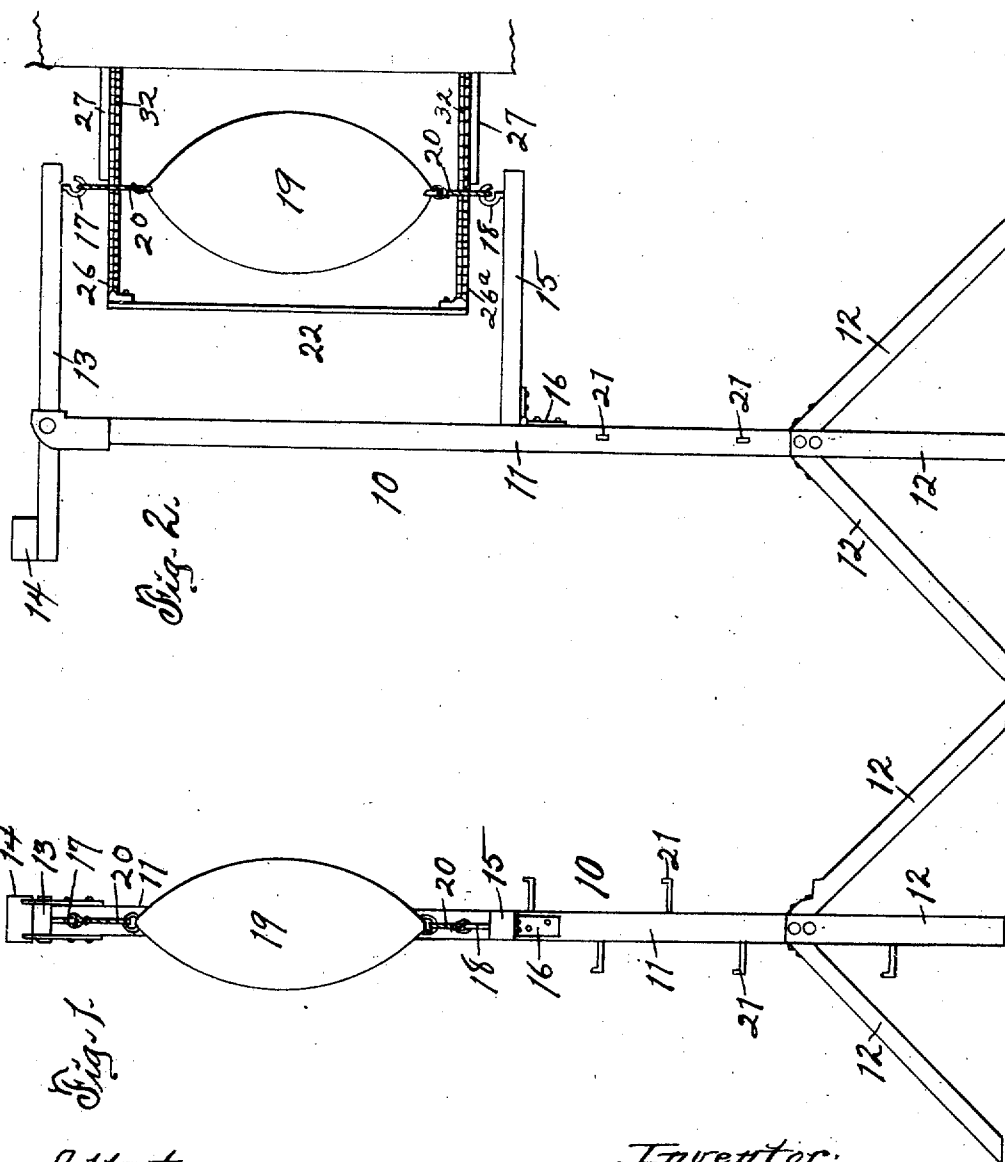


J. A. TIMMERMAN.
MAIL CRANE AND CATCHER.
APPLICATION FILED FEB. 1, 1910.

972,946.

Patented Oct. 18, 1910.

3 SHEETS-SHEET 1.



Attest:
H. G. Sweet
W. W. Winter.

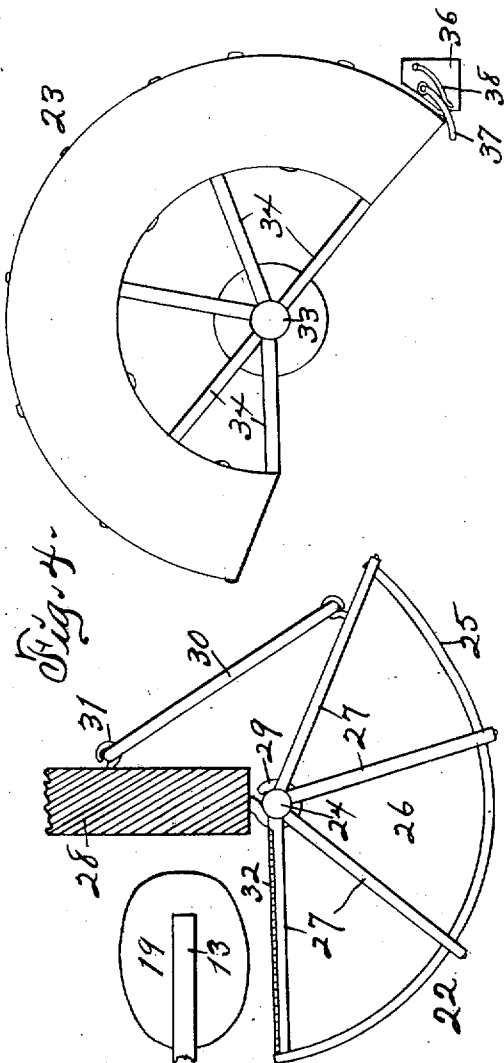
Inventor:
John A. Timmerman.
By J. E. Sweet Atty

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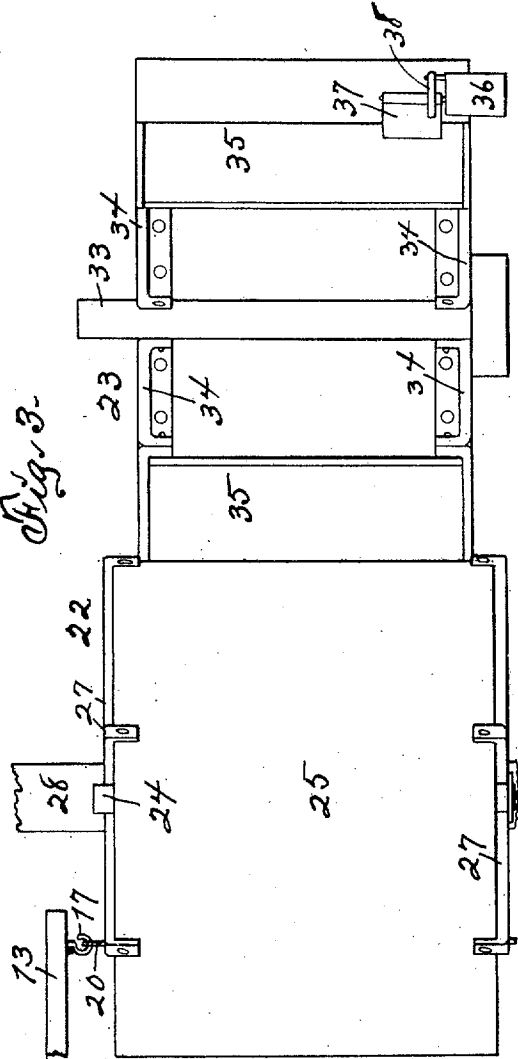
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3 SHEETS—SHEET 2.



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Fig. 3.



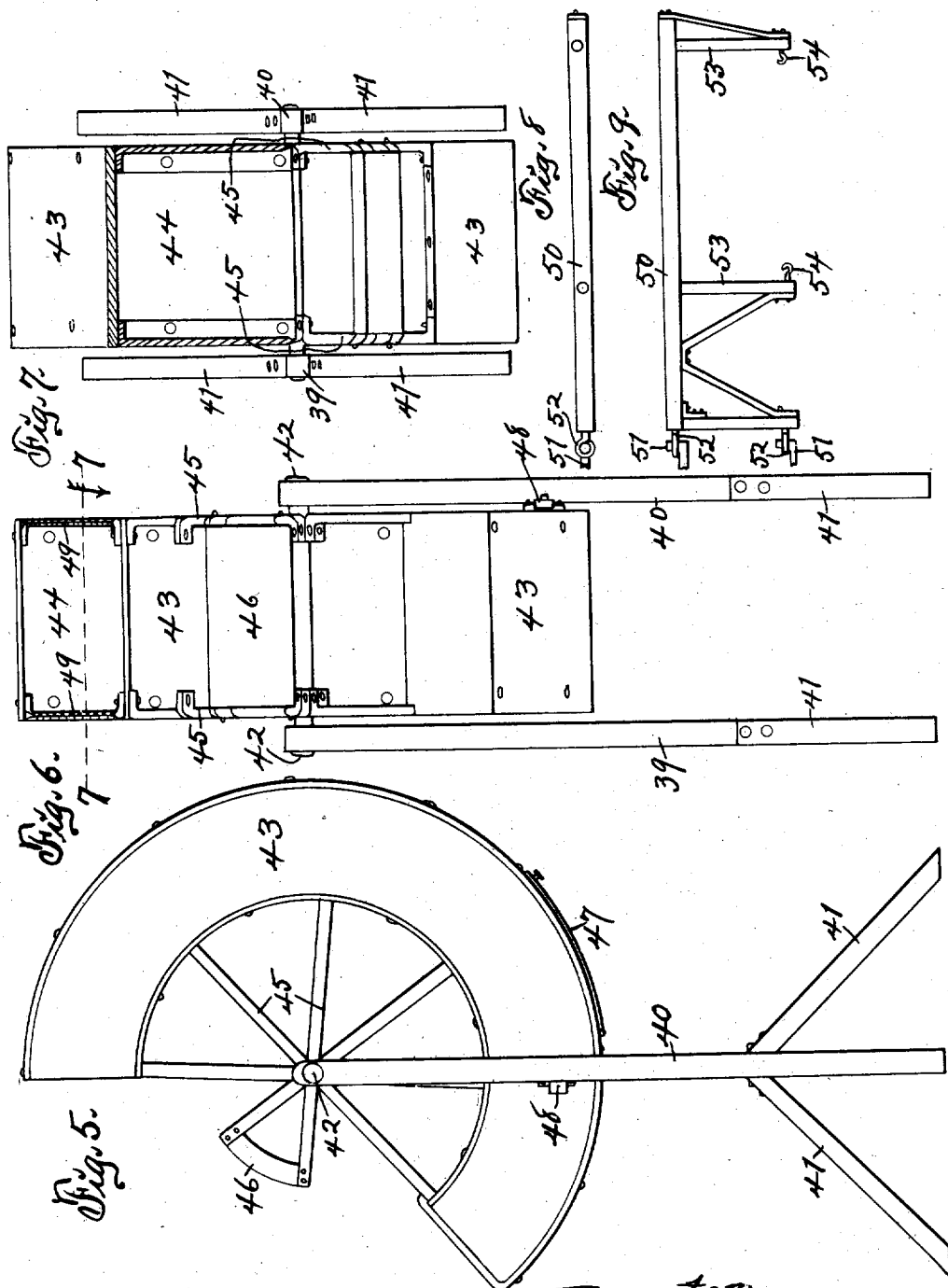
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UNITED STATES PATENT OFFICE.

JOHN A. TIMMERMAN, OF CRESTON, IOWA.

MAIL CRANE AND CATCHER.

972,946.

Specification of Letters Patent.

Patented Oct. 18, 1910.

Application filed February 1, 1910. Serial No. 541,929.

To all whom it may concern:

Be it known that I, JOHN A. TIMMERMAN, a 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 improved means for delivering a mail bag from a mail crane to a moving railway car.

A further object of this invention is to provide improved means for receiving a mail bag in a railway car when delivered from a mail crane.

A further object of this invention is to provide improved means for delivering a mail bag from a railway car while in motion.

A further object of this invention is to provide improved means for receiving a mail bag delivered 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 an elevation of a mail crane used in my improved construction, showing a mail bag suspended therefrom. Fig. 2 is an elevation at right angles to Fig. 1, showing a portion of a railway car and the mail bag about to be delivered to the receiver therein. Fig. 3 is an elevation of the receiving devices within the railway car. Fig. 4 is a plan of the same, showing a mail bag about to be delivered from the arm of a mail crane. Fig. 5 is a side elevation of the device employed to receive a mail bag delivered from a moving railway car. Fig. 6 is a front elevation of the same. Fig. 7 is a cross-section on the indicated line 7—7 of Fig. 6. Fig. 8 is a plan and Fig. 9 an elevation of an arm hinged to the side of a railway car and adapted to deliver a mail bag to the device shown in Figs. 5, 6 and 7.

In the construction of the devices employed in delivering mail bags to a moving railway car, I employ a mail crane 10. The crane 10 is composed of a standard 11, and braces 12 at the bottom of said standard. An arm 13 is pivoted at the top of the standard 11 and a weight 14 on one end of said arm normally holds said arm in vertical position. An arm 15 is hinged to the standard 11 by means of a hinge 16 intermediate

of the top and bottom of said standard. The weighted arm 13 is provided with a hook 17 on the lower side of its end opposite to the weight 14, and the arm 15 is provided with a hook 18 on the upper side of its outer end. The arms 13, 15 extend an equal distance laterally from the standard 11 and are adapted to hold a mail bag 19 suspended by means of cords 20 between the hooks 17, 18. Steps 21 are fixed to the sides of the standard 11 below the arm 15 for convenience in placing the mail bag 19 in position on the arms 13, 15. The crane 10 is adapted to be erected a short distance from a railway track and the arms 13, 15 extend toward said track and in close proximity to a car passing thereon.

In connection with the mail crane 10 above described I employ within the railway car a catcher 22 and a receiving device 23, each of semi-circular shape, and composed of wood or sheet metal or both. The catcher 22 is formed with a central shaft or axle 24, a back plate 25, a top plate 26, a bottom plate 26^a and braces 27 extending radially from the shaft 24 to the back plate 25. The catcher 22 is pivotally mounted in the doorway of a railway car by means of hooks 29 fixed in the door post 28 thereof and engaging the shaft 24. A lever 30 is flexibly connected to the inner end of the catcher 22 and the other end of said lever 30 is provided with an eye adapted to engage a hook 31 on the inner wall of the car and adjacent to the doorway thereof. It is the function of the lever 30 and hook 31 to hold the catcher 22 in the position shown, with the outer end thereof extending outside of the car, and approximately at right angles to the side of said car. The catcher 22 is open at both ends and the top plate 26 and bottom plate 26^a thereof are provided on their outer ends with horizontal knives 32 which are adapted to engage and cut the cords 20 and permit the mail bag 19 to enter the catcher 22. The receiver 23 is pivoted on its shaft 33 to the floor of the railway car just inside the door thereof. Spokes 34 radiate from the shaft 33 and carry the body portion 35 of said receiver, which is formed with an annular passage open at both ends. The receiver 23 is so mounted that one open end thereof may be placed in proximity to and alinement with the inner end of the catcher 22. A block 36 is mounted on the floor of the car and carries a fric-

tion brake adapted to engage the receiver 23. The friction brake is composed of a pawl 37 pivoted to the block 36 and held in engagement with the outer wall of the receiver 23 by means of a spring 38 fixed to said block.

In the practical use of the devices as thus far described the mail bag is placed in position as shown on the arms of the crane 10 in anticipation of the arrival of the train to which said bag is to be delivered. The operator on the car adjusts the catcher 22 in position as shown with the outer end projecting outside the car door. When the car reaches the mail crane 10 the knife edges 32 on the upper and lower margins of the catcher 22 engage and sever the cords 20 by which said mail bag is connected to the crane, and said bag is drawn within the catcher. When the cords are thus severed the arm 15 of the crane will drop against the side of the standard 11 by force of gravity, and the arm 13 will assume a vertical position above the standard under influence of the weight 14 on the opposite end thereof. When the bag 19 has thus been delivered to the car it will be whirled through the catcher 22 and out of the inner end thereof, and, because of the speed of the train, its momentum will probably be sufficient to carry it on and into the adjacent open end of the passage 35 of the receiving device 23. The impact of the moving sack will cause the receiver 23 to rotate on its shaft 33, and such rotation will be checked and finally stopped by pressure of the pawl 37 against the outer wall of said receiver. By this means the momentum of the bag 19 is overcome without danger to the occupants or contents of the car, and the bag 19 may be removed from the receiving device 23 and disposed of as desired. The lever 30 may then be released from engagement with the hook 31 and the catching device 22 be swung within the car until again desired for use.

The devices illustrated in Figs. 5, 6, 7, 8 and 9 are adapted for use in delivering and receiving mail from a moving railway car, and in their construction the numerals 39, 40 designate standards adapted to be fixed in the ground and strengthened by means of braces 41. A horizontal shaft 42 is journaled in bearings at the tops of the standards 39, 40 and a catching or receiving device 43 is mounted for rotation on said shaft between said standards. The catcher 43 is of semi-circular form and is formed with an annular passage 44 connected to the shaft 42 by means of spokes 45. Two of the spokes 45 extend beyond the shaft 42 and are provided with a weight 46 to compensate for the loss in weight on that side by reason of the fact that the device is not a complete circle. The passage 44 is open at one end 65 and closed at the other end, and the arrange-

ment is such that said catcher will normally stand as shown with the open end of said passage at the top. A door 47 is provided in the lower portion of the catcher to provide access to the lower end of the passage 70 44. A friction brake 48 of conventional form is mounted on the standard 40 and adapted to engage the side of the catcher. The vertical sides of the upper end of the passage 44 are provided with cutting edges 75 49 adapted to engage and sever the cords by which a mail bag is connected to a moving railway car. For this purpose an arm 50 is provided, which is pivotally connected to the side of a railway car by means of hooks 80 51 on said car engaging eyes 52 on the inner end of said arm. The arm 50 is provided with lateral extensions 53 depending therefrom and suitably braced, and spaced apart, and said extensions are provided with hooks 85 54 adapted to engage and receive cords attached to a mail bag, and suspend said bag below the arm 50. When the train approaches the spot where the mail bag is to be delivered to the catcher last above described 90 the operator places said bag on the hooks 54 and extends the arm 50 to a position at right angles to the path of travel of the train, where it may be suitably braced. When in such position the cords supporting 95 the mail bag are in position to be engaged and severed by the cutting edges 49 of the open mouth of the passage 44 of the receiving device, and when the cords are so severed the mail bag will be received within 100 the passage 44 of such device. The impact of the bag from the moving train will cause the catcher to rotate on the shaft 42, and such rotation will be checked and finally stopped by the influence of the friction brake 105 48. By this means the mail bag can be delivered from a swiftly moving train without damage to the bag or to nearby objects, and may be removed from said receiver by the attendant through the door 47. 110

I claim as my invention—

1. In a mail receiving and delivering apparatus, a mail crane with severable means for supporting a mail bag, an arc-shaped deflector provided with means for severing 115 said bag from its support, and a tubular receiving device mounted for rotation and adapted to receive said bag from said deflector.

2. In a mail receiving and delivering apparatus, a mail crane with severable means for supporting a mail bag, an arc-shaped deflector provided with means for severing said bag from its support, a tubular receiving device mounted for rotation and adapted 125 to receive said bag from said deflector, and means for checking the rotation of said receiver.

3. In an apparatus of the class described, a mail crane provided with severable means 130

for supporting a mail bag, an arc-shaped deflector mounted within a car, said deflector provided with means for severing said mail bag from its supports and adapted to throw said bag within the car, an arc-shaped tubular receiver mounted for rotation within the car and adapted to receive said bag from said deflector, and a spring-pressed pawl adapted to check the rotation of said receiver.

4. In an apparatus of the class described, the combination of an arm pivotally connected to the side of a car, severable means for supporting a mail bag therefrom, and a receiver composed of an arc-shaped tube mounted for rotation between and supported

by uprights, and means on said receiver for severing said bag from its support.

5. In a mail receiving apparatus, a pair of uprights, a shaft mounted for rotation between said uprights, and a weighted arc-shaped receiver mounted for rotation on said shaft, said receiver formed with an open end, said open end provided with knife edges adapted to engage and sever the supports of a mail bag.

Signed by me at Creston, Iowa, this twenty-ninth day of December, 1909.

JOHN A. TIMMERMAN.

Witnesses:

WM. STALEY,

ROBERT M. McKNIGHT.