE.

SPECIFICATION forming part of Letters Patent No. 753,501, dated March 1, 1904.

Application filed August 10, 1903. Serial No. 169,023. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL LALLY, a citizen of the United States, residing at North Lawrence, in the county of Stark and State of Ohio, have invented a new and useful Mail-Bag Crane, of which the following is a specification.

This invention relates to mail-bag cranes for use upon mail-cars.

The object of the invention is to provide an improved form of mail-bag crane for use upon mail-cars by means of which a mail-bag may be securely held in suitable position for engagement by a mail-bag catcher of the ordinary gooseneck type mounted at the side of the railway-track.

A special object of the invention is to provide in a mail-bag crane for use upon mail-cars means for screening the mail-bag from the action of the wind, and thereby preventing accidental removal of the bag from the supporting devices of the crane by the air-currents produced by natural causes or the rapid movement of the mail-car.

Another object of the invention is to provide in a mail-bag crane for use on mail-cars a form of screen adapted to protect the mail-bag from the action of the air-currents and so formed as to offer a minimum of resistance to the currents of air.

With the objects above stated and others in view, which will appear as the invention is more fully disclosed, the same consists in the construction and combination of parts of a mail-bag crane hereinafter described and claimed, and illustrated in the accompanying drawings, forming a part of this specification, in which corresponding parts are designated by the same characters of reference in the several views in which they appear, it being understood that various changes may be made in the form, proportions, and other minor details of construction without departing from the spirit of the invention or sacrificing any of its advantages.

In the drawings, Figure 1 is a view in perspective of a portion of a mail-car, showing the mail-bag crane mounted thereon in operative position and showing also in perspective the mail-bag catcher adapted for use in connection with the mail-crane of this invention. Fig. 2 is a view in rear elevation of the mail-bag crane and the members by means of which it is supported on the car. Fig. 3 is a view in vertical section through the mail-bag crane on the median line of the wind-shields. Fig. 4 is a view in horizontal section through the lower part of the wind-shield, and Fig. 5 is a detail view showing the mode of supporting the hook of the mail-bag catcher used in connection with the improved form of mail-crane.

Referring to the drawings by reference characters, W designates the side wall of a mail-car, having a door D, in which is mounted the usual mail-bag catcher C, and having pivotally mounted at one side thereof a crane, (designated generally as A.) The crane comprises a main shaft 1, rounded at the extremities to present journals 2. The lower journal is inserted in an opening 3 in the floor of the car and provided, preferably, with a bearing-plate 4, and the upper journal is inserted in a bracket 5, attached to the side wall of the car. Rigidly secured to the shaft 1 and disposed in planes at right angles thereto are a plurality of curved supporting-arms 6, of which there are preferably four. The arms 6 are arranged in pairs, as shown, and are braced apart by a square brace-rod 7, parallel to the shaft 1 and adjacent thereto, which passes through suitably-shaped openings in the arms 6. Each pair of arms 6 is connected by a pair of square connecting-bars 8, one of which carries a spring-finger 9, which bridges the opening between the bars 8 and has the free end thereof held normally in contact with the other bar. Between the bars 8 is a bar 10, which is rigidly attached to the curved arm 6 and which has projecting rearwardly therefrom a pin or stud 11. The stud 11 is placed near the upper end of the bar 10, and when the crane is in operative position the stud 11 projects directly rearward in a line parallel with the side of the car. This stud forms a support upon which the mail-bag (designated generally as M, and shown in dotted lines in Fig. 3) is supported. Between the lower pair of arms 6 and midway between the connecting-bars 8 is rigidly supported a vertical bar 12, having the rear surface thereof provided with a plu-

rality of notches 13, forming a rack, and slidably mounted upon the bar 12 is an arm 14, having in the end thereof an oblong eye 15, through which the bar 12 passes. The arm 14 is adapted to engage the lower end of the mail-bag and serves to keep the bag taut when suspended from the stud 11. The rack formed by the notches 13 is engaged by the arm 14 when the bag is drawn taut by forcing the arm downward toward the bottom of bar 12 and prevents the arm 14 from moving upward and allowing the bag to become slack.

The device for protecting the mail-bag from the action of wind-currents comprises a pair of wind-shields 16, one of which is attached to the forward surface of each pair of curved arms 6 and secured thereto in any suitable manner. The wind-shields 16 are curved to correspond generally to the curvature of the arms 6; but each shield is provided at the front thereof with a vertical rib or ridge 17, which lies approximately in the middle of its convex curvature. The rib or ridge 17 on each of the shields 16 acts in the same manner that the prow of a boat does in cleaving the water—that is to say, it divides the body of air in front of each shield and causes it to slip over the curved surfaces of each shield with a minimum amount of friction.

When the mail-bag is supported in the crane, as described in the preceding paragraphs, only the central portion thereof, which is constricted in order to enable a mail-bag catcher to engage more readily therewith to remove the bag from the crane, will be exposed to the action of currents of air generated by the forward movement of the mail-car, and the surface so exposed to the air-currents is so small that the accidental removal of the bag from the crane by such air-currents is rendered practically impossible.

The spring-fingers 9, carried by the outer one of each pair of bars 8, are provided to prevent any possibility of the removal of the mail-bag from the stud 11 under the action of air-currents or by the jarring of the mail-car.

The preferred form of catcher which it is intended will be provided at the side of the railway-track to remove a mail-bag from the mail-car, as hereinbefore described, comprises a gooseneck 18, pivotally supported on a bracket 19, secured in any suitable manner to a standard or post 20 at the side of the track. The gooseneck 18 is allowed when not in use to swing downward into contact with the sides of the post 20 and when in use is supported in a substantially horizontal position by means of a pivoted arm 21, notched at the free extremity thereof, as shown, and supported by means of a bracket 22, attached to the post 20.

In order to pull the mail-bag crane out of the way when not in use, I provide on the inner surface of the side wall of the car a hook 23, placed in suitable position to engage with the upper edge of the lower wind-shield of the crane to hold the crane in contact with the side wall of the car.

When the mail-crane is in use, it projects out through the door in the side wall of the car and is held in proper position by the contact of the curved arm 6 with the side of the door-frame, as seen in Fig. 1. No other means for holding the crane in position is necessary, as the pressure of the air against the wind-shields will insure contact of the arms with the door-frame, and consequently proper support of the frame.

While the crane has been shown as attached to only one side of a mail-car, it is intended that the crane shall be mounted on each side of the car in order to deliver mail-bags on either side of the railway-track, according to the location of the catchers provided to remove the mail-bags from the cranes.

As the mail-bag catcher C (shown on the mail-car) is placed in front of the crane A, it is to be understood that the stationary crane usually provided at the side of the railway-track to present mail-bags for removal by the catcher C will be placed on the side of the track opposite the catcher, so that the mail-bag may be delivered from the crane A at one side of the mail-car and a mail-bag be caught at the same time by the catcher C at the opposite side of the car.

While my improved form of mail-bag crane is intended primarily for use upon a mail-car and I have described and illustrated its use in connection therewith, it is to be understood that the crane may be employed for supporting mail-bags at the side of the railway-track for engagement by catchers, such as that shown at C on the mail-car, and I do not desire to be limited to its use upon mail-cars.

Having thus described the construction and use of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a mail-bag crane, the combination with suitable bag-supporting devices of a wind-shield.

2. In a mail-bag crane, the combination with bag-supporting devices of a wind-shield presenting a convex forward surface.

3. In a mail-bag crane, the combination with bag-supporting devices, of a wind-shield presenting a convex forward surface and having a vertical ridge substantially in the median line of said convex surface.

4. In a mail-bag crane, the combination with upper and lower bag-engaging means, of upper and lower wind-shields spaced apart to expose the middle portion of the mail-bag.

5. In a mail-bag crane, the combination with bag-supporting devices, of a wind-shield, and a spring-finger to prevent the accidental removal of a mail-bag from said supporting devices.

6. In a mail-bag crane, the combination of an upper support comprising a rearwardly-disposed rigid arm and a lower bag-stretching

member mounted for vertical movement, and means for locking said bag-stretching member at any desired point.

7. In a mail-bag crane, the combination with a shaft adapted to be pivotally mounted within a mail-car, of curved arms carried by said shaft and adapted to project outward through a door in the side of the mail-car, mail-bag-supporting devices carried by said curved arms, and means for preventing the accidental removal of a mail-bag from said supporting devices.

8. In a mail-bag crane, the combination with a shaft adapted to be pivotally mounted within a mail-car, of double-curved arms rigidly secured to said shaft and adapted to project outward through a car-door and to abut against the side of the frame of said door, wind-shields carried by said curved arms and corresponding to the curvature thereof, and bag-supporting devices behind said wind-shields, said bag-supporting devices comprising members carried by said curved arms and disposed in a plane parallel to the side of the car when the curved arms rest in contact with the side of the frame of the car-door.

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

MICHAEL LALLY.

Witnesses:
GEO. F. POLLOCK,
DANIEL MOSSOP.