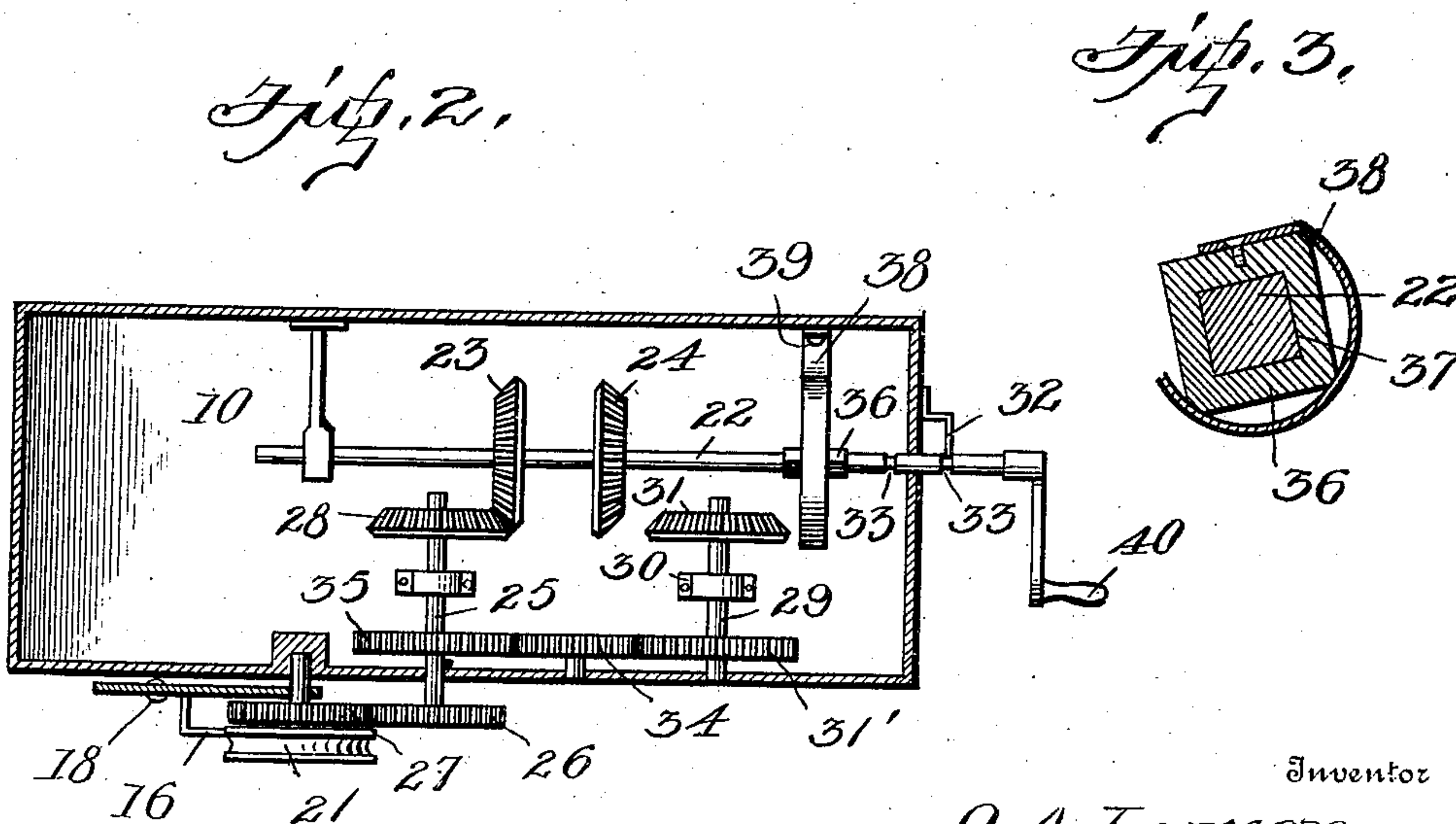
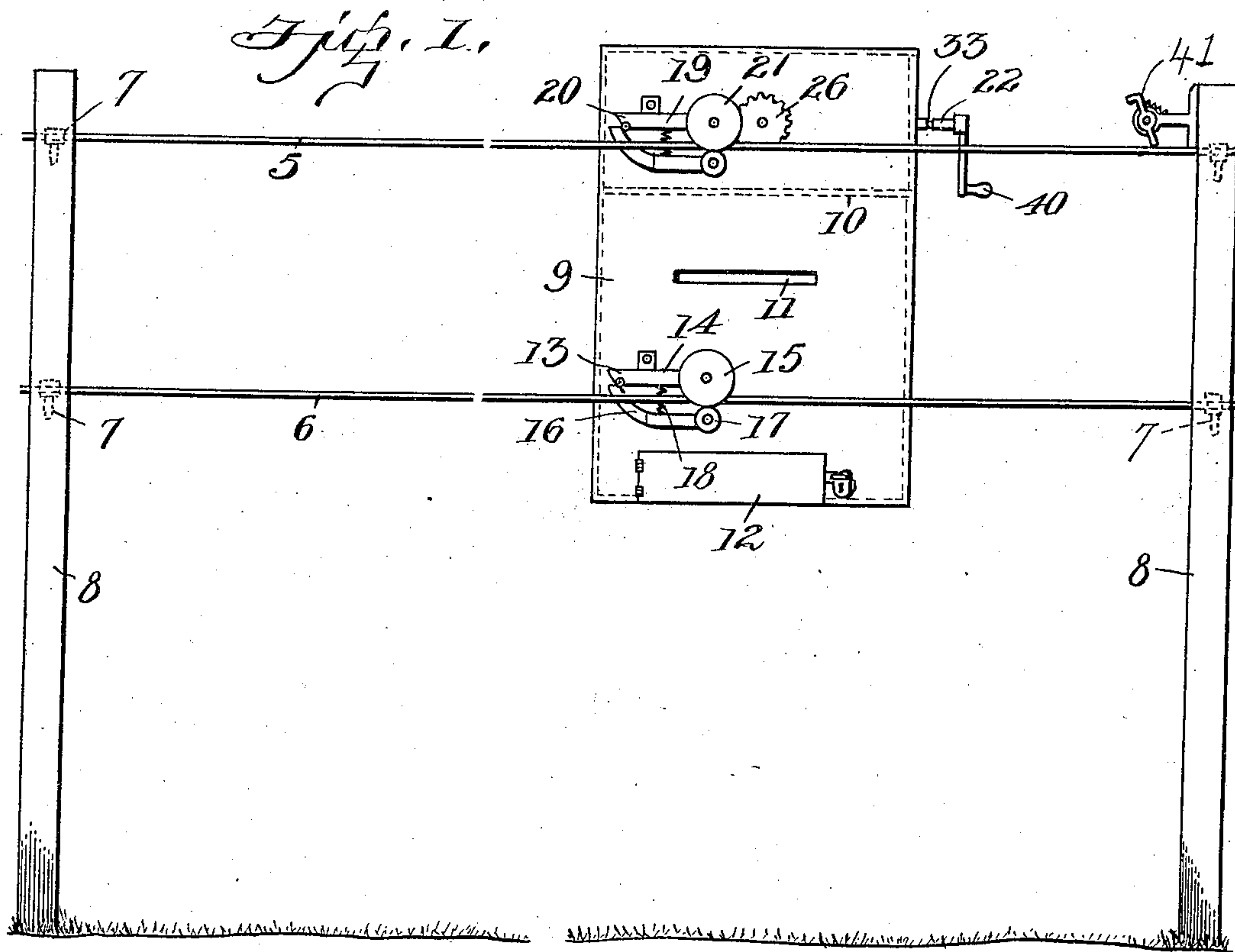


No. 876,811.

PATENTED JAN. 14, 1908.

O. A. LARSON.
AUTOMATIC MAIL BOX.
APPLICATION FILED JULY 29, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

OSCAR A. LARSON, OF GROVE CITY, MINNESOTA.

AUTOMATIC MAIL-BOX.

No. 876,811.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed July 29, 1907. Serial No. 386,029.

To all whom it may concern:

Be it known that OSCAR A. LARSON, citizen of the United States, residing at Grove City, in the county of Meeker and State of Minnesota, has invented certain new and useful Improvements in Automatic Mail-Boxes, of which the following is a specification.

This invention relates to carriers, and more particularly to mail carriers, and has for its object to provide means for carrying mail which will be especially adapted for use on rural routes for the transportation of mail from the gate to the house.

Another object is to provide a structure which will be extremely simple and in which the operating parts will be protected from injury.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an elevational view showing the box upon the track; Fig. 2 is a view showing a portion of the box broken away to disclose the interior mechanism; Fig. 3 is a detail view.

Referring now to the drawings, there is shown a track including upper and lower parallel wires 5 and 6 respectively, mounted upon brackets 7, secured to posts 8.

A traveling box 9 is provided, consisting of a rectangular body portion having a horizontal partition 10 therein adjacent to its upper end. The lower portion of the body portion is provided with a mail slot 11 and with a door 12, through which the mail may be removed. A laterally extending bracket 13 is secured to the lower portion of the box and includes a stationary arm 14 upon which there is mounted a peripherally grooved roller 15 which rests upon the wire 6, and an arm 16 is pivoted at one end to the bracket 13 and carries a peripherally grooved retaining roller 17 at its opposite end, which is engaged beneath the wire 6. A helical spring 18 is secured to the two arms, and holds the latter at the upward limit of its movement and with the retaining roller yieldably in engagement with the wire. The spring 18 is of sufficient strength to maintain the parts in position, as will be understood. A bracket

19 is mounted upon the upper portion of the box and includes a lateral arm 20, upon which there is mounted a peripherally grooved wheel 21 or roller, arranged to rest upon the upper wire 5.

A horizontal shaft 22 is mounted in the upper part of the body portion, above the partition 10, and has mounted thereupon a pair of oppositely disposed bevel gears 23 and 24 respectively. A shaft 25 extends outwardly through one side of the box, and has a gear 26 mounted upon its outer end and meshing with a gear 27 secured to the inner face of the roller 21. Within the box, the shaft 25 carries a bevel gear 28 disposed for engagement by the bevel gear 23, the shaft 22 being arranged for longitudinal sliding movement, to bring these gears into engagement. A shaft 29 is mounted at one end in the side of the box and is provided with a suitable support 30, this shaft 29 carrying a bevel gear 31 disposed for engagement by the gear 24, and it will be understood that when the shaft 22 is moved to bring the gear 23 out of engagement with the gear 28, the gear 24 is registered with the gear 31, and vice versa. A spring finger 32 is mounted upon the box and is arranged for interchangeable engagement in grooves 33 formed in the shaft 22 in spaced relation, to hold the shaft with the different sets of gears in mesh.

A gear 34 is interposed between a gear 31 on the shaft 29 and a gear 35, which is mounted upon the shaft 25 and it will thus be seen that shifting of the shaft 22 as described above will result in rotation of the roller 21 in opposite directions, when the shaft 22 is rotated. An angular sleeve 36 is engaged with an angular portion 37 of the shaft 22, and this sleeve has the inner end of a coil spring 38 secured thereto, this spring having its outer end secured to a stationary fastening 39.

As brought out in the foregoing, the portion of the shaft 22 which has the grooves 33 extends outwardly beyond one end of the box, and beyond these grooves, the shaft is provided with a terminal winding crank 40 by which the shaft may be revolved to energize the spring, and this crank also presents a means for shifting the shaft longitudinally.

From the foregoing, it will be seen that after mail has been deposited in the box, the spring may be energized by the mail carrier and the box allowed to travel over the track formed by the wires 5 and 6, to the house or

other termination of the track, and that when the mail has been removed from the box, the shaft may be shifted to reverse the rotation of the roller 21, which is the drive roller, to return the box to the opposite end of the track. It is of course understood that the sleeve 36 is arranged for sliding movement of the shaft 22 therewithin.

Secured to one of the posts 8, which is the terminal post at one end of the track, there is a dog 41, which is located to engage the gear 26 when the box is at that end of the track and thus, when the box has reached the end of the track, the gear is engaged by the dog to stop the propelling mechanism and to prevent idle rotation of the drive roller upon the wire, the excess of energy in the spring being thus preserved. The dog 41 is arranged for movement out of engagement with the gear to release the box when the latter is to be set in motion.

What is claimed is:

1. In a conveying system, for rural routes, the combination with a track, of a carrier arranged for movement over the track, an outwardly extending shaft mounted upon the carrier, means for revolving the shaft, a drive roller mounted upon the carrier and engaging the track, a gear carried by the shaft, a gear carried by the drive roller and meshing with the first named gear, and a dog mounted adjacent to the track and ar-

ranged for engagement of one of said gears to prevent rotation of the drive roller.

2. A conveyer for mail carrying systems comprising a box, a shaft revolubly mounted in the box, a drive roller carried by the box, a gear train between the drive roller and the shaft, reversing gears meshing with a portion of said gear train, means for revolving the shaft, and a gear carried by the shaft, said shaft being arranged for sliding movement to break the first named gear train and to mesh the gear carried by the shaft with the reversing gear.

3. In a mail carrying system, the combination with a track wire, of a carrier box, a bracket secured to said box and including a stationary arm, a roller revolubly mounted upon said arm, an arm pivoted to the first named arm at one end, a retaining roller mounted upon the pivoted arm, said rollers being arranged for the reception of the track wire therebetween and a spring secured to the two arms to hold the pivoted arm yieldably against movement away from the stationary arm.

In testimony whereof I affix my signature, in presence of two witnesses.

OSCAR A. LARSON.

Witnesses:

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