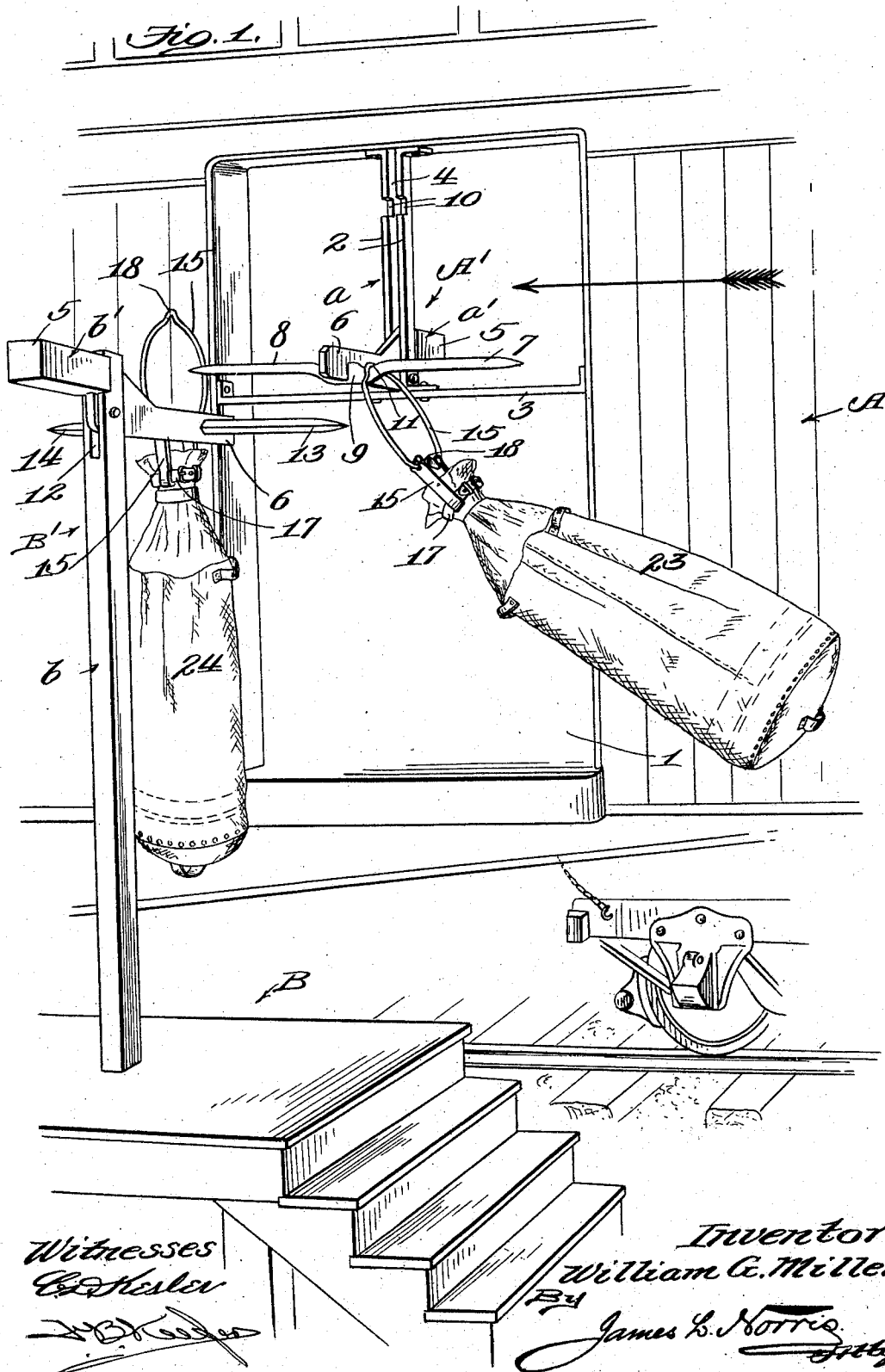


W. G. MILLER.
MAIL BAG CATCHING AND DELIVERY APPARATUS.
APPLICATION FILED OCT. 23, 1909.

947,117.

Patented Jan. 18, 1910.
2 SHEETS—SHEET 1.

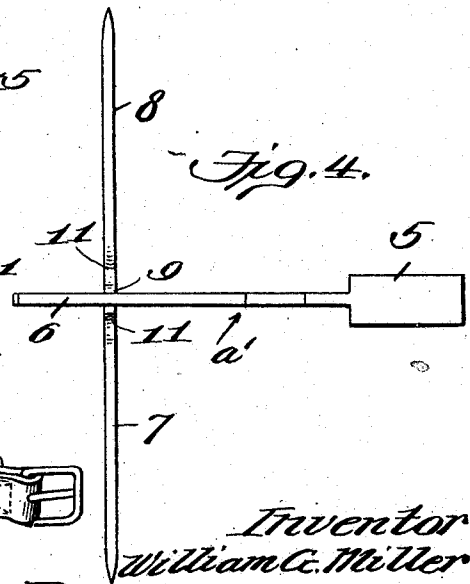
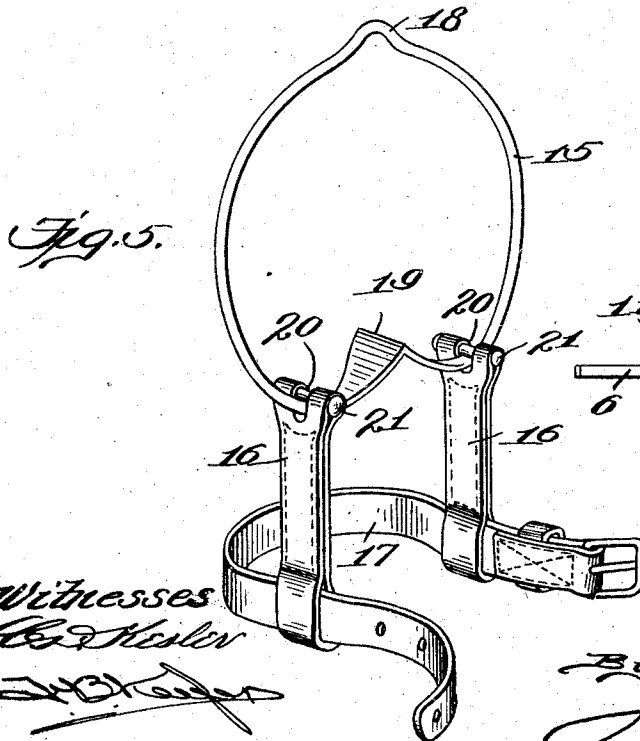
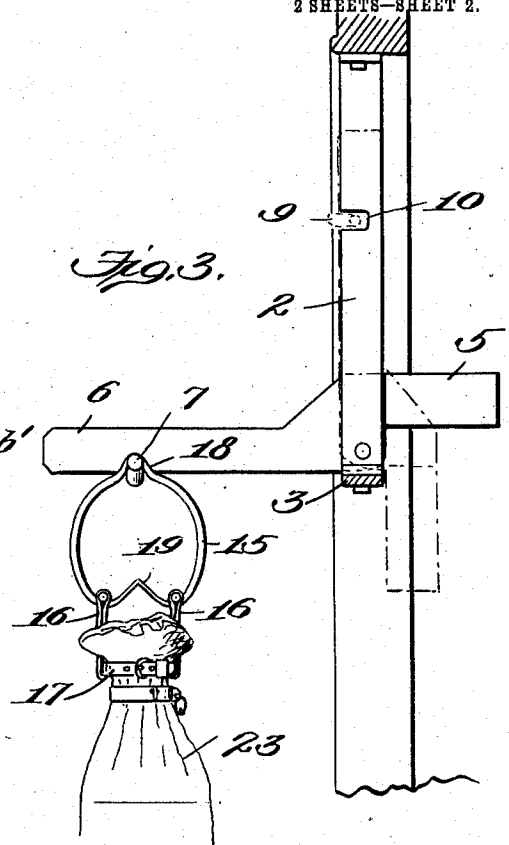
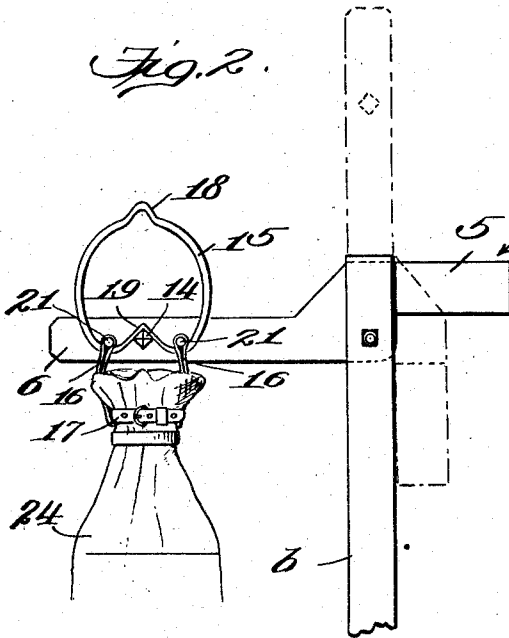


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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM G. MILLER, OF BENTONVILLE, ARKANSAS, ASSIGNOR OF ONE-HALF TO
FRANK F. FLOYD, OF BENTONVILLE, ARKANSAS.

MAIL-BAG CATCHING AND DELIVERY APPARATUS.

947,117.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed October 23, 1909. Serial No. 524,260.

To all whom it may concern:

Be it known that I, WILLIAM G. MILLER, a citizen of the United States, residing at Bentonville, in the county of Benton and State of Arkansas, have invented new and useful Improvements in Mail-Bag Catching and Delivery Apparatus, of which the following is a specification.

The present invention is an improvement in mail bag catching and delivery apparatus, and it resides generally in the production of an extremely simple and efficient apparatus by means of which the simultaneous transfer of the mail bags from a moving train to the receiving station, and from the latter to the train may be automatically accomplished, as the train passes the station.

More especially, the invention comprehends the production of a crane so constructed that the supporting member will automatically assume an inoperative position when not in use, and when in use will insure the retention of the bag in place thereon and in correct position for its removal by the corresponding member of the complementary device.

The invention further resides in the construction of the bag rings in such a manner as to enable them to cooperate with the supporting members in bringing about the results last specified.

A practical embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the complete invention. Figs. 2 and 3 are fragmental side elevations, respectively, of the station and car cranes. Fig. 4 is a plan view of the bag-supporting member shown in Fig. 3. Fig. 5 is an enlarged perspective view of one of the bag rings, and the supporting devices associated therewith.

In Figs. 2 and 3, the operative positions of the supporting devices appear in full lines, and the inoperative position thereof in dotted lines.

Reference being had to said drawings, and to the characters marked thereon, A designates in a general manner a mail car of any conventional type, A' the crane arranged in the door opening 1 in the car side, and B' the crane mounted upon the platform B located at the receiving station

at the proper distance from the tracks along which the car travels. In like manner the two essential elements of which the respective cranes consist, namely, the standard and the supporting member, are designated by the characters *a* and *a'*, and *b* and *b'*.

The car standard *a* is formed by a pair of vertical bars 2 arranged in spaced parallel relation to each other and fastened at their upper ends to the wall of the door opening and at their lower ends to a horizontal bar 3, the ends of which are fastened to the opposite side walls of said opening. The spaced arrangement of the standard bars produces in effect a longitudinal bifurcation, indicated by the numeral 4, wherein is pivoted intermediate its ends; the supporting member *a'*. This member is in the form of a bar whose rear portion 5 is enlarged or weighted for the purpose of enabling it to assume automatically, when not in use, the inoperative position shown in dotted lines in Fig. 3, in which position the relatively narrow front portion 6 of the bar fits within the bifurcation 4 and the under surface of the weighted portion 5 contacts with the rear edge of bar 3.

To the forward portion of the supporting bar there is secured a pair of arms 7 and 8 which project upon opposite sides and are arranged transversely of said bar. The outer ends of these arms are pointed and their inner ends are connected by a flat portion or piece 9, the whole being of integral construction and constituting in fact an operating bar. The connecting piece 9 fits in a notch formed in the front portion 6 of the supporting bar and is secured therein in any preferred manner, said piece being received in a transverse seat 10 in the upper portion of the standard when the supporting bar is not in use. At the points where they join the connecting piece, the arms are provided with depressions or seats 11 which are designed to receive the bag rings as hereinafter described. One of these arms serves to support the bag to be delivered to the station crane, while the other arm acts as a catcher to transfer a bag from said crane to the train, the arrangement being such that the arms are operative for the purposes specified irrespective of the direction in which the train is traveling.

The standard *b* of the complementary station crane B' is in the form of a solid post having its upper end bifurcated, as indicated by the numeral 12, to admit of the pivotal mounting therein of the supporting member *b'*, which member is preferably identical in construction with the member *a'* of the car crane and hence requires no additional description, the parts thereof being indicated by the same numerals as those employed to designate the corresponding parts of member *a'*.

The operating member of the station crane is in the form of a bar polyangular in cross section and having pointed ends. It is arranged similar to the corresponding member of the car crane and comprises the two oppositely-projecting arms 13 and 14, which serve the same purposes as the arms 7 and 8 and are located an appreciable distance from the front terminal of the bar, this being true also of the arms just referred to. In the present instance, the arms 13 and 14 are shown as having a rectangular cross sectional conformation, but it will be understood a triangular conformation may be adopted if considered preferable. In either instance, the arrangement is such that one of the beveled longitudinal edges of the bar is presented uppermost. This edge acts as a stay rib, as will be hereinafter explained.

There is further comprehended in the invention a bag ring of particular construction, which is illustrated in detail in Fig. 5, wherein the ring is designated generally by the numeral 15. It is connected to the upper ends of a pair of straps 16 secured at their lower ends to a belt 17 which is adapted to embrace the mouth of the bag. The top and bottom portions of the ring are formed, respectively, with a central loop-like elongation or outward projection 18 and a central inward projection 19. The sides of the lower or inner projection are flattened and widened and meet each other at an angle which is the same as that of the two presented upper sides or faces of the bar ribs, while the upper projection 18 is rounded. The upper ends of the connecting straps 16 are bifurcated, as indicated by the numeral 20, for the reception of the ring, and each of said ends has fitted therein a cross pin 21 which bears directly upon the ring, thereby holding the latter and the straps in correct position.

Each bag is equipped with one of the above described rings, which is adapted to be suspended from the proper arm of the corresponding operating bar. In the construction illustrated in Fig. 1, the bag 23 to be transferred to the station crane has the looped portion 18 of its ring engaged in the seat 11 in the right hand arm 7, while the bag 24 to be transferred to the car has its angular projection 19 fitted directly upon the beveled upper edge or rib of the left hand arm 14,

by reason of which fact it will be obvious that the bags will be retained in proper position and will be prevented from swaying laterally. In attaching the bags to the supporting bars, the latter are first moved into operative, *i. e.*, horizontal, position, and will be subsequently held in that position by the weight of the bags.

The operation of the invention is apparent from Fig. 1, the catcher arm 8 of the car crane removing bag 24 from the deliverer arm 14 of the station crane as the car, which is traveling toward the left, passes the station. At the same time, the catcher arm 13 of the station crane will remove bag 23 from the car crane arm 7, the arms of the latter crane occupying a plane slightly below that of the arms of the former crane. When the transfer of the bags has been completed, and said bags removed from the cranes, the supporting members thereof will automatically move into their inoperative positions. Further description of the invention and its operation is considered unnecessary. It is to be understood, however, that the arrangement of the operating bars may be reversed; that is to say, the ribbed or beveled bar may be carried by the member *a'*, and the other bar by the member *b'*. Detailed illustration of this feature is omitted for the reason that it is thought to be comprehended within the construction illustrated.

Having thus described my invention, I claim;

1. A mail crane comprising a standard; a supporting bar secured thereto; and a transversely-arranged operating bar attached to said supporting bar and having its end portions projecting upon opposite sides thereof, to constitute catching and delivering arms, each arm having its upper surface provided with a beveled longitudinal stay rib.

2. The combination, with a mail crane including an operating bar having its upper surface provided with a beveled longitudinal stay rib; of a bag provided with a ring formed with a rib-receiving seat having its sides set at an angle conforming to those of said rib.

3. A mail bag ring having a portion thereof formed with an inwardly extending seat, the sides of which are widened and arranged at an angle to each other.

4. A mail bag ring having a portion thereof formed with an arm-receiving seat, the sides of which are flattened and widened and arranged at an angle to each other.

5. The combination, with a mail bag ring; of a strap adapted to embrace the bag; and a pair of vertical straps having their lower ends attached to the first named strap and their upper ends to said ring, to maintain the latter in operative position.

6. The combination, with a mail bag ring

having a portion thereof formed with a central arm-receiving seat; of a strap adapted to embrace the bag; and a pair of straps having their lower ends attached to the first
5 named strap and their upper ends to said ring, to maintain the latter and its seat in position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM G. MILLER.

Witnesses:

WILLIAM S. FLOYD,
W. F. CONINE.