

No. 867,785.

PATENTED OCT. 8, 1907.

D. J. BERTHOLD.

MAIL CRANE.

APPLICATION FILED JULY 11, 1907.

3 SHEETS--SHEET 1.

Fig. 1.

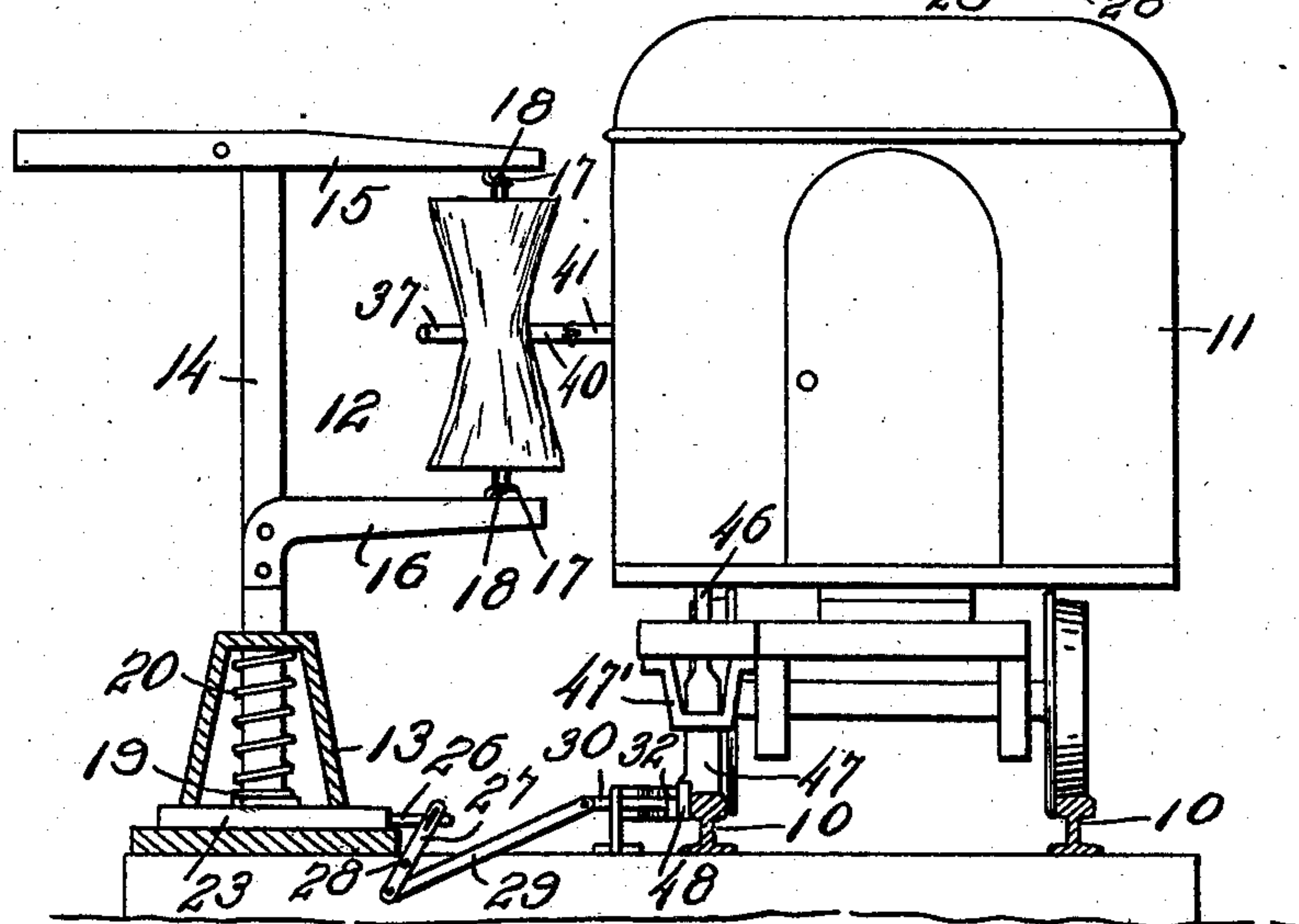
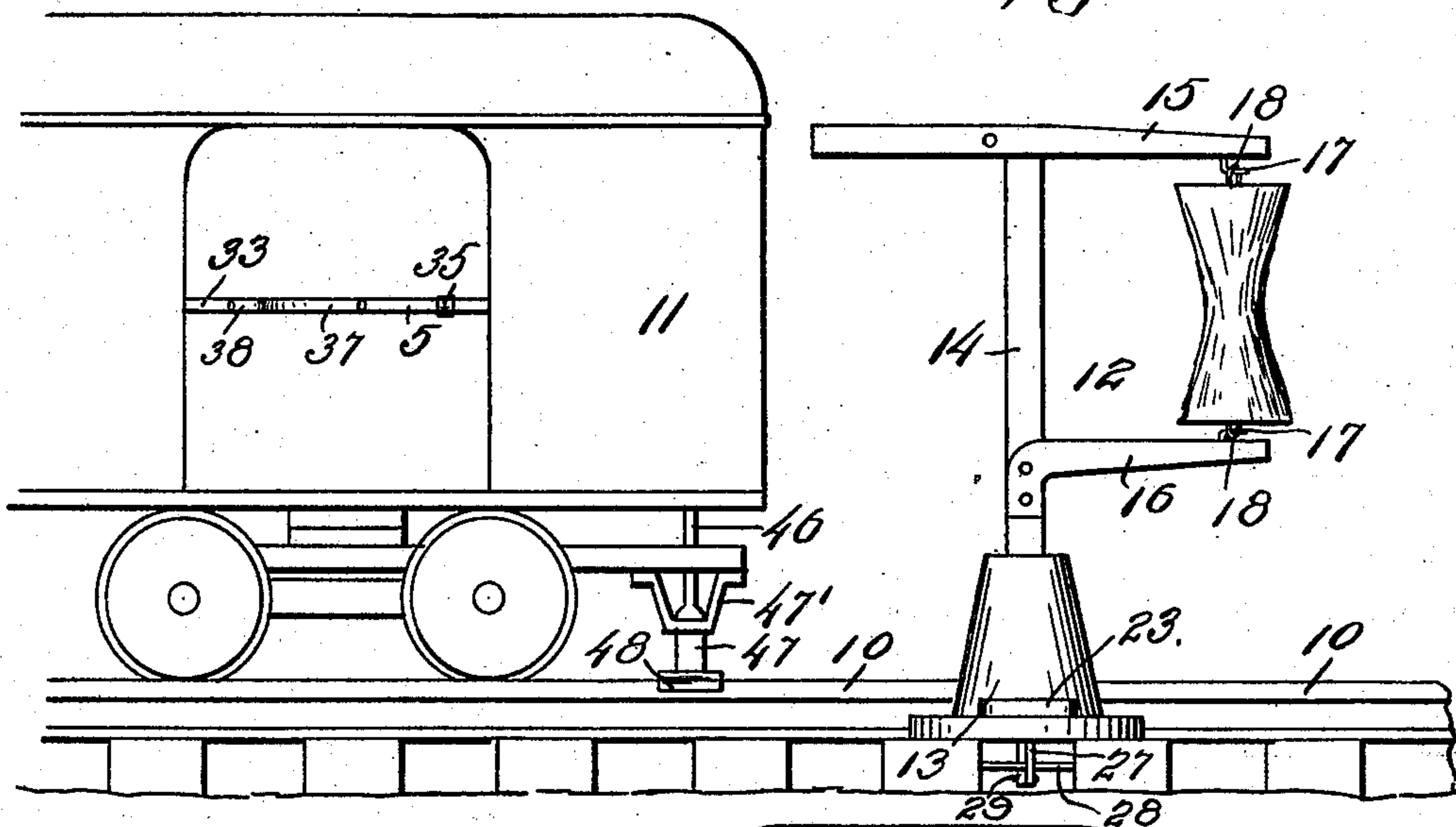


Fig. 2.

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3 SHEETS—SHEET 2.

Fig. 3.

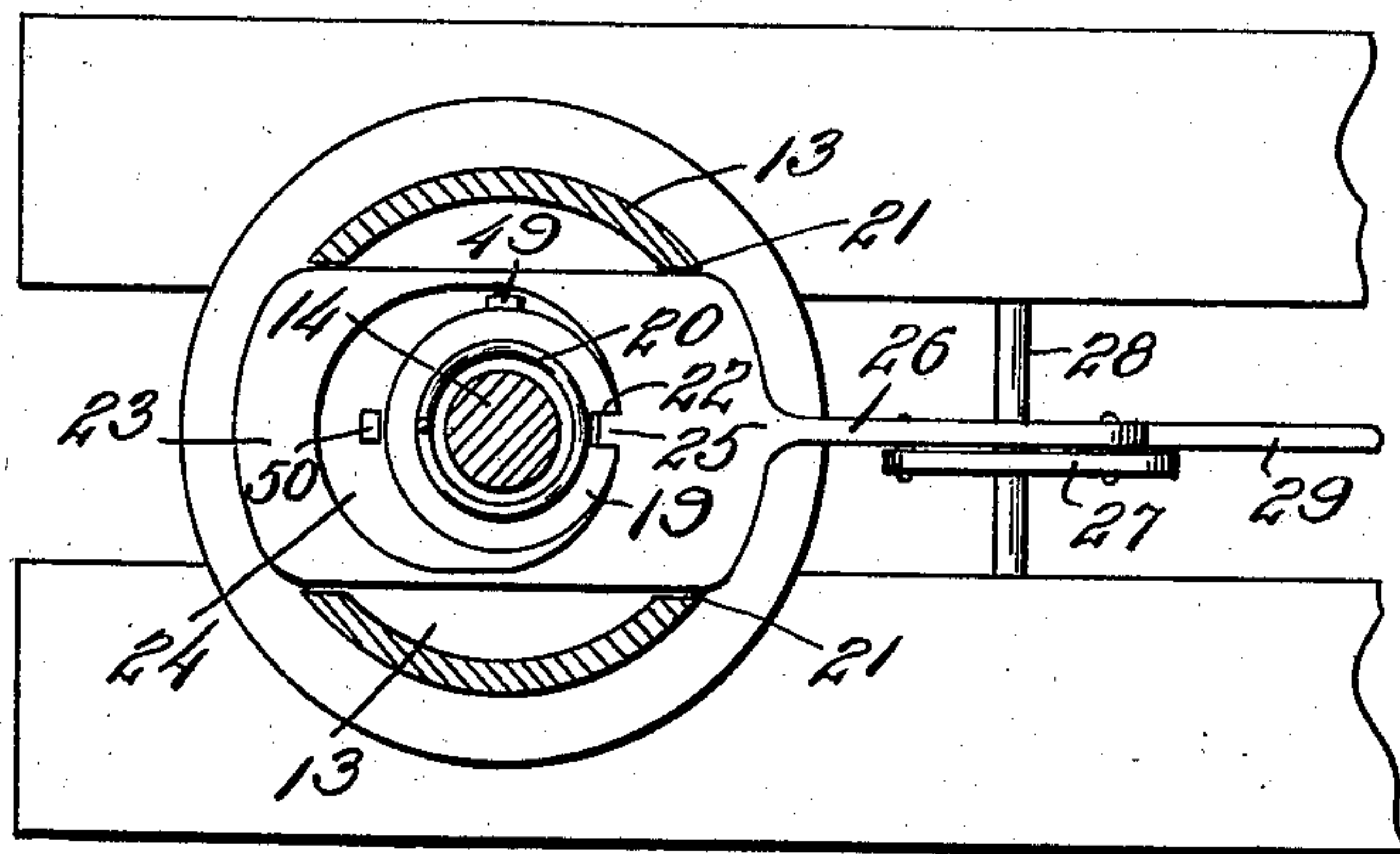
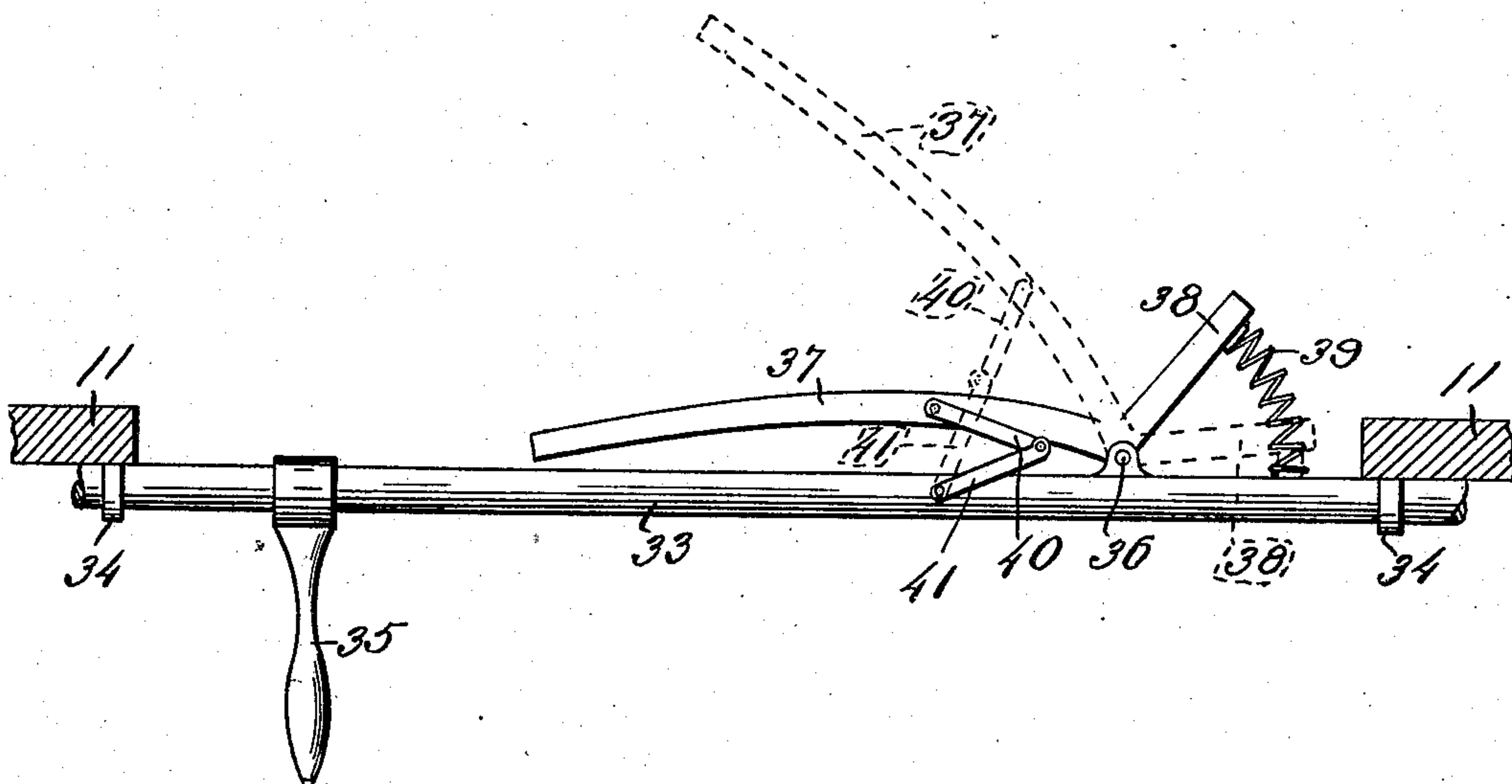


Fig. 4.

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3 SHEETS—SHEET 3.

Fig. 5.

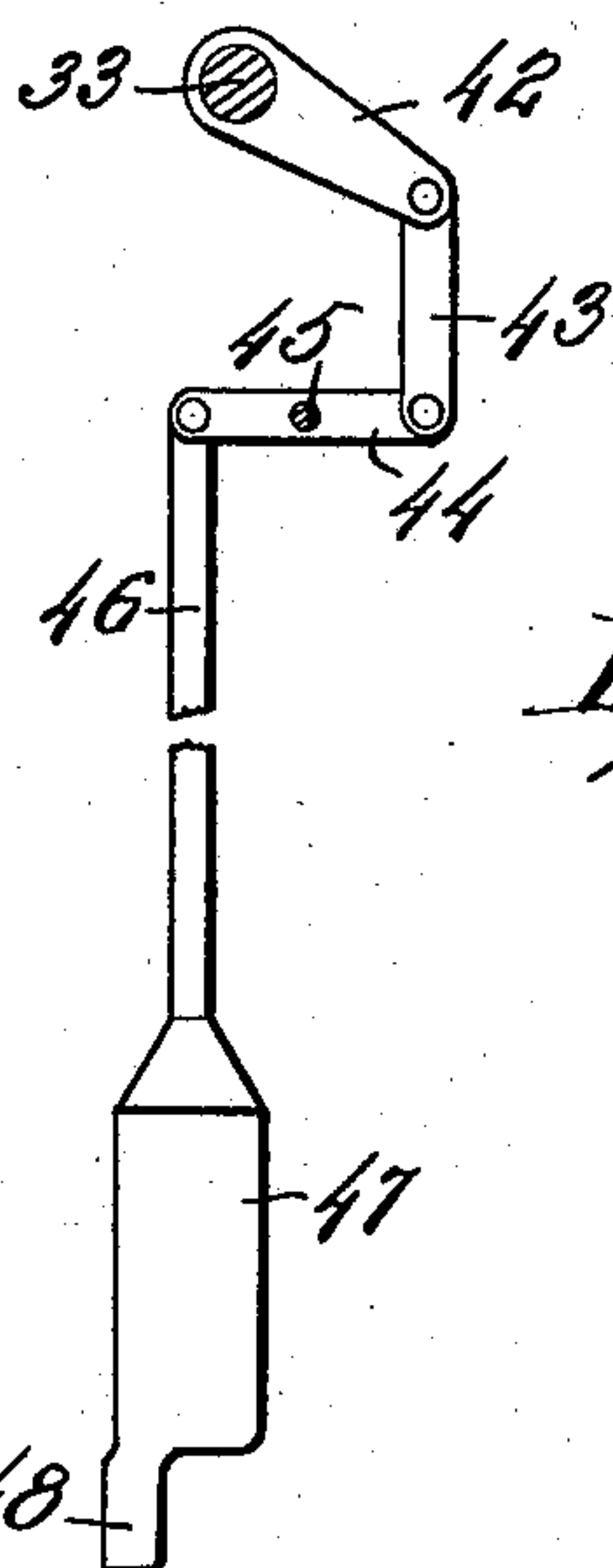
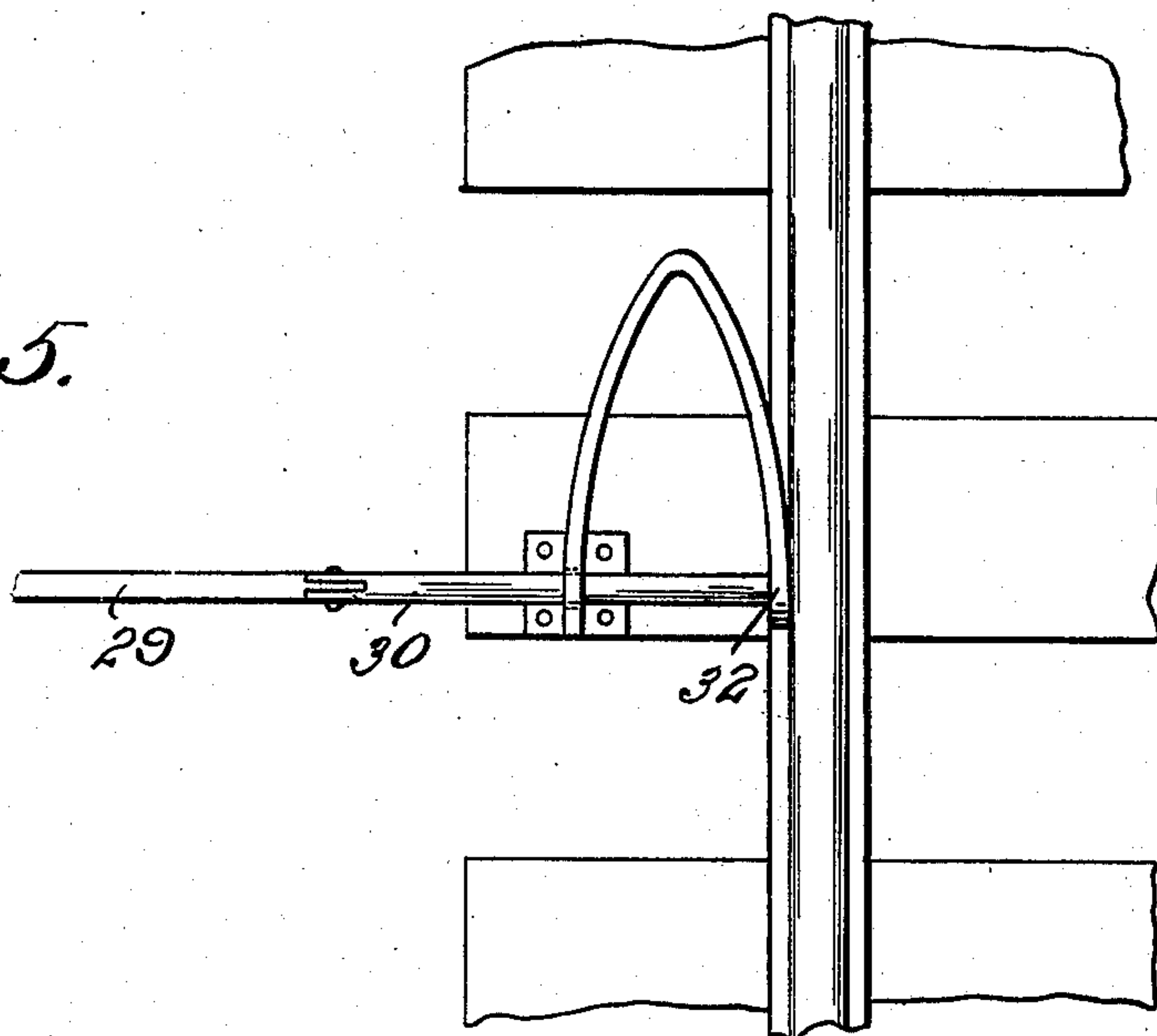


Fig. 6.

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UNITED STATES PATENT OFFICE.

DANIEL J. BERTHOLD, OF BRADDOCK, PENNSYLVANIA.

MAIL-CRANE.

No. 867,785.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed July 11, 1907. Serial No. 383,240.

To all whom it may concern:

Be it known that I, DANIEL J. BERTHOLD, a citizen of the United States, residing at Braddock, in the county of Allegheny, State of Pennsylvania, have invented
5 certain new and useful Improvements in Mail-Cranes; and I do hereby 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.

10 This invention relates to new and useful improvements in mail bag catchers and cranes, and it has particular reference to a device of this type which includes a movable arm carried by the mail car and cooperating with a swinging crane, and automatic means actuated
15 when the arm is adjustably positioned to permit of a corresponding actuation of the crane.

In connection with an apparatus of the above type, the invention aims as a primary object to provide a crane of novel construction and in connection with
20 which a novel automatic means is provided for moving the same into the path of the catcher arm.

The invention aims as a further object to provide novel means for holding the crane normally out of the path of such arm and novel train actuating means for releasing the crane, whereby the same may have movement into the path of such arm.

The invention finally aims to provide a novel construction, combination and arrangement of parts, the details of which will appear in the course of the following description, in which reference is had to the accompanying drawings, forming a part of this specification, like characters of reference designating similar parts, throughout the several views, wherein:

Figure 1 is a side elevation showing the manner of use
35 of an apparatus constructed in accordance with the present invention. Fig. 2 is an end elevation thereof, showing the crane in the path of the catcher arm. Fig. 3 is a section taken horizontally through the car and showing by full and dotted lines the positions of the
40 catcher arm. Fig. 4 is a detailed view showing the locking means for the crane together with the adjuncts of such means. Fig. 5 is a detailed view showing a spring held bar which is formed for engagement by a movable shoe carried by the mail car. Fig. 6 is a detailed view of the movable shoe, and its operating
45 means.

In the accompanying drawings, the numeral 10 designates the track rail, the numeral 11, the car, the numeral 12 the crane and the numeral 5 generally the mail
50 bag catching apparatus carried by the car.

The crane 12 comprises a stand 13, preferably a hollow casting and which affords a journal for a partially rotatable post 14, the latter carrying the horizontal projecting upper and lower arms 15 and 16 formed at their
55 ends with hooks 17 for engagement in the loops or rings 18, provided at the ends of the mail bag. The post 14

carries at its lower end a plate 19 preferably of disk shape between which and the upper wall of the stand 13, a torsional coil spring 20 is interposed, the function of the spring 20 being to rotate the post 14 so as to move the mail
60 bag into the path of the catching mechanism 5. The stand 13 is formed at its lower end with an opening 21 and the plate 19 is formed along its edge with a recess 22. Surrounding the base of the stand 13 and imposed thereon for sliding movement is a latch member 23 having
65 a central enlarged opening 24. The member 23 is formed with a finger 25 at one end thereof, which points into the opening 24 and is designed for movement through the opening 21 to engage in the recess 22. The member 23 is constructed with a projecting arm 26
70 which has pivotal connection with a lever 27, the latter being pivoted between its ends as at 28 to a stationary bracket and at its lower end being pivoted to a link 29. The link 29 is in turn pivoted to a post 30 provided on a strong leaf spring having one end fixed adjacent the rail
75 and bent recurvately as at 32, the post 30 working through an opening 30' in the fixed end of the spring.

The bag catching mechanism comprises a rock shaft 33 mounted within the car longitudinally thereof in bearings 34. The shaft 33 carries an operating handle
80 35 and adjacent the door of the car has pivotal connection as at 36 with the bag catching arm 37. The latter has a rearward angular extension 39 with which is engaged one end of an expansive coil spring 39, the other end of the spring 39 being connected to the shaft 33.
85 The arm 37 likewise has connection with a toggle link 40 which in turn is pivoted to a similar link 41 having pivotal connection with the shaft 33. Adjacent the ends of the car the shaft 33 is provided with inwardly projecting arms 42, which at their ends have pivotal connection
90 with links 43, the latter, in turn being pivoted at their lower ends to levers 44. The levers 44 are pivoted between their ends as at 45 and at their other ends are pivoted to rods 46 adapted for sliding movement through an enlarged opening in the floor of the car and carrying
95 at their lower ends the shoes 47 which are adapted to ride upon the rail 10 adjacent the crane and are formed with a depending flange 48 designed to overlie the side of the rail, the shoes 47 having movement through guides 47' secured to the trucks.
100

In operation, as the train approaches a crane the operator grasps the handle 35, and moves the same upwardly. This action throws the arm 37 beyond the car and causes the same to project in a horizontal plane it being understood that the toggle links 40 and 41 have
105 been previously extended to sustain the arm 37 away from the shaft 33 against the tension of the spring 39. As the shaft 33 is thus moved, the arms 42 are elevated and such action through the means described, lowers the rod 46 and causes the shoe 47 to ride upon the rails.
110 As the train continues its movement, the flange 48 engages the block 32 and moves the same and the spring

31 outwardly with relation to the rail 10. Such actuation of the spring 31 serves, through the connections described, to slide the latch member 23 upon the stand 13, whereby the finger 25 will disengage the notch 22 and permit of the spring 20 swinging the crane to the position of Fig. 2. For the purpose of limiting the swinging movement of the post 14, the plate 19 carries a lug 49 which impinges a lug 50 carried by the stand 13 as a stop. With the crane in this position, the mail bag is forcibly engaged between the arm 37 and the shaft 33, and as the car advances, the mail bag in this engagement breaks the toggle links 40 and 41, whereby the spring 39 acts to move the arm 37 towards the shaft 33, thereby clamping the mail bag between said arm and said shaft. The operator then pushes down upon the handle 35 and swings the mail bag into the car.

It is to be noted that the arm 37 engages the mail bag at its central constricted portion and that said arm is preferably curved in order to accommodate the mail bag as will be readily understood.

The invention is simple in its structural details, inexpensive to manufacture and practical and efficient in use.

From the foregoing description it will be seen that simple and efficient means are provided for accomplishing the objects of the invention, but while the elements herein shown and described are well adapted to serve the functions set forth, it is obvious that various minor changes may be made in the proportions, shape and

arrangement of the several parts, without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. In a mechanism of the class described, a crane comprising a rotatable post formed with bag supporting arms, a stand for said post, a plate carried by the lower end of said post, a spring for rotating said post, a movable latch member formed for engagement with said plate, a leaf spring, operative connections between said leaf spring and said latch member, for moving the latter from the former, and train operative means for moving said spring to disengage said latch member from said plate.

2. A mechanism of the class described, comprising the combination with a car and track rails, of a rotatable post mounted adjacent one of said track rails and carrying bag supporting arms, a spring engaged with said post to rotate the same, means for holding said post against rotation under the tension of said spring, a leaf spring mounted adjacent one of said rails, operative connections between said leaf spring and said means, a shaft mounted in the car, a bag catching arm carried by said shaft, a depressible rod, a shoe carried by said rod adapted to ride upon one of the track rails and to engage said leaf spring to move the same to disengage said holding means and operative connections between said shaft and said rod for lowering said rod upon movement of the shaft to throw said arm outwardly.

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

DANIEL J. BERTHOLD.

Witnesses:

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JAMES J. MCCARTHY.