F. MERCER.

AUTOMOTOR MAIL EXCHANGE.

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924,914.

Patented June 15, 1909.

Fig. 1.

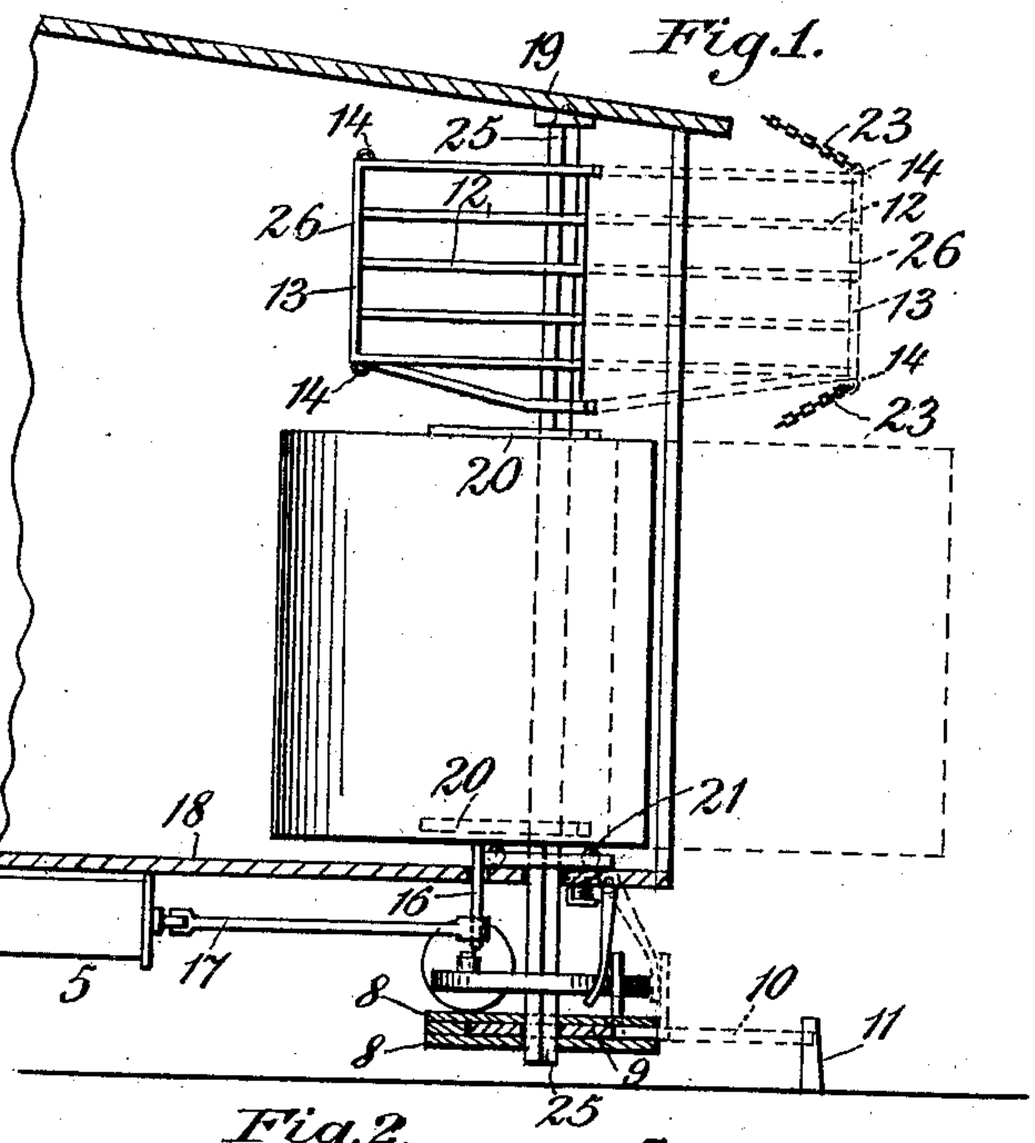


Fig. 4.

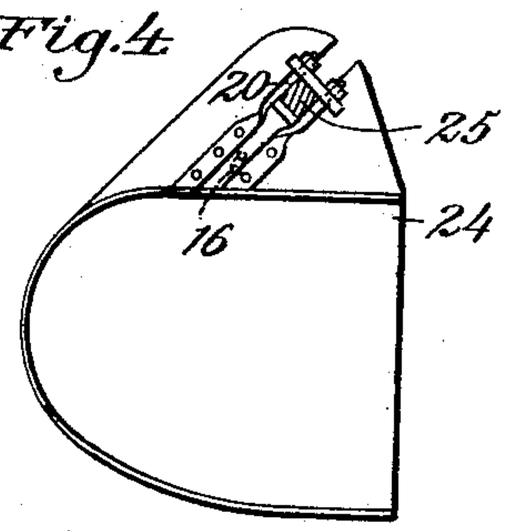


Fig. 5.

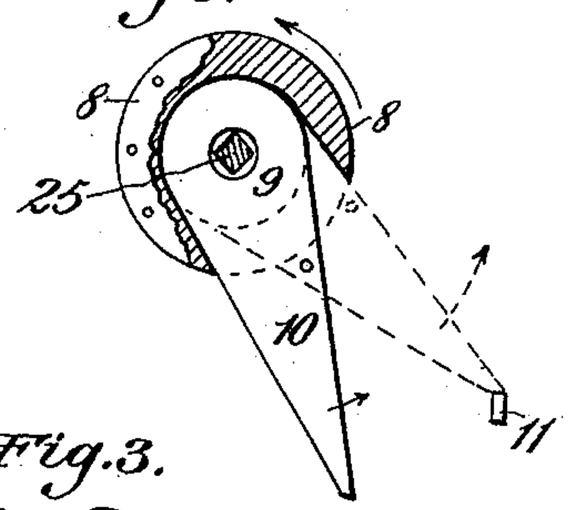


Fig. 2.

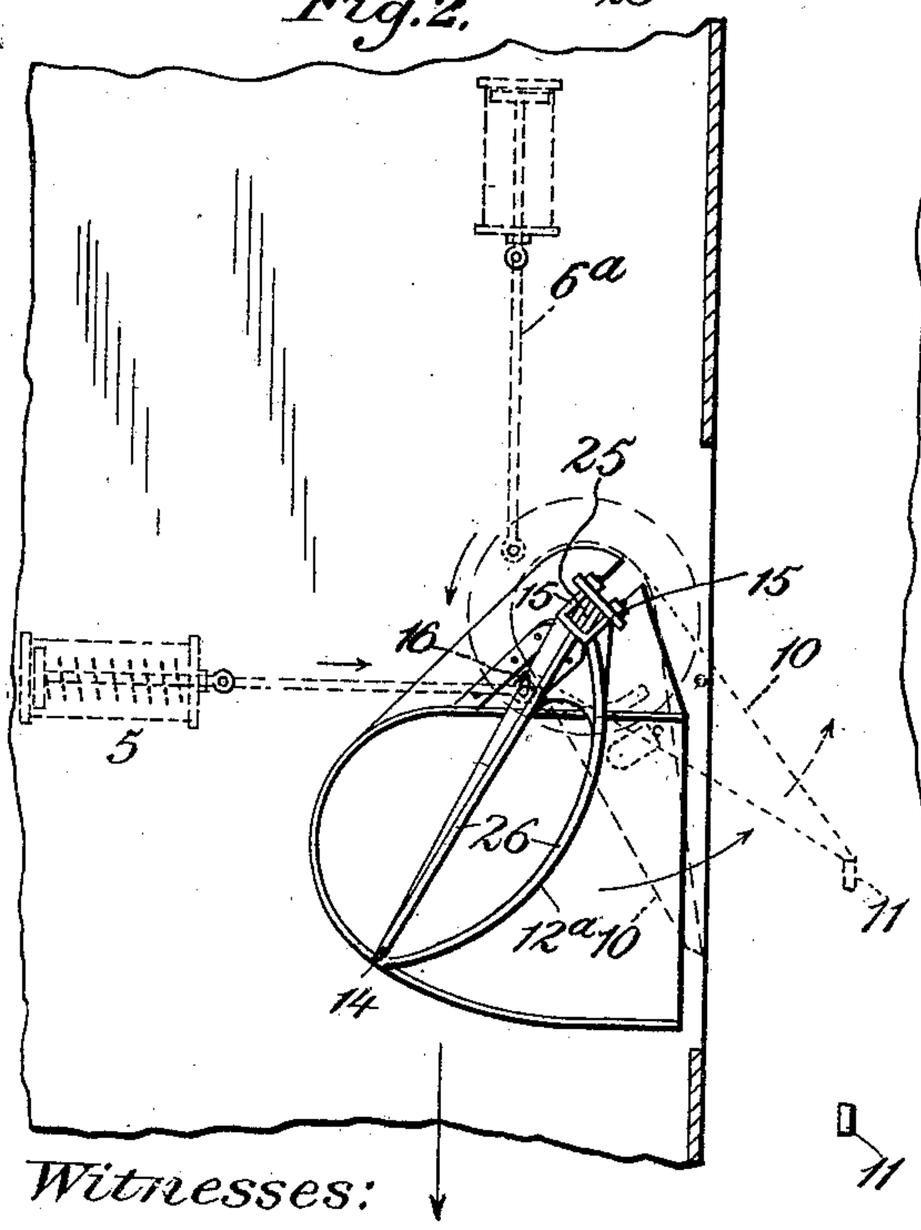
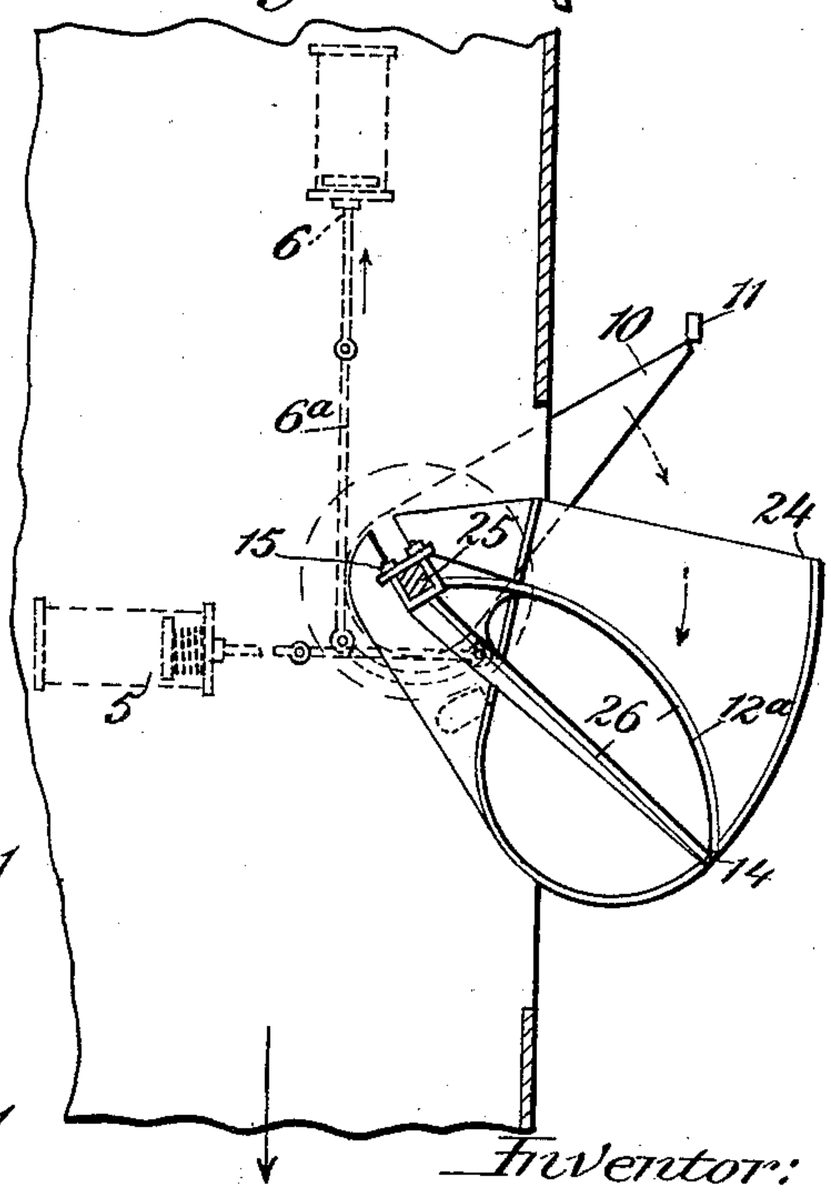


Fig. 3.



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AUTOMOTOR MAIL-EXCHANGE.

No. 924,914. Specification of Letters Patent. Patented June 15, 1909.

Application filed August 27, 1908. Serial No. 450,585.

To all whom it may concern:

Be it known that I, FRANK MERCER, a citizen of the United States, residing at Salem, in the county of Columbiana and State of Ohio, have invented a new and useful Machine called an "Automotor Mail-Exchange," of which the following is a specification.

My invention relates to a machine, the purpose of which is to automatically deliver and catch mail in packages, from railroad mail cars, while in motion.

This invention relates to automotor mail-exchanges wherein mail packages suspended (any number) on a crane beside a railway track are removed from the crane and landed into a moving car, and a number of packages are simultaneously discharged from the car.

It is the object of my invention to provide improved means for catching the mail packages and landing them in the car.

It is a still further object to provide improved means for discharging mail packages from the car.

Finally, the invention has for its object to simplify and improve the construction of this class of devices generally and render more efficient the operation thereof.

To these ends my invention consists in the novel features and in the construction, arrangement, and combination of parts hereinafter described, and particularly pointed out in the claims following the description, reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a vertical section of the entire device viewed from end of car, the parts being shown in full lines in readiness for receiving and discharging the packages, the dotted lines showing the same in the position they assume after the packages have been received and discharged, and before the device has returned to a state of rest. Fig. 2 is a top view of the device in inoperative position, the arrows indicating direction of movement to operative position. Fig. 3 is a top view of the device in operative position at the moment that the mail is discharged and received, the arrows indicating the direction of movement to inoperative position. Fig. 4 is a top view of the discharger. Fig. 5 is a plan view of the trip, partly broken away, to show construction for lost motion, the full lines indicating the inoperative position, and the broken lines indicating the operative position.

Like numerals designate like parts throughout the several views.

The discharger 24 is a metal receptacle rigidly secured to shaft 25 and standing when in a state of rest at right angles to the length of the mail-car, and having attached thereto a loop 16 to connect with air pressure device 17 to receive power for action, and having a rotary motion when power is applied and describing about 80 degrees of the circle described around shaft 25 in delivering mail packages with the momentum neutralized; the air pressure device 5 returning discharger to state of rest by the usual spring device, or if power is applied through the motion of the mail-car then trip 10 is so adjusted as to come in contact with post 11 on side of railroad track which gives to shaft 25 a rotary motion of about 80 degrees, which is transmitted to discharger 24 with same results as above except that the device shown in Fig. 6 which consists of a cylinder 6 and connecting rod 6^a is used to return discharger to a state of rest.

The shaft 25 is journaled in suitable bearings in floor 18 and ceiling 19 of the mail-car and to which at the lower part 20 is attached discharger 24 securely fastened and set on ball bearings 21, and at the upper part of shaft 25 rigidly attached is the catcher 26 made of steel rods and of sufficient width to catch any ordinary mail package, extending outwardly and forwardly, and made circular in form. Any number of packages may be taken in when properly suspended on an ordinary mail-crane along the side of the railroad track, and the catcher 26 is supplied with a strong chain 23 attached to each of the outer corners 14 which catches the force of the impact transmitted in receiving the packages.

The trip device or power connection, Fig. 5, is a metal appliance made as shown, of four pieces of metal, the two outer plates 8 with an inner plate 9 cut out as indicated by the dotted lines, and riveted together, and the trip piece 10 made to work in the cut out portion between the other two and loosely attached to shaft 25 to give the necessary lost motion to the machine in order to throw the discharger through an arc of about 80 degrees as above described, but in the use of air pressure for delivery purposes, said trip device to be used in practically the same manner for the purpose of automatically operating the air-controlling valve.

The catcher 26 is made of steel rods 12 with side guides 12[a] and end piece 13 with a loop 14 at each end for a chain attachment 23 and also a clamping device 15 at shaft end of said catcher to fasten same rigidly to shaft 25.

The fact that the discharger, catcher and power appliance are all rigidly attached to the shaft 25 necessitates that the rotary motion given to shaft 25 must apply equally to said discharger, catcher and power appliance, rendering the device strictly automatic in the work of receiving and delivering mail packages.

Having described my invention, what I claim is:—

1. In an automotor mail-exchange, the combination of a vertical rotatable shaft mounted in suitable bearings on floor and ceiling of a mail-car and provided with a discharger rigidly secured to said shaft and set on ball bearings being a delivering device having the capacity to deliver mail in packages at the side of the car while the train is in motion, with the momentum transmitted by the moving car to the mail packages, absolutely neutralized, substantially as described.

2. In an automotor mail-exchange, the combination of a vertical rotatable shaft mounted in suitable bearings on floor and ceiling of a mail-car and provided with a discharger rigidly secured to said shaft and set on ball bearings, being a delivering device arranged at right angles to the lengthwise section of the car and having a rotary motion describing an arc of less than 90 degrees delivering the mail packages at the side of the car free from momentum, substantially as described.

3. In an automotor mail-exchange, the combination of a vertical rotatable shaft mounted in suitable bearings on floor and ceiling of a mail-car and provided with a catcher rigidly attached to said shaft extending outward and forward and made circular in form, with chain attachment to catch the force of the impact from mail packages received, substantially as described.

4. In an automotor mail-exchange, the combination of a vertical rotatable shaft mounted in suitable bearings on floor and ceiling of a mail-car and provided with a catcher rigidly attached to said shaft extending outward and forward and made circular in form with chain attachment to catch the force of the impact from mail packages received, taking in any number of packages properly suspended on mail-crane alongside of the railroad track, substantially as described.

5. In a automotor mail-exchange, the combination of a vertical rotatable shaft mounted in suitable bearings on the floor and ceiling of a mail-car and provided with a discharger and catcher rigidly attached to said shaft and combined into one machine, so that the delivering and catching of mail packages is accomplished by one and the same movement of the device, substantially as described.

6. In an automotor mail-exchange, a rotatable shaft, mail receiving and delivering devices rigidly connected to said shaft, a collar rigidly connected to said shaft, a trip arm loosely connected to said shaft and operating in a slot in said collar, and a fixed stop to engage said trip arm and operate said delivering and catching devices, substantially as described.

7. In an automotor mail-exchange, a rotatable shaft, mail delivering and catching devices rigidly connected to said shaft, a crank rigidly connected with said shaft, a connection with the train pipe system for power to operate said devices through an air-pressure device connected with said crank, substantially as described.

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