

No. 658,373.

Patented Sept. 25, 1900.

B. HULL.

MAIL SUPPLYING AND DELIVERING APPARATUS.

(Application filed May 7, 1900.)

(No Model.)

2 Sheets—Sheet 1.

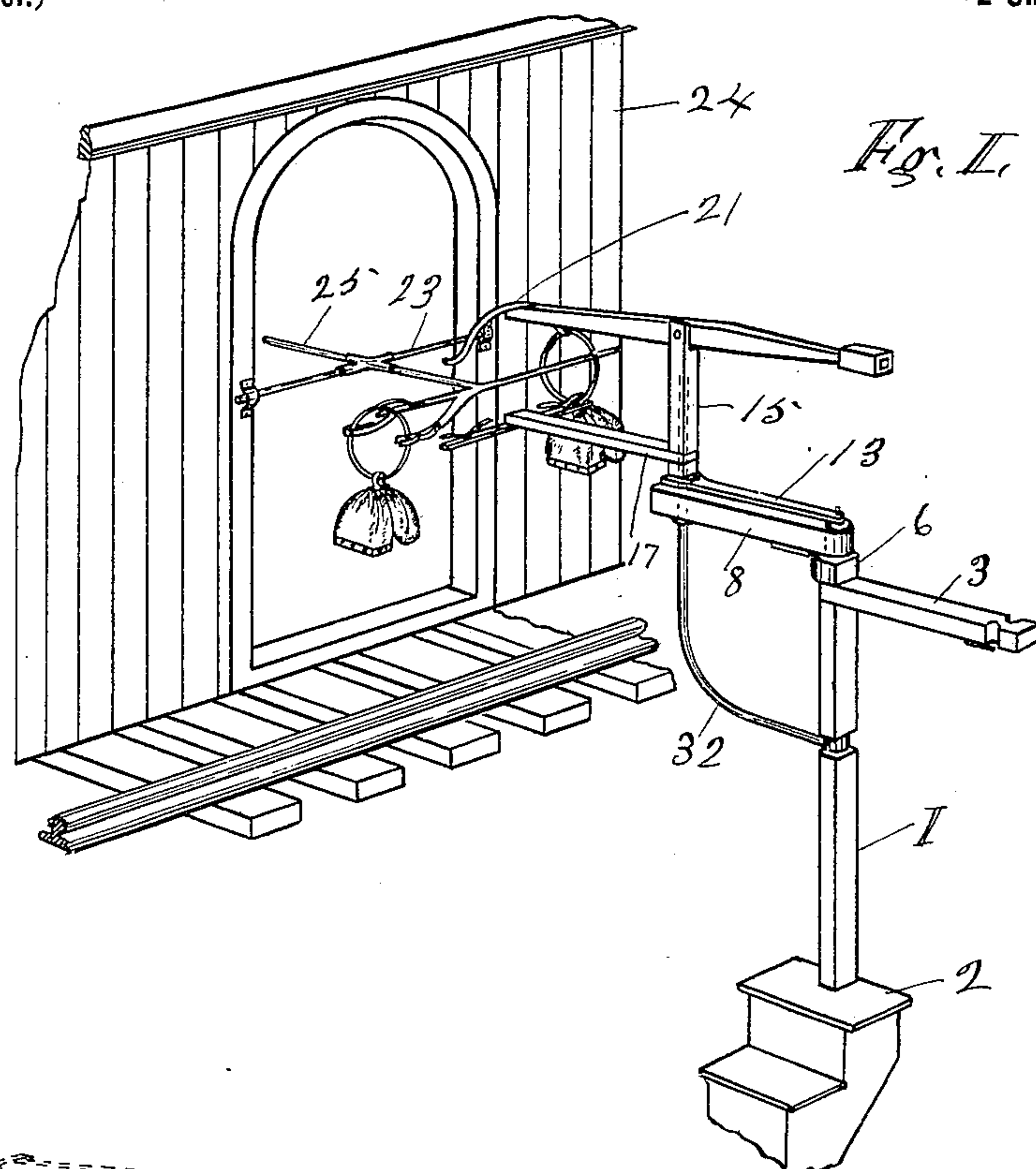


Fig. 1.

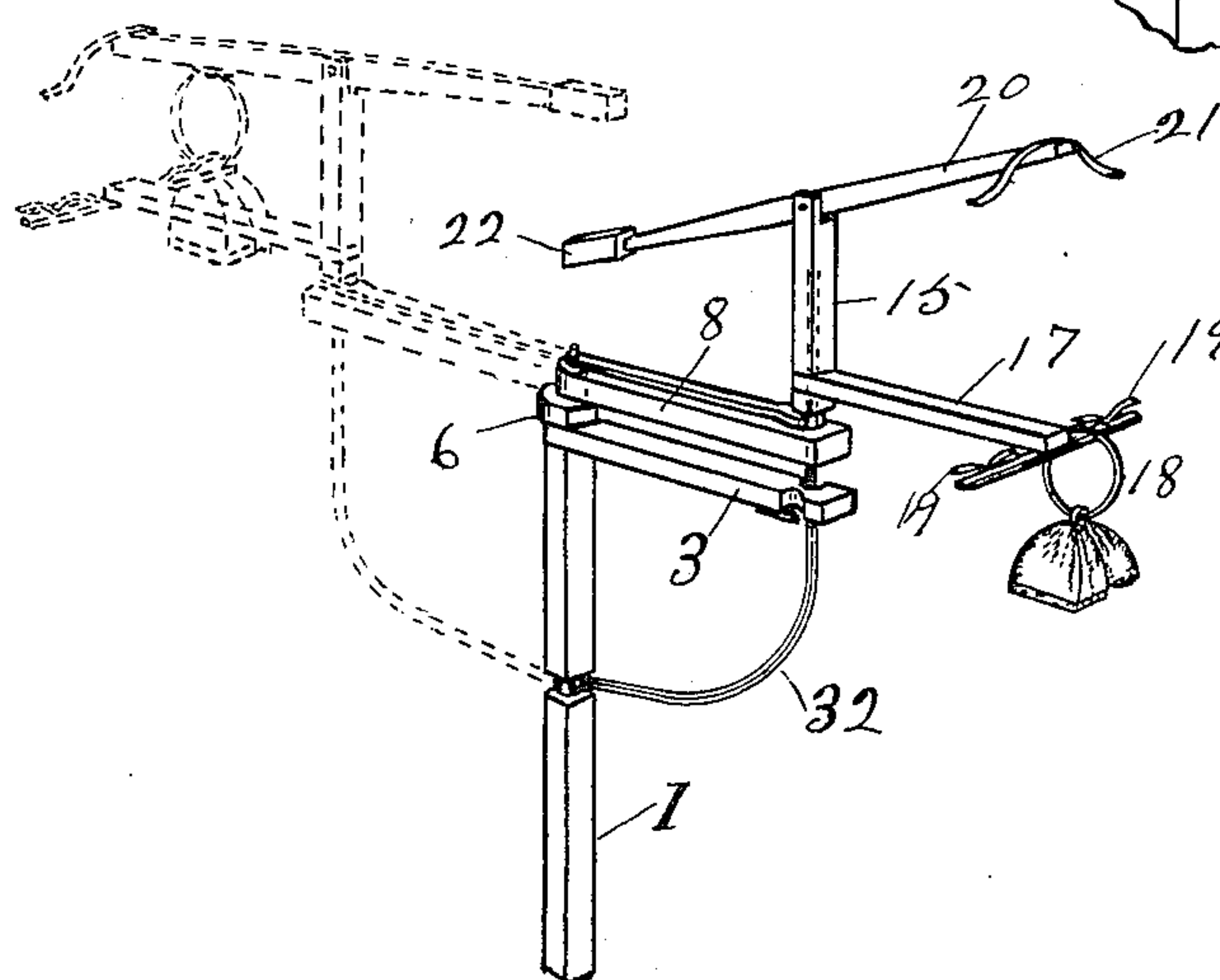


Fig. 2.

WITNESSES:

Adelaide Kearns.
Augusta Viberger.

Burt Hull INVENTOR

BY *Chapin & Denny*
HIS ATTORNEYS.

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Fig. 3.

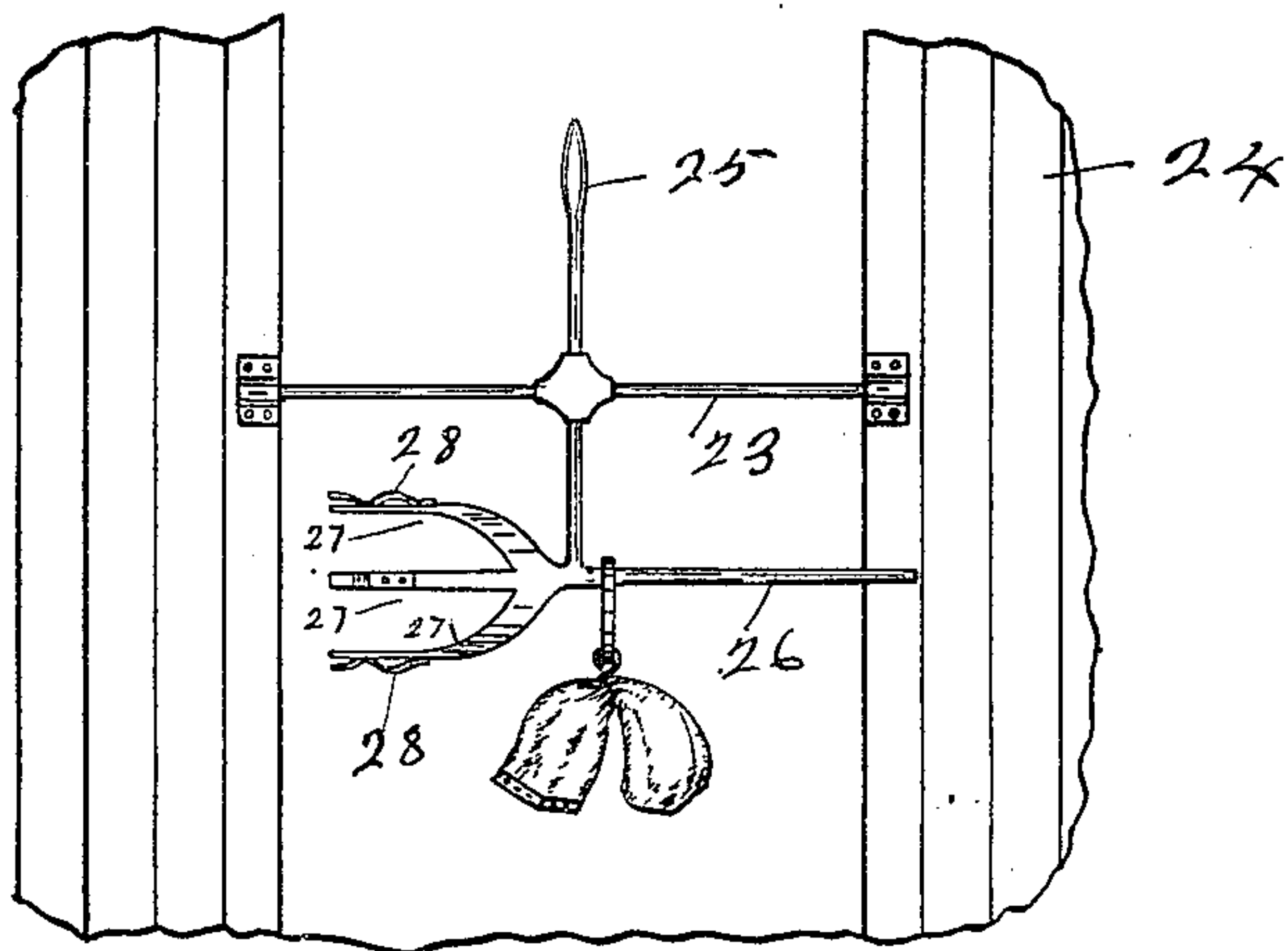


Fig. 4.

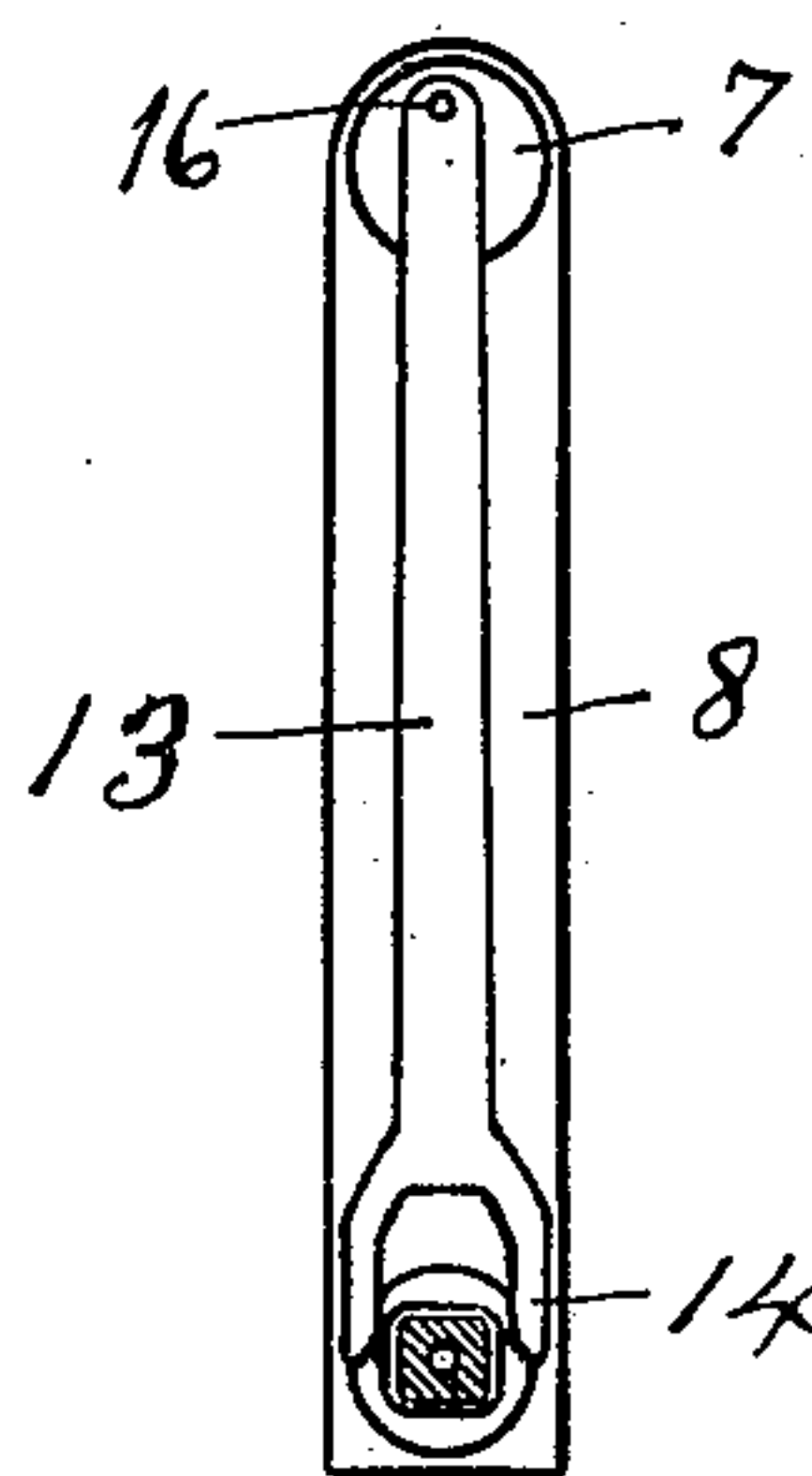


Fig. 5.

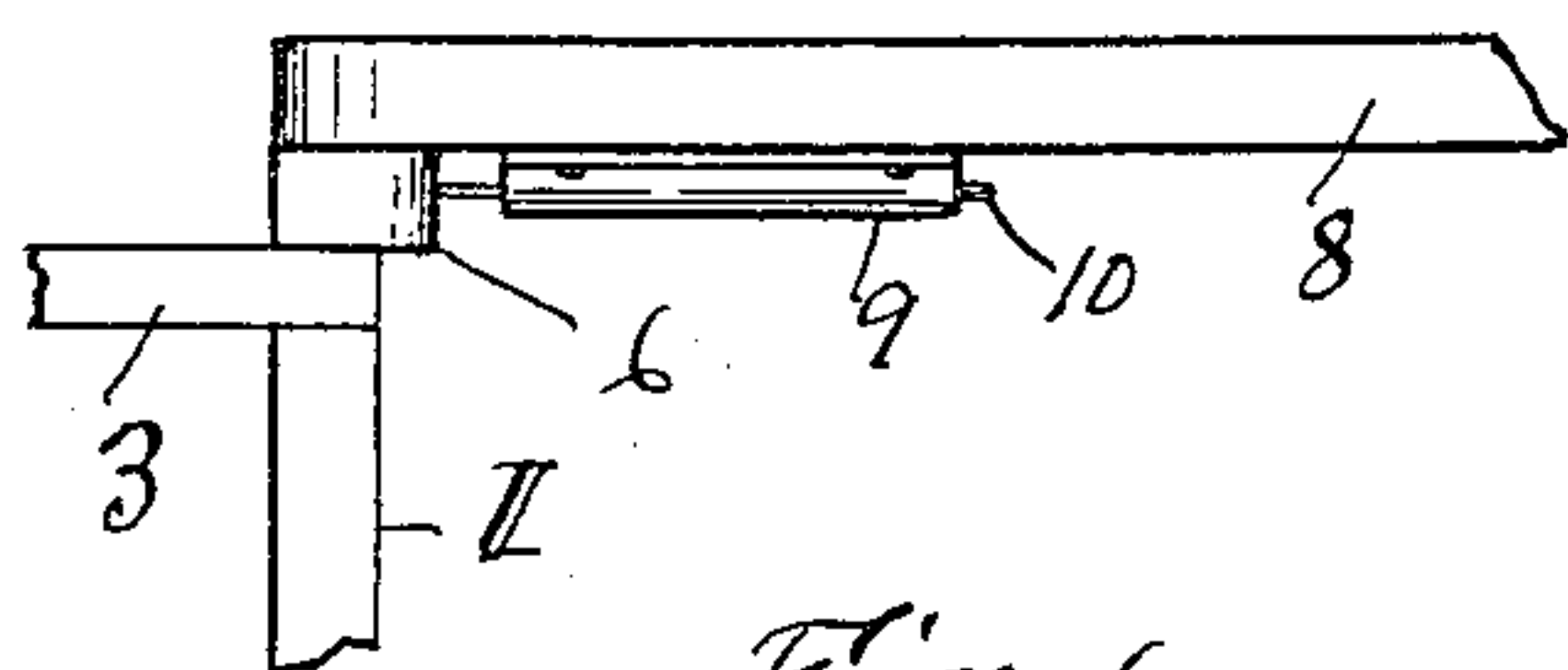


Fig. 7.

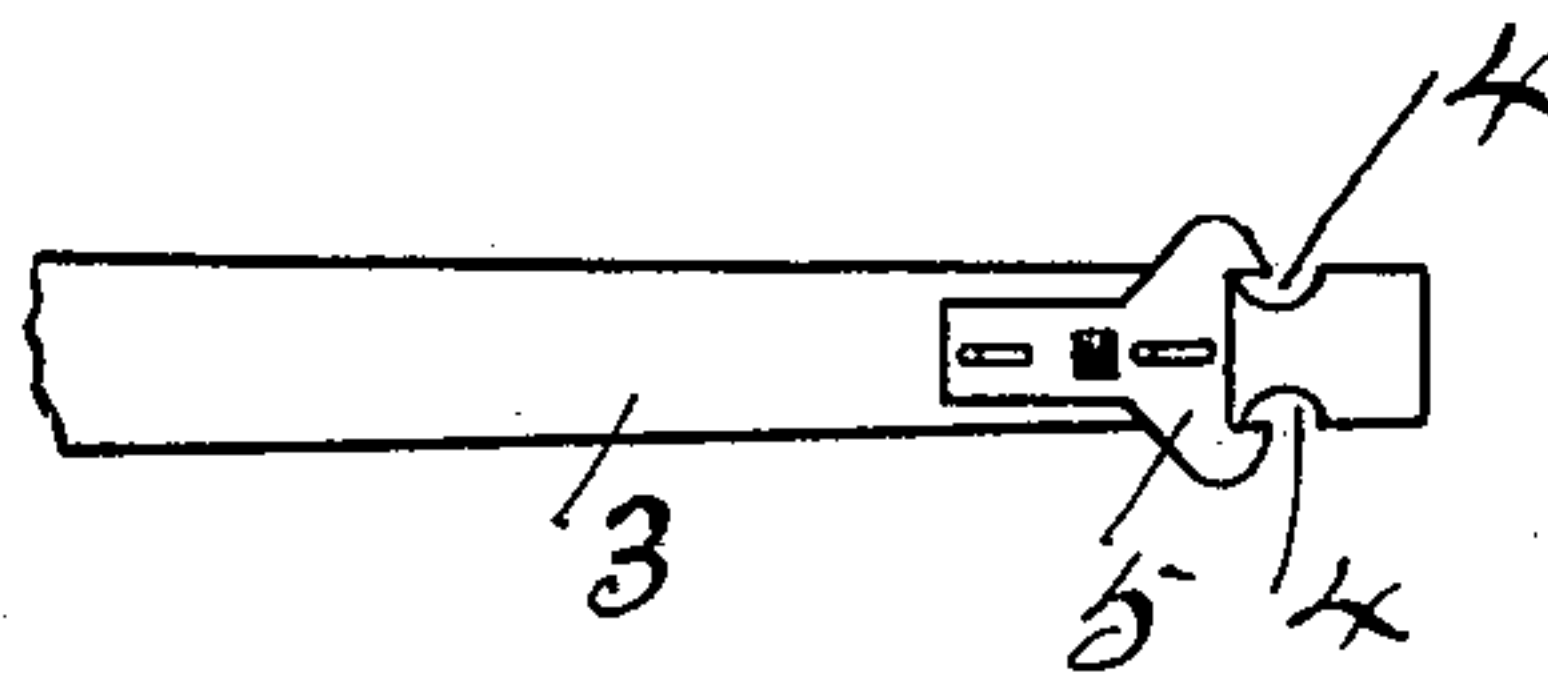


Fig. 6.

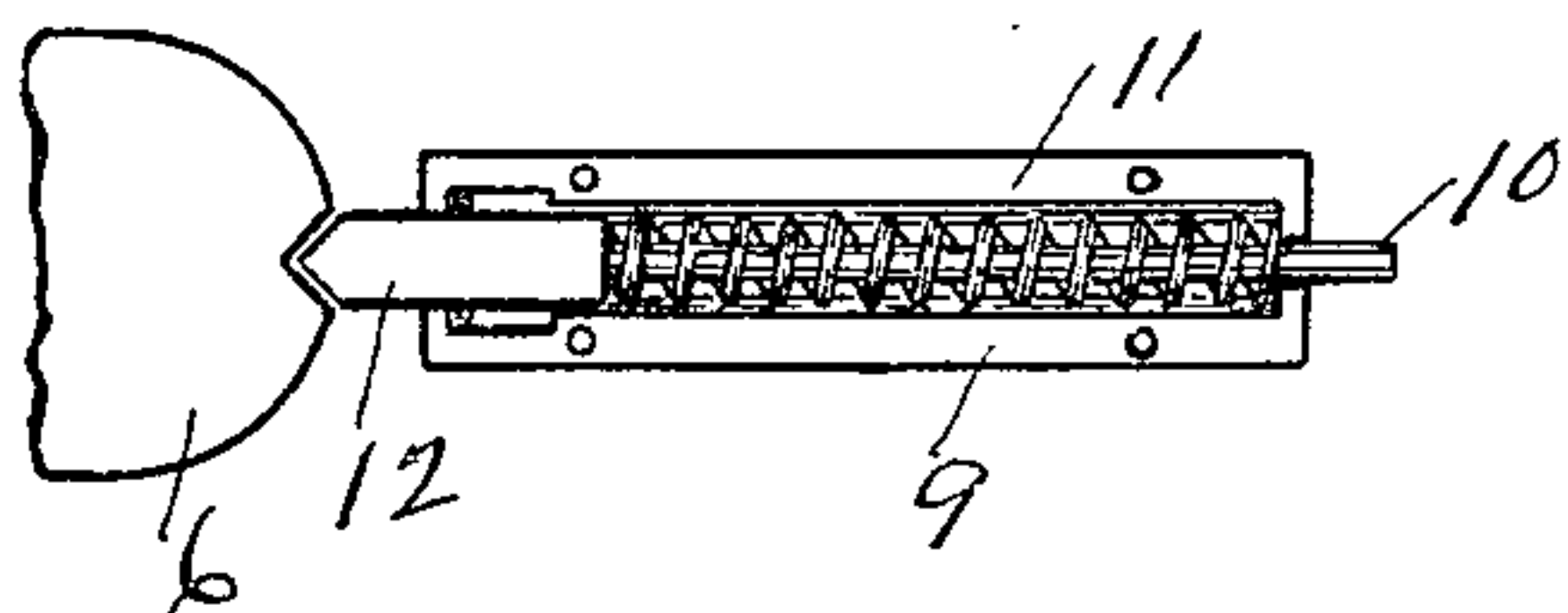


Fig. 8.

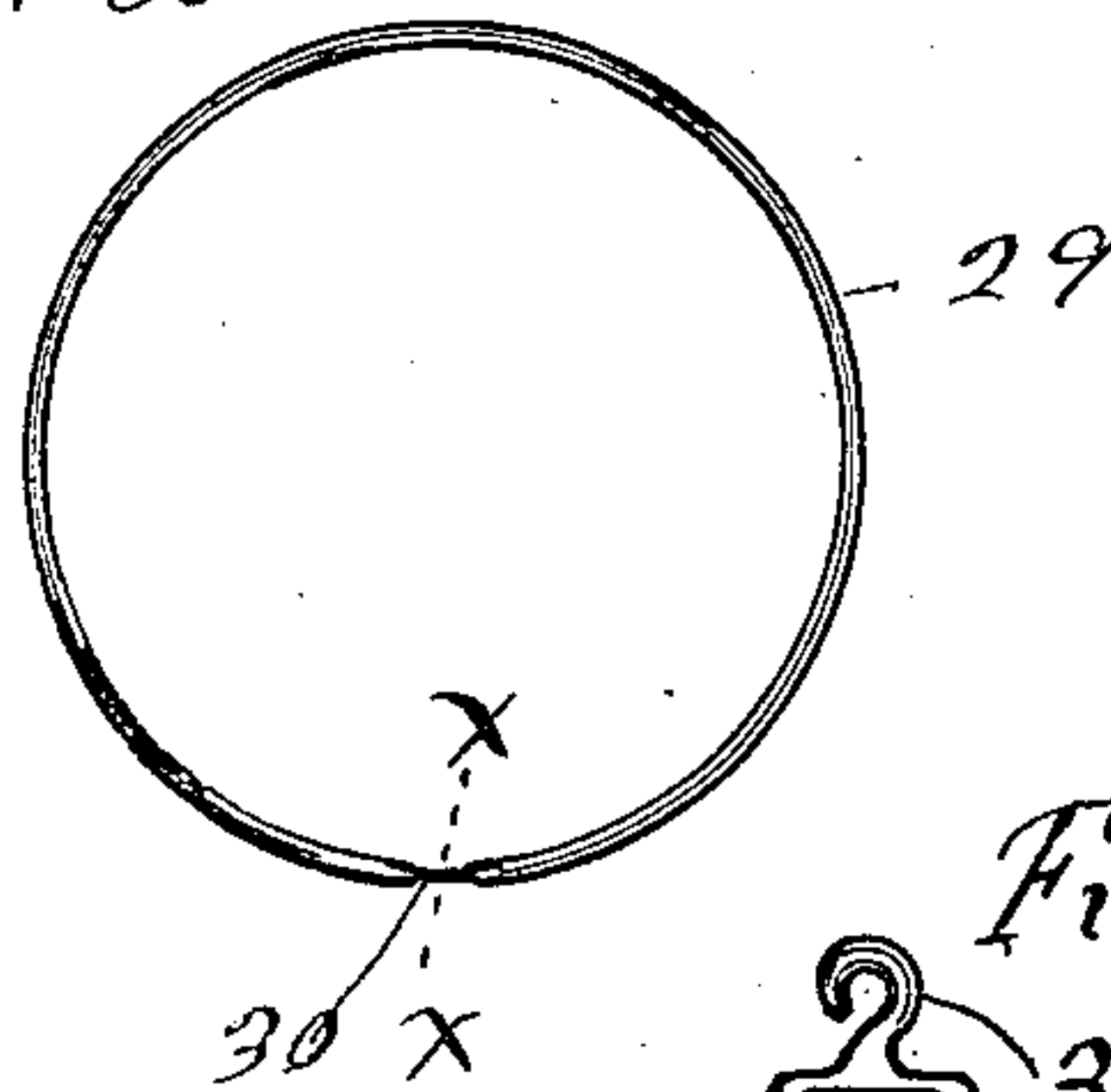


Fig. 10.

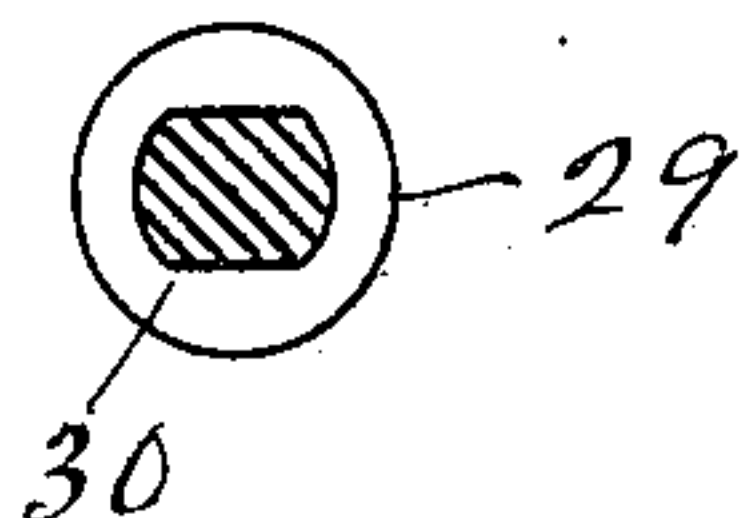


Fig. 9.

WITNESSES:

Odeliaide Kearns.

Augusta Viberg.

Burt Hull

INVENTOR

BY Chapin & Denny

Attorneys.

UNITED STATES PATENT OFFICE.

BURT HULL, OF AUBURN, INDIANA.

MAIL SUPPLYING AND DELIVERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 658,373, dated September 25, 1900.

Application filed May 7, 1900. Serial No. 15,735. (No model.)

To all whom it may concern:

Be it known that I, BURT HULL, a citizen of the United States, residing at Auburn, in the county of De Kalb, in the State of Indiana, have invented certain new and useful Improvements in Mail Supplying and Delivering Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in mail supplying and delivering apparatus.

The object of my present invention is to provide a cheap, simple, efficient, and reliable apparatus for discharging and delivering mail-matter to and from a rapidly-moving railway-car so constructed and arranged that when the mail-pouch has been delivered thereto or received therefrom the pouch-catching arms will automatically swing into a locked position clear of subsequently-passing trains.

My improvement consists of a mail-pouch crane having a fixed lateral arm provided with a spring-catch adapted to form a locked engagement with the adjacent pivoted swinging arm and pouch-catching arms pivotally mounted on said swinging arm and provided with bag-holding devices.

The principal novel feature of my invention resides in the construction and relative arrangement of the pouch-catching arms whereby they are automatically locked in their operative position and have an independent pivotal movement when not in position for use, thereby relieving the apparatus of all strain and withdrawing the said arms from close proximity to the track when not in use.

Similar reference-numerals indicate like parts throughout the several views of the drawings, in which—

Figure 1 is a perspective view of my invention in operative position and about to deliver one mail-pouch to a passing mail-car and to receive another one therefrom. Fig. 2 is a perspective of my apparatus, broken away in part, showing the pivoted pouch-catching arms in their operative position in dotted outline and also showing the folded position of the arms in full lines. Fig. 3 is a side view

of my improved pouch receiving and delivering fork in a mail-car door, broken away, showing the position it assumes when it has received the pouch from the crane-arms. Fig. 4 is a detail plan of the means for imparting to the pouch-supporting arms their independent pivotal movement. Figs. 5 and 6 are side and lower plan details of the means for automatically locking the said arms in their extended and operative position. Fig. 7 is a bottom plan of the said fixed crane-arm, broken away, showing the spring-catch for securing the pivoted arms in their folded position. Fig. 8 is a detail of the ring from which the mail-pouch is suspended, and Fig. 9 is a detail of the hook which is fixed on said pouch and adapted to holdingly engage the said ring. Fig. 10 is an enlarged cross-section of Fig. 8 on the line *xx*, showing the elongated reduced portion by which it is admitted on the said hook.

My improvement is made of any suitable material, preferably of metal. The upright crane-post 1 of proper dimensions is rigidly fixed in proper relation to the railway-track and may have suitable steps 2 at its base to enable the operator to more readily reach the pivoted arms and is provided on its upper end with a fixed lateral arm 3, whose free end is provided with opposite notches 4 and a spring-pressed catch 5, Fig. 7, for the purpose hereinafter described. On the inner end of this fixed arm 3 is rigidly secured a block 6, having on its upper face a cylindrical lug 7, forming a pivot for the inner end of the swinging arm 8, and provided with an eccentric-pin 16, Fig. 4. This arm 8 is also provided on its lower face and near its inner end with a longitudinally-slotted plate 9, Figs. 5 and 6, in which is arranged a spring-pressed rod 10, having a coil-spring 11 thereon and provided at its forward end with a pointed head 12, adapted to automatically engage a proper slot in the adjacent face of the said block 6 when the arm 8 is in its extended position under the tension of the said spring 11.

On the upper face of the arm 8 is arranged a plate 13, whose inner end is pivoted on the said eccentric-pin 16 and whose outer end has a bifurcated head 14, adapted to form a locked engagement with the lower end of the upright post 15, about to be described, and

also adapted under certain conditions to permit a free rotation of said end of post 15 within the said bifurcated head 14. The said upright post 15 has a rigid horizontal arm 17 at or near its lower end. This arm 17 is provided upon its free end with a transverse plate 18, having on its upper face a pair of convoluted spring-plates 19, Fig. 2, adapted to form a holding engagement with the lower portion of the mail-pouch ring in the manner hereinafter described.

On the upper end of the post 15 is pivotally mounted a weighted lever 20, having a limited vertical oscillation and provided upon one end with a fixed transverse hook 21, adapted to holdingly engage the upper portion of said pouch-ring simultaneously with the said engagement of the said springs 19. The other end of the lever 20 is provided with a weight 22, adapted to normally elevate said hook 21, and thereby hold the said pouch-rings against the tension of said weight when in use. This post 15 is pivotally mounted on the curved wire rod 32, whose upper end passes vertically through the outer end of the swinging arm 8 and for some distance upward into the said post 15 and whose lower end is looped and pivotally secured to a reduced cylindrical portion of the crane-post 1.

I have also, in connection with my mail-delivering device, provided an improved mail-pouch fork consisting of a rod 23, pivoted transversely of the door of the mail-car 24 and having a transverse rod 25 rigidly fixed midway its ends and provided upon its outer extended end with a rigid horizontally-arranged fork 26, having a forwardly-projecting handle on one end and rearwardly-projecting prongs 27, preferably three in number, on the other end, as shown in Fig. 3. These prongs each have a spring-plate 28 on the outer face of their free ends, whereby they are adapted to firmly seize and support the said pouch-ring. This ring 29 of proper size has a reduced portion 30 oblong in cross-section adapted to admit the said ring within the hook 31, Fig. 9, after which it only can be removed from the hook by passing the reduced portion properly through the contracted opening in said hook. This is secured in a proper manner to the mail-pouch.

The operation of my improvement is briefly stated as follows: When it is desired to receive a mail-pouch from a mail-car passing, for example, from left to right in Fig. 1, the arm 8 is swung around on its pivot 7 in alignment with the fixed arm 3, extending in the opposite direction, and the arm 17 is arranged in alignment with the arm 8 and extending in close proximity to the passing car. The arm 8 is firmly held in this operative position by the engagement of the spring-latch 12 with the block 6, and the arm 17 is rigidly held in its extended position by the engagement of the bifurcated head 14 of the plate 13 with the lower end of the post 15, the said plate 13 being at that time in its most extended posi-

tion, with the eccentric pivot-pin 16 at the side of the post 1 adjacent to the post 15. The ring 29 is arranged in the hook 31, as described, from which the mail-pouch is suspended. This ring is then secured to the crane by slipping the lower edge of the ring in the end of the forward portion of the plate 18 and suspending its upper portion from one end of the hook 21, Fig. 1. The mail-pouch to be delivered is suspended, as shown, from the prongs 28 of the fork 23, which is arranged in proper coöperative relation with the said pivoted crane-arms. As the mail-car passes the mail-pouch, previously suspended from my improved crane, is received upon the handle of the fork 23, where it is secured by the drop of the fork by gravity to the position shown in Fig. 3, while at the same time the mail-pouch previously suspended from the fork-prongs will be automatically delivered to the adjacent ends of the plate 18, where it will be held, as shown in Fig. 2.

The holding engagement of the spring-latch 12 is so adjusted that the striking contact of the delivered mail-pouch upon the arm 17 is sufficient to disengage the said latch and throw the arm 8 around on its pivot until the rod 32 is engaged in the notch 4 of the arm 3 by the spring-catch 5, Fig. 2. This movement of the arm 8 withdraws the eccentric-plate 13 from its holding engagement with the end of the post 15, thereby permitting it to swing freely around into the position shown in Fig. 2 and revolve freely on the pivot-rod 32.

My improvement is thus cheap, simple, and reliable, with but small liability of getting out of repair.

Having thus described my invention and the manner of employing the same, what I desire to secure by Letters Patent is—

1. A mail supplying and delivering apparatus, consisting of a crane having a fixed arm as shown; a swinging arm pivoted on said crane; a bag-receiving device pivotally mounted on the outer end of said swinging arm and consisting of an upright post, having on its lower end a fixed horizontal arm provided at its free end with a pouch-ring-engaging device, and a weighted arm pivoted on the top of said post and provided with a ring-engaging hook adapted to coöperate in supporting the mail-pouch; and an eccentrically-pivoted bifurcated plate mounted on the said swinging arm for the purpose specified.

2. In an apparatus of the class described an upright post having a fixed horizontal arm; a swinging arm pivoted on said post; a mail-pouch-receiving device pivotally mounted on the free end of said pivoted arm consisting of an upright post provided at its lower end with a fixed lateral arm and at its upper end with a pivoted weighted arm, the said arms being provided at their free end with a co-operating ring-supporting device, and an eccentrically-pivoted locking device arranged on said pivoted arm adapted to lock the said

pouch-receiving device in its operative position and to automatically unlock the same when the said pivoted arm is folded into parallel arrangement with the said fixed arm.

5 3. In a mail-bag receiving and delivering apparatus the combination of a swinging arm pivotally mounted on a supporting-crane; a mail - pouch - supporting device pivotally mounted on the free end of said arm consisting of an upright post having a fixed horizontal arm and a pivoted weighted arm, the said arm being provided with cooperating mail-pouch-suspending devices; an eccen-

trically - mounted plate arranged on said swinging arm having a bifurcated head adapted to form a locked engagement with said post; and means for delivering the mail-pouch to the said suspending devices, and for taking it therefrom. 15

Signed by me at Fort Wayne, county of Allen, State of Indiana, this 4th day of May, A. D. 1900. 20

BURT HULL.

Witnesses:

ADELAIDE KEARNS,
AUGUSTA VIBERG.