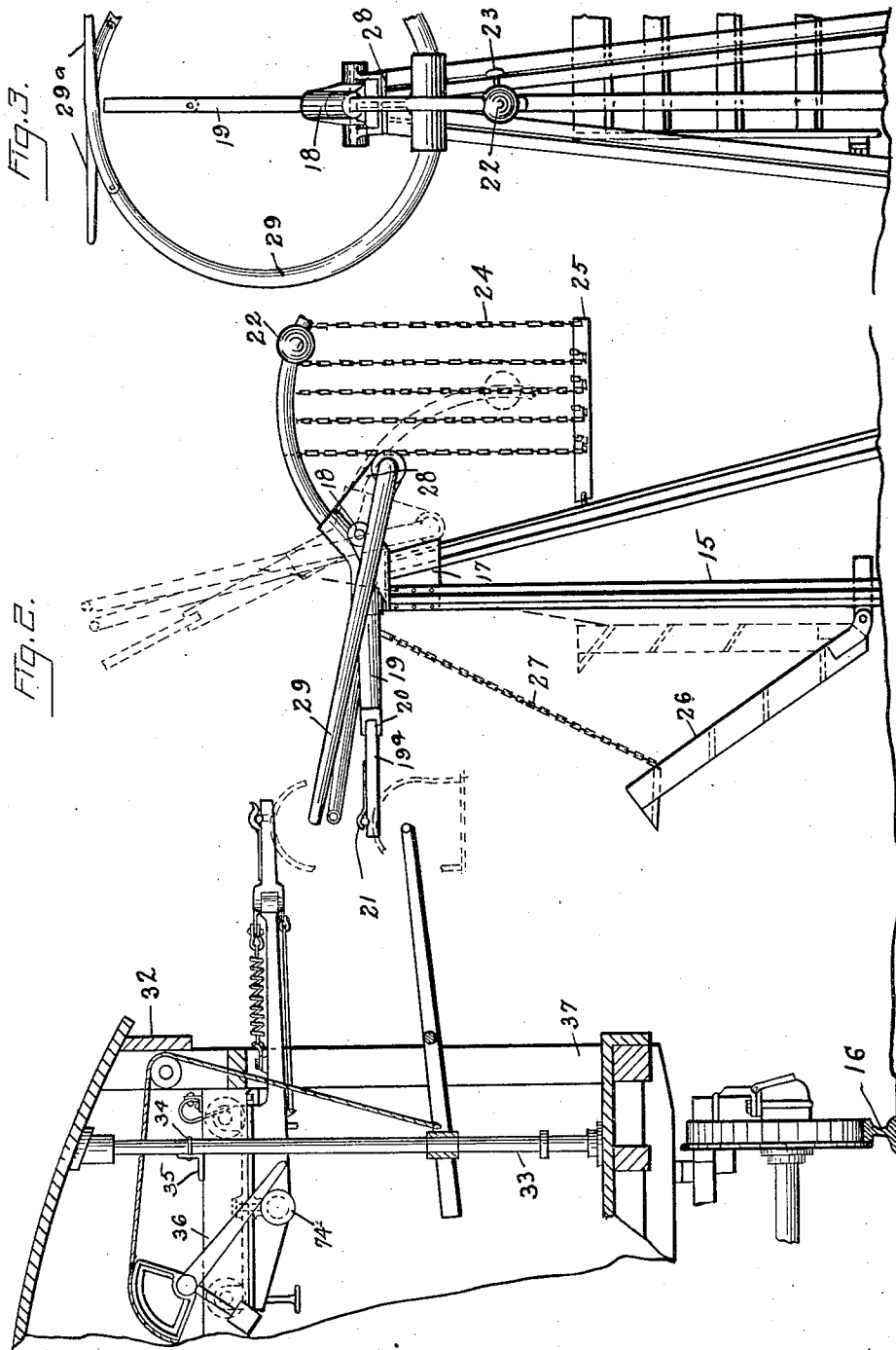


W. H. JONES.
RECEIVING AND DELIVERING MECHANISM FOR MAIL BAGS.
APPLICATION FILED MAY 31, 1911.

1,050,278.

Patented Jan. 14, 1913.

3 SHEETS—SHEET 1.



WITNESSES
Frank Watfield.
S. O. Beale

FIG. 1.

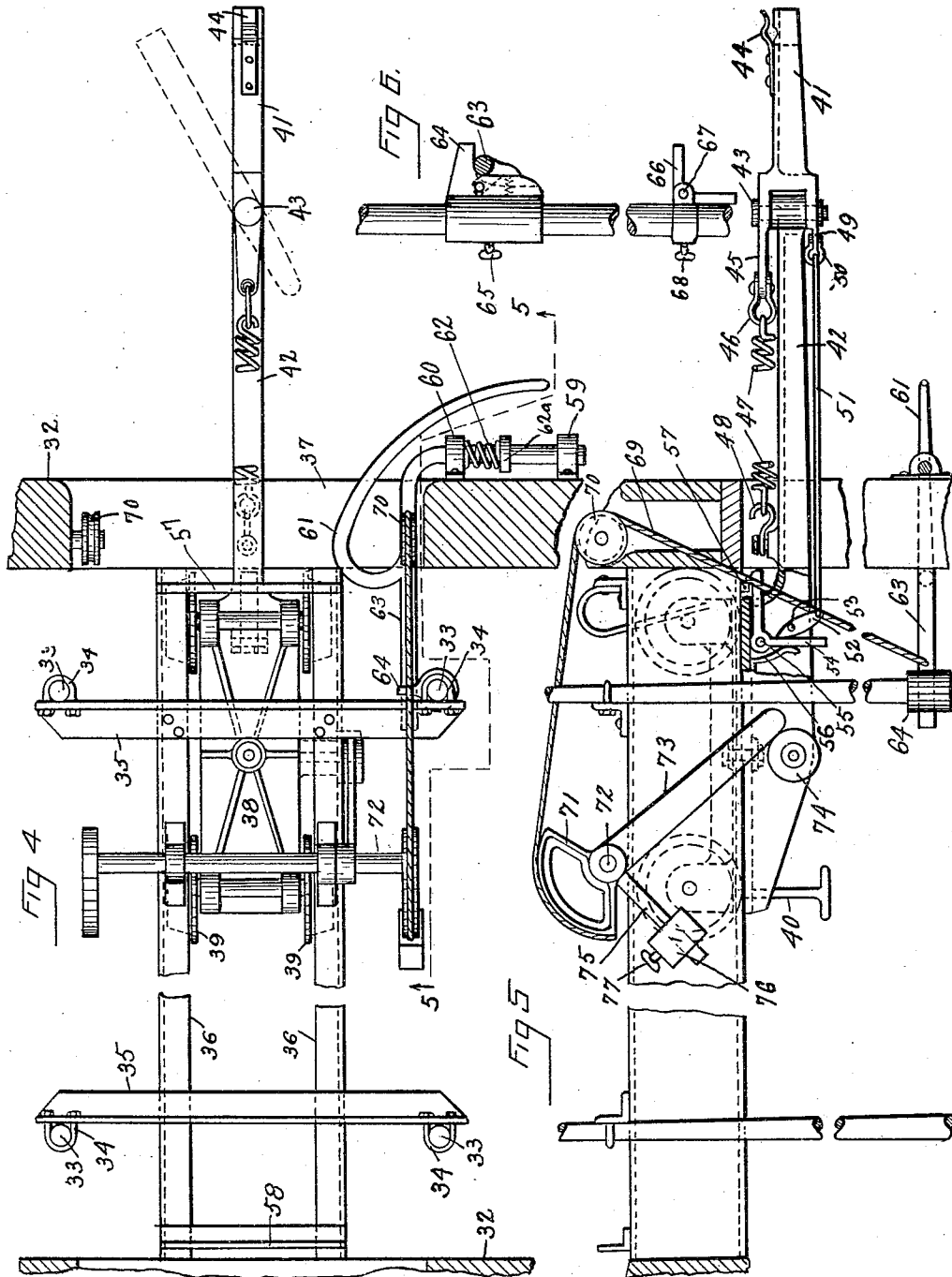
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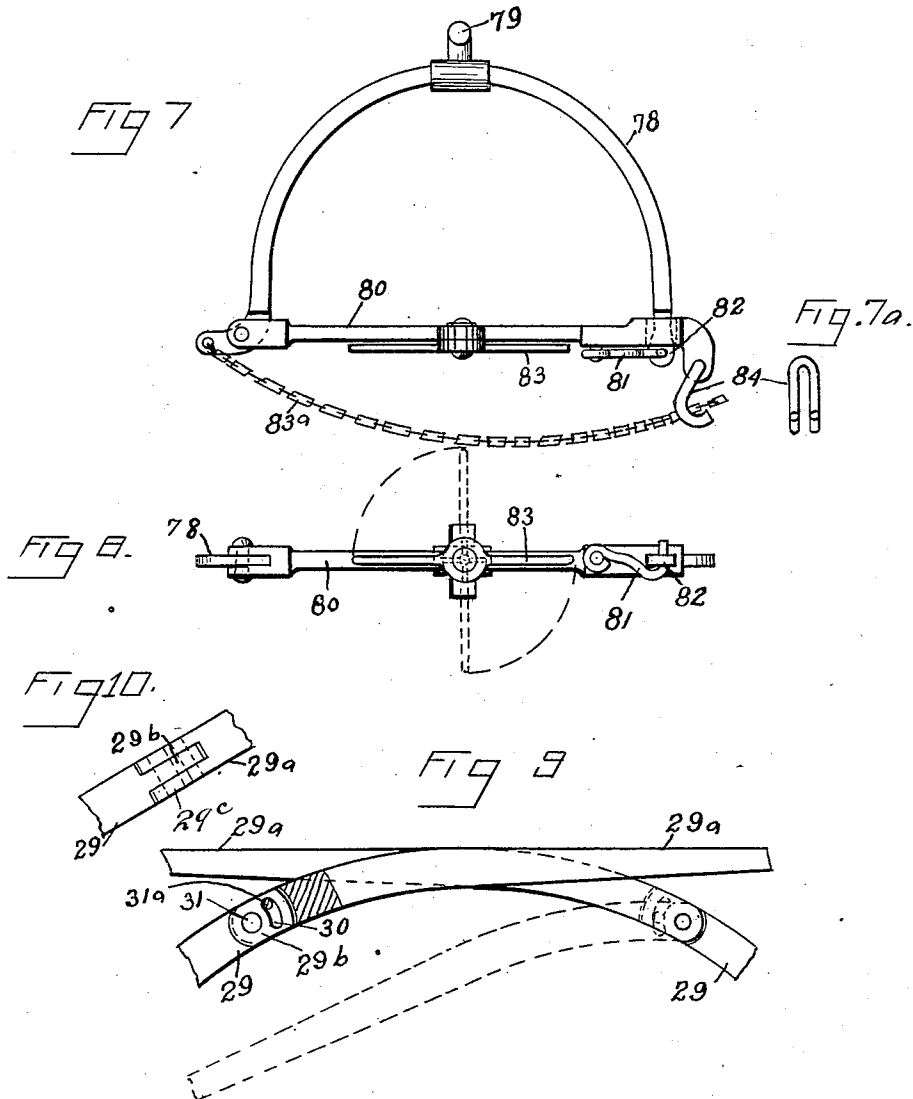
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UNITED STATES PATENT OFFICE.

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RECEIVING AND DELIVERING MECHANISM FOR MAIL-BAGS.

1,050,278.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed May 31, 1911. Serial No. 630,477.

To all whom it may concern:

Be it known that I, WILLIAM H. JONES, a citizen of the United States, residing at Manhattan Beach, county of Los Angeles, and State of California, have invented new and useful Improvements in Receiving and Delivering Mechanism for Mail-Bags, of which the following is a specification.

The object of this invention is to provide simple, durable and economical mail bag delivering and receiving mechanism capable of ready attachment to the mail car, and which will not interfere with the use of the door and can be readily shifted from one side of the car to the other, and also to provide a simple, durable and economic mail delivering and receiving mechanism constructed adjacent to the railway track, upon which an outgoing mail bag can be secured and when the same is received by the mail car and a mail bag is received from the car, the delivering and receiving arms will swing away from the track so as not to lie close enough to the track to endanger a brakeman on a freight train when passing the delivering mechanism or any other person on a train who may be attending to any duties thereon. I accomplish this object by the mechanism described herein and illustrated in the accompanying drawings, in which:

Figure 1 is a cross-section of a mail car through the mail delivering and receiving door on the line 5—5 of Fig. 4, with the delivering and receiving mechanism in operative position, the mail bags being omitted, a fragment of the car only being shown; Fig. 2 is a side elevation of the track delivering and receiving mechanism in its operative position, the mail bags being omitted; Fig. 3 is an edge elevation of the track receiving mechanism in its inoperative position; Fig. 4 is a top plan view of the car delivering and receiving mechanism; Fig. 5 is a side elevation of the parts shown in Fig. 4, taken on the line 5—5 of Fig. 4; Fig. 6 is an enlarged detail of the retaining catches for holding the car receiving hook in certain positions; Figs. 7, 7^a and 8 are enlarged details of the bag ring; Figs. 9 and 10 are enlarged details of the track receiving hooks.

Track delivering and receiving mechanism.—As shown in the drawings, a stand-

ard 15 is set in the ground a suitable distance from the track 16, of which one rail is shown in Fig. 1. This standard is preferably constructed in the form of a tripod, out of old rails. On the top of the standard is a cap plate 17, having lugs 18, which extend rearwardly and upwardly. In these lugs is pivotally mounted, the delivery arm 19. The front portion 19^a is pivoted to the other portion at 20 so as to turn horizontally when the arm is positioned for use. A vertical slot in the extreme outer end lies immediately below the outer end of spring 21, which is secured upon the top of the outer end. In this slot is received the head of the mail bag ring. On the rear end of the delivery arm is an adjustable counterweight 22 which is held positioned by set screw 23. A buffer, consisting of chains 24, secured at the top to rear end of the delivery arm and a bottom bar 25, pivotally secured to the standard, receives the impact of the mail bag received from the mail car, as hereinafter explained. A ladder 26 is pivotally secured at its bottom to the standard and at its top by chain 27 to the delivery arm, and provides means for placing a mail bag in the delivery arm. The delivery arm has a rearwardly and downwardly projecting lug 28, in which is mounted the track receiving mail bag arms, the main or body portion 29 of which is circular with the points 29^a crossing each other and projecting on a line parallel with the track, as best shown in Figs. 3 and 9. The body portion terminates in tongues 29^b at the ends thereof, as best shown in Figs. 9 and 10. In these tongues are curved transverse apertures 30, through which pass pins 31, which pins also pass through the bifurcated ends 29^c of the tips, in which they are rigidly secured. These pins limit the extent of movement of the outer ends of the tips, as shown in dotted lines in Fig. 9. The tips are pivotally secured to the body by rivets 31.

Car delivering and receiving mechanism.—At each side of the doors of the car 32 are vertical track supporting posts 33, which are suitably secured to the top and floor of the car. On these posts are adjustably mounted by means of clips 34, supporting beams 35, to which are secured the delivery arm track 36. This track consists of

two (2) U-shaped rails with the openings facing, which rails run transversely the car at or just above the center of the door openings 37. A four-wheeled truck, having a body 38, and having the wheels thereof provided with flanges 39, runs upon this track. The tread of the wheels of this truck project within the opening in the track rails and run upon the lower flanges of the rails. The central portion of the body of the truck projects downwardly to the plane of the bottom of the track, and to the lower surface of the body is pivotally secured the inner end of the car delivering arm. On the extreme inner end of this arm is a spring catch 40, which locks the arm to the truck body in a plane which passes vertically and longitudinally through the truck when it is desired to deliver a mail bag from the car. The outer end 41 of this delivery arm is pivotally connected to the body 42 at 43 so as to turn in a horizontal plane when positioned for use. In the extreme outer end is a vertical slot which lies beneath the outer end of spring 44, into which slot is received the head of the bag securing ring when a mail bag is to be delivered therefrom. On the upper side of the outer end 41 of the delivery arm, and projecting beyond pivot 43 is an upper shank 45, on the end of which is a clevis 46. This clevis is connected by spring 47 with a hook 48, which is pivotally secured to the body of the arm near the truck. This spring keeps the outer end of the arm in alinement with the body when positioned for use and also permits the outer end to swing when delivering a bag therefrom. On the lower side of the outer end 41 of the delivery arm is a lower shank 49 which projects beyond pivot 43, and has on the end thereof a clevis 50 which is connected by rod 51 to a lever 52, pivotally secured to the body 42 at 53. The free end of lever 52 rests against the lower arm of an L-shaped locking catch 54, which is pivotally mounted at 55 to the arm. A spring 56 secured to the body normally holds this catch in the position shown in Fig. 5. In this position this catch engages a bar 57 fastened to the track and holds the truck against movement toward the center of the car. At this position the extreme outward travel of the truck has been reached. Another bar 58 is fastened to the track near the doorway at the other side of the car to engage the catch 54 when the arm is projected from this doorway. At each side of each doorway are bag receiving hook bearings 59 and 60, in which are mounted mail bag receiving hooks. All of these hooks and bearings are of the same construction and operation. Only one is shown in the drawings and only one will be described. In bearings 59 and 60, attached to the side of the car, is revolubly mounted the receiving hook 61. Between these bearings on the

hook is a spring 62 which bears against bearing 60. A cotter pin 62^a holds the spring and hook in place. When positioned for use, the pocket of the hook extends into the door opening and the hook lies in a plane parallel with the plane of the floor. The point of the hook extends the required distance from the side of the car to properly engage a bag ring at the station, and projects toward the front of the train. The hook is provided with a handle 63 which, when positioned for use, engages a latch 64 on the track supporting post at the side of the door to hold the hook properly positioned. This latch is adjustably secured upon the post by set screw 65. A stop bar 66, pivotally mounted in bearings 67, adjustably mounted on the same post by set screw 68, prevents the handle from swinging out of the door opening after a bag has been received on the hook. To the handle of the hook is detachably secured a cable or rope 69 which passes upwardly and over a pulley 70, attached to the jamb of the door near the top. Said cable passes over and is attached to the farther side of a quadrant 71, which is revolubly mounted on a shaft 72, which shaft is attached to the truck track. The quadrant is provided with an operating arm 73 which is engaged by stud 74 on the truck. The quadrant is also provided with a counter-balance arm 75, on which is adjustably mounted a weight 76 which counter-balances the weight of the receiving hook when being positioned for use. A set screw 77 adjusts the weight on the arm. The mail bag ring consists of a semi-circular body 78 having a T-shaped head 79. The neck of this head is adapted to enter the slot in the delivery arm and the head to pass across the slot to keep it from slipping through. The spring on the top of the arm rests on the head to hold it from accidentally slipping out of the slot. To one side of the body is pivotally connected the bottom bar 80, which has an aperture in the other end thereof, through which passes the other end of the body. A hook 81 pivotally attached to this bar, passes through a hole 82 in the projecting end of the body to lock the parts together when positioned for use. A steadying bar 83 is pivotally connected to the bottom bar and may be turned to lie parallel or at right angles to the bottom bar. When positioned for use, this steadying bar lies at right angles to the bottom bar to keep the mail bag from swinging in the wind except as it carries the free end of the whole hook with it. A chain 83 is secured at one end to the end of the body, to which the bottom bar is pivoted. The other end of the chain is engaged by a catch 84 mounted in the free end of the bottom bar at such point that it is held in tight engagement with the mail bag, which is held between the chain and bar.

In the operation of my device, we will assume that there is a mail bag to be received and another to be delivered at a point where the train does not stop. In such case, the station operator would secure a mail bag to a mail bag ring and would bring the ladder to its operative position, as shown in full lines in Fig. 2. This would bring the delivering and receiving arms into their operative position. He would then mount the ladder and place the head of the ring in the slot in the delivery arm when the bag is ready for delivery to the car. The weight of the bag holds the arms in their operative position. Before reaching such station, the clerk on the mail car would likewise secure the mail bag for such station to a ring which he would place in the delivery arm of the car mechanism. He would then turn the arm to the position required to deliver the bag and open the door. He would run the truck to that side of the car that the bag was to be delivered from. When the truck reaches its outward limit of travel, catch 54 locks it in that position. In its movement to its locked position, stud 74 engages the operating arm of the quadrant, which operates the cable 69 to raise the car receiving hook to its operative position. When the car reaches the station, the receiving hook on the car enters the bag ring of the bag at the station and, at the same time, the receiving hook at the station enters the bag ring of the bag on the car. The respective receiving hooks pull the bag rings from the respective delivery arms. The outer ends of these arms turn so as to allow the head of the bag ring to slip out of the arm. The bag at the station swings down on the receiving arm and around and strikes the buffer which stops its motion. The weight of the bag and its momentum cause the arms to move to the position shown in dotted lines in Fig. 2, where they are out of the way of passing trains. The swinging of the front end of the delivery arm on the car, as the bag ring is pulled therefrom through lower shank 49, clevis 50, rod 51, and lever 52, releases catch 54 from bar 57, and the truck in the car is free to be moved toward the center of the car. When the mail bag is received from the station arms upon the car receiving hook, the momentum carries it into the car, and the weight thereof unlocks the handle of the hook from latch 64 and the weight of the bag causes the hook to swing down. This causes the truck

to travel toward the center of the car and withdraws the delivery arm from projecting out of the car. The bags are then taken from the rings, and the rings removed from the hooks.

In practice, there will be a receiving hook at each side of the car door on the side toward the engine. By removing the cotter pin, the hook can be taken from its bearings and put into the bearings at the other side of the door. In practice, springs will be secured to the bearings so that it will only be necessary to take out and replace the cotter pin to effect a change.

By this construction, the parts on the car are so connected that the receiving hook is automatically actuated to its operative position by the operation of the delivery mechanism, so that the clerk has only the delivery mechanism to operate.

Having described my invention, what I claim is:

1. In a device of the character described, a mail bag ring comprising a semi-circular body, having a T-shaped head, a bottom bar pivotally connected to the body at one end, and detachably connected to the body at the other end and bag attaching means secured to said body and bottom in combination with a bag delivering arm.

2. In a device of the character described herein, a receiving hook revolubly mounted on the side of the car, a track secured transversely the car, a truck carrying a delivery arm, said truck being movable on said track, and means to raise said hook into its operative position, said means being operable by the truck in its travel to position the delivery arm in its operative position.

3. In a device of the character described herein, a track secured to the car and running transversely the same; a truck mounted to run on said track, a delivery arm having a joint therein mounted on said truck; means to lock said truck when the delivery arm is in its operative position, and means connected to the outer end of said arm and operable thereby to unlock said locking means upon the delivery of a bag from said arm.

In witness that I claim the foregoing I have hereunto subscribed my name this 24th day of May 1911.

WILLIAM H. JONES.

Witnesses:

G. E. HARPAM,
FRANK WATERFIELD.