

No. 676,916.

Patented June 25, 1901.

T. W. RUSSELL.
MAIL TRANSPORTATION SYSTEM.

(Application filed Mar. 14, 1901.)

(No Model.)

2 Sheets—Sheet 1.

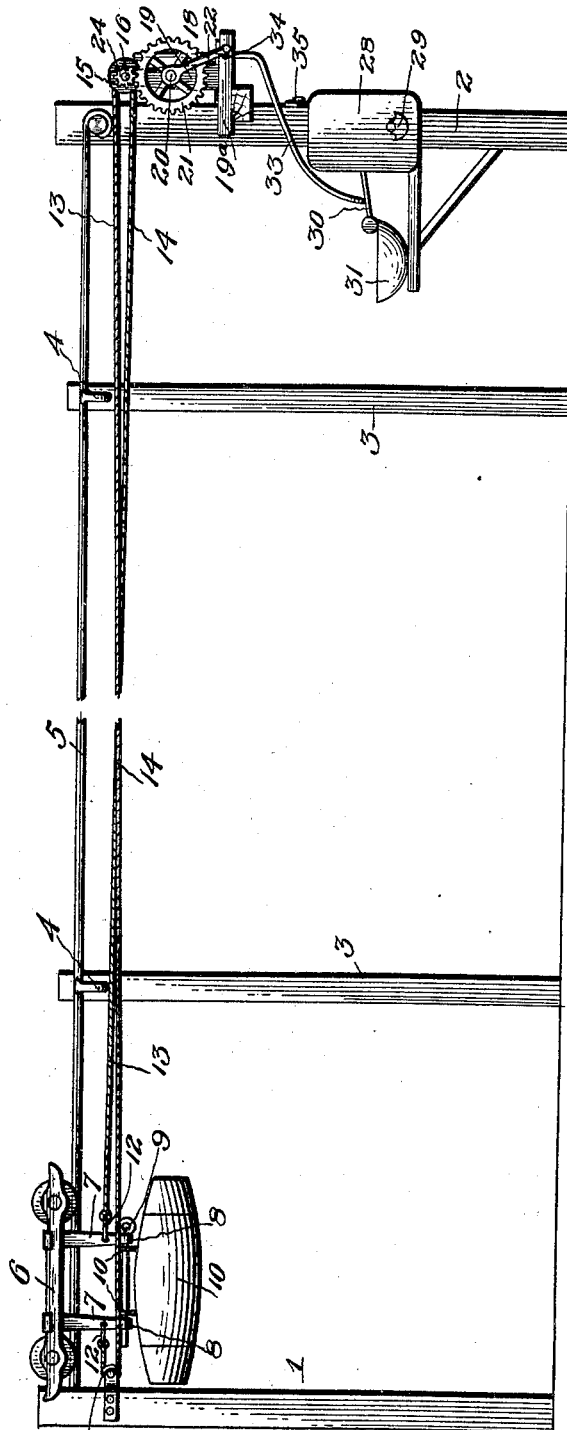


Fig. 1.

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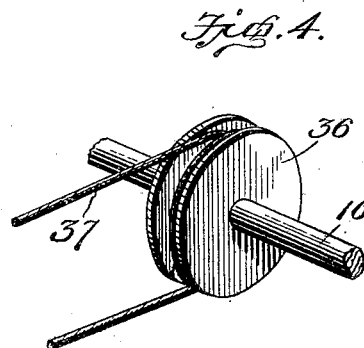
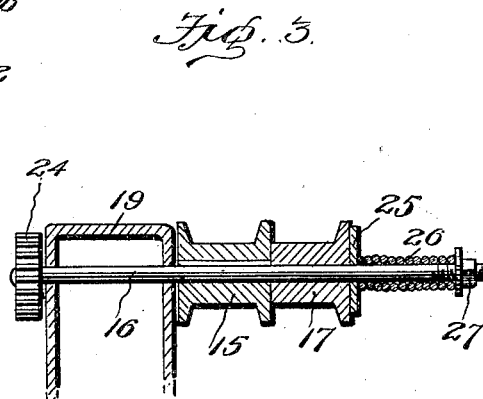
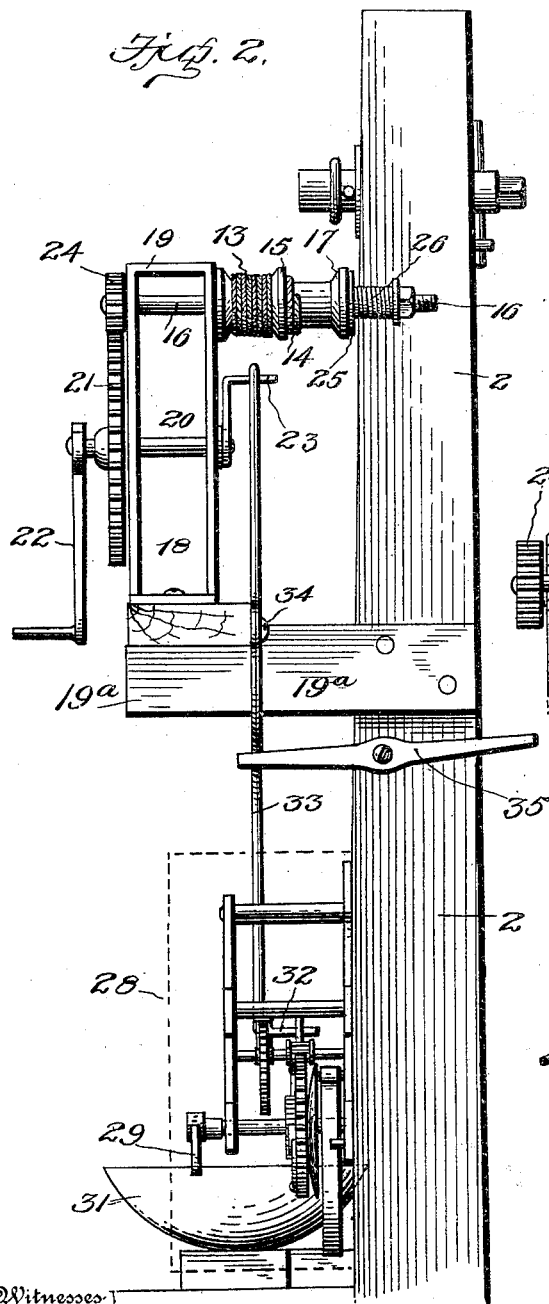
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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MAIL-TRANSPORTATION SYSTEM.

SPECIFICATION forming part of Letters Patent No. 676,916, dated June 25, 1901.

Application filed March 14, 1901. Serial No. 51,152. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. RUSSELL, a citizen of the United States, residing at Union Bridge, in the county of Carroll and State of Maryland, have invented certain new and useful Improvements in Mail-Transportation Systems; 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.

This invention relates to elevated carriers for transporting mail-matter, and is primarily designed for the use of parties living along the routes of mail-carriers in rural districts.

Under the system of mail distribution in rural districts known as the "rural free-delivery system" each party along the route of the mail-carrier is compelled to provide a suitable box or receptacle for his mail-matter, which receptacle is located as near as possible to the road on which the carrier travels. The carrier on arriving at the point where the box or receptacle is located removes from said box any matter that may have been deposited therein for mailing and inserts the mail-matter addressed to the box-owner. Where the latter lives some distance back from the road or from the point of location of the box, much inconvenience is experienced in making trips to and from the box for depositing and removing mail-matter, particularly in inclement weather.

The object of this invention is to provide an elevated carrier or mail-transporting device which may be furnished at comparatively low cost and by means of which a party living at some distance from the mail-delivery point may from his house or a point convenient thereto move the mail-receptacle back and forth as required, and, further, to provide means for indicating when mail-matter has been deposited in the box by the carrier.

The invention embodies an elevated carrier which runs along a suitable trackway and has connected thereto the mail-receptacle, combined with a windlass for operating said carrier and an alarm device adapted to be sounded upon the movement of the carrier to indicate when mail-matter has been placed in said receptacle.

The invention further embodies novel

means for tripping the movable member of the alarm and also a tension device for tightening or slacking the ropes connecting the carrier and drum whenever required.

With these and other minor objects in view the invention consists in the above-noted and certain other novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a mail-transporting device embodying my invention, showing the two terminals thereof. Fig. 2 is an end elevational view of the house-terminal part of the apparatus. Fig. 3 is a detail sectional view, on an enlarged scale, through the winding shaft and drums and showing the construction of the tension device; and Fig. 4 is a detail view showing a modification in the construction of the windlass.

Referring now more particularly to the drawings, the numerals 1 and 2 indicate, respectively, terminal posts or supports adapted to be arranged at the point of delivery of the mail and at the house of the user or a point adjacent thereto to which the mail is to be transported from said delivery-point. In practice the post 1 may be located at or near a gate along the roadway traveled by the mail-carrier and the post 2 at a point adjacent to the porch or door of the house of the party using the device.

Between the posts 1 and 2 are arranged a series of intermediate posts 3, which may be of any desired number and arranged at any preferred distance apart. These posts are provided at their upper ends with hangers 4, which support an elevated trackway 5, leading between and suitably secured to the said posts 1 and 2. Mounted to traverse the trackway is a wheel carrier 6, having depending arms 7, provided with loops or eyes 8 at their lower ends for the reception of a securing-pin 9, from which is suspended, as by means of loops or eyes 10, a mail-receptacle 11 of any preferred form and construction.

To each of the arms 7 of the carrier 6 is secured a bail 12, and to one of these bails is connected a rope or cable 13 and to the other of said bails a rope or cable 14. The cable 13

extends from the carrier to a fixed winding drum or spool 15 on a winding-shaft 16, suitably mounted upon the post 2, while the rope or cable 14 passes around a pulley 13', mounted on the terminal post 1, and thence extends to and is connected with a loose winding drum or spool 17, also located on said shaft 16.

The winding-shaft 16 forms a part of a windlass 18, which comprises a suitably mounted frame 19, carried by a bracket 19^a, secured to the post 2, and in said frame the said shaft 16 is mounted. Also mounted in the frame is an operating-shaft 20, which is located below said shaft 16 and carries at one end a spur drive gear-wheel 21 and a crank-handle 22 and at its opposite end is provided with a trip device 23 for operating the detent of the alarm or signal, as hereinafter described. The drive-gear 21 meshes with a pinton 24 on one end of the shaft 16, and the opposite end of said shaft projects laterally beyond the frame 19 toward the post 2 and has mounted thereon the said two winding drums or spools 15 and 17. As the ropes or cables 13 and 14 are connected to the bails 12 of the arms 7 of the carrier and with the said drums 15 and 17, it will be apparent that when the crank-handle 22 is rotated the shaft 16 will be operated to cause one of the said ropes or cables to be wound upon its drum or spool, while the other is unwound from the cooperating spool, whereby the carrier 6 will be drawn to and from the post 2 in an obvious manner.

In order to provide for maintaining the ropes or cables 13 and 14 at the proper tension and to tighten the same when loosened by wear and relax them when drawn too taut by moisture or other cause, I mount the drum or spool 17 loose upon the shaft 16 and locate upon said shaft a head or disk 25, which bears upon the outer end of said drum or spool 17 and is normally caused to press the inner end of the aforesaid drum against the outer end of the fixed drum or spool 15 by means of a spiral spring 26, encompassing the shaft 16 between the head or disk 25 and an adjusting-nut 27 on the outer end of the shaft 16, which is threaded for the reception thereof. The spring 26 exerts its pressure to hold the head 25 pressed against the loose drum or spool 17 and to maintain the inner end of the latter in close frictional engagement with the fixed spool 15, whereby the two spools are under normal conditions rigidly connected to turn with each other and with the shaft 16. When, however, it is desired to tighten or loosen the ropes or cables 13 and 14, the adjusting-nut 27 may be turned back sufficient to allow the loose spool 17 to be drawn away from the fixed spool 15, whereupon said spool 17 may be turned upon the shaft 16 to tighten or loosen up the ropes or cables, as desired. By adjusting the nut 27 the pressure of the spring 26 may be varied as desired.

An alarm device is provided to cooperate with the windlass to indicate when mail-matter has been deposited in the mail-receptacle

and the wheeled carrier has been given an initial impetus toward the house. This comprises spring-actuated clockwork alarm mechanism of the ordinary or any approved type, said mechanism being located within a casing 28, applied to the post 2, and provided with a winding-key 29 and a vibrating striker or clapper 30, adapted to contact with a bell or gong 31, mounted adjacent thereto. The clapper or striker 30 is normally held down and prevented from vibrating by the laterally-bent arm 32 of a detent 33, said detent being pivoted at 34 to the bracket 19^a and having its opposite end located within the path of the trip device 23 on the shaft 20, so that when the crank-handle 22 is turned to the right, as in Fig. 1, the said trip device 23 will contact with the upper end of the detent 33 and swing said detent, so as to throw the arm 32 upwardly and release the striker 30, which will then be free to vibrate and strike the gong 31, thus sounding an alarm. The detent 33 is pivoted in such a manner as to hold the striker 30 securely against movement until said detent is withdrawn from engagement with the striker by the trip 23, and in the normal operation of the parts when the carrier 6 is arranged at or near the post 1 for the reception of the mail-matter the trip 23 lies just in advance of the upper arm of the detent 33, so that when the carrier moves a short distance away from the post 1 and toward the post 2 the movement of the shaft 20 ensuing thereupon will bring the said trip 23 into engagement with the detent 33 to release the striker 30 and allow it to vibrate. A pivoted lever 35 is mounted on the post 2 and has one arm thereof bearing against the under side of the lower arm of the detent 33, whereby the latter may be thrown upwardly to release the striker whenever it is desired to accomplish this without operating the windlass.

The operation is as follows: The normal position of the parts is shown in Fig. 1, with the carrier 6 and mail-receptacle 11 located at the mail-delivery point. When the mail-carrier reaches said point, he first removes from the receptacle 11 any mail-matter which may have been deposited therein for mailing and inserts within said receptacle the mail-matter intended for the owner or user thereof. When this has been done, the carrier gives an initial impetus or starting movement to the carrier 6 sufficient to cause it to move a short distance, which will cause a corresponding movement of the ropes or cables and the parts of the windlass. The shaft 20 will accordingly be moved to the right in Fig. 1, and the trip 23 will be brought into contact with the detent 33, throwing the latter out of engagement with the striker 30, which will thereupon be free to vibrate and will strike the gong 31 and so sound an alarm, thus indicating that mail-matter has been deposited within the box or receptacle. The party owning or employing the carrier may

then by turning the crank-handle 22 draw upon the cord or cable 13 to move the carrier 6 toward the post 2, and when said carrier has reached the limit of its endwise movement the motion of the windlass is arrested and the mail-matter removed from the receptacle 11. By rotating the crank-handle 22 in the reverse direction the carrier 6 may be moved back to the post 1 to set the apparatus in readiness again for the reception of mail-matter.

In Fig. 4 I have shown a modification in the construction of the winding mechanism, which consists in substituting for the drums 15 and 17 a winding-spool 36, fixed to the shaft 16 and around which is wound a single stretch of cord or cable 37, which is connected at its ends to the carrier. This construction may be used in some cases to simplify the winding means and reduce the amount of rope or cable required for operating the carrier.

From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of my invention will be readily understood without a further extended description, and it will be seen that it provides a simple and effective device for the purpose stated by means of which mail-matter may be readily transported from the point of deposit to a house located some distance therefrom, thus rendering it unnecessary for the party living at said mail-delivery point going to and from said point in inclement weather.

Changes in the form, proportion, and minor details of the construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an apparatus of the character described, the combination of an elevated trackway, a carrier mounted to run thereon, a mail-receptacle connected to the carrier, a windlass and connections for operating the carrier,

a gong, a striker therefor, a detent for normally holding the striker against movement, and means on the windlass for retracting said detent, substantially as described.

2. In a device of the character described, the combination of a trackway, a carrier mounted to run thereon, a mail-receptacle connected to the carrier, a windlass for operating the carrier, said windlass having a drive-shaft provided with a trip device, a gong, a vibrating striker adapted to contact with the gong, and a pivoted detent adapted to normally hold the striker from movement and to be retracted by the said trip device upon an initial movement of the carrier in one direction, substantially as described.

3. In a device of the character described, the combination of a trackway, a carrier mounted to run thereon, a mail-receptacle connected to the carrier, a windlass having a winding-shaft provided with tight and loose drums connected by cables with the carrier, and a tension device comprising a spring-actuated member mounted on said winding-shaft and adapted to hold the loose drum normally in interlocking engagement with the fixed drum, substantially as described.

4. In a device of the character described, the combination of a trackway, a carrier mounted to run thereon, a mail-receptacle connected to the carrier, a windlass comprising a drive-shaft provided with a trip, a winding-shaft, drums on the winding-shaft and connected by ropes or cables with the carrier, a tension device for tightening or loosening the cable, a gong, a vibrating striker cooperating therewith, and a detent for normally holding the striker immovable and adapted to be retracted by said trip device, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS W. RUSSELL.

Witnesses:

H. E. WEANT,
CHAS. H. SCOTT.