

No. 886,290.

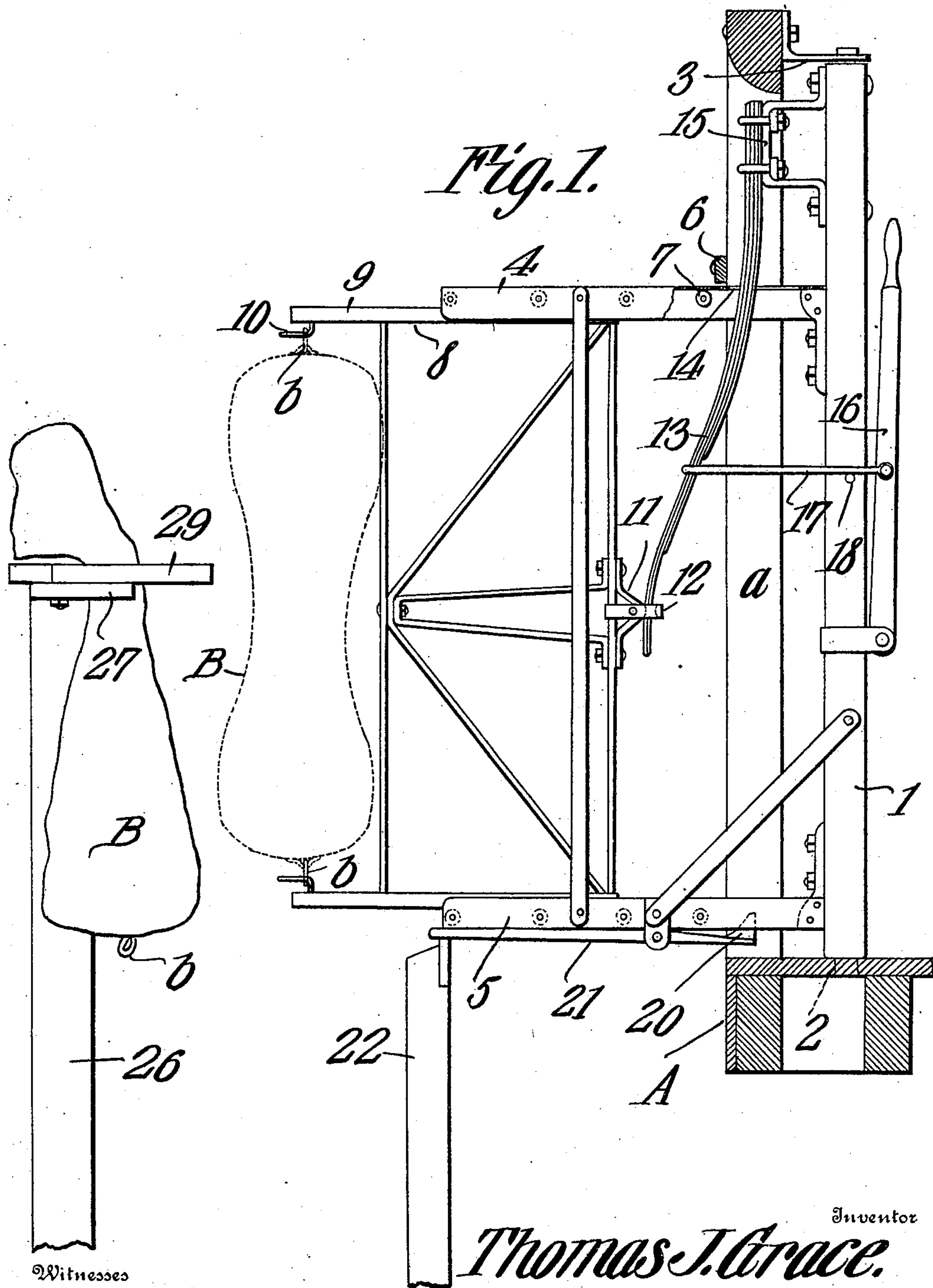
PATENTED APR. 28, 1908.

T. J. GRACE.

APPARATUS FOR DELIVERING MAIL SACKS.

APPLICATION FILED FEB. 6, 1908.

2 SHEETS—SHEET 1.



Witnesses

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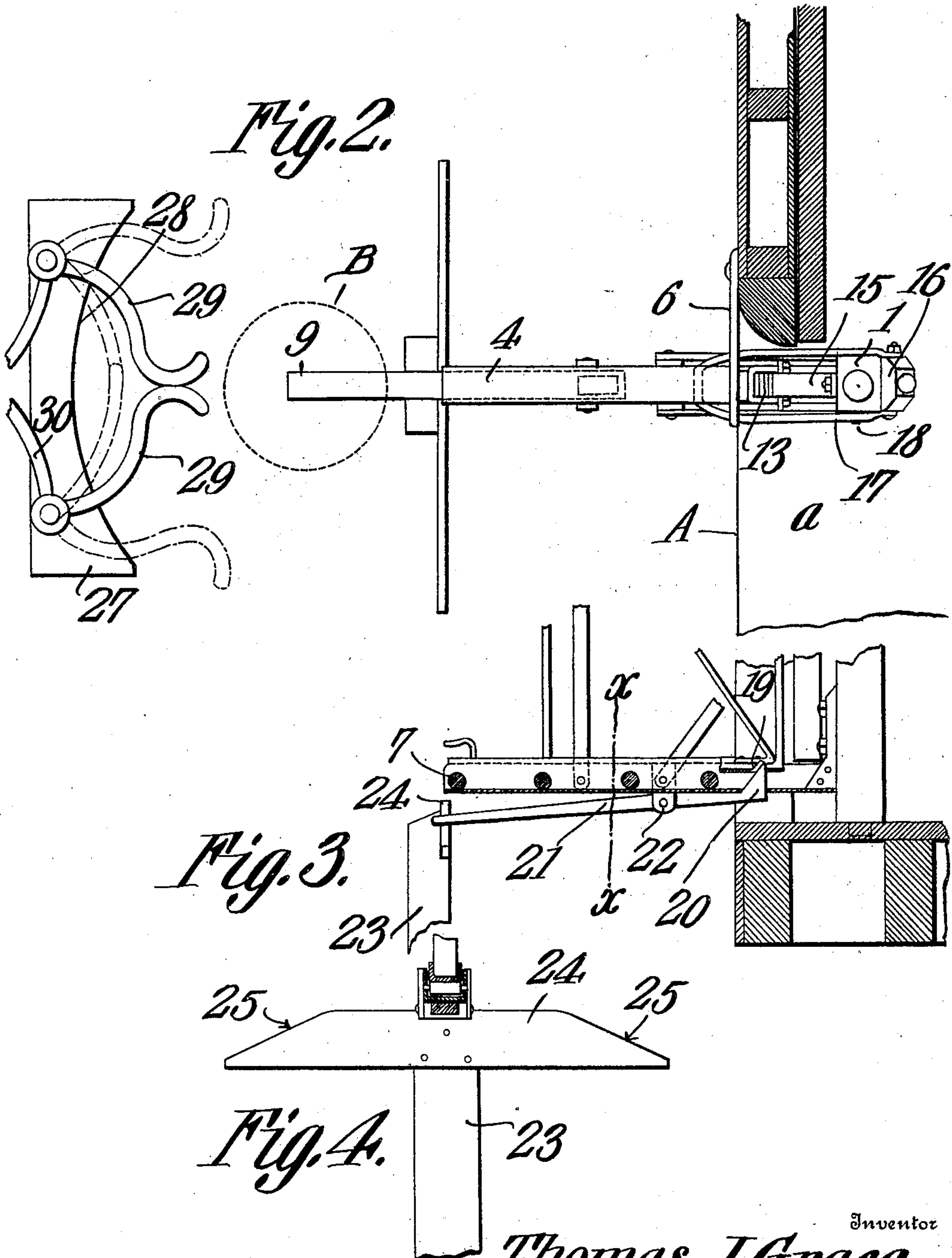
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UNITED STATES PATENT OFFICE.

THOMAS J. GRACE, OF MOBILE, ALABAMA, ASSIGNOR OF ONE-HALF TO JNO. W. RUTHERFORD,
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APPARATUS FOR DELIVERING MAIL-SACKS.

No. 886,290.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed February 6, 1908. Serial No. 414,614.

To all whom it may concern:

Be it known that I, THOMAS J. GRACE, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented a new and useful Apparatus for Delivering Mail-Sacks, of which the following is a specification.

This invention relates to apparatus for delivering mail sacks to and from railway cars while in motion, its object being to provide mechanism of this character operating to throw or shoot a sack from its supporting means onto a receiver.

Another object is to provide mechanism of this character which is simple, durable, and efficient, can be readily set, and is designed to be automatically released at predetermined points so as to throw the sack into the receiving means provided for it.

Another object is to provide a device of this character designed to be mounted within the door of a mail car and which can be readily swung into the car and also into position therebeyond.

A further object is to provide novel means for automatically gripping the sack when the same is projected from its holding means.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention:

Figure 1 is an elevation of the complete apparatus, the adjoining portions of the car being shown in section and the position of the sack upon the delivery mechanism being indicated by dotted lines, said mechanism being shown in the position assumed by it subsequent to the delivery of the sack. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a longitudinal section through the lower portion of the delivery mechanism. Fig. 4 is a section on line $x-x$, Fig. 3.

Referring to the figures by characters of reference, A designates a mail car in the door a of which is mounted a post or standard 1 bearing at its lower end within a socket 2 while its upper end is preferably mounted in a bracket 3. Secured to this post and extending at right angles therefrom are arms 4 and 5 preferably formed of oppositely disposed channel irons and designed to be

swung through the door opening so as to assume positions either within the car or beyond and at right angles to the wall thereof. When in the last mentioned position one of the arms may be engaged by a hook 6 or other fastening means for locking the arms in extended position. As shown each of these arms is preferably provided with a plurality of anti-friction devices such as rollers 7 and these rollers constitute bearings for a carriage 8, the ends of which extend into the arms. This carriage may be of any preferred construction preferably of strap iron and has arms 9 extending beyond the outer portion thereof, each arm being provided with a sack engaging hook 10 preferably L-shaped in form, the two hooks being extended toward each other and designed to engage the rings b of a sack B. When the sack is supported upon these hooks it is designed to bear against the outer portion of the carriage 8 as indicated by dotted lines in Fig. 1.

A V-shaped bearing bracket 11 is secured upon the inner portion of the carriage 8 at the center thereof and is lapped by the transversely extending retaining loop 12. Extending between this bracket and the loop is one end of a spring 13 which extends through a slot 14 in the upper arm 4 and is firmly fastened at its upper end to a bracket 15 secured to the upper portion of the post or standard 1. This spring may be of any preferred form but is preferably of the construction shown in Fig. 1 and it is designed to be strong enough to automatically shift the carriage, with the sack suspended therefrom, outwardly between the arms 4 in the manner hereinafter set forth.

Pivotally connected to the post 1 is a lever 16 to which a loop 17 is pivotally attached and this loop extends loosely around spring 13 at a point between the arms 4 and 5 and is held normally in a substantially horizontal position by a stop pin or in any other preferred manner.

The lower end of carriage 8 has a notch or opening 19 therein designed to receive a head 20 formed at one end of a lever 21 which is fulcrumed at 22 upon the lower arm 5 and extends beyond said lower arm. The lever 21 is so mounted that it will hold the head 20 normally projected upward into the path of carriage 8 so that when said carriage is drawn backward between the arms head 20 will automatically become seated within the

notch or opening 19. A standard 22 is designed to be located close to the track at the point where the sack is to be delivered and this standard is provided at its upper end with a tripping head 24 of any preferred length and having its ends beveled as at 25. The height of this tripping head is such that the beveled ends thereof are normally disposed in the path of the lever 21 so that when the car approaches the head the lever will strike and ride upward upon said beveled end and operate the latch to release the carriage in the manner hereinafter set forth. Close to the standard 23 is located a receiver for the mail sack, said receiver being preferably constructed to automatically engage the sack thrown thereagainst and thus support it and prevent it from being sucked under the car or otherwise displaced. As shown in Figs. 1 and 2 this receiver consists of a standard 26 having an elongated head 27 disposed in a horizontal plane and that face of the head nearest the track is concave as indicated at 28. Mounted on this head near the ends thereof are two oppositely disposed similar gripping jaws 29 which normally extend outwardly from the head as shown by dotted lines in Fig. 2, each jaw being provided with an arcuate arm 30 extending from its pivot portion, the two arms being designed, when the jaws are extended, to bridge the space between the jaws and to extend beyond the concave face of the head as indicated by dotted lines in Fig. 2.

When it is desired to deliver a mail sack while the car is in motion the operator pulls inwardly on lever 16 so as to cause the loop 17 to pull spring 13 toward the post 1, thus placing it under stress and at the same time pulling the carriage 8 backward between the arms 4 and 5. When the carriage has been pulled back the desired distance it will be automatically engaged by head 20 and will thus be locked. The entire apparatus can then be swung into the opening *a* and thus positioned so that the sack can be readily placed on the supporting hooks 10. The apparatus is then swung outwardly until the upper arm 4 is engaged by catch 6. When the car reaches the point of delivery the lever 21 will strike and ride upward on the tripping head 24 and the head 20 will thus be disengaged from the carriage so as to allow the tensioned spring 13 to throw the carriage 8 suddenly outwardly between the arms with sufficient velocity to discharge the sack from hooks 10 and throw it between jaws 29. As soon as the sack strikes the arms 30 they are swung backward thereby thus causing the jaws to swing inwardly and embrace the sack and prevent it from becoming displaced. The sack will thus be held firmly and there will be no danger of its falling to the ground and being sucked under the car.

It will be seen that the apparatus is very

simple, durable, and efficient, can be readily attached to a car door at either side thereof and while it has been described as connected to a car it can, without material changes, be utilized for delivering sacks to the car while in motion simply by reversing the positions of the parts.

What is claimed is:

1. In apparatus of the character described the combination with guide arms and a carriage therebetween and movable longitudinally thereof; of an actuating spring supported adjacent the arms and engaging and disposed to actuate the carriage, manually operated means for setting the spring, and means for automatically engaging the carriage to lock the spring when set.
2. In apparatus of the character described the combination with parallel guide arms; of a carriage therebetween and movable longitudinally thereof, an actuating spring supported adjacent one of the arms and engaging and disposed to actuate the carriage, means for simultaneously setting the spring and retracting the carriage, means for automatically locking the carriage when set, and tripping means for releasing the carriage.
3. In apparatus of the character described the combination with parallel guide arms; of a spring actuated carriage movably mounted between the arms, manually operated means for setting the carriage against the stress of the spring, means for automatically locking the carriage when set, and tripping means for releasing the carriage.
4. In apparatus of the character described the combination with guide arms; of a spring actuated carriage movably mounted between the arms, manually operated means for setting the carriage against the stress of the spring, a catch carried by one of the arms for automatically engaging the carriage to lock it in set position, and tripping means in the path of the catch for releasing the carriage.
5. In apparatus of the character described the combination with a pivoted support; of guide arms outstanding therefrom, a spring actuated carriage movably mounted between the arms, manually operated means upon the support for setting the carriage against the stress of the spring, and means upon one of the arms for automatically locking the carriage when set.
6. In apparatus of the character described the combination with a pivoted supporting post; of guide arms outstanding therefrom, a spring actuated carriage movably mounted between the arms, manually operated means carried by the post for setting the carriage against the stress of the spring, means upon one of the arms for automatically locking the carriage when set, and means for releasing the carriage from said locking means at a predetermined point.
7. In apparatus of the character described

the combination with a pivoted support; of outstanding guide arms thereon, a carriage movably mounted between the arms, an actuating spring connected to the support and bearing against the carriage, manually operated means carried by the support for setting the carriage against the stress of the spring, a catch for automatically engaging the carriage to lock it in set position, and a tripping device in the path of the catch.

8. In apparatus of the character described the combination with a pivoted supporting device; of outstanding channeled guide arms upon said device, a carriage movably mounted within and between the guide arms, an actuating spring connected to the supporting device and bearing against the carriage, means for setting the carriage against the stress of the spring, and means for automatically engaging the carriage to lock it in set position.

9. In apparatus of the character described the combination with a pivoted supporting device and outstanding channeled guide arms upon said device, a carriage movably mounted within and between the guide arms, an actuating spring connected to the supporting device and bearing against the carriage, means for setting the carriage against the stress of the spring, sack engaging means carried by the carriage, a catch for locking the carriage in set position, and tripping means

in the path of the body for releasing the carriage.

10. In apparatus of the character described the combination with a spring actuated carriage, means for locking the same against the stress of the spring, and means for releasing the carriage at a predetermined point; of sack receiving means comprising oppositely disposed pivoted jaws, and inwardly extending arms movable therewith and disposed to be contacted by a delivered sack.

11. In apparatus of the character described the combination with a spring actuated carriage, sack engaging means carried thereby, means for locking the carriage against the stress of its spring, and means for releasing the carriage at a predetermined point; of receiving means adjacent said releasing means and comprising a head having a concave receiving face, jaws pivotally mounted upon the head and extending beyond said face, inwardly extending arms movable with the jaws and normally projecting beyond said face to be contacted by a delivered sack.

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

THOMAS J. GRACE.

Witnesses:

GEORGE M. MORGAN,
GEORGE P. FLOYD.