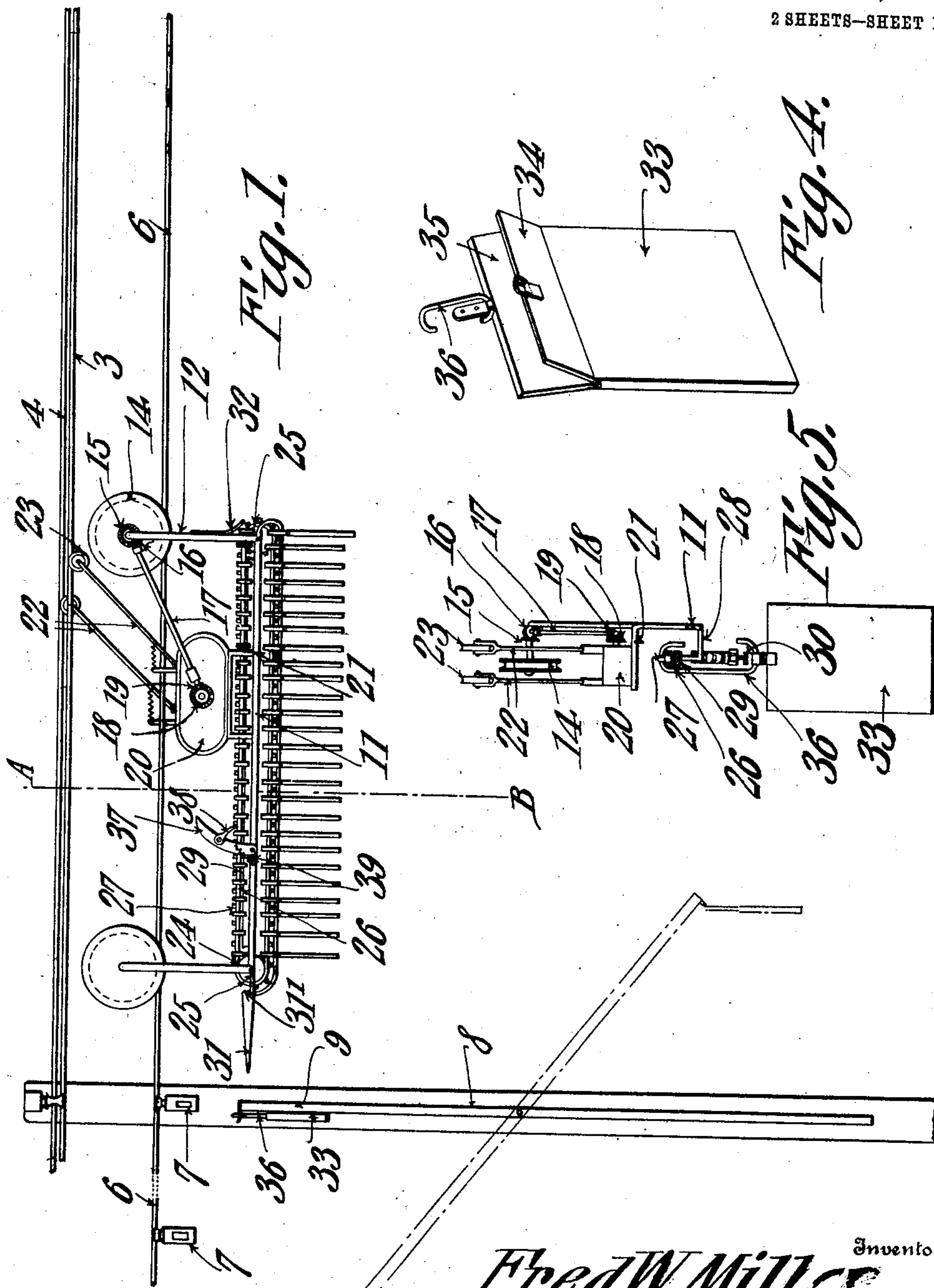


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OVERHEAD CARRIER FOR MAIL AND THE LIKE.  
APPLICATION FILED DEC. 9, 1909.

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Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.



Witnesses

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Fig. 2.

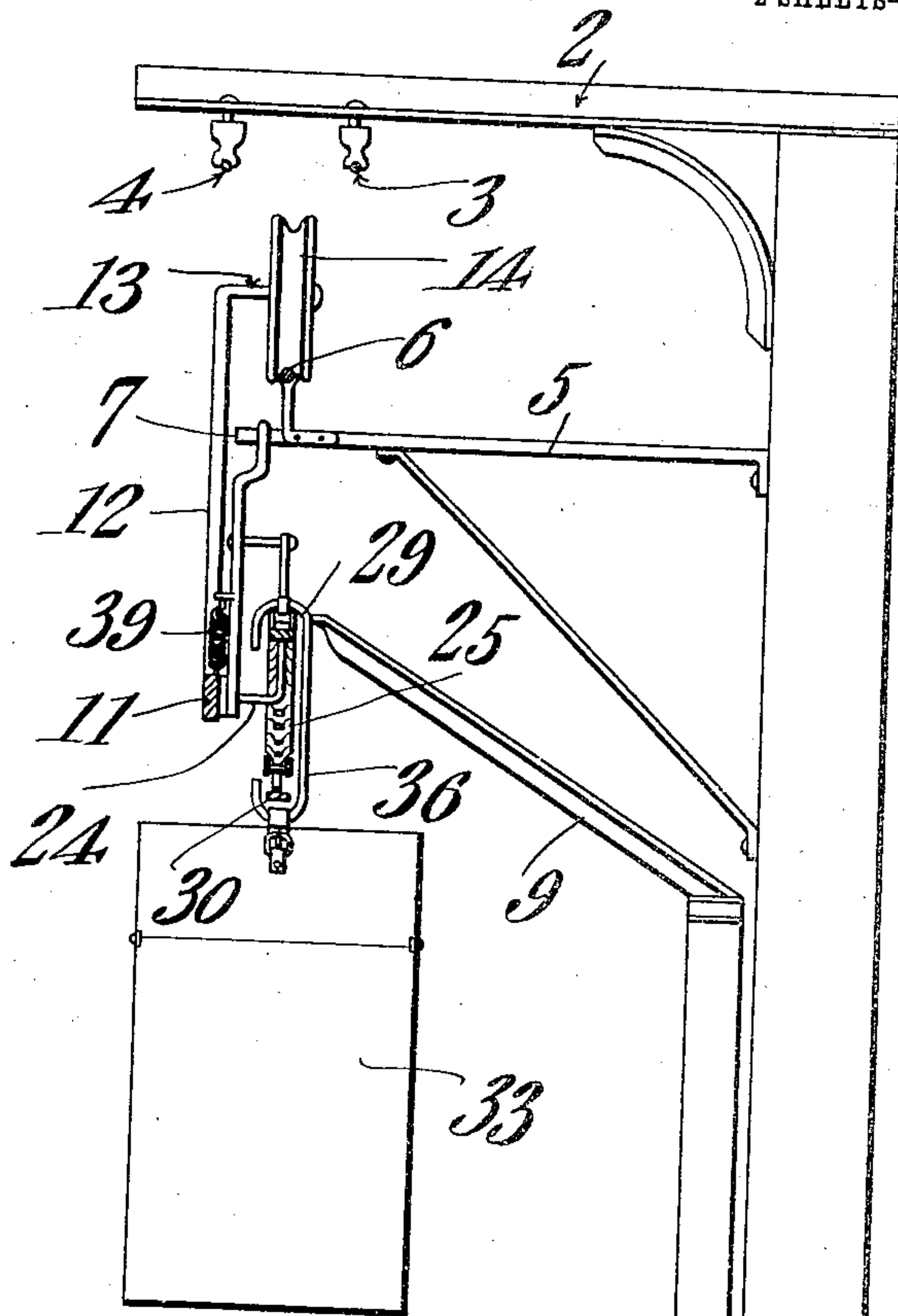
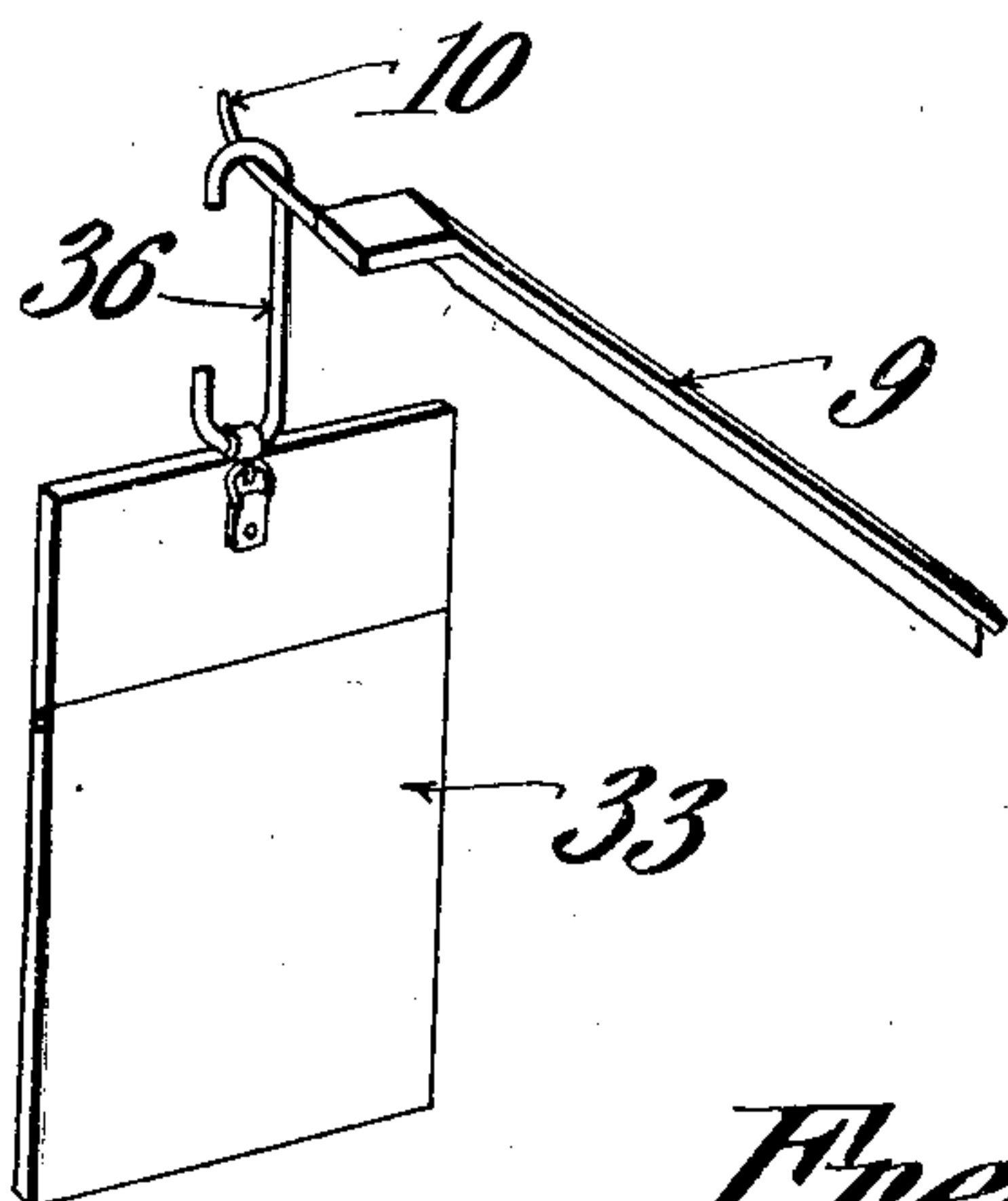


Fig. 3.



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# UNITED STATES PATENT OFFICE.

FRED W. MILLER, OF MONROE, WISCONSIN, ASSIGNOR OF ONE-THIRD TO RUDY SHOBER  
AND ONE-THIRD TO JOSEPH TRICKLE, OF MONROE, WISCONSIN.

OVERHEAD CARRIER FOR MAIL AND THE LIKE.

951,959.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Application filed December 9, 1909. Serial No. 532,279.

*To all whom it may concern:*

Be it known that I, FRED W. MILLER, a citizen of the United States, residing at Monroe, in the county of Green and State of Wisconsin, have invented a new and useful Overhead Carrier for Mail and the Like, of which the following is a specification.

This invention relates to overhead carriers particularly designed for collecting and delivering mail in rural districts.

One of the objects of the invention is to provide apparatus of this character including a motor propelled car designed to travel continuously from the post office or other starting point until it arrives at its destination, means being provided whereby, during the movement of the carriage, the mail etc., along the route can be automatically collected and deliveries made at predetermined points.

A still further object is to provide collecting and delivering mechanism which is of simple construction and which will operate to positively collect and deliver the mail.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

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

In said drawings, Fig. 1 is a side elevation of the carriage and the apparatus at one of the collecting and delivering stations. Fig. 2 is an enlarged section on line A—B Fig. 1. Fig. 3 is a detail view of the upper end of the elevating arm at the station, said arm being shown supporting a mail holder. Fig. 4 is a perspective view of a mail holder open. Fig. 5 is a section on line A—B but looking in a direction opposite to that indicated by the arrow, said section being on a smaller scale than Fig. 2.

Referring to the figures by characters of reference 1 designates a post having a laterally extending arm 2 at the upper end thereof to which are connected trolley wires 3 and 4. It is to be understood that posts such as referred to are located at desired in-

tervals throughout the extent of the system and wherever necessary these posts are provided with laterally extending arms 5 carrying a supporting cable 6 on which the movable portion of the apparatus is designed to travel. At those points where mail is to be delivered a tripping device, such as a plate 7 may be secured to the arm 5 for the purpose hereinafter set forth. Moreover an elevating beam 8 may be pivotally connected to the post 1 at the place where the interchange of mail is to be effected and this beam may be provided, at one end, with a laterally extending arm 9 terminating in a finger 10 which extends in the direction in which the movable carriage travels.

The carriage used in connection with the apparatus consists of a longitudinally extending bar 11 supported at its ends by hangers 12. Laterally extending arms 13 are formed at the upper ends of these hangers and constitute bearings for grooved supporting wheels 14. These wheels are mounted to travel upon the supporting cable 6 and one of the wheels has a gear 15 revoluble therewith and meshing with a gear 16 which is carried by one end of a drive shaft 17. Said drive shaft receives motion through gears 18 and 19 from a motor 20 which is supported above the bar 11 by means of a bracket 21. Trolleys 22 are pivotally mounted above the motor and carry wheels 23 which travel along the wires 3 and 4. Arms 24 extend laterally from the ends of the bar 11 and constitute bearings for sprockets 25 on which is mounted an endless chain 26, said chain being provided at regular intervals, with outstanding lugs or teeth 27 provided for the purpose hereinafter set forth. Additional arms 28 extend laterally from the bar 11, these arms being preferably L-shaped and supporting a guide bar 29 which extends close to and parallel with the upper run of the chain 26 and serves to prevent the run from sagging. Another bar 30 is arranged under and parallel with the lower run of the chain, this bar being held in place by extending the front and rear ends thereof upwardly to the ends of the bar 11, which, as shown in Fig. 1, extend beyond the outermost portions of the sprockets 25.



The front end of the bar 11 merges into a pointed finger 31. This finger is located directly in front of the front sprocket 25. A retaining spring 32 is secured to the rear hanger 12 of the carriage and bears upon the teeth 27 as they successively pass downwardly upon the rear sprocket 25.

The mail holding devices used in connection with the apparatus consist of bags or similar receptacles 33 the upper ends of which are provided with closures 34 which may be secured in closed positions by means of straps and buckles or the like. One of the closures of each receptacle has a supporting link 36 secured to it and extending upwardly therefrom, this link being C-shaped the distance between the terminals of the link being somewhat greater than the width of the bar 11.

It is to be understood that one of the mail receptacles which has been described is to be provided for the distribution of mail to each patron and it is also to be understood that each patron is to have one or more of these receptacles in his possession.

In preparing the apparatus for use the various patrons place the mail to be delivered, in the receptacles 33 and after closing said receptacles place the links 36 on the fingers 10 and then elevate said fingers so as to support the links in the path of the finger 31. At the post office or other distributing point a separate receptacle is provided for each patron and these receptacles are placed in proper succession upon the carriage with the links extending over and under the endless chain and between the teeth upon the upper run of the same. For example the receptacle to be delivered at the first station is placed with its link between the last two teeth upon the upper run and if no mail is to be delivered to the next or second patron the space between the next two teeth is left vacant.

If mail is to be delivered to the third patron along the route a receptacle containing the mail is placed with its link between the next set of teeth. This arrangement is followed throughout the length of the carriage which, of course, must be sufficiently large to accommodate all the necessary receptacles. When the various links are in position they hang with the bar 11 extending between the terminals thereof, and it will be apparent that there is nothing in the path of the links to prevent them from being discharged from the end of the carriage when the mechanism is set in motion for that purpose.

After the various receptacles have been properly placed upon the carriage the trolley wheels 23 are placed on the wires 3 and 4 and the said carriage is thus caused to

travel along the cable 6, the motor 20 being driven by the current admitted thereto through the trolleys. When the carriage reaches the first station along the route the finger 31 passes into the link 36 suspended in front thereof and forces the link off of its supporting finger 10, the said link thus assuming a position upon the rear portion of the finger which, as shown in Fig. 1, is reduced, this reduced portion being indicated at 31'. As the carriage passes this station the tripping plate 7 upon the arm 5 is struck by a lever 37 which is pivotally mounted on bar 11 and carries a pawl 38 which normally engages one of the teeth upon the upper run of the chain. A spring 39 serves to hold the lever 37 normally projected upwardly. When this lever 37 strikes the tripping device 7 it is swung rearwardly and causes the pawl 38 to shift the upper run of the chain rearwardly for a short distance, this distance being sufficient to remove the rear tooth of the upper run from under the retaining spring 32 and to thus release the link 36 of the rear receptacle 33. Said receptacle will thus be dropped off of the back of the carriage and onto the ground or into any suitable receptacle provided for it. During this rearward movement of the upper run of the chain the front tooth of said run will engage the link 36 of the receptacle 33 which has been deposited in the reduced portion of the finger 31 and will carry said link upwardly into position above the front sprocket 25. The spring 39 of course returns the lever 37 and pawl 38 to their initial positions after they have been actuated in this manner, it being understood that any suitable stop may be provided for limiting the upward movement of the lever.

It is to be understood that the operations of collecting and delivering receptacles are continued throughout the extent of the route traveled by the carriage and, if desired, the said carriage can be caused to return to the starting point. Upon the completion of the trip the receptacles originally placed upon the carriage will have been replaced automatically by receptacles in which mail has been placed by the patrons.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:—

1. Apparatus of the class described including a supporting element, a motor propelled carriage mounted to travel upon said element, an endless carrier mounted upon said carriage and having spaced projections, receptacles, supporting devices extending



therefrom and removably mounted upon said carrier and between the projections, collecting means for directing onto the carrier the connecting devices of receptacles supported in the path of the carriage, and means for automatically shifting the carrier to discharge a receptacle therefrom.

2. Apparatus of the class described including a motor propelled carriage, a collecting device in front thereof, means for holding a receptacle supporting link in the path of the collecting device, an endless carrier upon the carriage, tripping means for automatically shifting the carrier to engage and convey the link upon the carriage, said carrier constituting means for discharging the links successively from one end of the carriage.

3. Apparatus of the class described including a motor propelled carriage, a collecting device in front thereof, means for holding a receptacle supporting link in the path of said device, an endless carrier upon the carriage, a tripping device, means on the carriage for engaging said device to shift the carrier to engage and convey the link upon the carriage, said carrier constituting means for successively discharging the links from the rear end of the carriage, and resilient retaining means cooperating with the carrier for retarding the discharge of the links.

4. Apparatus of the class described including a motor propelled carriage, a collecting device in front thereof, means for holding a receptacle supporting link in the path of said device, a toothed carrier mounted for movement upon the carriage, a series of tripping devices, means upon the carriage for successively engaging said devices to impart an intermittent movement to the carrier, said carrier operating to engage the links supplied thereto by the collecting device and to convey them to and discharge them from the rear end of the carriage.

5. Apparatus of the class described including a motor propelled carriage, a collecting finger in front thereof, means for holding a receptacle supporting link in the path of the finger, an endless toothed carrier movably mounted upon the carriage, a series of tripping devices, means upon the carriage for successively engaging said devices to impart an intermittent movement to the carrier, said carrier operating to engage the links supplied thereto by the finger and to convey them along the carriage and discharge them from one end thereof, and a spring retaining device cooperating with the carrier to retard the discharge of the links therefrom.

6. Apparatus of the class described including a motor propelled carriage, means

for holding a receptacle supporting link in the path of the carriage, a collecting finger on said carriage for engaging the link, an endless carrier movably mounted upon the carriage, outstanding projections thereon, trip actuated means upon the carriage for imparting an intermittent movement to the carrier, said carrier operating to engage the links supplied to the carriage by the collecting finger and to carry said links longitudinally of the carriage and discharge them from one end thereof.

7. Apparatus of the class described including a motor propelled carriage, a collecting finger at one end thereof and having a reduced rear portion, means for holding a receptacle supporting link in the path of said finger, an endless carrier movably mounted upon the carriage, said carrier having outstanding projections, trip operated means upon the carriage for imparting an intermittent motion to the carrier to bring the projections successively into engagement with the links supplied to the reduced portion of the finger and to shift said links longitudinally of the carriage and off of one end thereof.

8. Apparatus of the class described including a motor propelled carriage, an endless carrier movably mounted thereon, outstanding projections upon said carrier, links embracing the carriage and bearing upon and supported by the upper run of the carrier and located between the projections, each link having an open side, a receptacle supported by each link and below the carriage, and trip operated means below the carriage for imparting an intermittent movement to the carrier to discharge the links successively from one end of the carriage.

9. Apparatus of the class described including a motor propelled carriage, an endless carrier movably mounted thereon, guide bars disposed below the upper and lower runs respectively of the carrier, the said bars constituting supports for the runs to prevent sagging, outstanding projections upon the conveyer, links embracing the carriage and bearing downwardly upon the upper run of the carrier, said links being located between the projections and being open at one side, a receptacle supported by each link, and trip operated means for intermittently shifting the upper run of the carrier in one direction to successively discharge the links from one end of the carriage.

10. Apparatus of the class described including a motor propelled carriage, an endless carrier movably mounted thereon, guide bars disposed below the upper and lower runs respectively of the carrier, the said bars constituting supports for the runs to pre-

vent sagging, outstanding projections upon the conveyer, links embracing the carriage and bearing downwardly upon the upper run of the carrier, said links being located  
5 between the projections and being open at one side, a receptacle supported by each link, and trip operated means for intermittently shifting the upper run of the carrier in one direction to successively discharge the links  
10 from one end of the carriage, and a spring

retaining device bearing upon the rear portion of the upper run to retard the discharge of the links therefrom.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature 15 in the presence of two witnesses.

FRED W. MILLER.

Witnesses:

R. D. GORHAM,  
HULDAH WAGNER.