

J. H. GROTZKY.
 APPARATUS FOR DELIVERING AND RECEIVING MAIL.
 APPLICATION FILED OCT. 27, 1910.

998,504.

Patented July 18, 1911.
 2 SHEETS—SHEET 1.

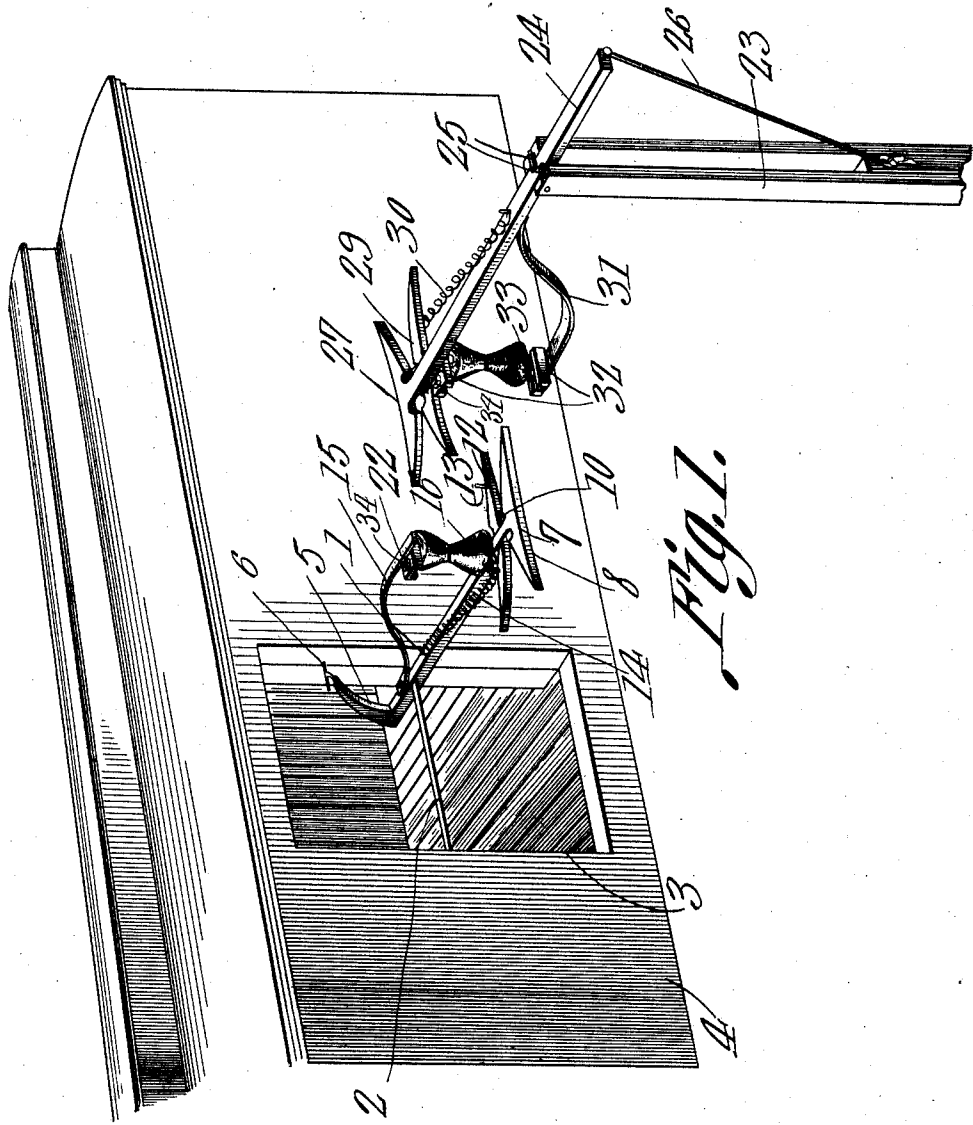


Fig. 1.

Witnesses
J. Tomlin
Robert Dawson

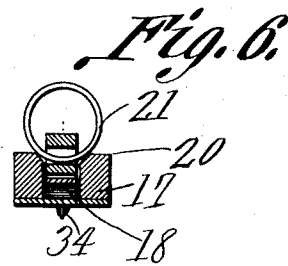
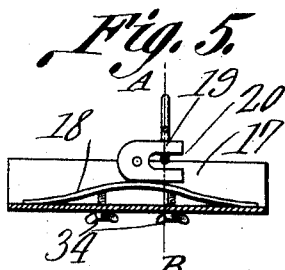
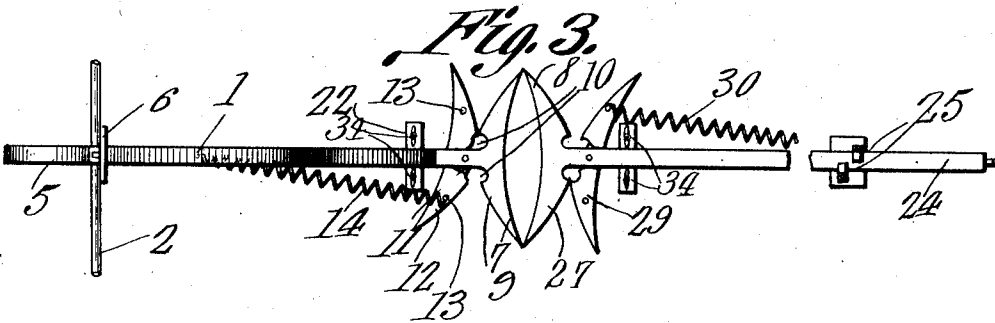
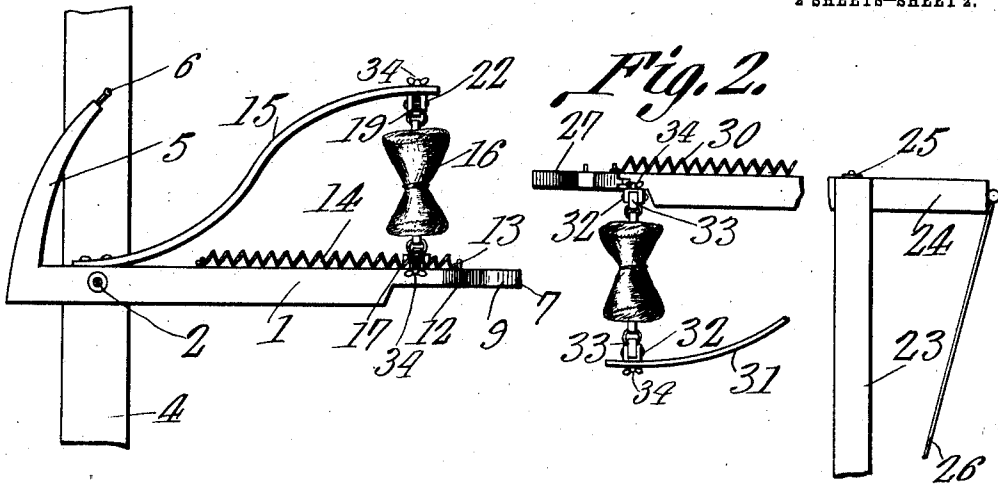
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR DELIVERING AND RECEIVING MAIL.

998,504.

Specification of Letters Patent. Patented July 18, 1911.

Application filed October 27, 1910. Serial No. 589,404.

To all whom it may concern:

Be it known that I, JOHN H. GROTZKY, a citizen of the United States, residing at Grand Island, in the county of Hall and State of Nebraska, have invented a new and useful Apparatus for Delivering and Receiving Mail, of which the following is a specification.

This invention relates to apparatus for delivering and receiving mail and is more particularly designed for effecting the interchange of mail between stations and moving cars.

One of the objects of the invention is to simplify and otherwise improve upon the construction of devices of this character and to so mount them as to render them easy to control and positive in action, the interchange of mail being effected without danger of injuring the bags or pouches handled by the operator.

With the foregoing and other objects in view the invention consists in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings, the preferred form of the invention has been shown.

In said drawings Figure 1 is a perspective view of the complete apparatus and showing the relative positions of the parts immediately prior to the interchange of mail. Fig. 2 is an elevation of the apparatus, the pouches to be delivered being shown in engagement with the cranes. Fig. 3 is a plan view of the parts shown in Fig. 2. Fig. 4 is an enlarged perspective view of one of the pouch-gripping members of a crane. Fig. 5 is a central longitudinal section through one of the pouch-engaging members. Fig. 6 is a section on line A—B of Fig. 5.

Referring to the figures by characters of reference, 1 designates the main arm of the car crane, this arm being pivotally mounted upon a rod 2 extending transversely of the

door opening 3, which is located, as ordinarily, in the side of the car structure 4. One end of the arm 1 of the crane has an arcuate extension 5 formed with a handle 6 whereby said arm can be readily manipulated and brought into any position desired. The outer end of the arm 1 is provided with a head 7 fixed relative thereto, this head extending in an opposite direction from the arm 1 to form jaws 8. Each of these jaws is pointed and has a convex working edge, as shown at 9, there being a recess formed within said edge and close to the arm 1, as indicated at 10.

An opening extends transversely through the arm 1 close to the head 7 and pivotally mounted within this opening is a shank 11 having jaws 12 at its ends, these jaws corresponding with the jaws 8 and being disposed out of alinement so that, when one of the jaws 12 is swung against the adjoining jaw 8, the other jaw 12 will be moved from the opposite jaw 8. Projections 13 extend upwardly from the jaws 12 and either of them is adapted to be engaged by one end of a spring 14 connected to the arm 1. This spring, therefore, serves to hold one of the jaws 12 normally pressed against the adjacent jaw 8, the meeting faces of the two jaws diverging outwardly toward the points of said jaws.

A curved arm 15 is secured upon the arm 1 and extended over the slotted portion of said arm, the free end of the arm 13 being spaced from the arm 1 a distance slightly greater than the length of the bag or pouch 16 to be carried. The arm 1 is provided, directly under the free end of the arm 13, with a transversely extending channeled member 17 in which is located a bow-shaped spring 18. The middle portion of this spring bears against a U-shaped bag or pouch-engaging element 19 which is pivotally mounted within the channeled member 17. The U-shaped element 19 is adapted to swing into the channeled member 17 and to engage a ring, strap or the like extending from one end of the pouch or sack 16, there being notches or recesses 20 formed in the sides of the member 17 so as to en-

gage said ring, as indicated at 21 in Fig. 6. Another member 22, similar to the member 17, is secured upon the lower face of the outer end portion of arm 15 and is also provided with a bag or pouch engaging member similar to the member 19.

The crane designed to be used at a station, includes a standard 23 having an arm 24 pivotally mounted in the upper end thereof and adapted to be held against swinging movement by means of buttons 25 and a cord or chain 26. This arm 24 has a head 27 at that end thereof nearest the tracks, this head being similar to the head 7 and having pivoted jaws 29 cooperating with it. A spring 30 connects either of the jaws with the arm 24. Another arm 31 is secured to and extends under the arm 24 and is similar to arm 15, both it and the arm 24 carrying a channeled member 32 similar to the members 17 and 22 heretofore described. Each of these channeled members 32 is provided with an engaging device 33 similar to the device shown at 19 in Fig. 5.

When it is desired to effect the interchange of mail at a station, the bag or pouch to be delivered to the station is placed between the arms 1 and 15 and with its rings or end straps in engagement with the U-shaped members 19, these members being swung about their pivots so as to extend in a direction opposite to that in which the car is traveling and being held in such position by the springs 18. The rings or straps upon the pouch will thus be held within the recesses 20. Arm 1 is swung outwardly from the car and held in any suitable manner. The bag or pouch to be delivered to the car is placed between and connected to the members 32 carried by the arms 24 and 31 and, when thus supported, is directly in the path of the jaws 8 and 12 while the head 27 and the jaws 29 are supported in the path of the pouch or bag carried by the crane on the car. It will be apparent therefore, that as the car passes the station, the pouch supported at the station will be received between the jaws 8 and 12 and pulled off of its fastening members 33 while, at the same time, the pouch or bag carried by the crane on the car, will be brought into position between the head 27 and one of the jaws 29 and will thus be forced away from the fastening devices on the car crane. As either of the pouches passes into position between the jaws engaging the same, the spring 14 or 30 is extended until the said bag arrives within the cut-away portion 10 in the jaw 8 or the corresponding cut-away portion in head 27 whereupon the spring will return the jaw to its initial position and securely hold the bag or pouch in place.

When the station crane is not in use, the arm 24 can be released from the button

25 and permitted to swing downwardly or upwardly as desired. The crane upon the car can also be swung into the door opening.

In order that the springs 18 may be adjusted so as to increase or diminish their pressure upon the members 19, the ends of these springs are preferably connected to adjusting screws 34 mounted within the channeled members 17 and 22.

What is claimed is:

1. Apparatus of the class described including an arm, oppositely extending fixed jaws thereon, integral movable jaws adjacent the respective fixed jaws, and a spring for holding the movable jaws normally in predetermined positions, the adjoining faces of the fixed and movable jaws diverging toward their free ends, all of said jaws being in the same plane.

2. Apparatus of the class described including oppositely extending integral fixed jaws, oppositely extending integral movable jaws adjacent thereto and in the same plane therewith, yielding means for holding either one of the movable jaws normally in contact with the opposed fixed jaw, the meeting faces of said jaws diverging toward their free ends and having recesses in their inner end portions.

3. Apparatus of the class described including a pivotally supported arm, oppositely extending fixed jaws at one end thereof, a head pivotally mounted on the arm and having jaws at the ends thereof cooperating with the respective fixed jaws, and means engaging one of the movable jaws for holding the other movable jaw normally in engagement with a fixed jaw.

4. Apparatus of the class described including oppositely extending fixed jaws, a member pivotally mounted adjacent thereto and having jaws at its ends, means engaging one of the movable jaws for holding the other one of said jaws in contact with the adjacent fixed jaw, there being recesses within the working faces of the fixed jaws, the meeting of the fixed and movable jaws diverging toward their free ends.

5. Apparatus of the class described including fixed arms having spaced terminals, channeled members upon said arms, a yoke-like pouch-engaging member pivotally mounted within each of said channeled members, an elastic means for holding said pivoted members in predetermined positions.

6. Apparatus of the class described including upper and lower arms, channeled members secured thereto, springs mounted within the channeled members, and yoke-like pouch-engaging devices pivotally mounted within said members and engaged by the springs.

7. Apparatus of the class described including upper and lower arms, a channeled

member upon each arm, each member having opposed notches for the reception of a pouch ring, a U-shaped device pivotally mounted within each channeled member for
5 engaging a portion of a pouch, and a spring within each member for holding the U-shaped device against free movement.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN H. GROTZKY.

Witnesses:

T. O. C. HARRISON,
W. A. PRINCE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
