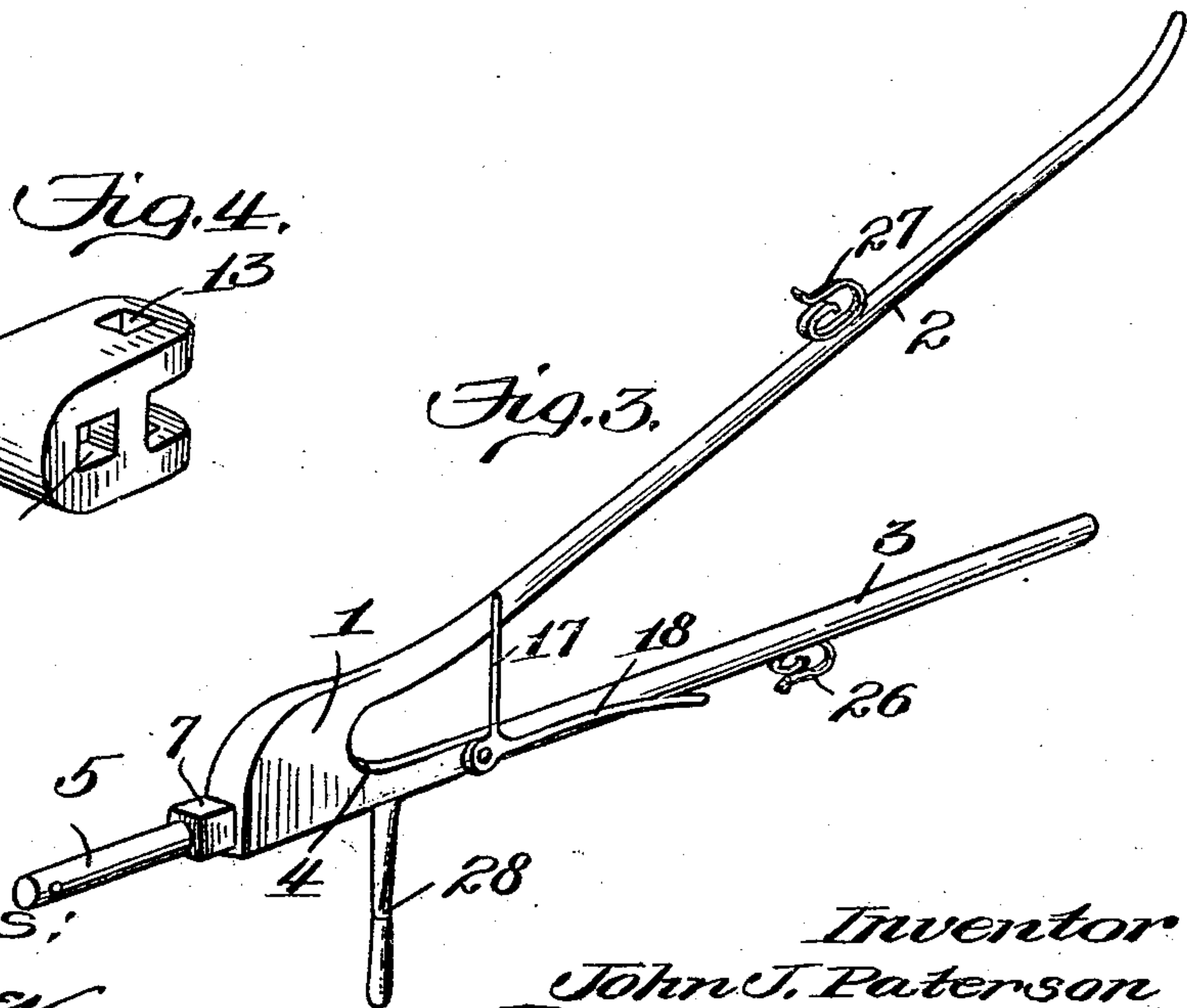
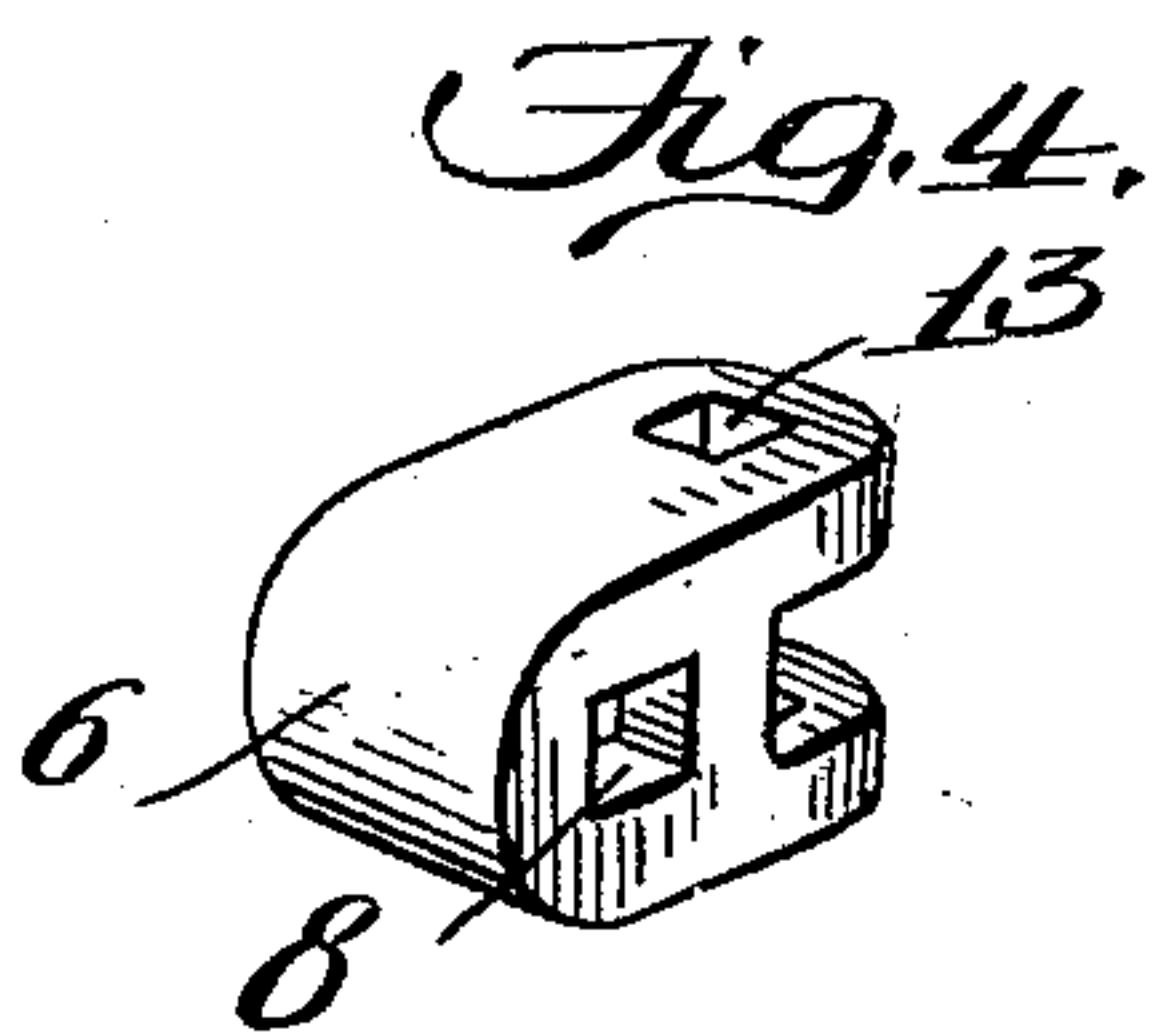
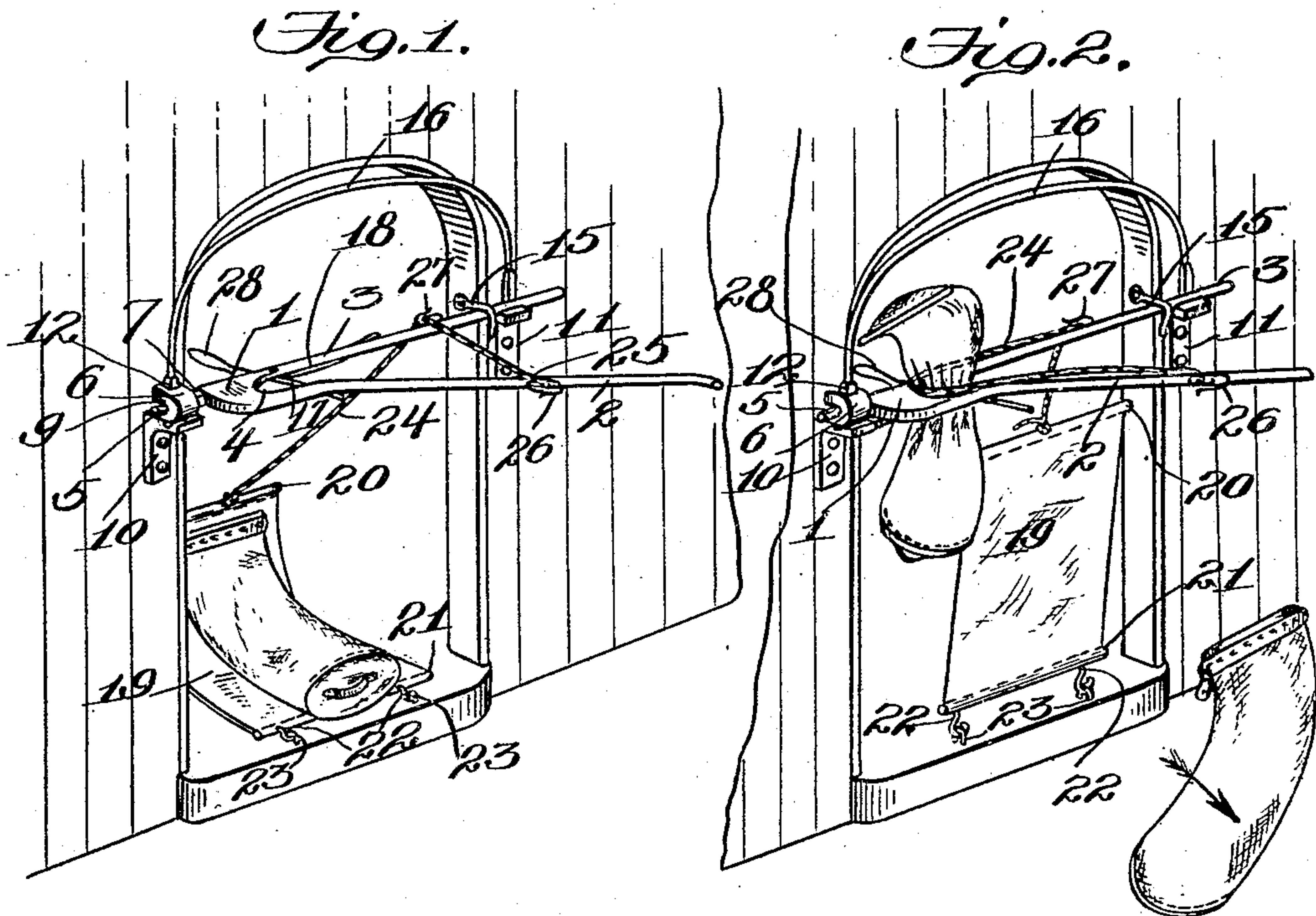


J. J. PATERSON.
 APPARATUS FOR HANDLING MAIL POUCHES.
 APPLICATION FILED MAY 1, 1908.

908,321.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.



Witnesses:
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J. B. Guler

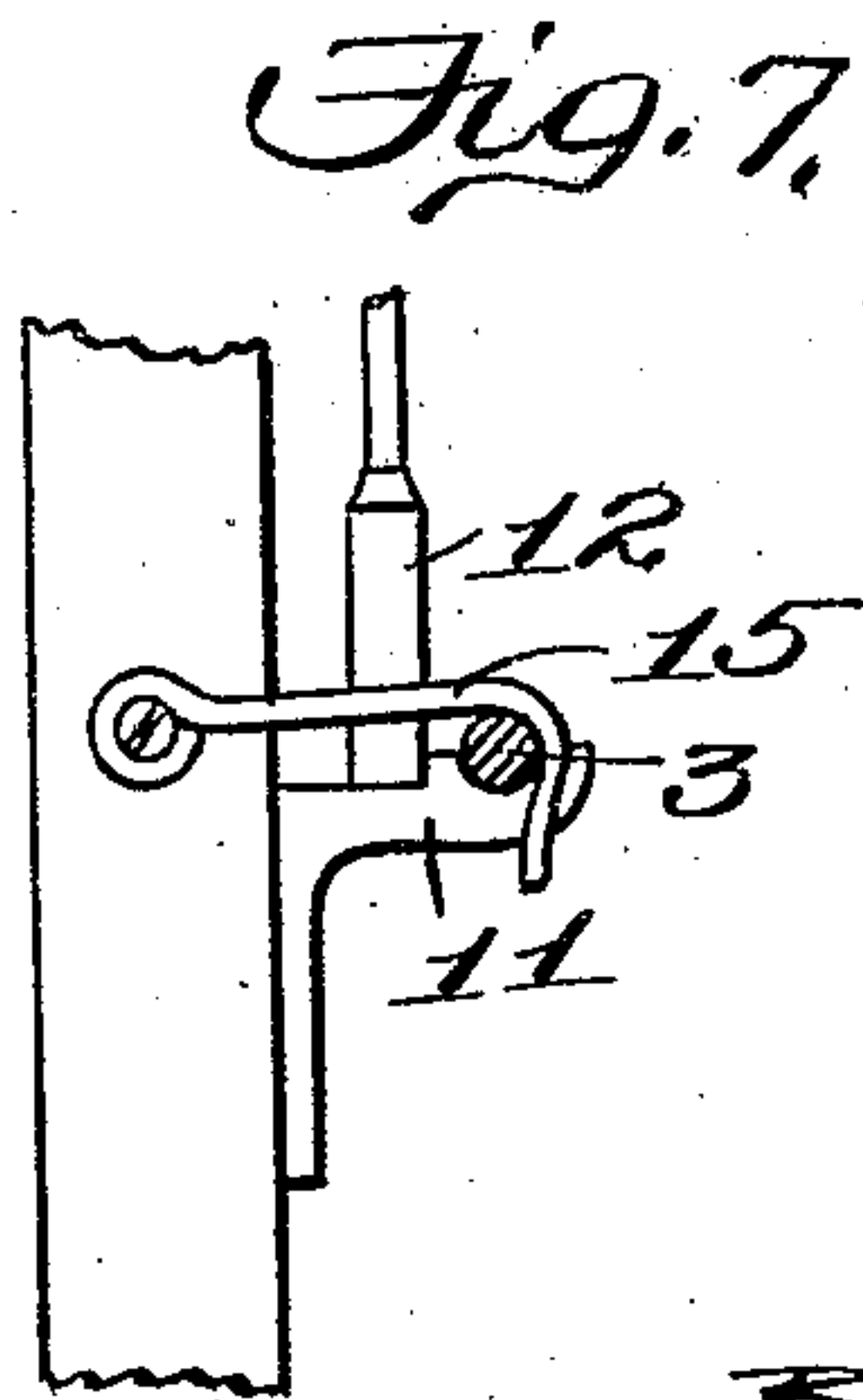
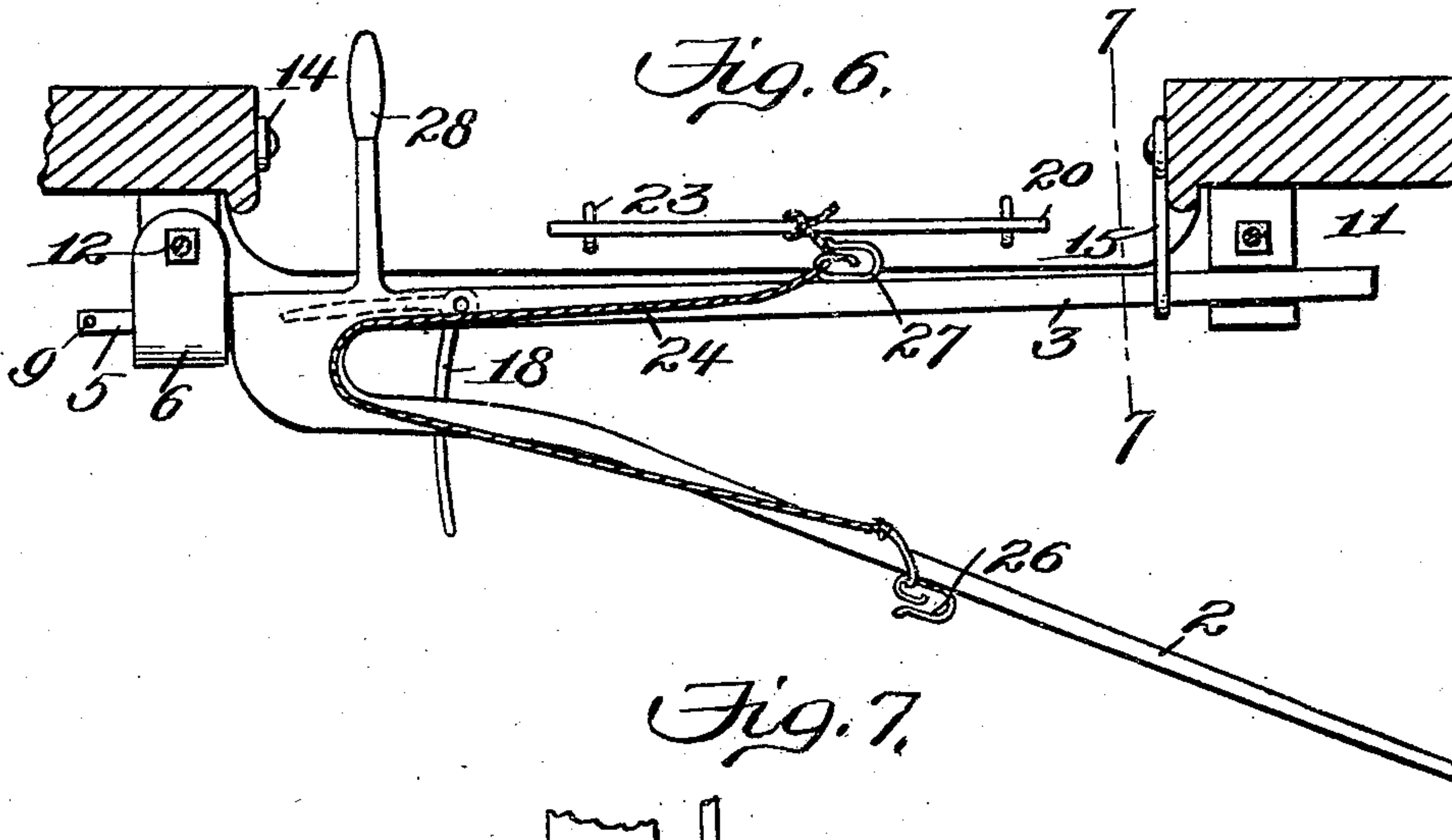
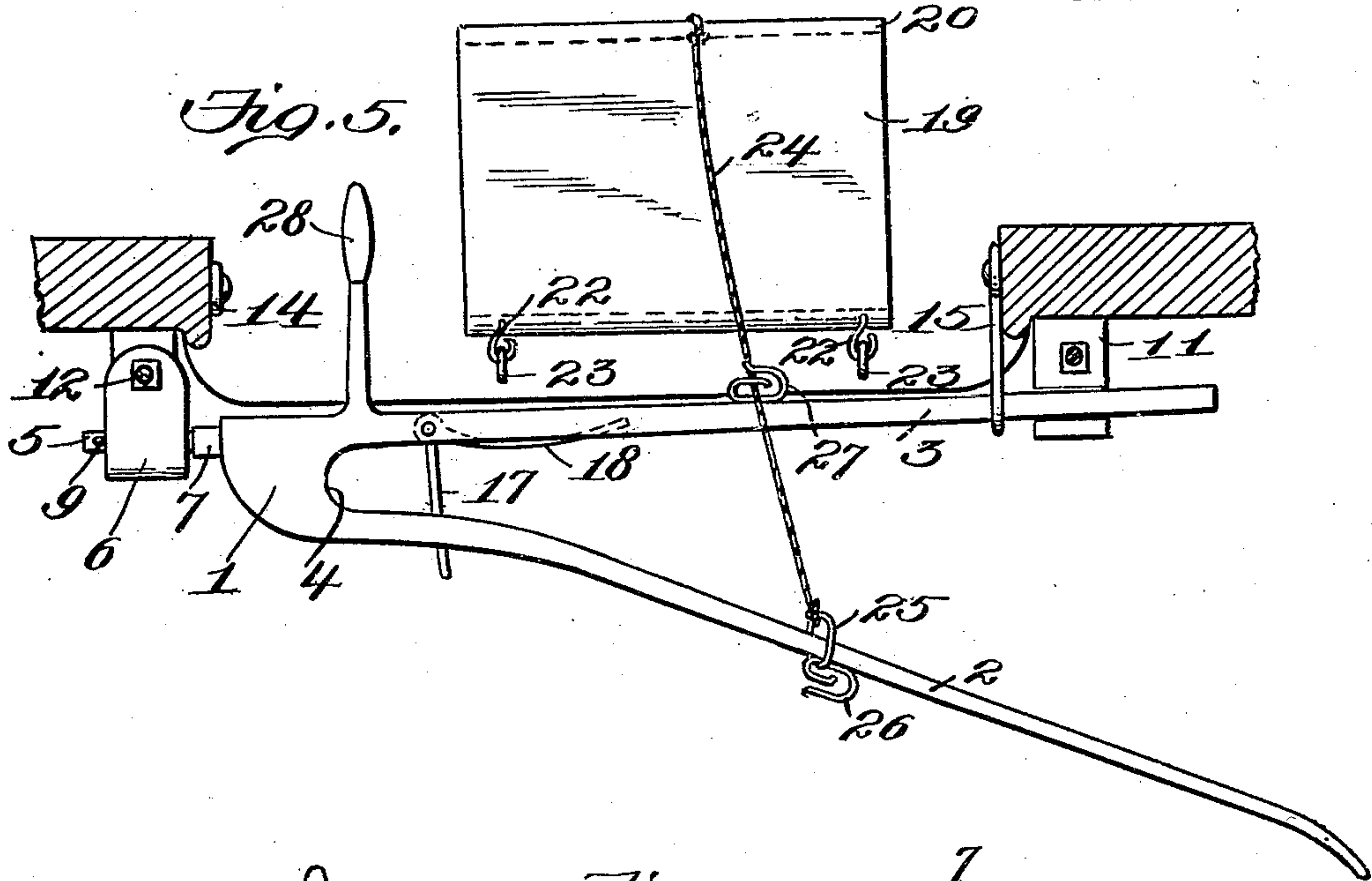
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN J. PATERSON, OF ALPENA, MICHIGAN.

APPARATUS FOR HANDLING MAIL-POUCHES.

No. 908,321.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed May 1, 1908. Serial No. 430,399.

To all whom it may concern:

Be it known that I, JOHN J. PATERSON, a citizen of the United States, residing at Alpena, in the county of Alpena and State of Michigan, 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 on moving trains, and it has for its object primarily to provide an improved apparatus of this character comprising a hook or equivalent device for receiving a pouch, and a device operable upon the reception of a pouch by said hook for automatically casting a pouch from the car or train.

Another object of the invention is to provide an improved hook which is capable of being readily reversed in its position in order that a single hook may serve to take up the pouches while the car or train carrying it is moving in either direction, novel means being employed for conducting the hook from one position to the other to facilitate reversal thereof and to prevent dropping of the hook from the car while being reversed.

Further objects of the invention are to provide improved means for supporting the hook in either of its two positions so as to prevent swinging thereof and to provide a bracket which is capable of supporting the hook in a horizontal or operative position, and it is also an object of my invention to provide a novel locking device which is carried by the hook and is operable automatically upon the reception of a pouch whereby rebounding or disengagement of the pouch from the hook is prevented.

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 an apparatus constructed in accordance with my present invention and adapted for use in handling mail pouches, the apparatus being shown in position to receive a pouch by the hook, and a pouch being shown in position upon the apron and in readiness to be cast from the car; Fig. 2 is a view similar to Fig. 1 showing a pouch engaged by the hook, the pouch upon the car having been cast therefrom upon the recep-

tion of the pouch by the hook; Fig. 3 is a perspective view of the hook; Fig. 4 is a perspective view of a bracket for supporting the hook; Figs. 5 and 6 are plan views of the apparatus showing the parts before and after the reception of a pouch by the hook respectively; and Fig. 7 represents a transverse section on the line 7—7 of Fig. 6.

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

Mail handling apparatus constructed in accordance with my present invention is adapted for use generally on mail cars of various kinds, and it is adapted for use upon cars which either move in the same direction or in opposite directions, the hook being reversible according to the direction of movement of the train.

In the present instance, I have shown one embodiment of the invention which comprises a pouch-receiving hook 1 having forked arms 2 and 3, the arm 2 being arranged in divergent relation with the arm 3 as usual to form a contracted pocket 4 for the reception of the pouch. One end of the arm 3 is adapted to cooperate with a part on the car to support the open end of the hook and the opposite end of the hook is provided with an extension 5 which forms a journal to support the hook. This journal portion of the hook is adapted to fit into a bracket 6, and in order to enable this bracket to support the hook either in a horizontal or operative position to receive the pouches or in an inoperative or vertical position, the extension 5 of the hook is provided adjacent to the latter with a square or other angular shaped portion 7 which is adapted to enter a correspondingly shaped angular recess 8 formed in the proximate side of the bracket. When the journal portion on the hook is fully inserted into the bracket, the angular portion 7 will fit into the corresponding angular recess 8 of the bracket and will prevent rotation of the hook about the journal 5 as an axis, and in this manner, the hook may be supported either in a horizontal position to receive the pouch, or, it may be locked in a vertical or inoperative position so as to clear obstructions beside the track. However, in changing the hook from a horizontal to a vertical position, the hook is moved toward the right as shown in Fig. 5, the angular portion 7 thereon being thus disengaged from the angular portion 8 of the bracket so that the hook may be rotated about the journal 5 as

an axis. In order to prevent disengagement of the hook from the bracket, a pin 9 or any other suitable device may be fitted to the end of the journal 5 which engages the bracket 5 and thus limits the movement thereof.

The hook supporting bracket is adapted to be mounted in the present instance upon a support at either side of the door of the car, a pair of supports 10 and 11 being shown in the present instance which are substantial duplicates, each comprising an angle-shaped attaching portion which is bolted or otherwise suitably fastened to the respective side of the car door and is provided with an upright post 12. In order to prevent turning of the hook about a vertical axis while in an inoperative position, each post is square or otherwise rectangular or angular in cross-section, and the bracket 6 which carries the hook is provided with a corresponding angular shaped aperture 13 which fits the post. While the bracket engages the post on one of the supports, the free end of the hook arm 3 preferably rests upon the ledge of the opposite support, and in order to assist the post in supporting the hook and in preventing rotation thereof, a pair of hook-shaped catches 14 and 15 are preferably pivoted at the opposite sides of the door, one of these catches engaging the arm 3 of the hook to retain it in position upon the respective support.

In order to reverse the position of the hook according to the direction of movement of the car or train, the hook carrying bracket is lifted from the angular post of one support and applied in an inverted position upon the angular post of the opposite support, and in order to facilitate the reversal of the hook and prevent dropping of the same, a guide 16 is employed, this guide being preferably in the form of a rod having its opposite ends attached to the tops of the posts on the respective supports, the guide being preferably extended upwardly from the respective supports and is bowed or curved in order to clear the door opening and thus avoid forming an obstruction to the passage therethrough. In lifting the hook supporting bracket from one of the posts, the guide serves to conduct the bracket from one support to the other, and the possibility of dropping the hook from the car is thereby eliminated.

If desired, a lock may be employed for preventing disengagement of the pouch from the hook by reason of the rebound thereof, the lock shown in the present instance comprising a pair of arms 17 and 18 which are rigidly connected and pivoted to one of the arms of the hook. In the present instance, the arms of the locking device are arranged substantially at right angles so that while one of these arms extends longitudinally of one of the hook arms, the other arm of the locking device will extend across the opening of the hook, and as the latter arm is engaged by the

pouch as the latter enters the pocket 4, the locking device will be rotated, causing the second arm 18 to turn into a position across the opening of the hook and thereby serve to confine the pouch.

According to my present invention, the apparatus serves not only to receive a pouch, but also to automatically deliver one from the car, the reception of the pouch by the hook on the car serving to effect this result. In the present instance, the pouch to be delivered from the car is supported upon an apron 19, the latter being composed of canvas or other appropriate flexible material having stiffening rods 20 and 21 at its upper and lower edges, the lower edge of the apron being provided preferably with a pair of hooks 22 to detachably engage a pair of screw eyes or staples 23 fastened upon the car floor and adjacent to the forward edge of the door opening. A flexible member of wire or rope 24 is attached to the upper edge of the apron, this flexible member having a portion extending across the opening of the hook, and its end is attached to the outer arm 2 thereof so that as a pouch enters the hook, it will form a loop in the flexible member as shown in Fig. 6, thereby moving the apron outwardly until it assumes a vertical position, as shown in Figs. 2 and 6, the pouch being thereby thrown outwardly from the car. This flexible member may be guided in any suitable manner upon the arms of the hook, but it is generally preferable to detachably connect it to the hook, the free end of the member being provided in the present instance with a ring or loop 25 which may be inserted into a metal clip 26 on the arm 2, and an intermediate portion of this flexible member may be inserted into a second clip 27 on the arm 3 of the hook, the insertion or removal of the flexible member being accomplished by passing it through an opening formed between the free ends of each clip. In this manner, accidental disengagement of the flexible member is prevented, although when so desired, the member may be readily detached from the hook, and by arranging the spring clips or guiding devices upon the outer sides of the hook arms, these clips do not interfere in any way with the reception of the pouch. The pouch-receiving hook is provided as usual with a handle 28 by means of which it may be manipulated, and this handle is preferably so arranged that it may be used by the operator in shifting the hook from one position to another, the hook passing around the upper portion of the door opening in a path parallel to the guide.

In operating mail handling apparatus constructed in accordance with my present invention, the hook supporting bracket is mounted upon the appropriate support so that the open side of the hook will be directed

toward the direction of movement of the train, the appropriate catch, the catch 15 in the present instance, engaging the inner arm 3 of the hook to prevent the same from swinging outwardly from the car. By moving the hook toward the right, as shown in Fig. 5, the angular portion 7 will be disengaged from the corresponding angular recess in the bracket, and while the parts are in this relative position, the hook may be turned into a horizontal position, as shown in Figs. 1 and 2. By again shifting the hook toward the left, the angular portion of the hook will reënter the angular recess of the bracket and thus serve to support the hook in horizontal position. Before the reception of a pouch by the hook, the locking device occupies the position shown in Figs. 1 and 5, the arm 17 thereof extending across the opening of the hook, and a pouch may be placed upon the upper side of the apron, as shown in Fig. 1, a portion of the flexible member 24 being drawn across the opening between the hook arms. The entrance of a pouch between the arm of the hook causes a looping of the flexible member 24, the apron being thereby thrown into an upright position to cast the pouch from the car. As the pouch enters the pocket 4 of the hook, it strikes the arm 17 of the locking device, causing the latter to be turned until the second arm 18 of the locking device extends across the opening of the hook behind the pouch, and any tendency of the pouch to rebound by reason of the impact is thereby prevented. By rotating the locking device back to the original position, the pouch, of course, can be readily removed from the hook.

Mail handling apparatus constructed in accordance with my present invention is not only capable of receiving the pouches upon the train, but it is also capable of automatically delivering one or more pouches from the train, the delivery of a pouch or pouches from the train being accomplished automatically upon the reception of a pouch by the hook, so that it is unnecessary for the attendant to deliver the pouch or pouches from the car by hand as usual. Moreover, the effort required to lift and discharge the pouch by the car produces a tension upon the flexible member which operates the apron, and the tension on this member offers a resistance to the entering pouch which will serve to materially relieve the impact or shock.

The apparatus shown in the present embodiment of my invention is simple in construction so that it may be manufactured cheaply and easily operated, and it is also capable of being readily applied to mail cars using the ordinary hook.

I claim as my invention:—

1. An apparatus for handling mail pouches comprising a hook having a supporting

bracket at one end, and a pair of supports having guiding means connecting them and adapted to be mounted at the opposite sides of a door opening, either of which supports is adapted to receive the supporting bracket of the hook and retain the latter in either of two operative positions. 70

2. An apparatus for handling mail pouches comprising a reversible hook, and means cooperating with an end of said hook for conducting the latter from one position to another according to the direction of movement of the train. 75

3. An apparatus for handling mail pouches comprising a pair of supports adapted to be mounted at opposite sides of a door opening, a pouch-receiving hook adapted to cooperate with said supports and capable of being reversed with respect thereto, and means for conducting the hook from one position to another. 80 85

4. An apparatus for handling mail pouches comprising a pouch-receiving hook having a supporting bracket at one end, a pair of supports adapted to be mounted at opposite sides of a door opening and arranged to receive respectively the supporting bracket of the hook, and means connecting said supports and arranged to cooperate with the supporting bracket of the hook for conducting the latter from one position to another. 90 95

5. An apparatus for handling mail pouches comprising a pouch-receiving hook having a supporting bracket at one end, a pair of supports adapted to be mounted at opposite sides of a door opening and arranged to receive respectively the supporting bracket of the hook, and a guide having its ends attached to the respective supports and bowed above the door opening, said guide being arranged to cooperate with the supporting bracket of the hook to conduct the latter from one position to another. 100 105

6. An apparatus for handling mail pouches comprising a pouch-receiving hook having a supporting bracket at one end, and a pair of supports having angular posts adapted to cooperate with the supporting bracket of the hook to support the latter in operative position and prevent rotation thereof. 110 115

7. An apparatus for handling mail pouches comprising a pouch-receiving hook having a bracket at one end, a pair of oppositely arranged supports having upright posts thereon adapted to receive respectively the supporting bracket of the hook, and a pair of catches mounted in cooperative relation with the respective supports, one of which is adapted to engage one end of the hook while the bracket at the opposite end is engaged by one of said supports. 120 125

8. An apparatus for handling mail pouches comprising a pouch-receiving hook having a journal portion at one end, a supporting bracket adapted to receive said journal por- 130

tion and also provided with an angular recess or socket, and an angular shaped portion formed on the hook and adapted to be engaged and disengaged with the angular socket of the bracket by a relative longitudinal movement of the hook whereby the latter may be locked or unlocked relatively to its operative position.

9. An apparatus for handling mail pouches comprising a pouch-receiving hook, and a locking device for confining the pouches therein after their reception, said device having a pair of angularly arranged arms which are pivoted on the hook, one of said arms being adapted to extend across the opening of the hook and to be engaged by the pouch to turn the second arm into a position across the opening of the hook and behind the pouch.

10. An apparatus for handling mail pouches comprising a suitable pouch-receiving hook, a pouch discharging apron, and a part adapted to be engaged by a pouch while entering the hook for automatically operating said apron to discharge a pouch.

11. An apparatus for handling mail pouches comprising a pouch-receiving hook, an apron for discharging a pouch, and a flexible member attached to the apron and extending across the opening of the hook to be engaged by a pouch entering the latter to automatically operate the apron.

12. An apparatus for handling mail pouches comprising a pouch-receiving hook,

a flexible apron having its lower end attached to the floor of a car, and a flexible member attached to the upper edge of said apron and extending across the opening of the hook to be engaged by a pouch entering the latter.

13. An apparatus for handling mail pouches comprising a pouch-receiving hook having clips formed at the outer sides of its respective arms, a pouch discharging apron having its lower edge fastened, and a flexible operating member attached to the upper edge of the apron and guided to operate through said clips.

14. An apparatus for handling mail pouches comprising a pouch-receiving hook having a pair of spring clips attached to the outer sides of its respective arms, a pouch discharging apron having hooks for detachably connecting it to a relatively fixed support, and a flexible operating member attached to the apron and detachably engaging the spring clips of the pouch-receiving hook, a portion of said operating member extending across the opening of the hook to be engaged by an entering pouch.

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

JOHN J. PATERSON.

Witnesses:

I. S. CANFIELD,
LAURA LYTLE.