G. M. BEARD.

MAIL DELIVERING DEVICE.

APPLICATION FILED JAN. 16, 1908.

900,647.

Patented Oct. 6, 1908.

2 SHEETS—SHEET 1.

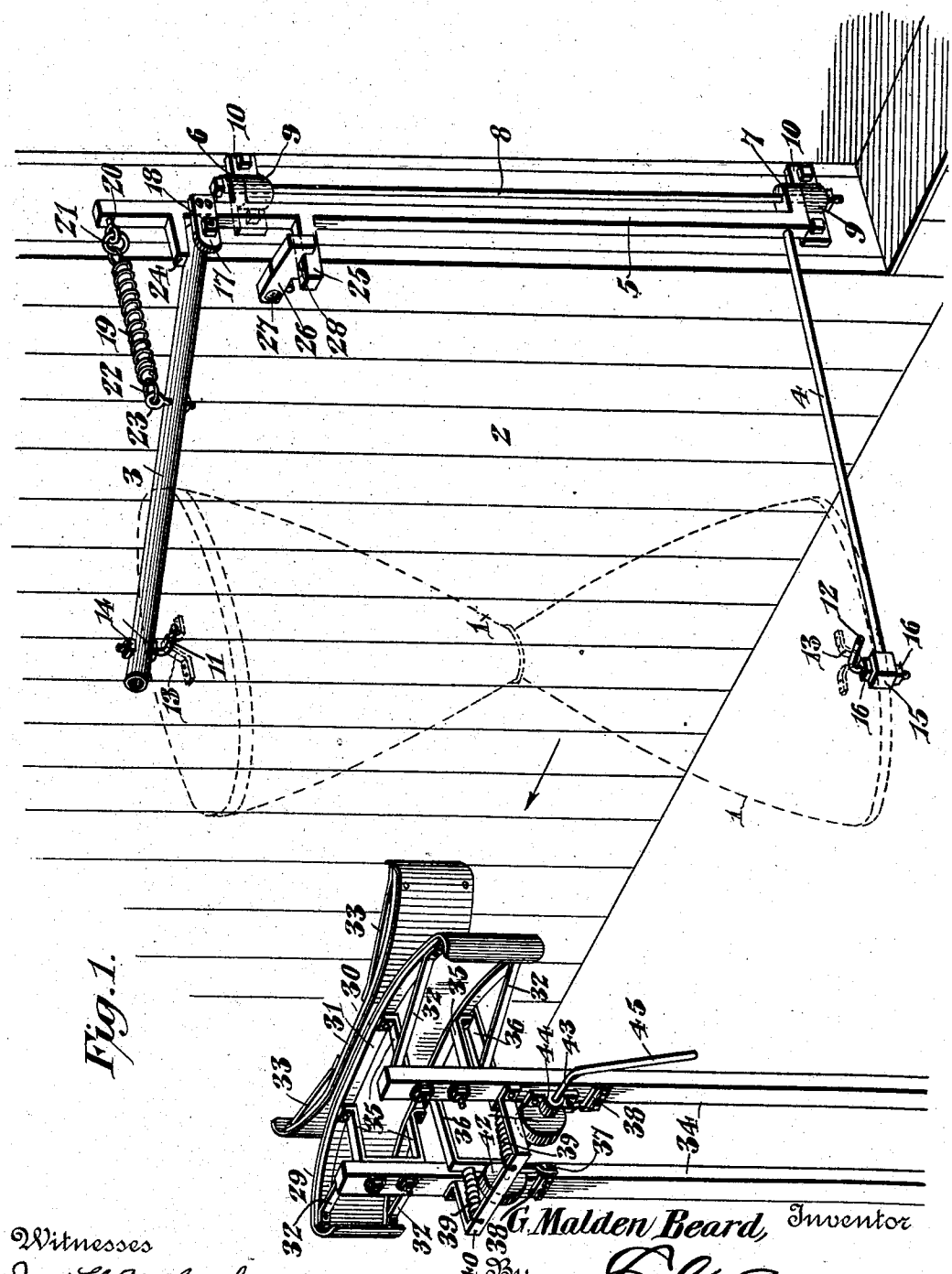


Fig. 1.

Witnesses

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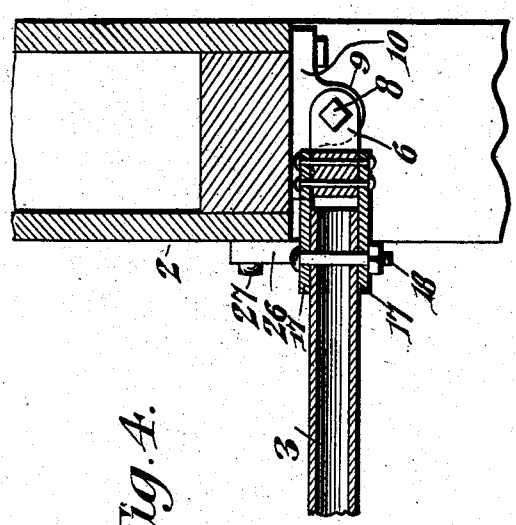


Fig. 4.

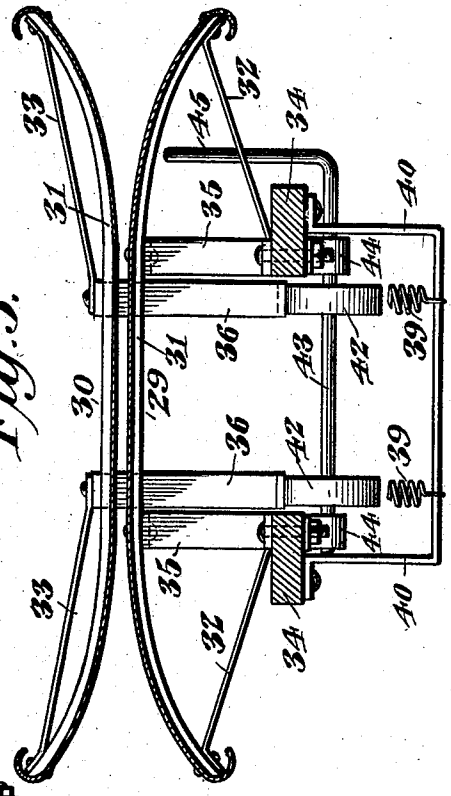


Fig. 3.

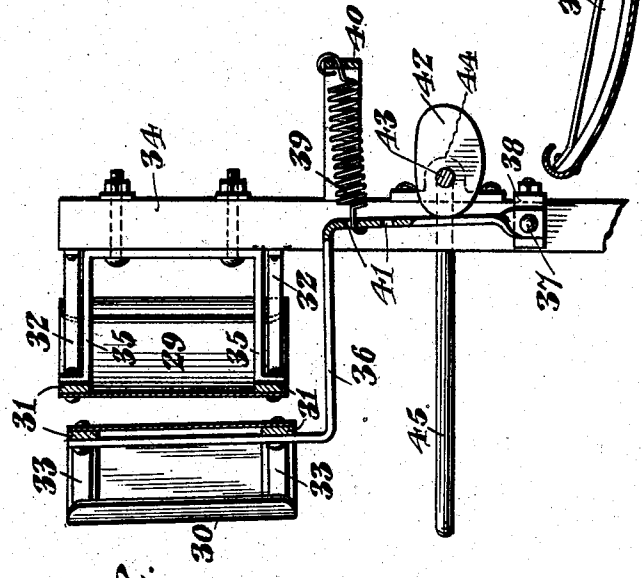


Fig. 2.

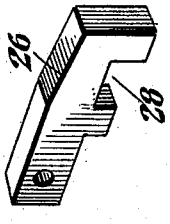


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE MALDEN BEARD, OF HANOVER, PENNSYLVANIA.

MAIL-DELIVERING DEVICE.

No. 900,647. Specification of Letters Patent. Patented Oct. 6, 1908.

Application filed January 16, 1908. Serial No. 411,175.

To all whom it may concern:

Be it known that I, GEORGE MALDEN BEARD, a citizen of the United States, residing at Hanover, in the county of York and State of Pennsylvania, have invented a new and useful Mail-Delivering Device, of which the following is a specification.

The invention relates to improvements in mail delivering devices.

The object of the present invention is to improve the construction of devices for delivering mail from moving trains to stations, and to provide a simple, inexpensive and efficient device of great strength and durability, adapted to be readily applied to a mail car, and capable of swinging into and out of the same to enable a mail bag to be conveniently applied to it and to support the mail bag beyond the car in position to be caught by a mail bag catcher.

A further object of the invention is to provide a double mail bag catcher, adapted to take a mail bag from a train approaching it in either direction, and capable of firmly gripping a mail bag and of enabling the same to be conveniently removed from it.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a perspective view of a mail bag delivering device, constructed in accordance with this invention, a mail bag being shown in dotted lines. Fig. 2 is a vertical sectional view of the mail bag catcher. Fig. 3 is a horizontal sectional view of the same. Fig. 4 is a detail view of the upper portion of the crane. Fig. 5 is a detail perspective view of the catch for locking the crane in an extended position.

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

The mail bag 1, illustrated in dotted lines in Fig. 1 of the drawings, is supported in an extended position beyond the side of a mail car 2 by means of a crane, comprising upper and lower arms 3 and 4 and a vertically disposed hinged bar 5, provided with upper and lower perforated ears 6 and 7 through which passes a pintle rod 8. The pintle rod 8 is mounted in eyes 9 of upper and lower brackets 10, secured to the car 2 in the door-way thereof in position to permit the crane to swing horizontally into and out of the car. This will enable a mail bag to be applied to the crane while the latter is within the car and without danger to the mail clerks. The pintle rod, which is provided at its upper end with a suitable head, has its lower end threaded for the reception of a nut for retaining it in the eyes of the brackets.

The arms 3 and 4 are provided at their outer ends with pivoted mail bag engaging devices 11 and 12, having horizontal portions for engaging the loops 13 at the ends of the mail bag. The mail bag engaging devices are substantially L-shaped, one arm or portion of each forming a pivot to permit the other arm to be turned in the opposite direction from which the train is traveling, so that the mail bag will readily slip from the crane when it is engaged by the mail bag catcher hereinafter described. The upper mail bag engaging device pierces the upper arm and is retained in a perforation thereof by means of upper and lower nuts 14. The lower arm 4 is provided at its outer end with a block or head 15, which is provided with a perforation for the reception of the pivoted portion of the lower bag engaging device, and the latter is retained in the perforation of the block or head 15 by means of upper and lower nuts 16. The upper arm 3 is pivoted at its inner end between ears 17 of the crane by means of a horizontal bolt 18, and it is adapted to swing upwardly and downwardly to accommodate the crane to mail bags of different lengths, and a coiled spring 19 is connected with the arm for stretching the mail bags, whereby they are securely held by the engaging devices 11 and 12. The upper end of the hinged bar 5 is extended above the upper arm and is pierced by an eye bolt 20 to which one end of the spring is connected by a link 21. The spring, which is arranged at an inclination, extends outwardly and downwardly from the ring 21 to the upper arm and is connected with the same at a point intermediate of the ends thereof by means of a ring 22 and an eye bolt 23, which pierces the upper arm. The upward swing of the arm 3 is limited by means of a lug 24, formed integral with the hinged bar and projecting therefrom at a point above the ears 17, as clearly illustrated

in Fig. 1 of the drawings. The hinged bar is also equipped with a horizontally projecting lug 25, formed integral with the hinged bar and located at a point between the upper and lower arms 3 and 4 and arranged to be engaged by a catch 26. The catch 26 is pivoted at one end to the exterior of the car by means of a bolt 27, and it is provided with depending lugs or projections, forming an intervening recess 28 at its lower edge to receive the lug 25 of the hinged bar 5. The catch 26 is adapted to rigidly maintain the crane in its extended position, so that the crane will operate when the car is traveling in either direction.

The mail bag catcher comprises fixed and movable members 29 and 30, disposed horizontally and curved longitudinally to present inner convex faces, which form diverging mail bag engaging jaws at each end of the catcher, whereby the latter is adapted to receive a mail bag from a train approaching it in either direction. The members 29 and 30 are preferably constructed of sheet metal, having their side faces arranged in vertical planes and reinforced by upper and lower longitudinal metallic bars 31 and supported by braces 32 and 33. The braces 32 extend from the outer portions of the fixed member 29 to vertical standards 34 to which the mail bag catcher is secured and which forms a support for the same, but any other suitable support may be provided at a station for the mail bag catcher.

The fixed member 29 is supported by rigid brackets 35, composed of upper and lower arms and a vertical connecting portion. The vertical portion is secured to the standards 34 at the upper ends thereof, and the horizontal portions have their outer ends bent at an angle to form attaching portions, which are secured to the fixed member 29 by fastening devices that pierce the longitudinal reinforcing bars 31.

The member 30, which is movable inwardly and outwardly toward and from the fixed member 20, is supported by a pair of brackets 36, composed of upper and lower vertical portions and an intermediate horizontally disposed connecting portion. The upper vertical portions are secured to the member 30 by fastening devices, which pierce the upper and lower longitudinal reinforcing bars, and the lower vertical portions are pivoted at their lower ends to the standards by fastening devices 37, piercing the brackets and also horizontally disposed L-shaped bars 38, which are secured to the standard 34. The L-shaped pieces, which are constructed of metal, provide supports for the pivots of the bracket.

The movable member 30 is maintained at the limit of its inward movement by coiled springs 39, secured to the vertical portions of the pivoted brackets and to a frame 40, disposed horizontally and mounted on the standards 34. The frame is substantially U-shaped being composed of two sides and a connecting portion, which is provided with perforations into which the outer ends of the springs are hooked. The lower vertical portions of the pivotal brackets are provided with a plurality of perforations 41, receiving the inner ends of the coiled springs and permitting the same to be adjusted to increase the tension of the springs should it be necessary to tighten the same.

When the mail bag moving in the direction of the arrow in Fig. 1 of the drawings engages the mail catcher, it is received between the adjacent diverging end portions or jaws of the members 29 and 30. The force with which the mail bag comes in contact with the mail bag catcher is sufficient to cause the former to spread the jaws of the latter, whereby the mail bag will be securely clamped between the members 29 and 30. This will prevent the mail bag from falling from the mail bag catcher and there will be no liability of the mail bag being injured by the wheels of the train.

The mail bag is released by an operating device comprising a pair of cams 42, mounted on a horizontal shaft 43 and arranged to engage the lower vertical portions of the pivoted brackets. The shaft 43 is journaled in suitable bearings 44 of the standards 34 and is provided at one end with an operating arm 45. The cams, which consist of disks flattened at one side, are eccentrically mounted on the shaft and the flattened sides fit against the pivoted brackets, as illustrated in Fig. 1 of the drawings when the movable member 30 is at the limit of its inward movement. When the shaft is partially rotated, the cams engage the pivoted brackets and swing the same outwardly thereby carrying the movable member 30 away from the fixed member 29 and enabling the mail bag to be readily removed from the device.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the class described, the combination with a mail bag catcher, of a mail bag supporting crane including a vertically disposed hinged bar, a lower mail bag supporting arm rigid with the hinged bar, an upper mail bag supporting arm pivotally connected with the said bar, and a spring connected with the upper arm and with the hinged bar for swinging the former upwardly.

2. In a device of the class described, the combination with a mail bag catcher, of a mail bag supporting crane including a vertically disposed hinged bar provided with a stop, upper and lower mail bag supporting arms carried by the hinged bar, the upper arm being pivotally connected with the bar

at a point below the stop, and a spring connected with the upper arm and with the hinged bar at a point above the stop for stretching the mail bag.

3. In a device of the class described, the combination with a mail bag catcher, of a mail bag supporting crane including a hinged bar provided with a projecting lug, upper and lower mail bag supporting arms carried by the hinged bar, and a pivoted catch provided with means for engaging the lug of the hinged bar for locking the crane against movement.

4. In a device of the class described, the combination with a mail bag catcher, of a mail bag supporting crane including bearing brackets, a hinged bar provided with ears and having spaced lugs, a pintle rod passing through the ears and hinging the bar to the bearing brackets, upper and lower mail bag supporting arms carried by the said bar, the upper arm being pivoted between the said lugs and arranged to engage one of the lugs, a spring connected with the bar and with the upper arm, and a catch arranged to engage the other lug of the bar.

5. In a device of the class described, the combination with mail bag supporting means, of a mail bag catcher comprising two members curved longitudinally to form outwardly diverging jaws at each end of the mail bag catcher, one of the members being fixed and the other member being movable toward and from the other, means for yieldably holding the movable member at the limit of its inward movement, and operating mechanism for forcing the movable member outward to release the mail bag.

6. In a device of the class described, the combination with mail bag supporting means, of a mail bag catcher comprising relatively fixed and movable members forming jaws for engaging a mail bag, means for yieldably holding the movable member at the limit of its inward movement, and operating mechanism including a shaft and a cam for forcing the movable member outwardly to release a mail bag.

7. In a device of the class described, the combination with mail bag supporting means, of a mail bag catcher comprising relatively fixed and movable members forming jaws for engaging a mail bag, a pivoted bracket supporting the movable member, a spring connected with the bracket for holding the movable member at the limit of its inward movement, and operating mechanism including a cam arranged to engage the pivoted bracket for forcing the movable member outwardly to release a mail bag.

8. In a device of the class described, the combination with mail bag supporting means, of a mail bag catcher comprising fixed and movable members forming jaws for engaging a mail bag, spaced pivoted brackets supporting the movable members, springs connected with the pivoted brackets for holding the movable member at the limit of its inward movement, a horizontal shaft having operating means, and cams mounted on the horizontal shaft and arranged to engage the pivoted brackets for operating the movable member to release a bag.

9. In a device of the class described, the combination with mail bag supporting means, of a mail bag catcher comprising fixed and movable members constructed of sheet metal and provided with upper and lower reinforcing bars, approximately U-shaped brackets having their sides secured to the fixed member at the reinforcing bars thereof, pivoted brackets secured to the movable member at the reinforcing bars thereof, a spring for holding the movable member at the limit of its inward movement, and operating mechanism for forcing the movable member outwardly.

10. In a device of the class described, the combination with mail bag supporting means, of a mail bag catcher comprising fixed and movable members, spaced pivoted brackets supporting the movable member, a horizontal frame, spaced springs secured to the frame and connected with the pivoted brackets, and operating mechanism for forcing the movable member outwardly to open the mail bag catcher.

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

G. MALDEN BEARD.

Witnesses:
JOHN H. SIGGERS,
FANNIE WAGNER.