

No. 855,685.

PATENTED JUNE 4, 1907.

T. YOCHUM.

MAIL BAG CATCHING AND DELIVERING DEVICE.

APPLICATION FILED AUG. 13, 1906.

2 SHEETS—SHEET 1.

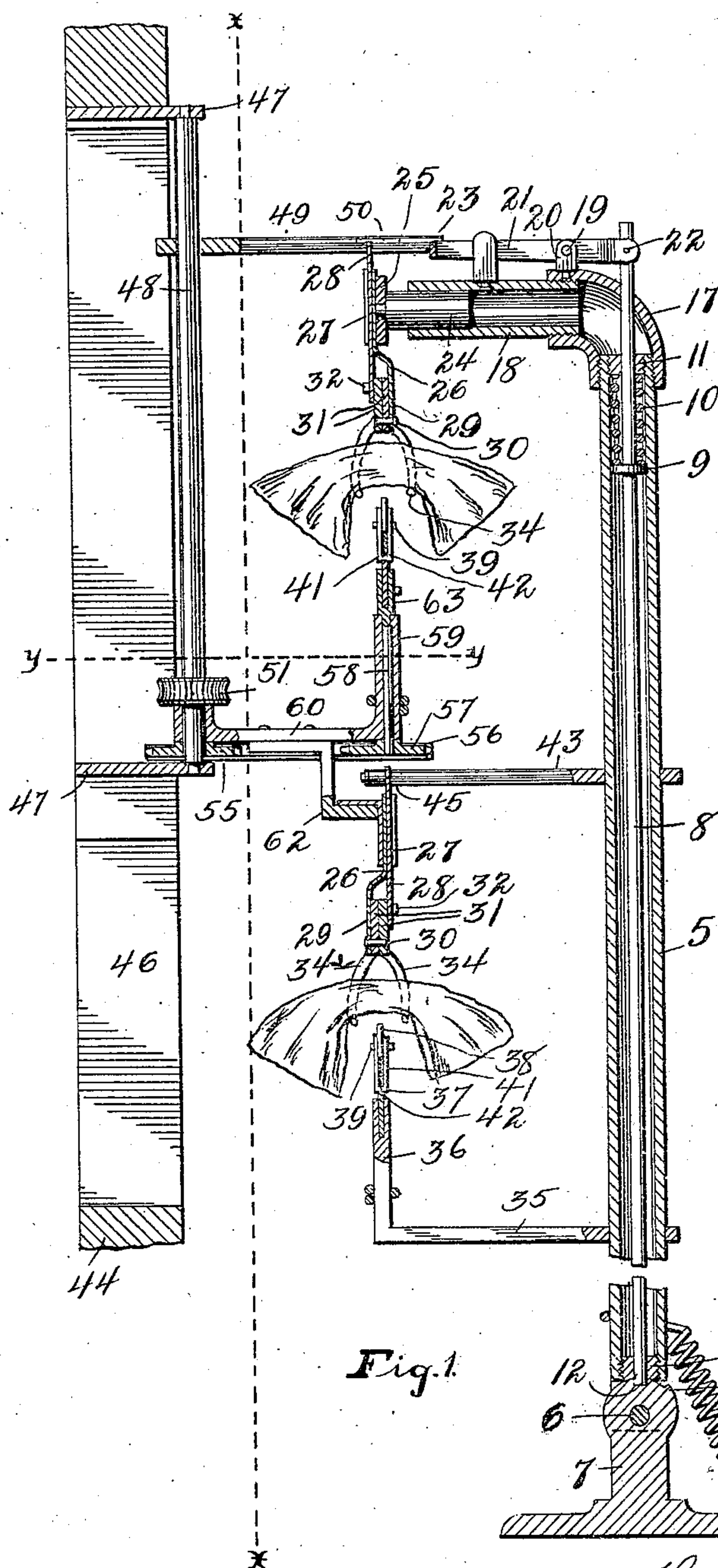


Fig. 1.

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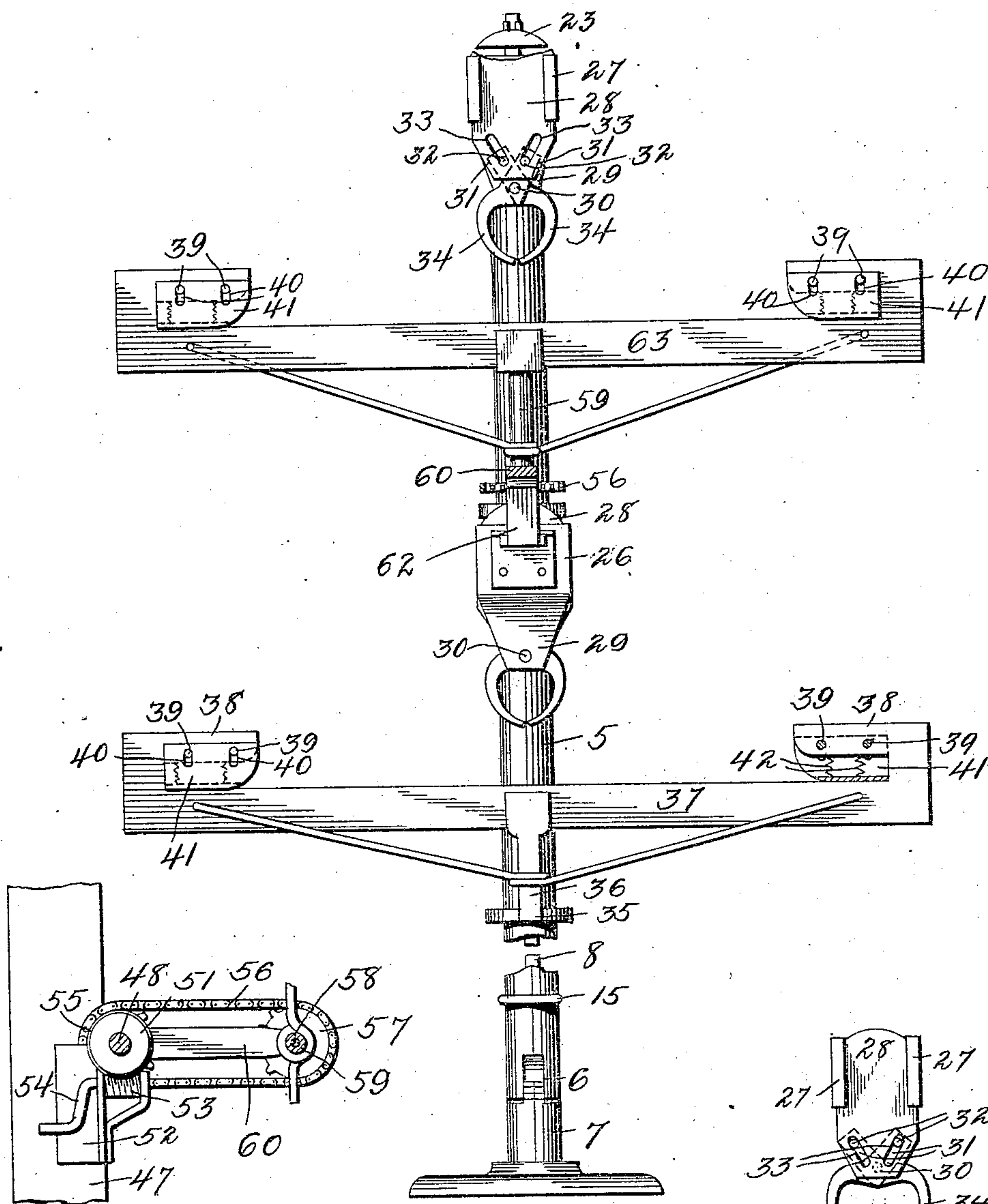


Fig. 3.

Fig. 2.

Fig. 4.

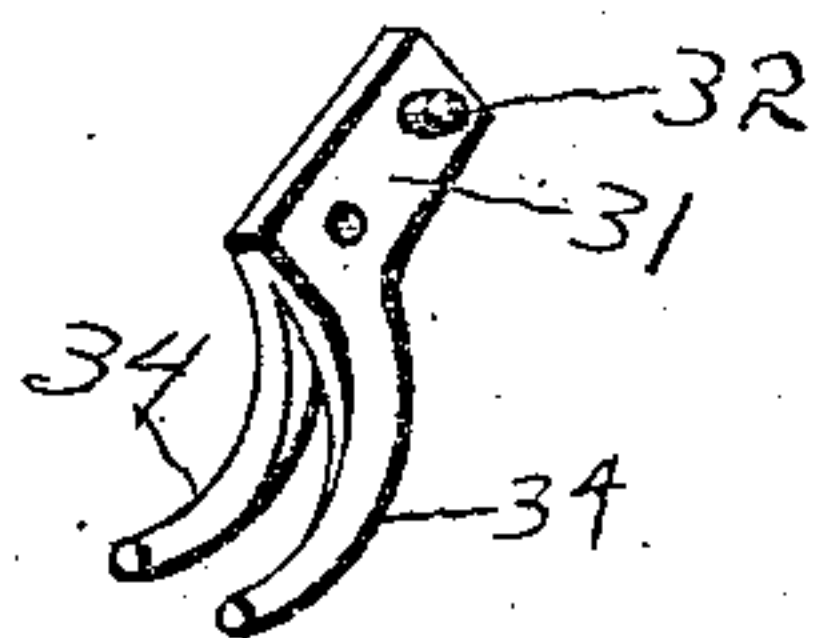


Fig. 5.

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THEODORE YOCHUM, OF COLUMBUS, OHIO.

MAIL-BAG CATCHING AND DELIVERING DEVICE.

No. 855,685.

Specification of Letters Patent.

Patented June 4, 1907.

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To all whom it may concern:

Be it known that I, THEODORE YOCHUM, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Mail-Bag Catching and Delivering Devices, of which the following is a specification.

My invention relates to mail bag catching and delivering devices and has for its object the provision of a device of this character constructed in such manner that a mail bag carried by a rapidly moving train may be delivered at the station, and a mail bag from said station may be delivered to the train with a minimum of shock or jar.

A further object of the invention is the provision of a device of the character described, comprising a fixed post designed to be located at a station together with means for swinging said post away from the train after the passage of said train.

Further objects and advantages of the invention will be set forth in the detailed description which now follows:—

In the accompanying drawings Figure 1 is a vertical section through the mail bag catching and delivering apparatus. Fig. 2 is a vertical section upon line X X of Fig. 1. Fig. 3 is a horizontal section upon line Y Y of Fig. 1. Fig. 4 is a detailed view illustrating the mail bag retaining members in their open position, and Fig. 5 is a detailed view of one of the hook members.

Like numerals designate corresponding parts in all of the figures of the drawings.

Referring to the drawings, number 5 designates a hollow post, the lower end of which is pivoted, as at 6, upon a base 7. A rod 8, which is mounted within the post, 5, carries a collar, 9. A spring, 10, bears between the collar, 9, and a plug, 11, which is threaded into the upper end of the post, 5, said spring normally tending to force the lower end of the rod into a recess, 12, of the base, 7. A plug, 13, which is threaded into the lower end of the post, 5, forms a bearing for the lower end of the rod, 8. A stop lug, 14, is formed upon the stand, 7. One end of the coil spring, 15, is secured to the base, 7, at 16, and the other end of said spring is secured to the post, 5, above its pivot point, 6. A coupling or elbow, 17, which is threaded upon the upper end of the post, 5, supports a transversely disposed tubular member, 18. Pivoted at 19 to an ear, 20, which is carried

by the elbow, 17, is a lever, 21; one end of which is pivoted at 22 to the upper end of the rod, 8, and the opposite end of which is provided with a transversely disposed head, 23; the upper face of which is rounded, as is best illustrated in Fig. 2.

Projecting from the tubular member, 18, is a plug, 24, to the outer end of which a plate, 25, is secured. A plate, 26, is secured to this plate, and has its edges turned over at 27 to form a guideway for a suitable cam plate, 28. The plate, 26, is provided with an offset portion, 29, at its lower end. Pivoted to this depending offset portion, as at 30, are the shanks, 31, of the bag retaining hooks, as is clearly illustrated in Figs. 2 and 5. The shanks of these hooks project upwardly past their pivot points, the upper ends of said shanks being provided with pins, 32, which engage cam slots, 33, formed in the cam plate, 28. The lower ends of these hook members are provided with prongs, 34, constructed in such manner that when the parts are in the position shown in Fig. 2, the central portion of the mail bag may be clamped within said prongs and held suspended thereby until released as hereinafter described.

A horizontal arm, 35, which extends from the post, 5, is provided with a vertical extension, 36. At its upper end this vertical extension bears a bar, 37, which lies at right angles to the post, 5, and parallel with the railroad track when the device is in use. At its outer ends this bar is provided with L extensions, 38. Pins, 39, carried by these L extensions engage slots, 40, which are formed in brake shoes, 41. Springs 42, bear between the L extensions and the bottoms of these shoes and resist their upward movement.

A transversely disposed arm, 43, is secured to the post, 5, and projects toward the mail car, the side of which is illustrated in section at 44. The end of this bar, 43, is provided with an anti-friction roller, 45. The doorway of the mail car is illustrated at 46. Journaled in brackets, 47, secured within the doorway of the car is a shaft, 48. An arm, 49, is carried by this shaft, and is provided at its outer end with an anti-friction roller, 50. A worm wheel, 51, is secured to this shaft near its lower end. Mounted upon the lower bracket, 47, is a second bracket, 52, in which is journaled a worm, 53, to which motion may be imparted by a crank, 54, it being understood that the worm, 53, meshes with the

worm wheel, 51. A sprocket wheel, 55, is secured to the lower bracket 47. This sprocket wheel is connected by a sprocket chain, 56, with a sprocket wheel 57, the last named sprocket wheel being secured to the lower end of the shaft, 58, which is journaled in the sleeve, 59, carried upon the outer end of an arm, 60, the inner end of said arm being fast upon the shaft, 48.

A bracket, 62, bears mail bag retaining members in every respect like those designated by the numerals 26 to 34. Further description is therefore thought to be unnecessary, and the same reference numerals have been applied to these lower bag retaining members.

Secured to the upper end of the shaft, 58, is a bar, 63, this bar and the brake shoes carried by the ends thereof being in all respects like the bar 37 and the same reference numerals have been applied to said brake shoes.

The operation of the device is as follows:— By referring to Fig. 1 it will be seen that the bar, 63, which is carried by the mail car underlies the upper bag retaining members which are carried by the post. It will also be seen that the bar, 37 which is carried by the post underlies the lower bag retaining members which are carried by the car. Assuming that the upper hooks are in their closed position with a mail bag grasped therein ready to be caught by an approaching train, and assuming that the hooks carried by the train are also closed and grasp a mail bag, which is to be left at the station, the operation of the parts will be as follows:—When the roller, 50, carried upon the end of the arm, 49, rides over the upper rounded edge of the plate, 28, said plate is depressed and the walls of the cam slots, 33, acting upon the pins, 32, force the shanks of the hook members away from each other, and consequently move the hooks to the open position, shown in Fig. 4.

This releases the mail bag which is supported by the post and said mail bag drops upon the bar, 63, the movement of the train causing said bar to ride beneath the bag until said bag engages and lifts the brake shoes against the tension of the springs 42. The bag is therefore caught and carried forward by the train without excessive jar. In like manner the lower plate, 28, which is carried by the moving car rides under the fixed arm, 43, and its anti-friction roller, and is depressed, the depression of said plate in like manner releasing the lower mail bag and permitting it to drop upon the bar 37, which is supported by the post 5. The momentum of said bag is great enough to cause it to travel to the end of the bar and to engage beneath the brake shoes. Simultaneously with the depression of the plate, 28, the end of the lever 21 is depressed by the roller 50. This elevates the opposite end of said lever and lifts the lower end of the rod, 8, from engagement with the notch, 12. The spring 15 immediately acts

to throw the post, 5, away from the train until the lower end of the rod, 12, abuts against the stop, 14. The object in thus throwing the apparatus away from the train is to prevent accidents. It is a well known fact that many train men, and particularly the engineers of the trains, have been killed by striking the mail bag delivering apparatus while looking out of their cab windows. It is accordingly desirable to withdraw this apparatus except when it is actually being used. This is accomplished by providing the spring, 15, and the latch formed by the rod, 8, and the recess, 12. It is also desirable to have the parts carried by the car lie close against the side of the car, except when in the act of catching and delivering the mail bags, not only to avoid collision between said bars and obstacles along the road, but also for the purpose of enabling the mail clerks to reach the hooks without difficulty when it is desired to hang a mail bag thereon. For this purpose the manually actuated worm upon the shaft, 48, is provided, by virtue of which construction a partial rotation may be given said shaft; it being understood that said partial rotation swings the arm, 60, in toward the car until it lies substantially parallel therewith. To maintain the bar, 63, parallel with the side of the car while the arm, 60, is being swung in toward the car, the sprocket wheels and the sprocket chain, 56, are provided, it being understood that the partial rotation imparted to the sprocket, 57, by this inward movement of the arm 60 will be just sufficient to maintain the arm, 63, parallel with the side of the car.

From the foregoing description it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood, that the invention is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claims.

Having described my invention what I claim is:—

1. In an apparatus of the character described, the combination with a vertical supporting post adapted to support a mail bag, of means normally tending to throw said support away from the train, members which normally lock said support against movement, and means carried by the train for releasing said members.

2. In a device of the character described, the combination with a supporting post, of hooks adapted to grasp a mail bag supported from said post, a cam plate, the movement of which actuates said hooks, and a member carried by a train adapted to actuate said cam plate.

3. In an apparatus of the character described, the combination with bag retaining hooks carried by a car, of a cam plate, the movement of which actuates said hooks, and
5 a stop member adapted to actuate said cam plate to open said hooks.

4. In a device of the character described, the combination with a supporting post made in two sections, the upper of said sections being hinged to the lower of said sections, of locking mechanism for holding the sections of said post in vertical alinement with each other, means carried by a car for actuating said locking mechanism, and
15 means for throwing the upper section of said post away from said car when said locking mechanism is actuated to release said upper section.

5. In a device of the character described,
20 the combination with a supporting post, of mail bag retaining members carried by said post, an elongated bar carried by a car at such a height as to pass beneath said mail bag retaining members and a yielding member located at the end of said bar which is adapted to lift to permit a mail bag to pass
25 thereunder.

6. In a device of the character described, the combination with a supporting post, of
30 mail bag retaining members carried by said post, an elongated bar carried by a car at such a height as to pass beneath said mail bag retaining members, and yielding mem-

bers located at each end of said bar and adapted to permit the mail bag to pass 35 thereunder.

7. In a device of the character described, the combination with a fixed support, of mail bag retaining members carried by said support, a member carried by a car adapted 40 to engage and actuate said mail bag retaining members to release a mail bag, a swinging arm carried by a car, an elongated bar mounted upon said swinging arm at such a height as to pass beneath the mail bag re- 45 taining members of the fixed support, and means for maintaining said bar parallel with the side of the car as said arm is swung.

8. In a device of the character described, the combination with a shaft, of a swinging 50 arm mounted upon said shaft, a fixed sprocket wheel, a shaft mounted to turn with relation to said swinging arm, a sprocket wheel fixed upon the lower end of the last named shaft and turning therewith, a 55 sprocket chain connecting said sprocket wheels, and an elongated bar adapted to receive a mail bag mounted upon the upper end of the last named shaft.

In testimony whereof I affix my signature 60 in presence of two witnesses.

THEODORE YOCHUM.

Witnesses:

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CARL STOUGHTON.