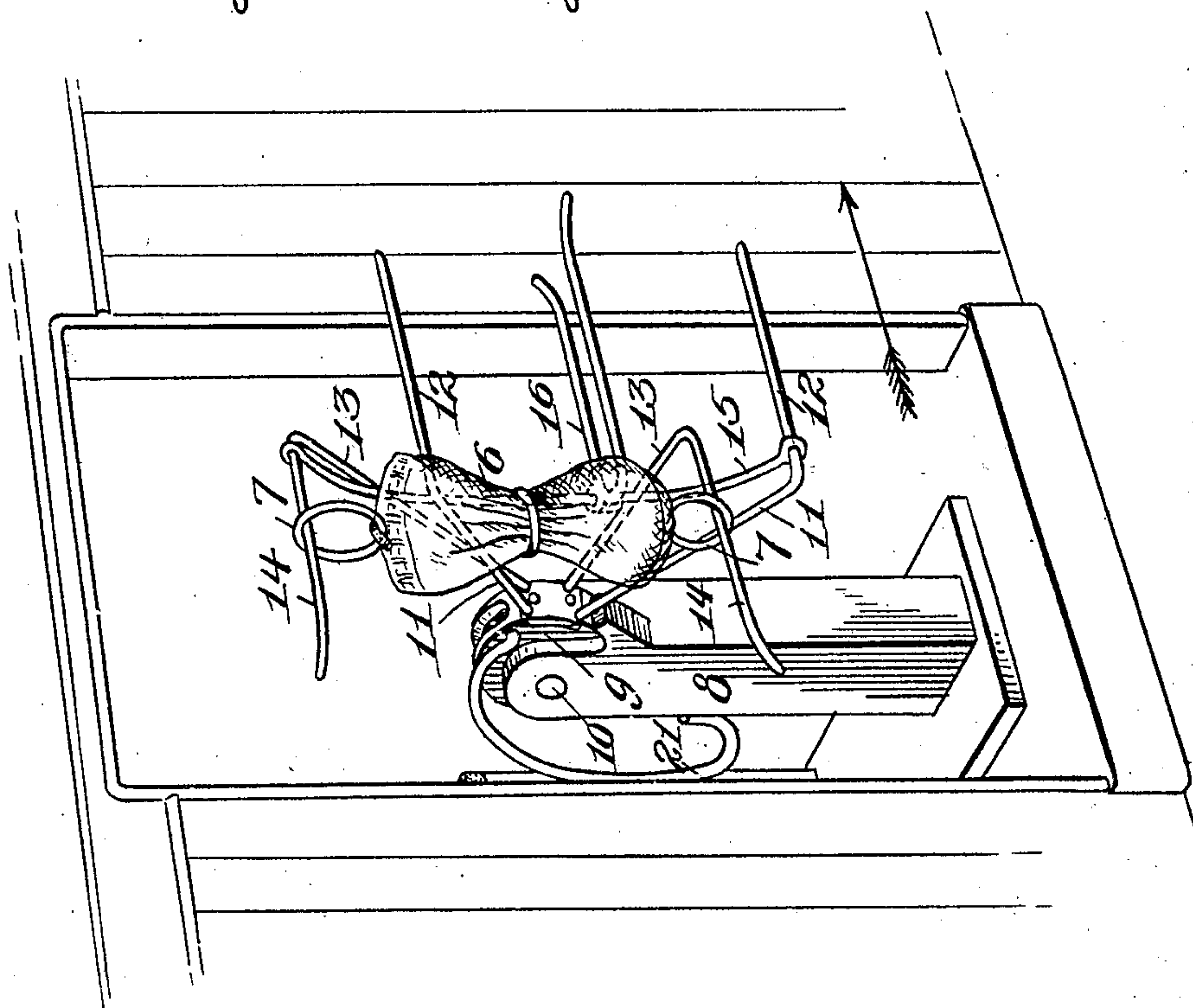
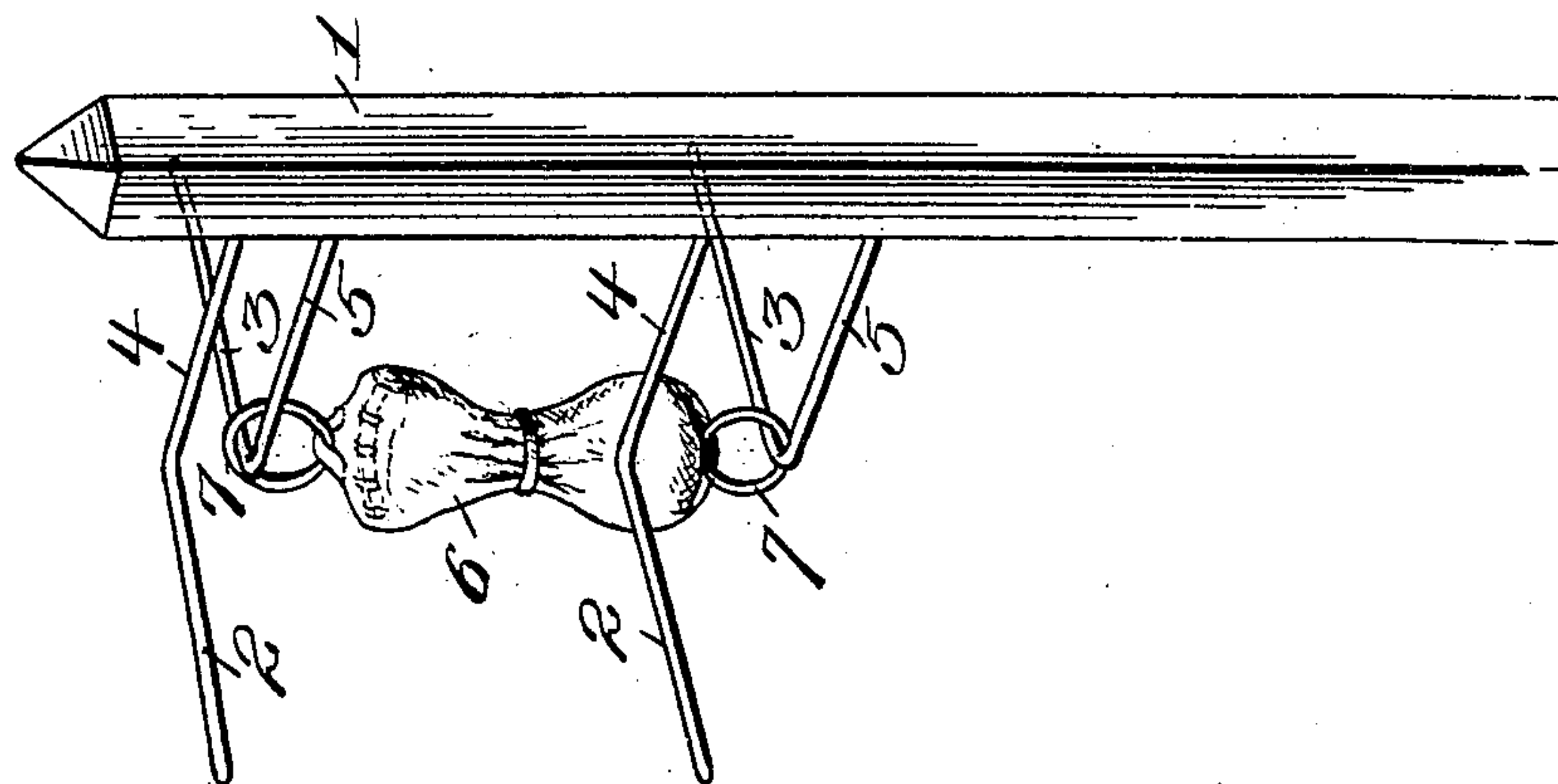


W. A. LOOMIS.
 APPARATUS FOR HANDLING MAIL POUCHES.
 APPLICATION FILED MAY 27, 1908.

913,665.

Patented Feb. 23, 1909.
 3 SHEETS—SHEET 1.

Fig. 1.



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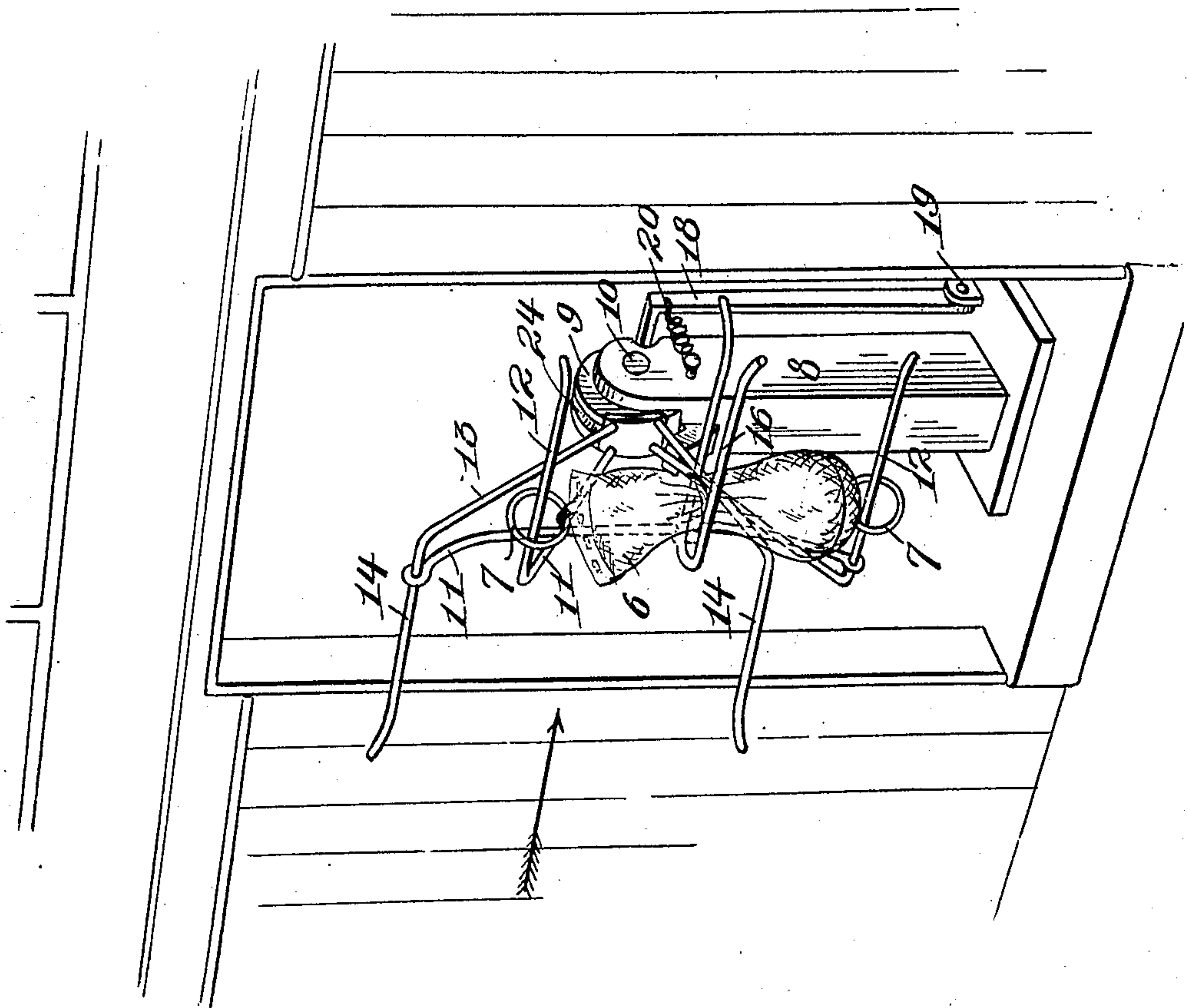
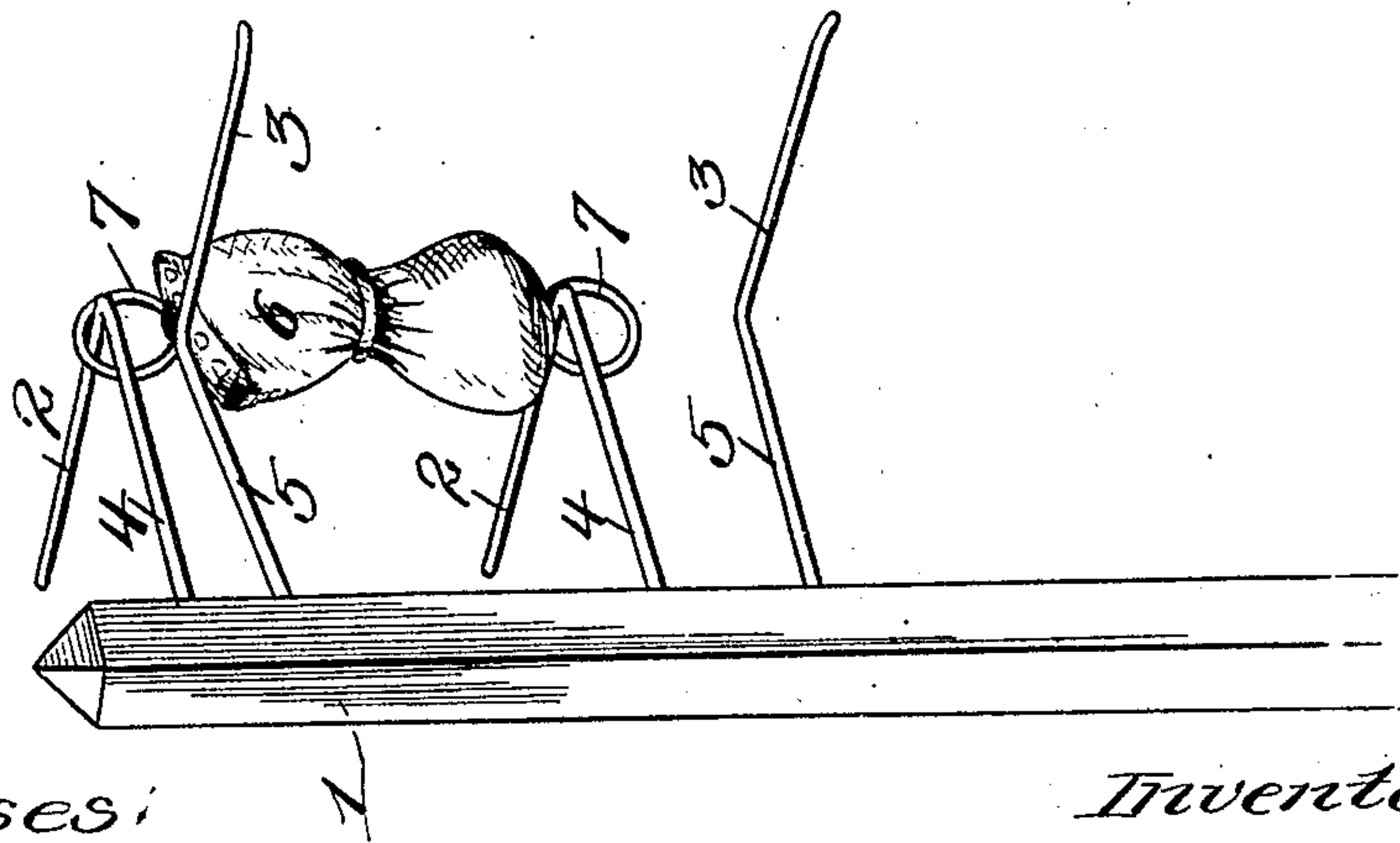


Fig. 2



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3 SHEETS—SHEET 3.

Fig. 3.

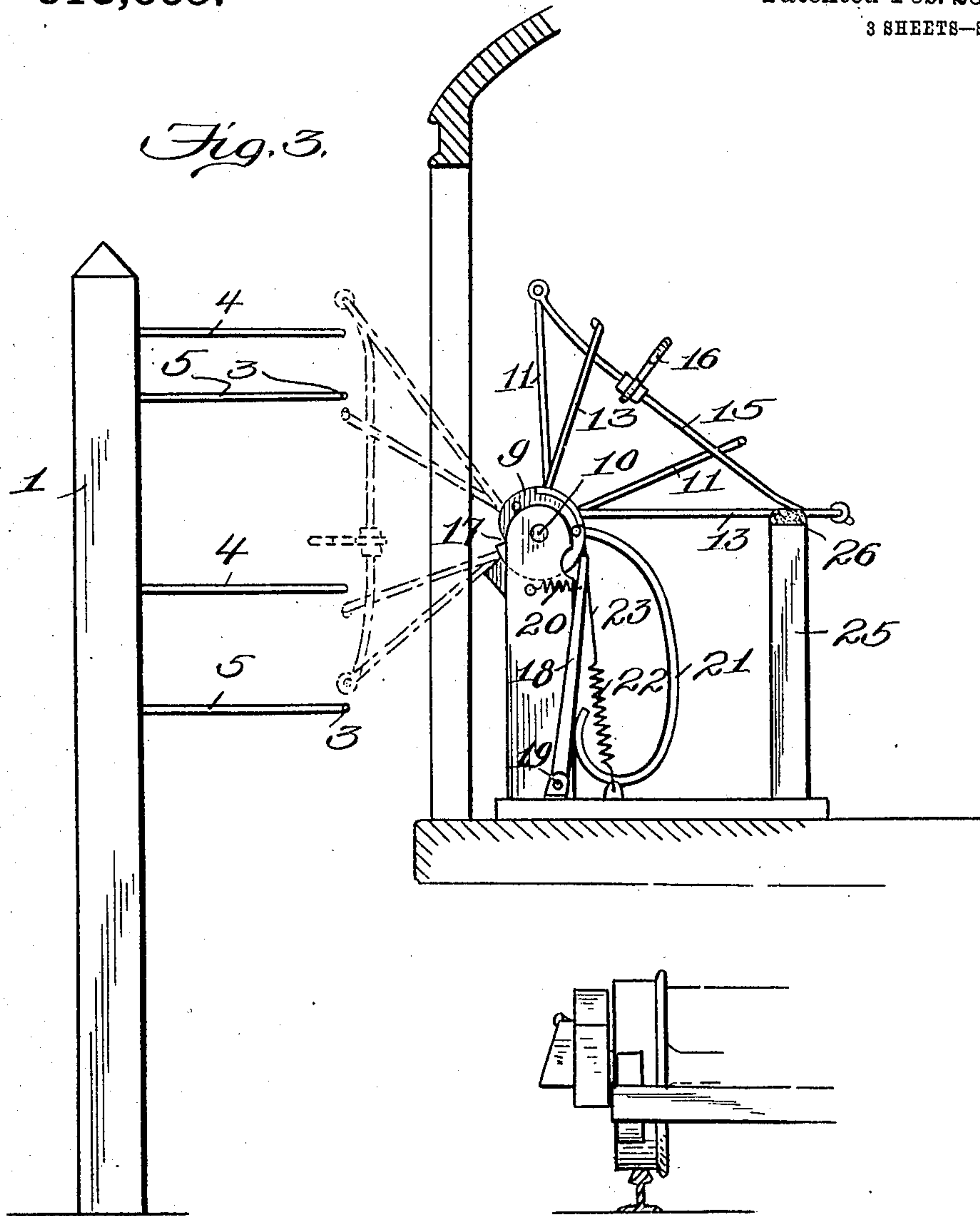
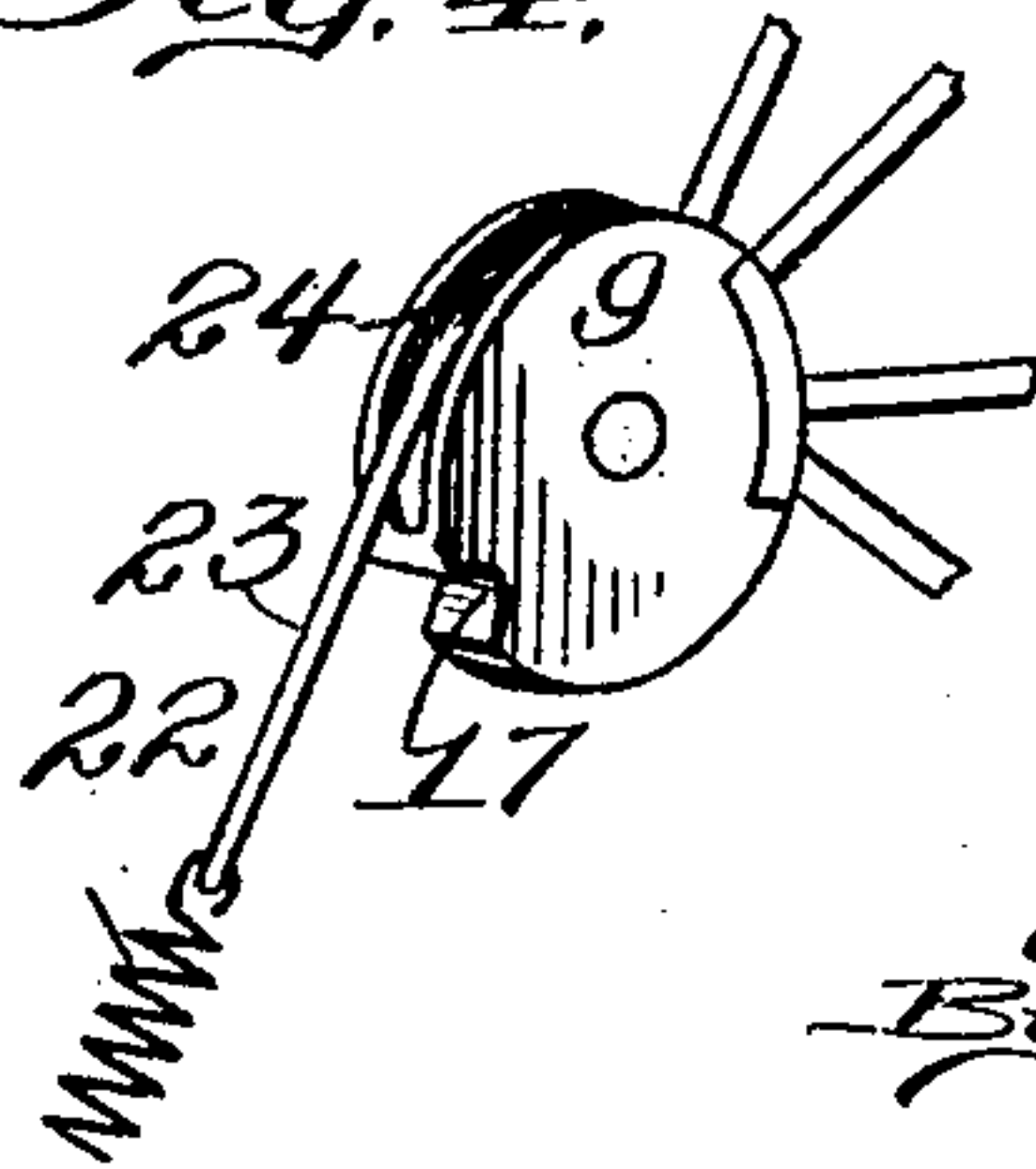


Fig. 4.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR HANDLING MAIL-POUCHES.

No. 913,665.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed May 27, 1908. Serial No. 435,294.

To all whom it may concern:

Be it known that I, WILLIAM ARTHUR LOOMIS, a citizen of the United States, residing at Ilion, in the county of Herkimer and State of New York, have invented new and useful Improvements in Apparatus for Handling Mail-Pouches, of which the following is a specification.

My present invention relates to improvements in apparatus for handling mail pouches, and more especially to the class adapted for use in receiving and delivering the pouches with reference to railway postal cars, and it has for its object primarily to provide a simple and improved apparatus of this kind that is capable of operating automatically to deliver a pouch from the car to a receiving post, and to simultaneously receive a pouch upon the car from said post, the pouches being thereby supported in vertical position by means of rings or equivalent devices at their ends, and said rings are engaged by the receiving arms so that certainty in the operation of the apparatus is insured and loss or damage to the pouches or injury to persons is avoided.

Another object of the invention is to provide an apparatus of this character which embodies a receiving crane, the latter being mounted upon the car so that it occupies a position upon the car before and after the reception of a pouch thereon, the position of the crane within the car enabling the pouch to be conveniently mounted thereon and the pouch which has been received to be readily removed by the postal clerk, the crane on the car being clear of all obstructions while it occupies such a position, and in receiving and delivering the pouches, the crane is shifted or swung outwardly through the car door so as to properly position it with reference to the stationary post at the side of the track.

To these and other ends, the invention consists in certain improvements, and combinations and arrangements of parts, all as will be hereinafter more fully described, the novel features being pointed out particularly in the claims at the end of the specification.

In the accompanying drawing: Figure 1 is a perspective view of a mail pouch handling apparatus constructed in accordance with my present invention, the stationary

and movable cranes being shown in readiness to exchange the pouches; Fig. 2 is a view similar to Fig. 1 showing the relative positions of the two cranes after they have received and delivered their respective pouches; Fig. 3 represents an end elevation of the two cranes, the crane upon the car being shown by full lines as occupying a position within the car, while the dotted lines indicate the position of this crane when in position to cooperate with the stationary crane; and Fig. 4 is a perspective view of the operating device for shifting the movable crane to a position within the car.

Similar parts are designated by the same reference characters in the several views.

Mail pouch handling apparatus constructed in accordance with my present invention is capable of use generally in connection with railway cars and movable objects of various kinds wherein it is desirable or necessary to deliver and receive the pouches with reference to a car or other moving object, and it is to be understood, of course, that I have shown in the present instance one particular embodiment of the invention and that in applying the apparatus to different uses, certain modifications or changes in the construction or arrangement of the parts may be made to accommodate it to the condition of use.

In the present instance, I have shown the invention applied to an ordinary postal car and it comprises generally a stationary crane which is mounted beside the track to receive and discharge pouches and a movable crane which is carried upon the car. The stationary crane in the present instance is mounted upon a post or standard 1, the crane comprising a pair of receiving arms 2 and a pair of delivery arms 3. These arms may be composed of iron rods of suitable form and strength, they being preferably mounted upon the standard in such a manner that the receiving arms extend horizontally and parallel to the track and aim toward the direction from which the train approaches, while the delivery arms are arranged in a reverse direction, that is to say, they are pointed in the direction of movement of the train. It is also preferable to construct these arms with right angle bends to form the shanks 4 and 5 respectively which are suitably attached to the post or

standard. The receiving and delivery arms are spaced apart a distance approximately equal to the length of the pouches, and each pouch 6 is preferably provided at its opposite ends with a pair of rings 7 of an appropriate size, these rings being adapted to be engaged upon the receiving and delivery arms, as will be hereinafter described.

The movable crane in the present instance 10 is mounted upon a standard 8 fastened to the floor or other suitable part of the car, and this movable crane is mounted to swing in a vertical plane so as to occupy either a position within the car or a position exterior 15 to the door opening therein. The movable crane in the present instance comprises a support 9 which is mounted upon a horizontal shaft or axis 10 supported by the standard, this support having a pair of divergent 20 rods 11 attached thereto, the outer ends of which are bent at right angles so as to extend parallel to the track and horizontally to form a pair of receiving arms 12. A second pair of divergent arms 13 are also 25 attached to the pivoted support, the outer ends of which are bent at right angles so as to extend rearwardly with reference to the direction of movement of the car and forming a pair of delivery arms 14. These 30 receiving and delivery arms of the movable crane are also spaced apart a distance approximately equal to the length of the pouches and are adapted to receive the rings attached to the opposite ends thereof. The 35 uppermost delivery arm 14 and the lowermost receiving arm 12 are preferably connected by a stay rod 15, and the latter preferably serves to support a fork-shaped receiving hook 16 which is spaced approximately 40 midway between the two receiving arms and is arranged in the same direction so as to engage the middle portion of the pouch, the rings of which are engaged upon these receiving arms. If so desired a similar hook or fork may be used in discharging 45 the pouches from the car or in receiving and discharging them with respect to the stationary crane. The receiving and delivery arms of the stationary and movable cranes 50 are so arranged with reference to one another that as the crane upon the car passes the stationary crane, the receiving and delivery arms of both cranes will be arranged substantially in the same vertical plane. 55 The receiving arms 12 of the crane upon the car are also arranged so as to pass just within the delivery arms 3 of the stationary crane, while the receiving arms 2 of the stationary crane pass just within the cooperating pair of delivery arms 14 of the crane 60 upon the car. The stay rod 15 is preferably curved inwardly toward the car so as to clear both pairs of arms upon the stationary crane.

65 The support 9 of the crane upon the car is

provided with a notch 17 which is arranged to cooperate with a locking pawl or member 18 which is preferably pivoted at 19 to a suitable support, this pawl being automatically drawn into locking position by means 70 of a spring 20 and when this pawl is engaged with the locking notch of the crane, it serves to retain the latter in operative position to receive and deliver the pouches. The support 9 is also preferably provided 75 with a handle or operating member 21 by means of which the crane upon the car may be conveniently operated by the postal clerk within the car and turned into a position to receive and deliver the pouches. After 80 the pouches have been received and delivered with reference to this crane, the pawl 18 may be retracted, and a spring 22 which has a cable or cord 23 which passes over the grooved periphery 24 of the support 9 serves 85 to quickly and automatically swing the crane into a position within the car. An abutment 25 is preferably mounted within the car so as to engage the upper arm 13 of the crane, the top of the abutment being provided 90 preferably with a felt or other cushion 26 to relieve the shock due to the impact.

In operating the apparatus above described in receiving and delivering mail 95 pouches with respect to a moving railway car, the bag to be taken up by the crane on the car is placed upon the delivery arms 3 of the stationary crane, the rings at the top and bottom of the pouch being slipped over these upper and lower arms. The pouch to 100 be delivered by the car is placed upon the delivery arms 14 of the movable crane, the rings at the top and bottom of the pouch being placed over these respective arms while the crane is swung into the car, as 105 indicated by the full lines in Fig. 3, the operation of applying the pouch to this crane while the latter is in such a position being easily accomplished. As the train approaches the stationary crane, the movable 110 crane is tilted or swung about the pivot or shaft 10 as an axis, causing it to assume the position indicated by the dotted lines in Fig. 3, the adjustment of the crane to this position being conveniently accomplished by 115 manipulation of the handle 21 which is operable by the postal clerk within the car. As soon as the crane reaches the proper position, it is locked or retained therein by means of the spring-operated pawl 18 which 120 engages the locking notch 17. In passing the stationary crane, the receiving arms 12 of the crane upon the car pass immediately within the delivery arms 3 of the stationary crane, thereby engaging in the rings attached to the pouch. The fork-shaped hook 16 between the arms 12 will also engage the middle portion of the pouch around which 125 a strap is usually fastened so that the pouch will enter this hook and the rings on the 130

pouch will also be engaged upon the receiving arms 12. The receiving arms 2 of the stationary crane will also pass immediately within the delivery arms 14 of the crane on the car, the arms 2 thus passing through the hooks at the top and bottom of the pouch and thereby dislodging the pouch from the crane upon the car and supporting it in upright position, as shown in Fig. 2. As soon as the pouches have been properly transferred, the postal clerk may retract the pawl 18 from the locking notch 17, the spring 22 then operating to automatically swing the crane upon the car through the door opening and into the car. The pouch engaged upon the forked hook and the receiving arms 12 may then be readily removed. If so desired, the standard 8 supporting the crane upon the car may be mounted upon a platform, as shown, which platform may be movable to enable the crane to be set in proper position in the door opening during the trip, and after such trip and during the loading of the car, the crane may be moved to one side so as to avoid obstructing the doorway.

Mail pouch handling apparatus constructed in accordance with my present invention is comparatively simple in construction and in practice it operated automatically and with certainty, the receiving arms upon the two cranes being arranged to engage the rings at opposite ends of the pouches so that there is no danger of the pouches becoming dislodged and lost, and in addition, the crane upon the car is preferably provided with a forked hook which also engages the middle portion of the pouch so as to further insure the safety in the reception of the pouch, it being impossible for the pouch to drop from the crane and fall beneath the wheel of the car. Moreover, the apparatus serves to simultaneously and automatically receive a pouch upon the crane on the car from the stationary crane and also to deliver a pouch from the crane on the car to the stationary crane, and by mounting the crane upon the car so as to be movable into and out of operative position, the operation of applying and removing the pouches with respect thereto is materially facilitated, and while the crane is within the door, it does not form an obstruction that might cause injury to persons in passing trains or in proximity to the train.

I claim as my invention:—

1. An apparatus for handling mail pouches comprising a stationary crane having a pair of upper and lower arms adapted to engage rings at the ends of a pouch, and a movable crane adapted to be carried by a car and having a pair of receiving arms arranged to pass within the arms of the stationary crane and to engage the rings of a pouch supported thereon, and provided also with a forked hook arranged between the

receiving arms and adapted to engage at opposite sides of the middle portion of the pouch.

2. An apparatus for handling mail pouches comprising a stationary crane having a pair of receiving arms extending horizontally in one direction and a pair of delivery arms extending horizontally in a reverse direction, said arms being adapted to engage rings at the opposite ends of a pouch, and a movable crane adapted to be carried by a car and having a pair of receiving arms extending horizontally in one direction and arranged to pass within the delivery arms of the stationary crane and to engage the rings of a pouch supported thereon, and a pair of delivery arms on the movable crane extending horizontally in a reverse direction to the receiving arms and adapted to engage rings at the opposite ends of a pouch and to support said rings in position to be engaged by the receiving arms on the stationary crane.

3. An apparatus for handling mail pouches comprising a stationary crane having pairs of reversely arranged receiving and delivery arms adapted respectively to engage rings at the opposite ends of mail pouches, and a movable crane adapted to be carried by a car and having pairs of reversely arranged receiving and delivery arms, the receiving arms of the movable crane being arranged to pass within the delivery arms of the stationary crane and to engage the rings of a pouch supported thereon, and the receiving arms of the stationary crane being arranged to pass within the delivery arms of the movable crane to engage the rings of a pouch supported on the latter, a brace rod connecting the uppermost delivery arm and the lowermost receiving arm of the movable crane, and a forked hook mounted on said brace rod and arranged between the receiving arms, said hook being adapted to engage at opposite sides of the middle portion of a pouch supported on the delivery arms of the stationary crane.

4. An apparatus for handling mail pouches comprising a crane adapted to be carried by a car and mounted to swing in a vertical plane through the door opening into operative and inoperative position with respect to a stationary crane, the said movable crane having a pair of arms thereon for supporting a pouch in upright position and means for retaining the movable crane in an operative position.

5. An apparatus for handling mail pouches comprising an upright or standard adapted to be placed in a car door opening a crane adapted to be carried by a car and mounted on said support to swing in a vertical plane through the door opening into operative and inoperative positions, means for retaining said crane in an operative po-

sition, and means for swinging the crane into an inoperative position within the car when said retaining means is released.

6. An apparatus for handling mail pouches comprising a crane adapted to be carried by a car and mounted to swing through the door opening into operative and inoperative positions, a pair of arms on said crane adapted to suspend a pouch between them while the crane occupies a position within the car a locking pawl for retaining the crane in an operative position, and a spring coöperating with the crane to automatically swing it into an inoperative position within the car when said retaining means is released.

7. An apparatus for handling mail pouches comprising a crane adapted to be carried by a car and comprising a supporting standard, a support rotatably mounted thereon and carrying arms to receive or deliver pouches, the pouches being adapted to be suspended between said arms a spring coöperating with said support and normally tending to swing the crane into a position within the car, and a pawl operating automatically to lock the crane in an operative position.

8. An apparatus for handling mail pouches comprising a crane adapted to be carried by a car and comprising a supporting standard, a support rotatable thereon and carrying arms adapted to receive or deliver pouches, said support being provided with a locking notch in its periphery, a spring-operated pawl arranged to coöperate with said notch to lock the crane in an operative position, and a spring operatively connected to said rotatable support and normally acting to swing the crane into an inoperative position within the car.

9. An apparatus for handling mail pouches comprising a crane adapted to be carried by a car and embodying a supporting standard, a support rotatable thereon and carrying means for receiving or delivering mail pouches, a detent arranged to coöperate with said support to lock the crane in an operating position, a spring normally acting upon said support to rotate the crane into an inoperative position within the car, and a handle pivotally attached to said support for movement in the plane of rotation of the

latter and operable from the interior of the car for turning the crane into an operative position.

10. An apparatus for handling mail pouches comprising a crane adapted to be carried by a car and embodying a supporting standard, a rotatable support mounted thereon and carrying means for receiving or delivering mail pouches, said support being provided with a locking notch in its periphery, a spring-operated pawl arranged to automatically engage said notch to lock the crane in an operative position, a spring having a part which engages the periphery of said support and normally acts to swing the crane into an inoperative position within the car, a handle attached to said support and operable from the interior of the car for setting the crane in an operative position, and an abutment arranged to coöperate with a part of the crane as the latter swings into an inoperative position within the car and provided with means for cushioning the shock thereof.

11. An apparatus for handling mail pouches comprising a crane adapted to be carried by a car and mounted to swing through the door opening thereof into operative and inoperative positions, and pairs of pouch receiving and delivering arms extending in reverse directions from the outer end of the said crane, each pair of arms being adapted to suspend a pouch in upright position.

12. An apparatus for handling mail pouches comprising a crane adapted to be carried by a car and mounted to swing through the door opening thereof into operative and inoperative positions, a pair of pouch receiving arms extending forwardly from the outer portion of said crane, and a pair of pouch delivering arms extending rearwardly from the outer portion of the crane, said arms being adapted to suspend the pouches between them.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM A. LOOMIS.

Witnesses:

WM. C. PRESCOTT,
PERRY A. MILLER.