

A. M. CLARK.
MAIL BAG AND PARCEL RECEIVING AND DELIVERING APPARATUS.
APPLICATION FILED OCT. 19, 1908.

991,425.

Patented May 2, 1911.

2 SHEETS—SHEET 1.

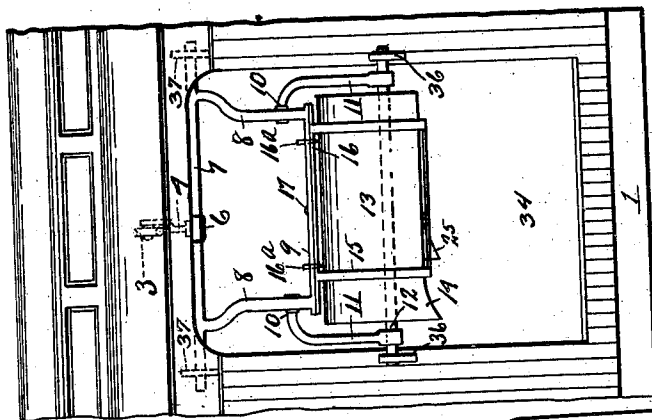


Fig. 2.

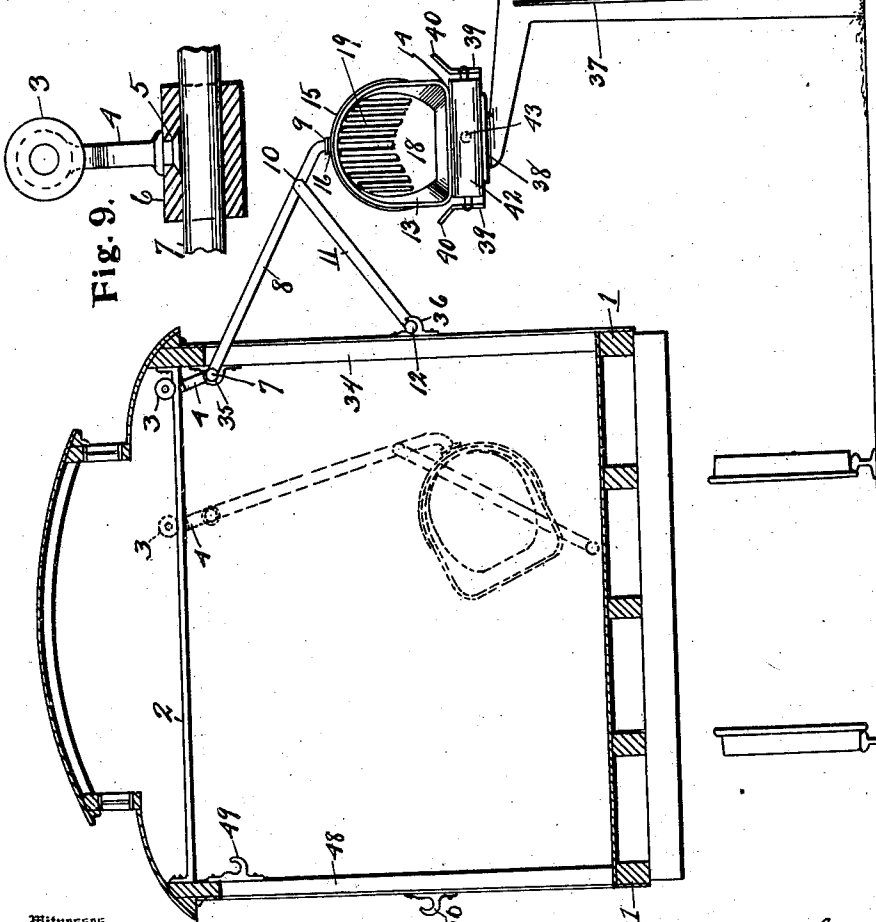


Fig. 1.

Witnesses

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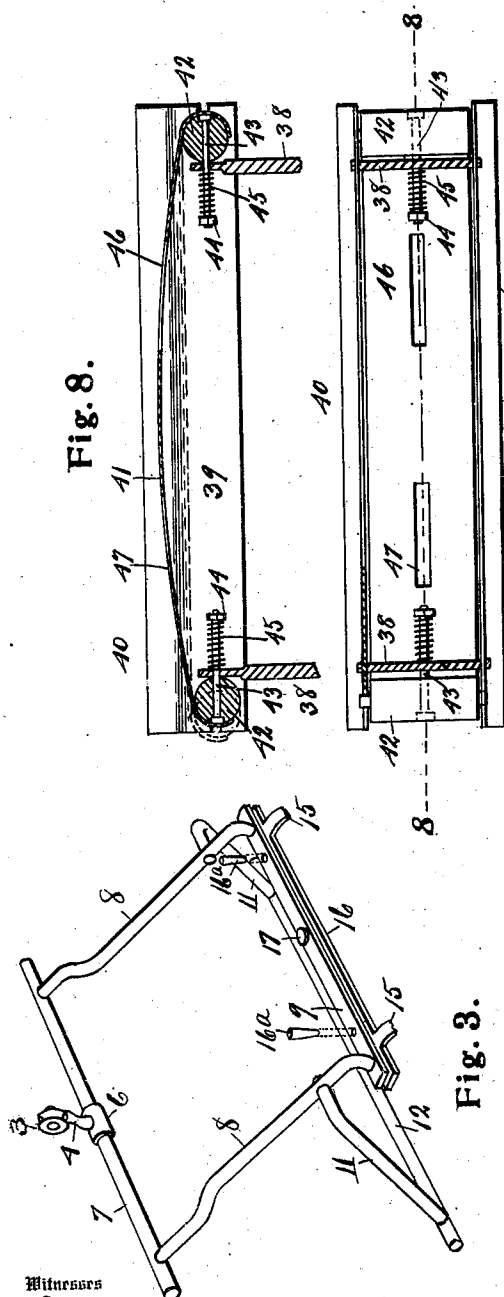


Fig. 3.

Fig. 8.

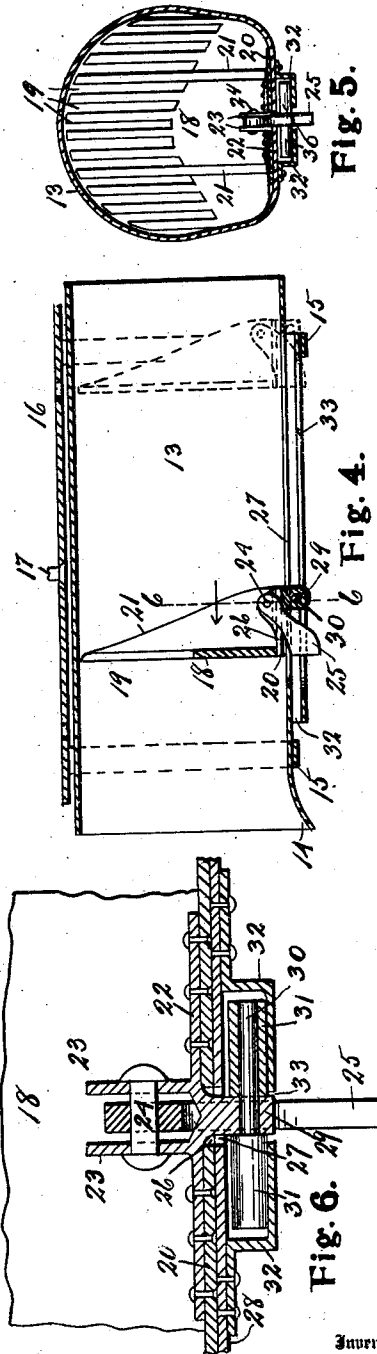


Fig. 4.

Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

ALFRED M. CLARK, OF KALAMAZOO, MICHIGAN.

MAIL-BAG AND PARCEL RECEIVING AND DELIVERING APPARATUS.

991,425.

Specification of Letters Patent.

Patented May 2, 1911.

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To all whom it may concern:

Be it known that I, ALFRED M. CLARK, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Mail-Bag and Parcel Receiving and Delivering Apparatus; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to mail bag and parcel receiving and delivering apparatus, and consists in the construction and arrangements of parts hereinafter more fully set forth and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means especially designed for use in connection with mail and express cars for receiving and delivering mail bags and parcels without the necessity of stopping the car, and while the car is traveling at a high rate of speed, the arrangement being such as to enable a bag or parcel to be picked up, and at the same time another bag or parcel deposited while the car to which the apparatus is attached is passing a station, provision being also made for withdrawing the receiving and delivering device within the car and for using it on either side of the car, as may be desired.

The above object is attained by the apparatus illustrated in the accompanying drawings, in which:—

Figure 1 is a transverse section through a car illustrating the application of my invention, and showing the receiving and delivering scoop in position for use. Fig. 2 is a side elevation of a portion of a car, showing the receiving and delivering scoop suspended from the door therein. Fig. 3 is a perspective view of the supporting frame work from which the scoop is swiveled or pivotally suspended, the parts connected with the scoop being broken away. Fig. 4 is a longitudinal section through the scoop. Fig. 5 is a transverse section therethrough. Fig. 6 is an enlarged sectional view as on line 6—6 of Fig. 4. Fig. 7 is an inverted

plan of the receiving and delivering platform, the end supports for said platform appearing in section. Fig. 8 is a longitudinal section through the platform as on line 8—8 of Fig. 7 with said platform in its normal position, it being borne in mind that in Fig. 7 said platform is inverted. Fig. 9 is an enlarged sectional view, showing the hinged and swiveled connection between the roller which travels upon a transverse track within the car, and the frame which supports the receiving and delivering scoop.

Referring to the characters of reference, 1 designates the frame of the car across the upper portion of which extends a transverse track 2. Mounted to travel upon said track is a transporting pulley 3 which is journaled to the upper end of a depending bracket 4. The lower end of the bracket 4 is swiveled, as shown at 5 in Fig. 9, to a sleeve 6 which embraces the central portion of a bar 7 which is rotatably mounted in said sleeve. By this arrangement the bracket carrying said pulley is hinged and swiveled to said bar. Rigidly secured at their upper ends to the cross bar 7 near the opposite ends thereof are the arms 8 whose lower ends are attached to and connected by a cross piece 9. Swiveled at 10 to the lower ends of the arms 8 are the curved side braces 11 which extend inwardly and downwardly and whose lower ends are connected to and carry a lower cross bar 12.

The receiving and delivering scoop 13 is substantially cylindrical in form, being provided at its receiving end with a flaring downwardly extending lip 14. Embracing said scoop are the metallic straps 15 which at the top of the scoop are connected to a longitudinal cross piece 16. This cross piece 16 attached to the scoop, is swiveled to the cross piece 9 carried by the arms 8 by means of a bolt 17 which passes centrally through said parts. The swivel connection between said cross pieces permits the scoop to be turned so as to present the mouth or receiving end thereof in either direction. For the purpose of securing the scoop in either position, tapered pins 16^a are passed through the cross pieces 9 and 16 at their ends.

Located within the scoop and crossing the interior thereof is a slidable partition 18 which is provided through a portion thereof with slits 19 to obviate undue air resistance. Said partition has a horizontal

bottom portion 20 from which extend the strengthening ribs 21 which engage the back face of said partition. Mounted upon the bottom piece 20 of said sliding partition is a transverse plate 22 which is riveted to said bottom piece 20, as shown in Fig. 6. Projecting from said plate 22 are parallel brackets 23 between which is pivoted on a transverse bolt 24 a gravitating dog 25 which depends through a slot 26 in the plate 20 and through a slot 27 in the bottom 28 of the scoop 13. Depending from the plate 22 and also extending through said slots is a bracket member 29 in which is supported a transverse shaft 30 carrying on the opposite ends thereof the antifriction rollers 31. Mounted upon the under face of the bottom 28 of the scoop is a longitudinally extending housing 32 which is slotted through its center, as shown at 33, to permit the dog 25 to extend therethrough and the bracket 29 to depend thereinto. The opposite sides of said housing afford a way in which the rollers 31 are confined and are adapted to travel longitudinally, said rollers supporting the partition 18 and serving as a transportable mounting for said partition which permits it to reciprocate longitudinally within the cylindrical scoop 13.

Upon the inner face of the door casing 34 of the car at each side thereof near the top are placed the hook shaped brackets 35 adapted to removably receive the upper cross bar 7 and upon the outer face of said door casing upon each side and near the central portion thereof are placed the hook shaped brackets 36 adapted to removably receive the lower cross bar 12. When the parts are in the position just described, as shown in Figs. 1 and 2, the scoop 13 will become suspended from the side of the car by means of the extended arms 8 and the hinged braces 11 which support said arms, presenting the scoop longitudinally of the car and some distance from the side thereof in a position to receive or deposit a mail bag or a parcel or package.

In the arrangement for presenting a mail bag or other parcel to the scoop in a manner to be received therein while the car is moving, a suitable platform is provided at the side of the car mounted upon supporting posts 37 having laterally extending arms provided with terminal portions forming vertical standards 38 which are spaced some distance apart and stand in parallel relation. Secured to the upper end of said standards are the side pieces 39 of the platform, the upper edges of said side pieces flaring outwardly, as shown at 40. The bottom 41 of the platform is formed of a steel plate, comparatively thin, to render it flexible and of sufficient width to extend between the side pieces 39. The ends of the flexible steel bottom of the platform extend partially

around and are secured to the rollers 42 having trunnions therein adapted to slide in longitudinal slots formed in the sides of said platform. Passing through the rollers 42 are bolts 43 whose free ends project inwardly and extend loosely through the upper ends of the standards 38, the inner ends of said bolts carrying the nuts 44 which confine thereon the coiled springs 45 between said nuts and the inner faces of the standards 38. The tension of the springs 45 normally draws the rollers against the outer faces of the standards 38 and causes the bottom of the platform to bow upwardly, as shown by solid lines in Fig. 8. Formed through the flexible bottom of the platform at its opposite ends are the longitudinally extending slots 46 and 47 respective, so positioned as to lie in the path of the gravity dog 25 depending from the bottom of the scoop and attached to the movable partition 18 therein. The height of the platform is such that the bottom 41 thereof will be engaged by the depending lip 14 at the mouth of the scoop as said scoop is passing over the platform.

In the operation of this device, the mail bag or other package which is to be taken up by the passing car, is placed upon the bottom 41 of the platform and the mail bag or parcel to be delivered at said station is placed in the scoop in the rear of the moving partition 18, according to the direction in which the car is traveling, and said scoop swung from the side of the car as before explained and illustrated in Figs. 1 and 2. As the scoop encounters the platform upon which the mail bag or parcel is lying, the depending lip of the scoop engages the bottom of the platform which because of its curved shape and yielding character, is held in frictional engagement with said lip, causing the scoop to pick up anything that may be lying upon said platform, at the same time the dog 25, when the scoop is traveling to the left, will engage in the slot 46 in the bottom of the platform, thereby momentarily arresting the partition 18, causing the scoop to travel forward independently of said partition, which movement will discharge from the rear end of the scoop, a mail bag or package which may be lying therein in the rear of said partition. To permit the partition to again move forward with the scoop, the dog 25 is disengaged from the slot in the bottom of the platform by the curved rear edge thereof engaging the end terminal of the slot 27 in the bottom of said scoop, or other suitable stop, which throws the dog upwardly, as shown by dotted lines in Fig. 4, thereby retracting it from the slot 46 and enabling the partition 18 to again move forward with the scoop. The flexible nature of the bottom 41 of the platform when it is engaged by the scoop, causes it to spring downwardly into a horizontal position, as

shown by dotted lines in Fig. 8, the rollers 42 at the ends of said bottom part moving outwardly against the action of the springs 45 to accommodate such movement and said springs serving to return the parts to their normal position after the passage of the scoop.

When the car is moving in the opposite direction, the ends of the scoop are reversed by swinging it upon the swivel 17 so as to present the mouth end of the scoop to the right, in which position the scoop will move from left to right over the platform, and the dog 25 will engage in the slot 47 and the operation just described will be repeated.

The partition 18 which discharges from the scoop the mail bag or package placed in the rear thereof, also serves to prevent the momentum of the scoop causing the bag or package which is picked up to pass entirely therethrough, said partition in effect closing the rear end of the scoop as illustrated by dotted lines in Fig. 4, and confining within the scoop whatever is picked up from the platform.

By disengaging the cross bar 12 the scoop, by force of gravity, will swing within the car suspended by the arms 8. To employ the device on the opposite side of the car, the cross bars 7 and 12 are disengaged from their respective brackets and said parts swung upon the swivel connection between the bracket 4 and the cross bar 7 to allow them to enter the door of the car, when the device may be carried across the car upon the track 2 and projected from the opposite door 48, the inner hooked brackets 49 being used to support the cross bar 7 and the outer hooked brackets 50 to support the cross bar 12 in a manner to suspend the scoop from the side of the car opposite said door, as before described.

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

1. In a device for the purpose set forth, the combination with a car, of a hollow scoop to contain a package, means within the scoop for discharging a package therefrom, means for mounting said scoop and projecting it from the side of the car, said mounting means allowing the ends of the scoop to be reversed and serving to hold the scoop parallel with the car, and a flat platform supported in the path of the horizontal travel of the scoop in position to be engaged thereby as the scoop is carried over the platform by the travel of the car.

2. In a device for the purpose set forth, the combination with a car, of a parcel receiving and discharging member, means for suspending said receiving and discharging member from the side of the car and for moving said member across the car from side to side thereof and a platform adjacent

the track in the plane of the horizontal travel of said receiving and discharging member.

3. In a device for the purpose set forth, the combination with a car, of a receiving and discharging member, means for suspending said member from the side of the car, a fixed platform supported in the path of the horizontal travel of said receiving and discharging member, a movable partition within said receiving and discharging member, and means actuated by the horizontal travel of said member for effecting a movement between said receiving and discharging member and said partition therein.

4. The combination of a car, a receiving and discharging member, means for suspending said member from the side of the car, a movable partition within said member, a platform supported in the horizontal path of said member adapted to be engaged thereby, and means actuated by the engagement of said member with said platform for effecting a movement between said member and partition.

5. In a device for the purpose set forth, the combination of a car, a package receiving and discharging member, means for suspending said member from said car, a movable partition within said member, a platform supported in the path of the horizontal travel of said member, and means co-acting with said platform for momentarily arresting the travel of said partition when said receiving and discharging member is passing thereover and for again permitting said partition to move with said member.

6. The combination with a car, of a scoop suspended from the side of the car, a movable partition in said scoop, a platform supported in the path of the horizontal travel of said scoop, and means actuated by the engagement of said scoop with said platform for moving said partition within said scoop.

7. In a device for the purpose set forth, the combination with a car, of a jointed frame adapted to be projected from the side of the car and hinged to swing through the car door, a reversible scoop suspended from said frame, and a platform supported in the path of the horizontal travel of said scoop.

8. In an apparatus for the purpose set forth, the combination of a car, a scoop suspended from said car, a platform in the path of the horizontal travel of said scoop, said platform having a flexible bottom which is engaged by the mouth of the scoop as said scoop passes over said platform.

9. In an apparatus for the purpose set forth, the combination of a car, a scoop suspended from the side of the car having a movable partition therein, means carried by the scoop for effecting a movement of said partition, a platform over which the scoop is adapted to pass, said partition-ac-

tuating means being adapted to engage said platform to effect a movement of said partition.

10. In an apparatus for the purpose set forth, the combination of a car, a scoop suspended from the side of the car, a platform for supporting a package, said platform having a resilient bottom part adapted to be engaged by the scoop, and means for supporting said bottom part yieldingly in position.

11. In a device for the purpose set forth, the combination with a car, of a scoop, means for suspending the scoop from the side of the car, a movable partition within the scoop, a platform in the path of the travel of the scoop, the bottom of said platform having a slot therein, and means car-

ried by said movable partition adapted to engage in said slot to effect a movement between said partition and scoop.

12. In an apparatus for the purpose set forth, the combination with a car, of a scoop, means for suspending the scoop from the side of the car, a platform in the path of the travel of the scoop having a resilient bottom, and means for yieldingly retaining said bottom in contact with the scoop during the passage of the scoop over said platform.

In testimony whereof, I sign this specification in the presence of two witnesses.

ALFRED M. CLARK.

Witnesses:

WILLIAM R. FOX,
MAUDE E. LUCAS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
