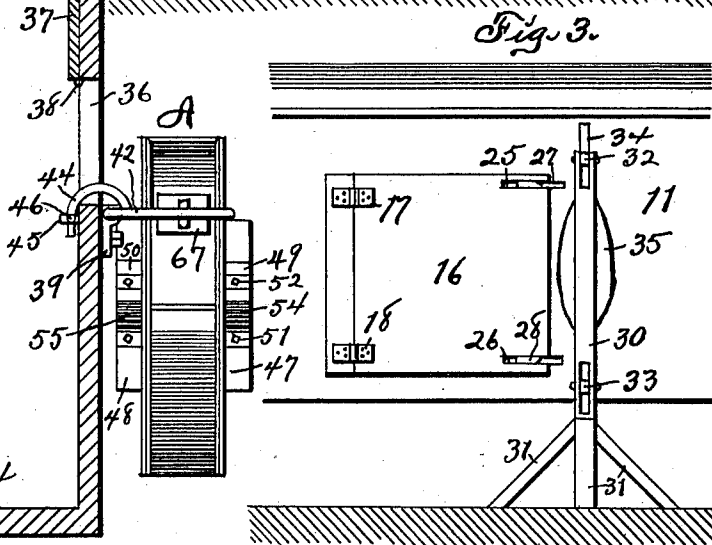
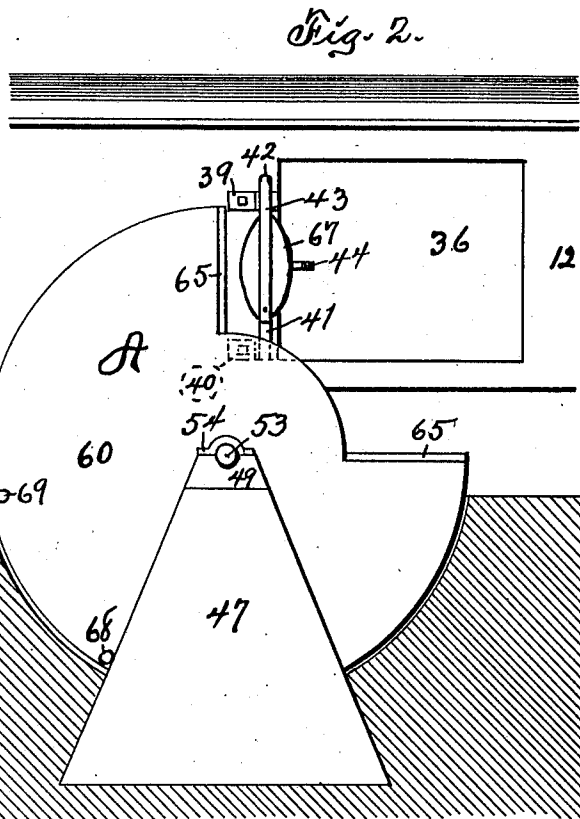
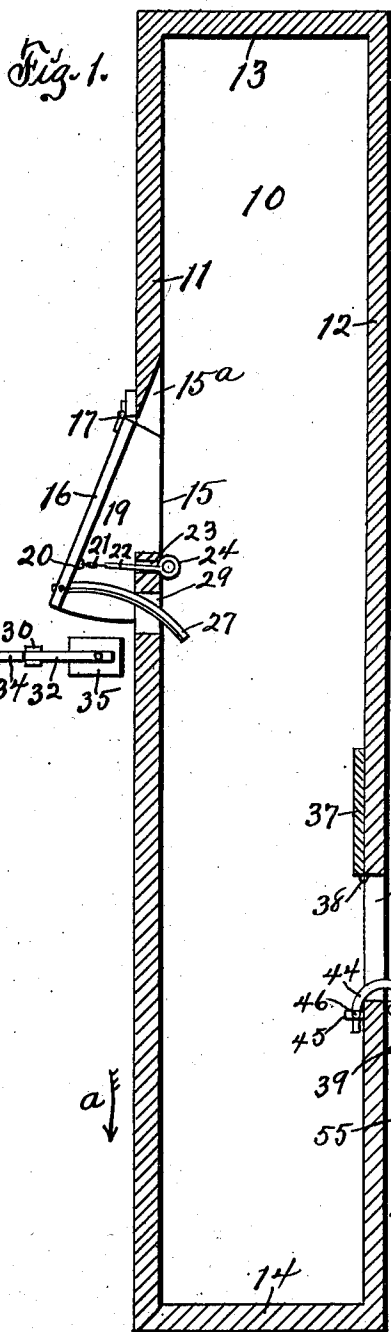


J. A. TIMMERMAN.
 MAIL CRANE AND CATCHER.
 APPLICATION FILED FEB. 24, 1911.

1,004,109.

Patented Sept. 26, 1911.

2 SHEETS—SHEET 1.



Attest:
 H. S. Sweet.
 N. W. Winter.

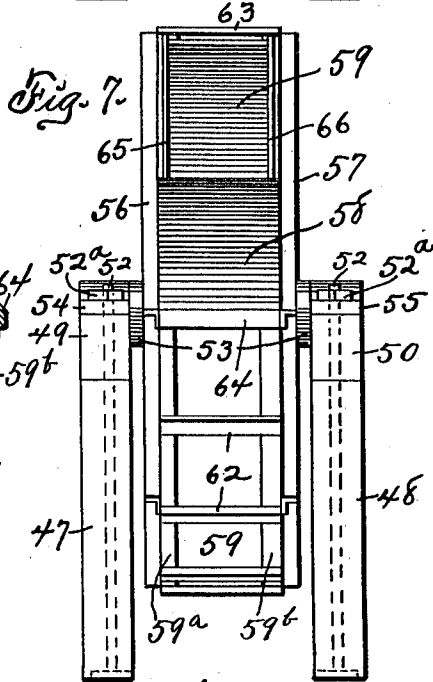
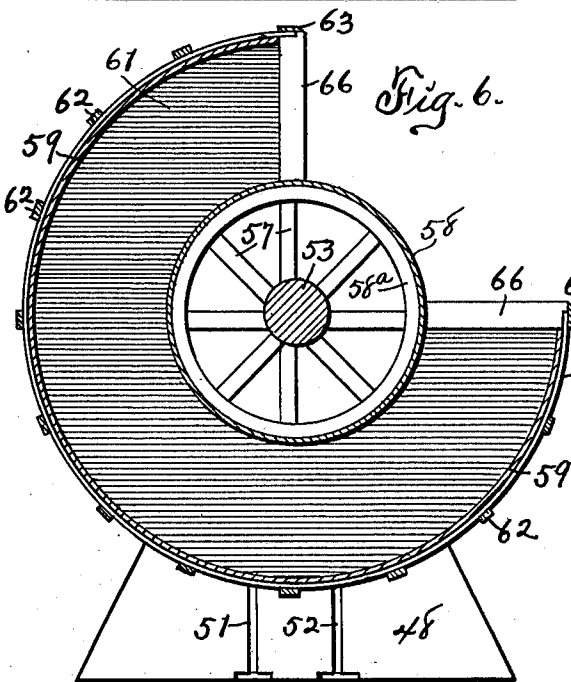
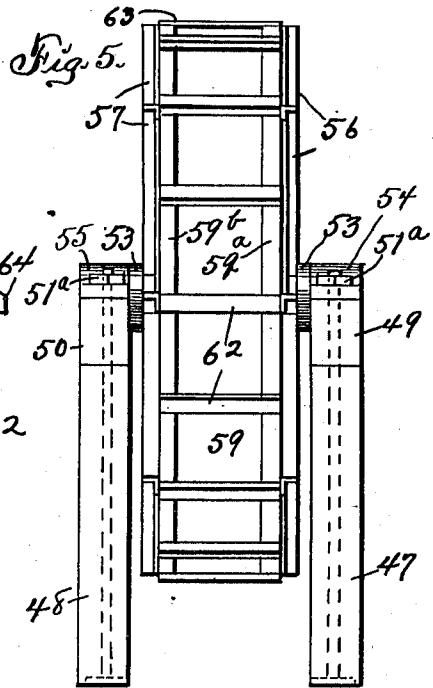
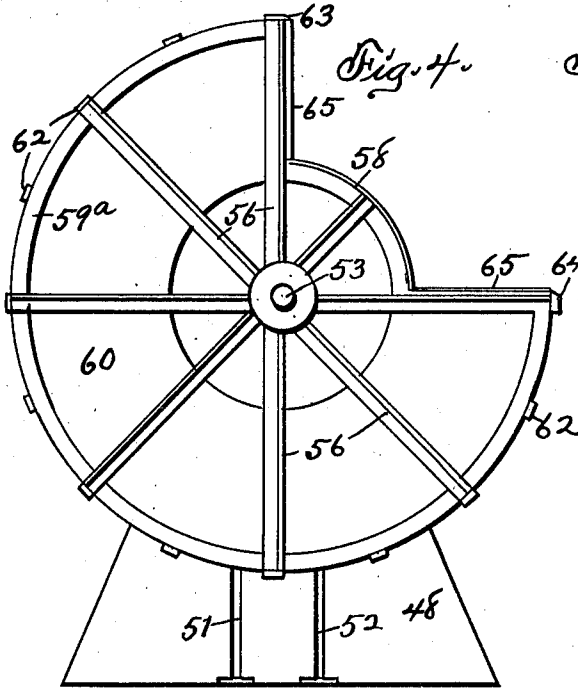
Inventor:
 John A. Timmerman.
 By H. S. Sweet atty

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2 SHEETS—SHEET 2.



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 N. W. Winter.

Inventor:
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 By J. Schwab Atty

UNITED STATES PATENT OFFICE.

JOHN A. TIMMERMAN, OF CRESTON, IOWA.

MAIL CRANE AND CATCHER.

1,004,109.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed February 24, 1911. Serial No. 611,266.

To all whom it may concern:

Be it known that I, JOHN A. TIMMERMAN, citizen of the United States of America, and resident of Creston, Union county, Iowa, have invented a new and useful Mail Crane and Catcher, of which the following is a specification.

The object of this invention is to provide an improved construction for mail cranes and catchers.

A further object of this invention is to provide improved means for receiving mail bags into a moving railway car.

A further object of this invention is to provide improved means for delivering mail bags from a crane to a moving railway car.

A further object of this invention is to provide improved means for delivering mail bags from a moving railway car.

A further object of this invention is to provide an improved device for receiving mail bags from a moving railway car.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is a plan, partly in section, illustrating a railway mail car equipped with my improved receiving and delivering devices and a mail crane and a catcher supplemental thereto. Fig. 2 is an elevation, on an enlarged scale, of a mail receiving device or catcher and a portion of the side of a mail car. Fig. 3 is an elevation illustrating a mail crane and a portion of the opposite side of a mail car equipped with my improved device for receiving mail therefrom. Fig. 4 is a side elevation, on a further enlarged scale, of the device for receiving mail from a moving car, one standard and bearing being removed. Fig. 5 is a rear elevation of the complete device illustrated in Fig. 4. Fig. 6 is a central vertical section of the same. Fig. 7 is a front elevation of the same.

This invention relates to and is an improvement on devices illustrated, described and claimed in Letters Patent of the United States Number 972,946 granted to me October 18, 1910, to which reference hereby is made.

In the construction and mounting of the devices as shown the numeral 10 designates the floor, 11, 12 the side walls and 13, 14 end

walls of a railway mail car. The side wall 11 is formed with a doorway 15 intermediate of its ends. The doorway 15 is closable by a door 16 secured by hinges 17, 18 to the outer face of said wall and adapted to open outwardly therefrom. A bottom plate 19, preferably of sheet metal, is secured at its outer margin to the bottom of the door 16 and when said door is open provides a bottom for the space between said door and the side 11 of the car. When the door 16 is closed the plate 19 projects within and occupies a position parallel with and above the floor 10 of the car. An eye 20 is fixed to the inner face of the door 16, preferably near the forward upper corner thereof, and is flexibly connected, as by a link or short chain 21, to a rod 22. The rod 22 extends through an aperture 23 in the wall 11 in front of the doorway 15 and terminates in a handle 24 inside the car. The handle 24, through the rod 22 and connections, is employed to swing the door 16 open and shut, and said handle limits outward movement of said door by engagement with the inner surface of the wall 11. When the door 16 is in closed position the rod 22 is free to oscillate on its pivotal connections and drop into a vertical position alongside the wall 11, thus locking said door in such closed position; the combined length of the eye 20 and chain 21 corresponding approximately with the thickness of the wall 11. The door 16 extends at its free end a considerable distance beyond the forward margin of the doorway 15 and slots or recesses 25, 26 are formed in the upper and lower portions respectively of the forward margin of said door. Knife blades 27, 28, preferably curved, are pivoted at one end each in the slots 25, 26 and extend inwardly from the door 16. The inner ends of the knife blades 27, 28 extend through holes 29 (one of which is shown in Fig. 1) in the wall 11 and are adapted to travel through said holes when the door 16 is moved on its hinges and to occupy positions within the car when said door is in closed position.

The rear margin of the doorway 15 preferably is beveled at 15^a on a line corresponding with the plane of the door 16 when said door is open to its fullest extent. A mail crane is located adjacent the railway track and is composed of a standard 30, braces 31 at the foot of said standard, and arms 32, 33

pivoted to said standard in spaced relations to each other. The upper arm 32 is extended rearwardly from the standard 30 and is provided with a weight 34 adapted normally to hold said arm in upright position. A mail bag 35, shown conventionally, is adapted to be suspended between the arms 32, 33 by means of strings or cords attached to its ends and to free end portions of the arms 32, 33 in a common manner, said arms having first been brought into horizontal positions. When so suspended the bag 35 occupies a position in the path of travel of the open door 16 on a car traveling on the adjacent track in the direction of the arrow *a* in Fig. 1. The cords suspending the bag 35 are in a position to be engaged and cut by the knife blades 27, 28, whereby said bag is freed from its support and received within the space inclosed by the door 16 and bottom plate 19 and is carried through said space and into the car by reason of the forward movement thereof. The plate 19 prevents dropping of the bag to the ground through force of gravity and the inclined door and beveled door jamb 15^a direct the course of said bag into the car. The door 16 may then be closed until another mail crane is approached. The arms 32, 33 of the mail crane are spaced apart a vertical distance sufficient to receive the open door 16 between them. After the bag 35 has been cut from its support the upper arm 32 will be raised to a vertical position above the standard by the weight 34 and the lower arm 33 will drop to a position beside the standard.

The wall 12 of the car is provided with a doorway 36 closable by means of a door 37, preferably hinged to the inner side of the wall by hinges 38 and adapted to swing inwardly. Vertical bearings 39, 40 are fixed to the outer surface of the wall 12 at one margin of the doorway 36 and a vertical shaft 41 is mounted for oscillation in said bearings. The shaft 41 is provided with an integral horizontal arm 42 at its upper end, which arm terminates in a downwardly projecting integral arm 43 parallel with but preferably shorter than the shaft 41. An arm 44 is fixed at one end to the shaft 41 intermediate of its ends in any suitable manner and said arm curves rearwardly and inwardly therefrom. Clips 45 (one of which is shown in Fig. 1) are fixed to the inner surface of the wall 12 and are adapted to embrace the inner end of the curved arm 44 when the arm 42 is extended at right angles to the wall of the car. A set screw 46 is threaded into the upper clip 45 and is adapted to engage the curved arm 44 at times and hold the arm 42 in extended position as shown. A mail receiving device or catcher is located adjacent the railway track and is adapted to receive mail from the delivering device last above described. Concrete pillars

47, 48 are set into excavations in the earth in spaced relations to each other and from the railway track. The pillars 47, 48 are alike in construction and preferably are larger at the bottom than at the top. Bearing blocks 49, 50, of any suitable material, are mounted on the upper end portions of the pillars 47, 48 and preferably are located just above the surface of the earth. The bearing blocks 49, 50 preferably are secured to the pillars 47, 48 by means of bolts 51, 52 which pass through holes in said blocks and are seated in grooves extending vertically through said pillars and opening to the inner faces thereof (see Figs. 4 and 6). The heads of the bolts 51, 52 preferably are counter sunk in the bottoms of the pillars 47, 48 and nuts 51^a, 52^a are screwed on the opposite ends of said bolts above the blocks 49, 50. This construction permits the bolts 51, 52 to be removed conveniently from their seats for the purpose of making repairs. An arc-shaped catcher A is mounted between the pillars 47, 48 for rotation on a horizontal shaft 53 journaled in the bearings 49, 50, and said catcher occupies a position in the earth between said pillars. Cap bearings 54, 55 are mounted on and secured to the bearing blocks 49, 50 and embrace the journals of the shaft 53. Spokes 56, 57, which may be of any desired number and preferably are made of angle iron, are fixed at their inner ends to the shaft 53 and radiate therefrom. A semi-annular receiver is carried by the spokes 56, 57 and shaft, and said receiver is composed of an inner wall 58 concentric with and spaced from said shaft, an outer wall 59 concentric with and spaced from said inner wall, and side walls 60, 61 inclosing the space between said inner and outer walls. The inner wall 58 preferably is an open-ended cylinder and is, in cross-section, a complete circle.

The inner wall 58 may be secured to the spokes 56, 57 in any desired manner, such as by means of inturned peripheral flanges 58^a at each end (one of which is shown in Fig. 6) riveted to said spokes. The outer wall 59 is arc-shaped in vertical section, in this instance spanning an arc of 270 degrees. The outer wall 59 may be secured to the outer ends of the spokes 56, 57 in any desired manner, such as by riveting to angle bars 59^a, 59^b which are in turn riveted to end portions of said spokes. The side walls 60, 61 are of annular form, the annuli corresponding with the arc of the outer wall. The several walls preferably are constructed of sheet metal. A plurality of cleats 62 are fixed to and connect the angle bars 59^a, 59^b and extend transversely of the outer wall and are spaced throughout its length. The ends of the annular passageway thus formed are provided with horizontal knife blades 63, 64 overlying and projecting from the ends of the outer wall 59. The ends of said pas-

sageway also are provided with lateral knife blades 65, 66 overlying and projecting from ends of the side walls 60, 61 respectively.

When it is desired to deliver a mail bag such as 67 from a moving car to the device above described said bag is suspended from the horizontal arm 42, preferably by means of a cord, and is steadied by means of lateral horizontal cords connecting it to the shaft 41 and lateral arm 43. The supporting device is then swung to a plane at right angles to the side wall 12 of the car by oscillation of the shaft 41 in its bearings and is then set against further rotation by means of the set screw 46 in the clips 45 engaging the curved arm 44. The receiving device is set by the station attendant in such position that one of the mouths of the annular passageway of the catcher A is in a vertical plane at right angles to the plane of the side of the approaching car, and facing the direction from which said car is approaching. The catcher may be set in this position by means of one or another of removable stops 68, 69 in the side of the catcher A, adapted to engage one side or another of one of the pillars 47, 48 and prevent rotation of said catcher in one direction. One set of knife blades on the catcher is thus in position to engage and sever the cords supporting the bag 67 on the passing car, whereupon said bag is received within the annular passageway of said catcher and traverses a portion of its length where its momentum is lost and the bag comes to rest and may be removed by an attendant. When a mail bag is to be received from a car traveling in the opposite direction the catcher A may be inverted by rotation of the shaft 53 and the other mouth thereof be brought into a vertical position, facing the other direction, and be held against further rotation by the other stop 68 or 69.

I claim as my invention—

1. In a mail receiving and delivering apparatus, a mail crane provided with severable means for supporting a mail bag, an inclined deflector on and communicating with the interior of a mail car, and knives on said deflector for severing the supports of said bag, the free ends of said knives extending through and slidingly supported by keepers in the wall of the car.

2. In a mail receiving and delivering apparatus, a mail crane provided with severable means for supporting a mail bag, a deflector hinged to a mail car and adapted to be inclined outwardly therefrom, knives on said deflector for severing said supports of the mail bag, the free ends of said knives

extending inwardly through and slidingly supported by keepers in said car, and a bottom plate supplemental to said deflector adapted to prevent falling of said bag when so severed.

3. In a mail receiving device for railway cars, a door hinged to and opening outwardly from said car, knives on said door for severing supports of a mail bag, the free ends of said knives extending inwardly through and slidingly supported by keepers in said car, a bottom plate fixed to the lower margin of said door and extending inwardly therefrom, and means for limiting outward movement of said door.

4. In a mail receiving device for railway cars, a door hinged to and opening outwardly from said car, said door projecting at its forward end beyond the margin of the doorway closable thereby, knife blades fixed to the forward end of said door, the free ends of said knife blades extending inwardly through and slidingly supported by keepers in the wall of said car, and a bottom plate on the lower margin of and extending inwardly from said door.

5. In a mail delivering apparatus for railway cars, a vertical shaft mounted for rotation in bearings on the outer wall of said car, a horizontal arm on the upper end of said shaft, an arm on said shaft extending in the opposite direction from said horizontal arm and within the car, and means within the car for engaging the latter arm and securing the shaft against rotation, said horizontal arm adapted to detachably support a mail bag.

6. In a device for receiving mail bags from a moving railway car, a catcher suitably supported, for rotation on a horizontal axis said catcher formed with an annular passageway, said passageway having two mouths facing in opposite directions, and severing means on said mouths for detaching a mail bag from its supports.

7. In a mail receiving device, concrete pillars set into the earth, bearings removably mounted at upper ends of said pillars, an arcuate catcher journaled for rotation on a horizontal axis in said bearings in an excavation between said pillars, said catcher having mouths adapted to face in opposite directions, and means on said mouths for severing a mail bag from its support.

Signed by me at Des Moines, Iowa, this second day of November, 1910.

JOHN A. TIMMERMAN.

Witnesses:

S. C. SWEET,
EARL M. SINCLAIR.