

C. M. D. DINES.
MAIL BAG CATCHING AND DELIVERING DEVICE.
APPLICATION FILED APR. 17, 1908.

903,274.

Patented Nov. 10, 1908.

2 SHEETS—SHEET 1.

Fig. 1

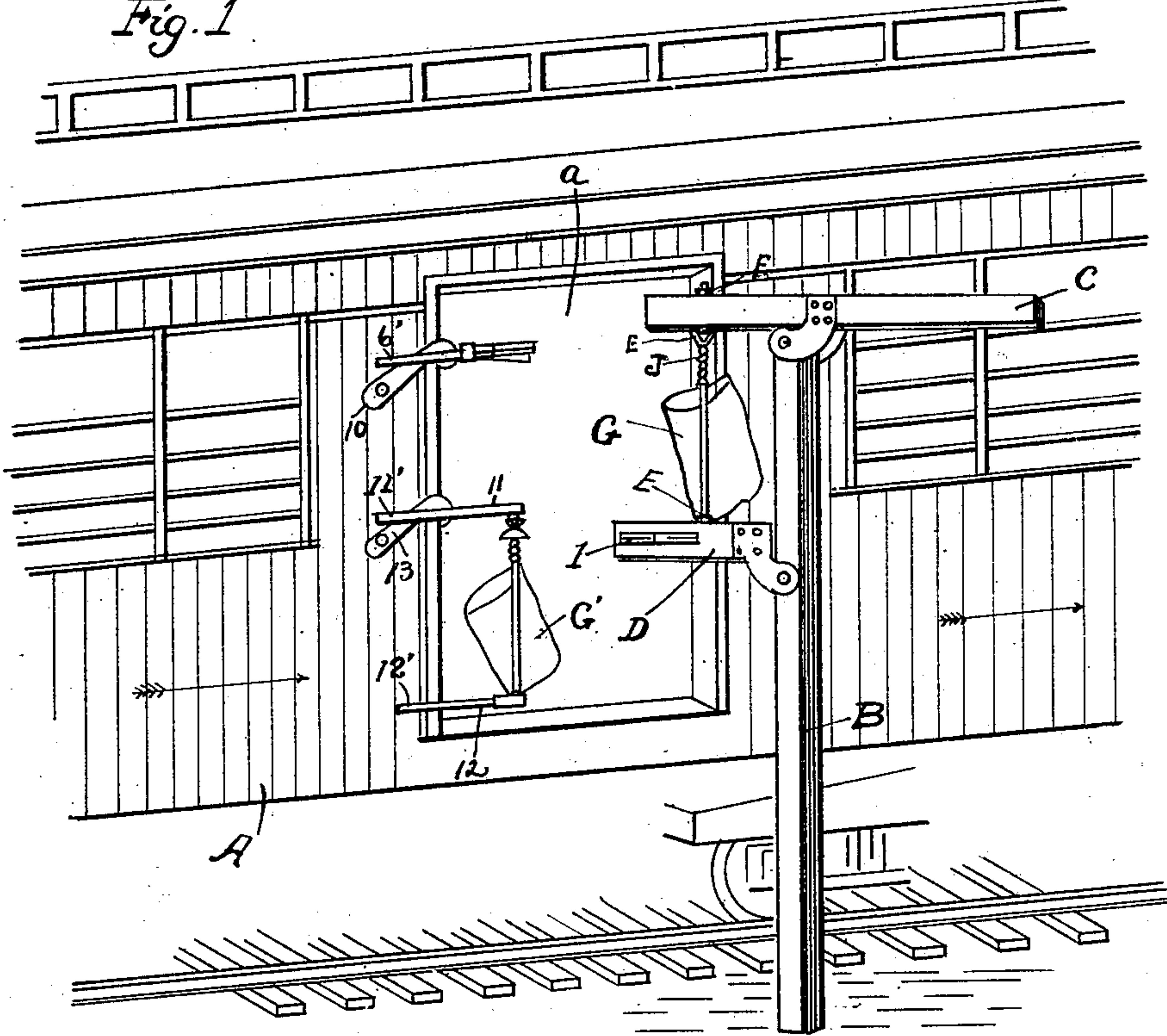


Fig. 2

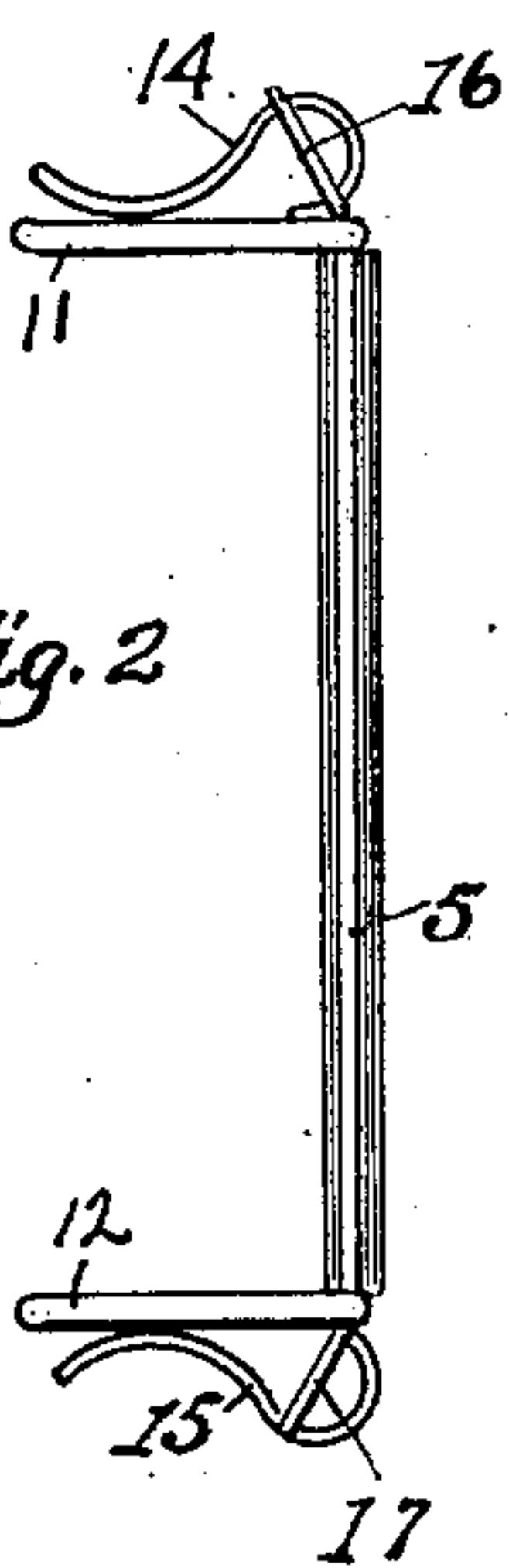


Fig. 3

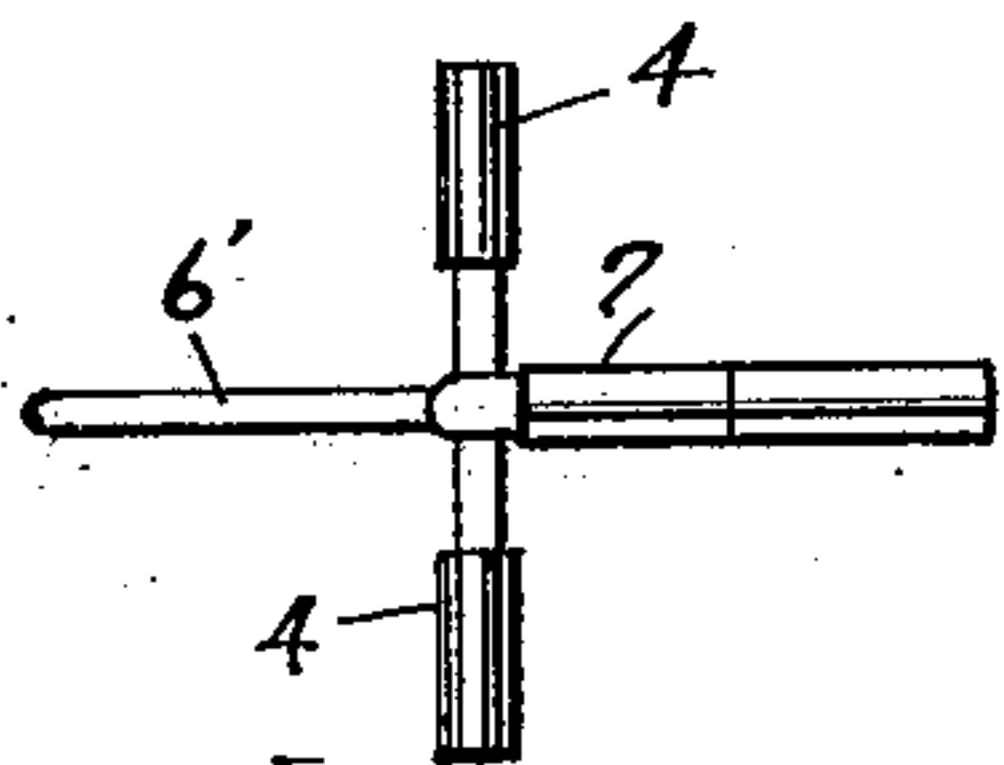


Fig. 4

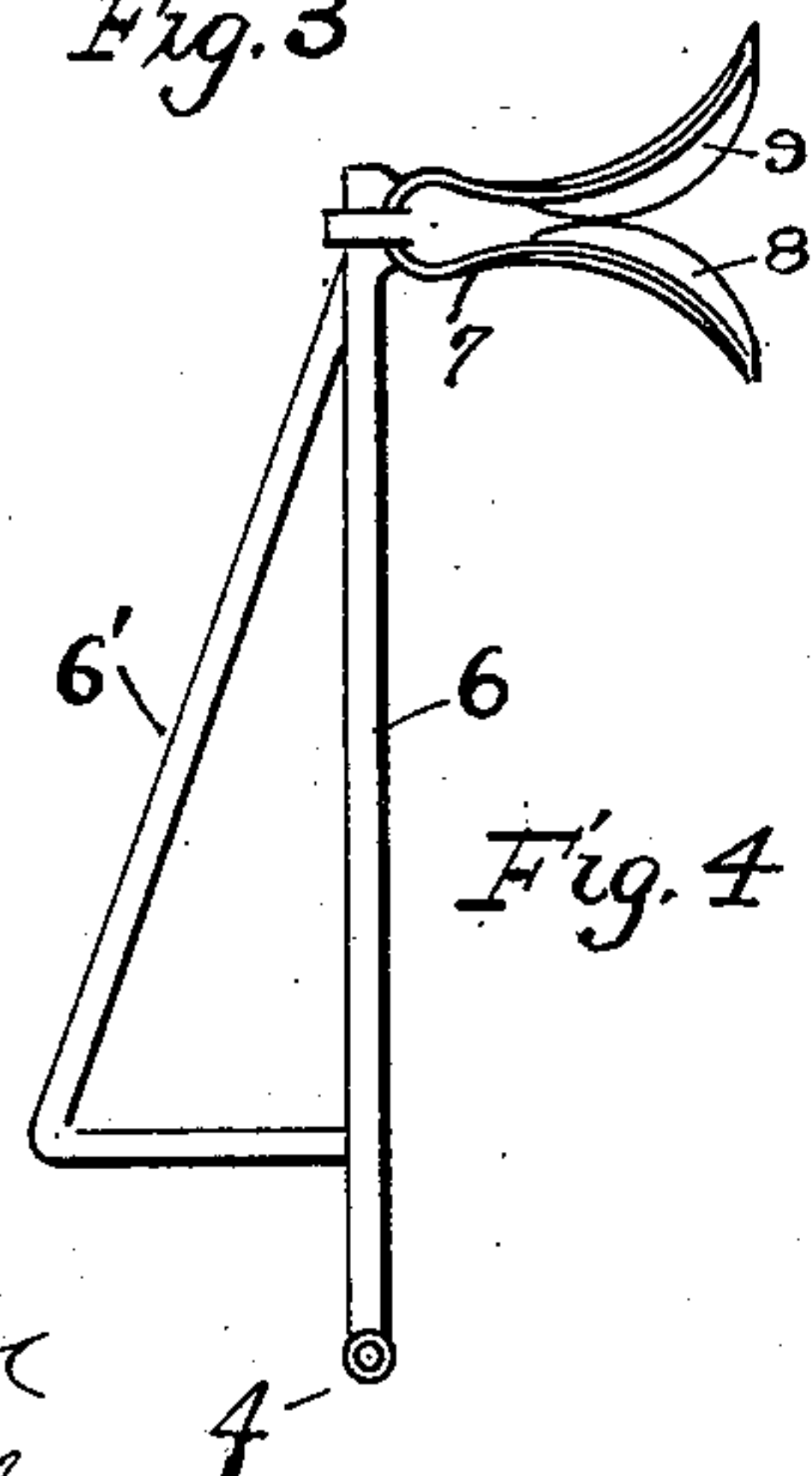
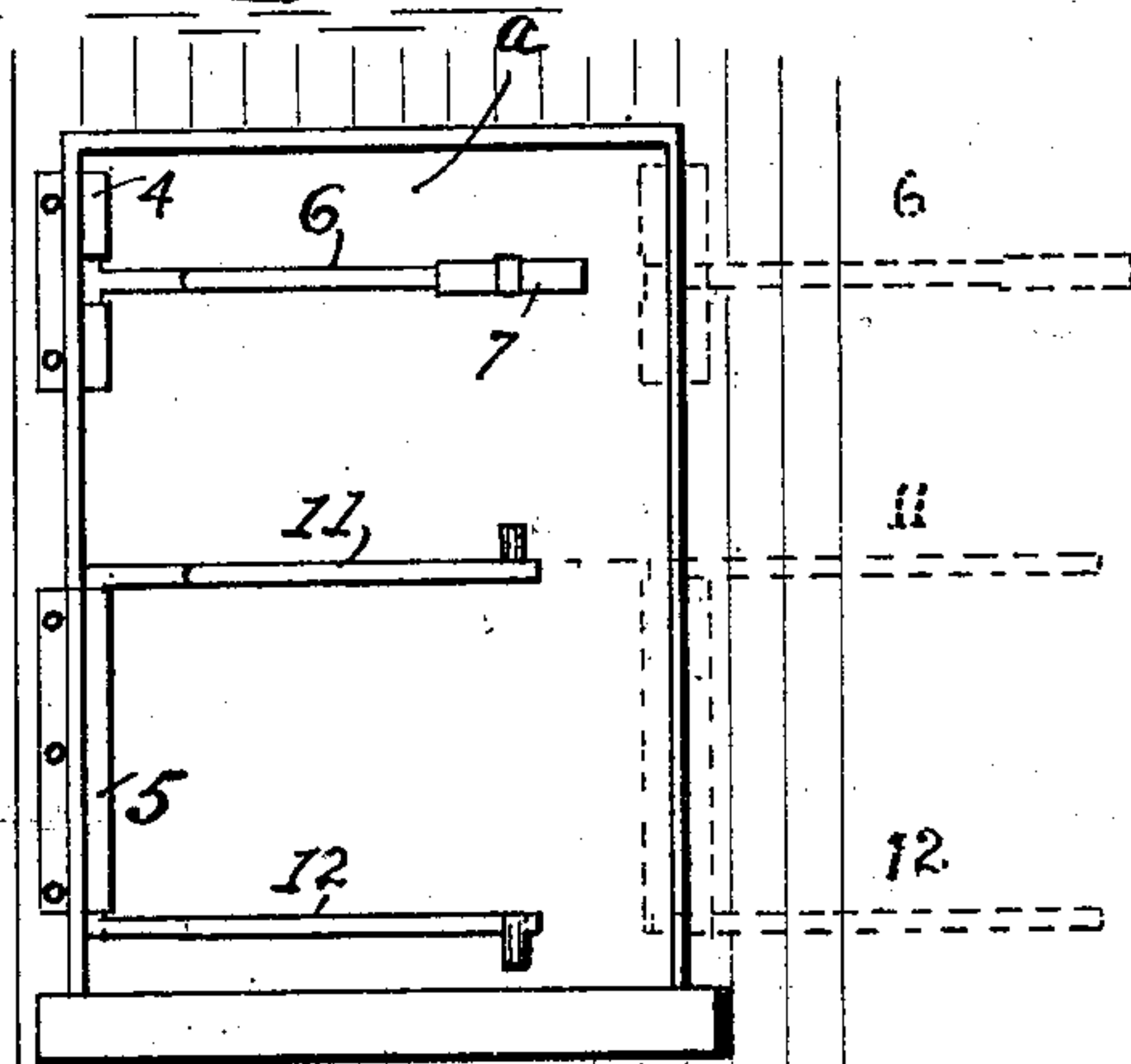


Fig. 5



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2 SHEETS—SHEET 2.

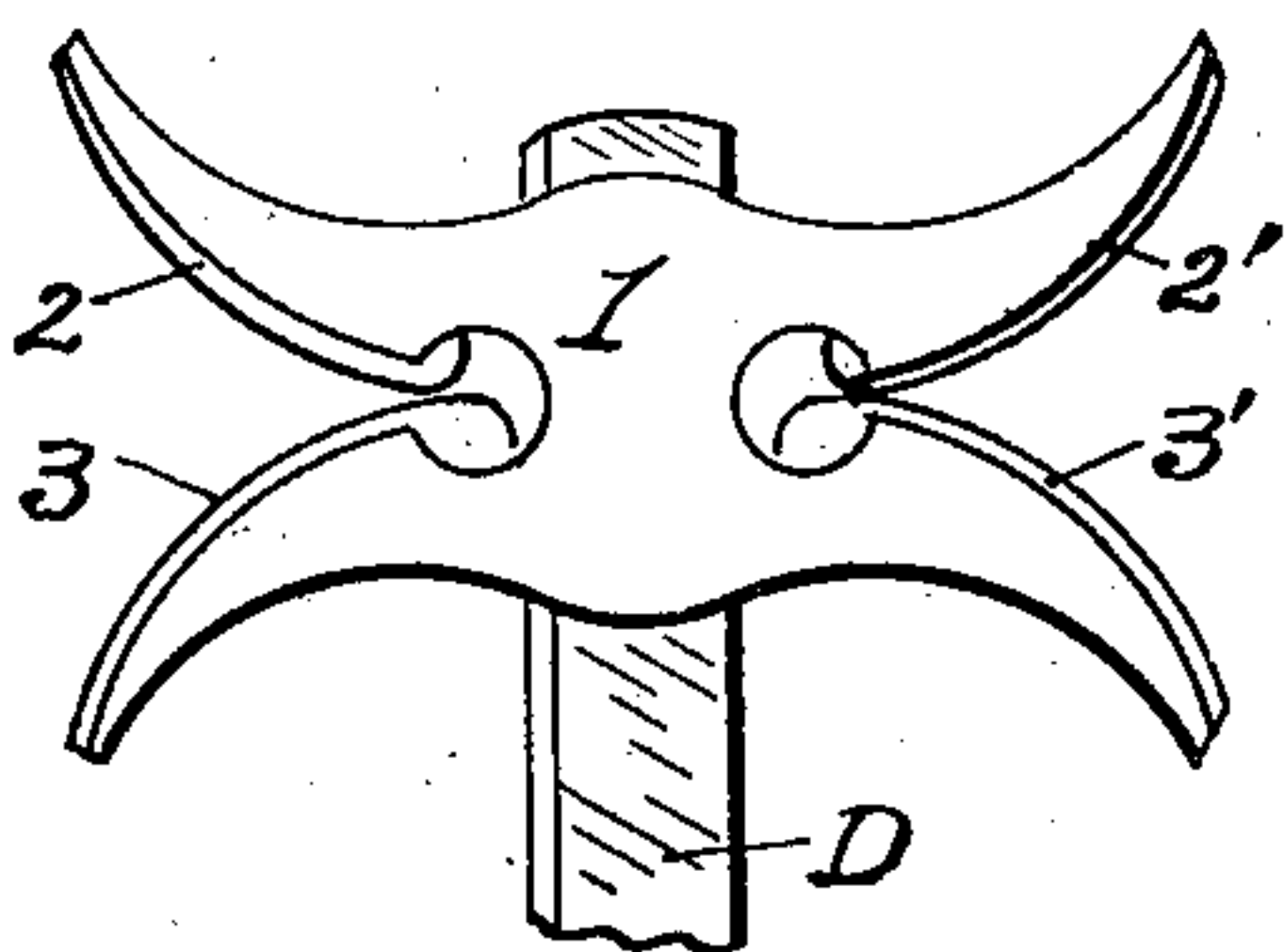
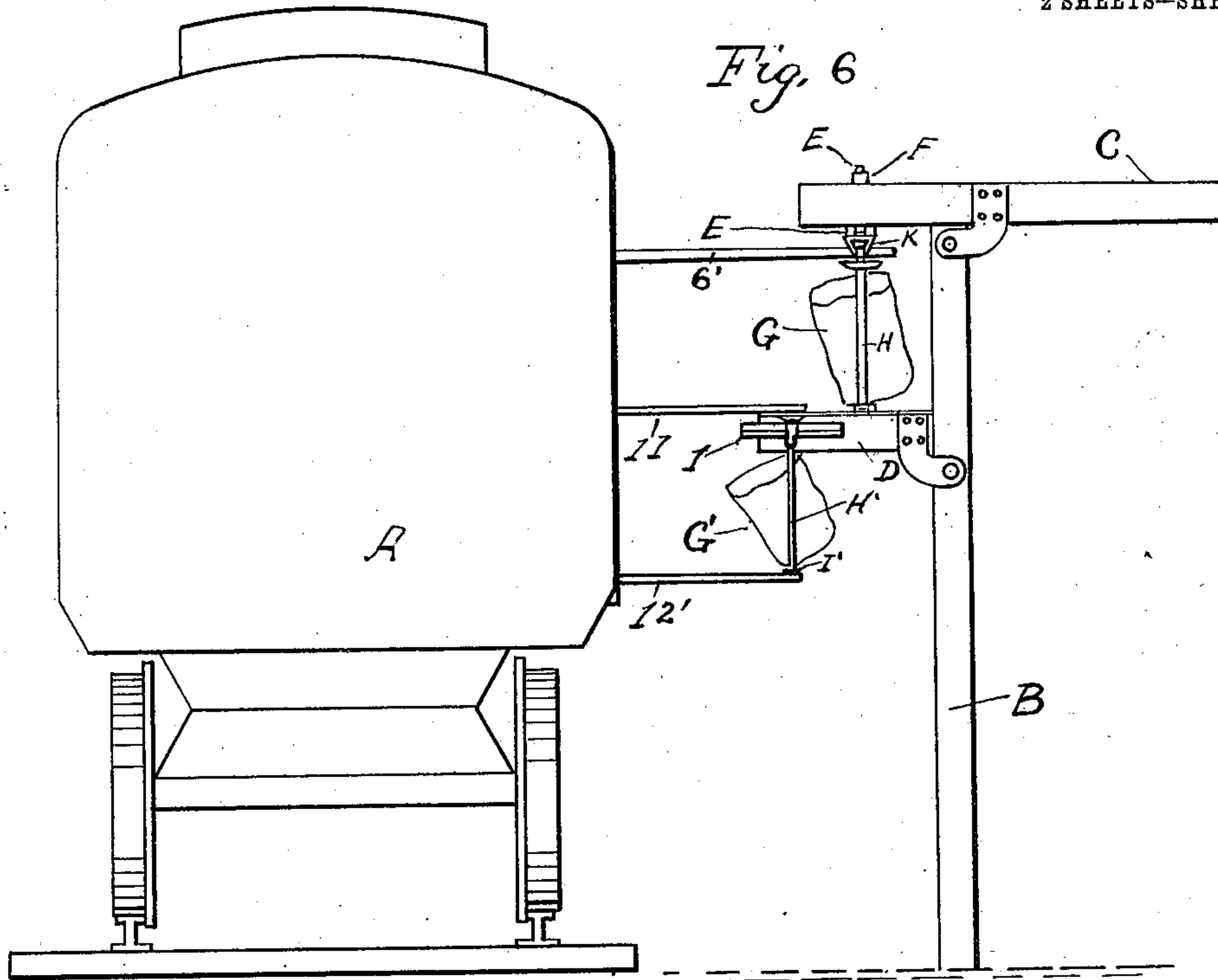
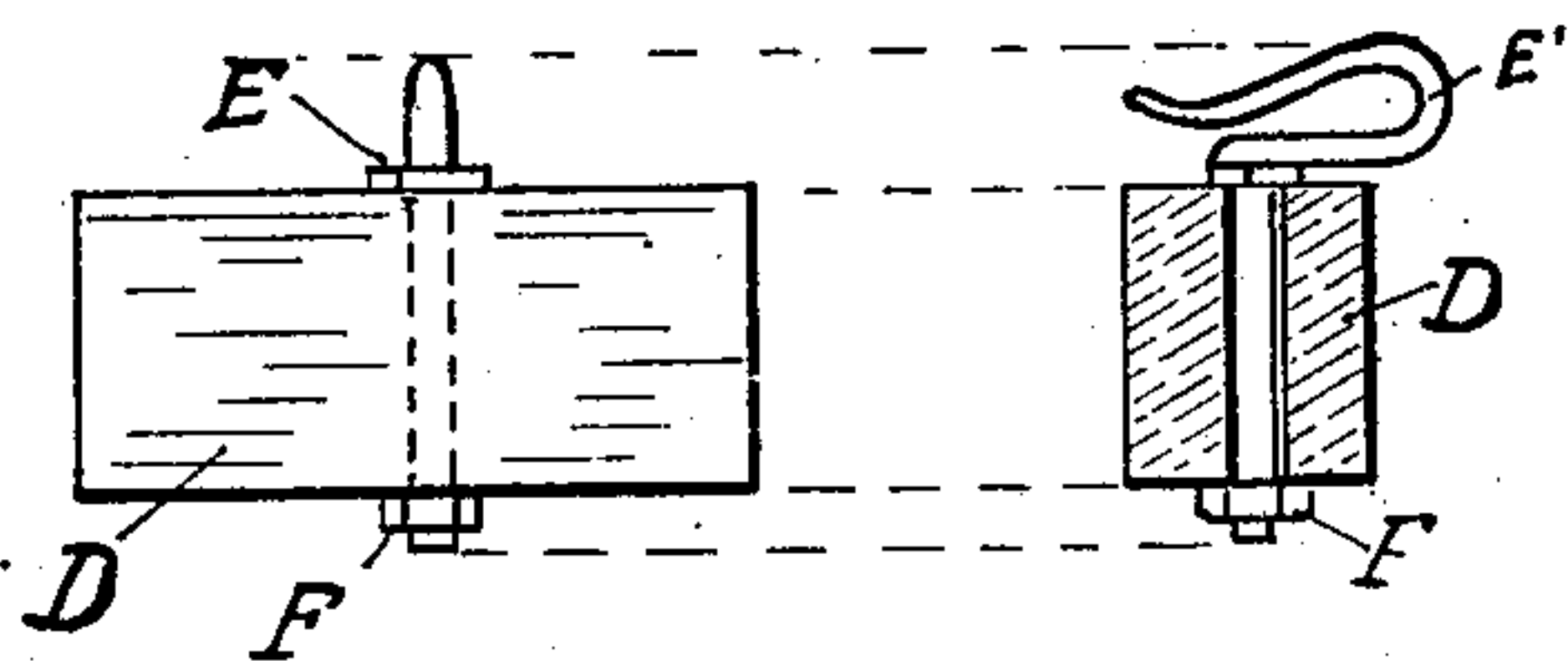


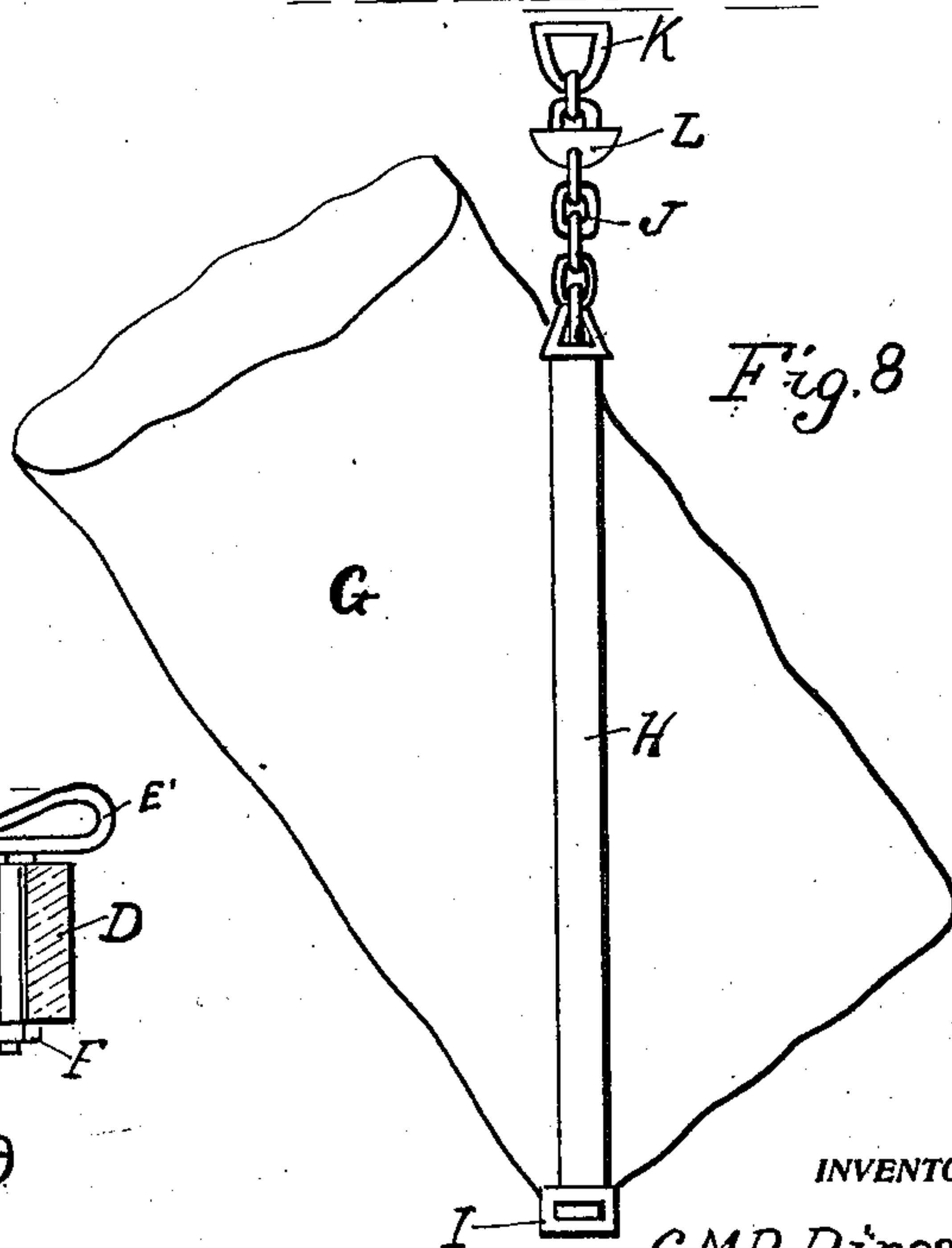
Fig. 7



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Fig. 9



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UNITED STATES PATENT OFFICE.

CLARA MAY DEETER DINES, OF WAYNE COUNTY, INDIANA.

MAIL-BAG CATCHING AND DELIVERING DEVICE.

No. 903,274.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed April 17, 1908. Serial No. 427,675.

To all whom it may concern:

Be it known that I, CLARA MAY DEETER DINES, a citizen of the United States, residing in Wayne county, in the State of Indiana, have invented certain new and useful Improvements in Mail-Bag Catching and Delivering Devices, of which the following is a full, clear, and comprehensive specification, being such as will enable others skilled in the art to which the invention relates to make and use the same with exactitude.

My present invention relates to postal equipment, and more particularly to mechanisms for delivering mail to and receiving mail from moving trains or postal cars expeditiously and with certainty and precision, and with the two operations substantially simultaneously accomplished.

Broadly stated my object is to provide a construction, for the purposes stated, which will be simple in construction, positive in action, easily operated and controlled, and which can be manufactured at a comparatively low price.

A further object is to provide a mechanism of the character stated composed of a minimum of component interdependent and cooperating parts formed of material of proper resistancy to produce commensurate results for the better adaption of the work to be performed thereby, while at the same time being adapted to performing the work accurately and with a material saving in time and expense both in first cost and maintenance. And, finally, my object is to provide a combination of tested mechanical instrumentalities which will be compact in form and construction, easy and inexpensive of maintenance, and to generally improve and simplify the construction and operation of devices of this general character.

Other specific objects and particular advantages of my invention will be made apparent in the course of the following description when taken in connection with the accompanying two sheets of drawings, forming a part of this specification.

The preferred manner for carrying out the objects of my invention is shown most clearly in the accompanying drawings, in which—

Figure 1 is a perspective side elevation of a portion of a mail-car equipped with my invention, and showing my mechanism in action, and immediately prior to the operation of delivering and receiving the mail bags.

Fig. 2 is a detail view of the manner of hinging the delivering arms. Fig. 3 is a side elevation of the receiving arm. Fig. 4 is a top plan of the receiving arm. Fig. 5 is a view looking outward from the interior of the car, showing the several arms disposed across the door opening. Fig. 6 is an end view of a car, associated with a side elevation of my invention in operative position. Fig. 7 is a top plan showing the catchers in detail. Fig. 8 shows a mail bag equipped with my invention. And Fig. 9 is a detail view showing two positions of the hook in connection with the lower arm of the stationary post.

Similar indices denote like parts throughout the several views of the drawings.

This specification is confined to the mechanisms which I have devised with reference to the construction of mail-bag catching and delivering devices, in which I have attempted as near as possible to fulfil the requirements desired by the United States Post-Office Department.

I will now take up a detail description of my invention and will describe the several parts and the operations thereof as briefly and as compactly as I may.

Referring now to the drawings in detail, the letter A denotes an ordinary railway mail-car, and the letter *a* denotes one of the side door-openings thereof, it being understood that a like door-opening is located on the opposite side of the car.

The letter B denotes an ordinary square post which is positioned at the side of the railway track and located the regulation distance therefrom and of the proper height for the purposes hereinafter set forth.

The letter C denotes the upper or long arm of the post, being so pivoted as to normally stand parallel with and against the back of the post B, but adapted to be turned horizontally thereto as shown in Figs. 1 and 6.

The letter D denotes the short arm of the post, it being positioned some distance below said long arm and adapted to normally hang down parallel with and against the post B, but adapted to be brought up horizontally, as shown in Figs. 1 and 6.

For convenience of description suppose the arms C and D to be located horizontally as in Figs. 1 and 6: The letters G and G' denote ordinary mail-bags which are alike in equipment and as that shown in Fig. 8. Secured diagonally around the bag G is the band H, having on its lower end the slot

link I, and secured to its upper end is the short chain J. The upper end of said chain terminates in a D-shaped link K, and secured around said chain below the link K is a cup-shaped washer L, all of which parts are duplicated on the bag G' where they are indicated by like letters with exponents.

Extending down from the free end portion, of the arm C; and opposite thereto, extending up from the free end portion of the arm D; are the hooks E and E', respectively, as for instance the hook E shown in Fig. 9. Said hooks are bolted through the respective arms D and C, and they are adapted to be loosened and tightened by the respective nuts F and F'.

Secured to the outer portion of the arm D, as shown in Fig. 7, is the double catching device 1 having two oppositely disposed pairs of laterally directed flaring fingers, the vortex of each pair of fingers terminate in a circular aperture as shown. Extending along the faces of two of said fingers, which two fingers are oppositely directed, are the springs 2 and 2' having both their ends secured, one end being secured within said aperture and their other ends being secured at the points of their respective fingers. The numerals 3 and 3' denote two similar springs which are located opposite to the first named springs and are located on the cases of the other two fingers of the catcher, the difference being that their inner ends are not secured but are simply curved and contact with the first named springs at an angle,—in the vortex, as shown in Fig. 7.

Secured on the inside of the car A, adjoining the side of the door opening a, are two hinges 4 and 5, and like hinges are located on the opposite side of the door opening as indicated by dotted lines.

Removably mounted by the hinge 4 is the arm 6, which is adapted to swing out horizontally at right angles to the car. A brace 6' extends out at right angles from said arm, near its inner end, and then angles outward with its other end secured near the outer end of said arm, as shown in Fig. 4. Said brace should be formed integral with said arm. The right angular portion of said brace is such distance from the inner end of the arm that when the arm is swung out at right angles to the car it will impinge the outside of the car, as in Fig. 1. On the outer end of the arm 6 is horizontally secured the catcher 7, which consists of two forwardly flaring fingers as shown in Fig. 4, each having a spring, 8 and 9, extending along its face, each spring being secured at one end to the outer end of its finger, and the other end of the spring 8 is secured near the base of the finger, the other spring being free at its inner end as indicated. The position of said arm 6 vertically, and its outwardly extending length, is such that the catcher 7 will engage the chain

J just below the washer L. Secured to the outer face of the car is a hook 10 which is adapted to hook over the arm 6, when the arm is extended out at right angles to the car, and to hold the arm 6 in this position until released.

The numerals 11 and 12 denote two arms which are identical with each other, and they are also integrally connected by a shank carried vertically in the hinge 5. Said arms 11 and 12 are located parallel with each other, and with the arm 6, and they are adapted to swing out at right angles to the car. Braces 11' and 12' are formed integral with the respective arms 11 and 12. Said braces extend out at right angles from their respective arms from near the inner ends thereof and then angle outward and are secured near the outer ends of the respective arms, the same as the brace 6' of the arm 6 as shown in Fig. 4. The right angular portions of the said braces 11' and 12' are such distance from the inner ends of said arms that when the arms are swung out at right angles to the car they will impinge the side of the car, as indicated in Fig. 1. Secured to the outer face of the car is the hook 13 which is adapted to hook over the arm 11 when the arm is extended out at right angles to the car, and to hold the arms 11 and 12 in that position until released.

Carried on the outer end portions of the arms 11 and 12 are the respective spring hooks 14 and 15, whose free ends are directed opposite to the direction in which the car is moving. Guards 16 and 17 are disposed across the respective springs 14 and 15 to prevent said springs from spreading too far apart, and to lessen the shock in operation.

Operation: In practice the operation of my invention is as follows,—before the approach of the mail-car the bag G to be caught is suspended by the hooks E and E' between the arms D and C, said hooks being engaged in the links I and K, and said hooks are directed in the direction in which the car is moving.

Before arriving at the point for discharging the mail the mail-clerk in the car will suspend the bag G', to be delivered, between the hooks 14 and 15, which can be done inside the car. The arms 11—12 are then swung out and secured in position by the hook 13, and at the same time the arm 6 may be swung out and secured by the hook 10.

Now as the car approaches the post B the relative positions of the parts described will be substantially as that shown in Figs. 1 and 6. And as the car passes the post B the chain J, of the bag G, will enter between the arms of the catcher 7, carried by the arm 6, and consequently the bag G will be removed from connection with the hooks E—E' and suspended from the arm 6. The washer L will prevent the chain from slipping through

the catcher 7. And simultaneous with the above operation the chain J' of the bag G' will enter between the two arms of the catcher 1, which will withdraw the bag G' from the hooks 14—15. The washer L' will prevent the chain from slipping through the catcher 1.

Immediately following the above operations the arm D will drop down parallel with the post B, and also the arm C will turn back parallel with the post B, thereby removing said arms from dangerous proximity to the railway.

As soon as the car has passed the post B, then the mail-clerk can raise the hooks 10 and 13 and swing the arms 6, 11—12 back inside the car. If, now, for instance, the car be moving in the opposite direction, then the arms 6, 11—12 will be moved to the other side of the door opening, as indicated by the dotted lines in Fig. 5. And if the post B should be on the other side of the track then the arms 6, 11—12 may be moved to the door opening on the opposite side of the car, where similar hinges are provided on either side of the door opening.

I desire that it be understood that various changes may be made in the details of construction without departing from the spirit of my invention or sacrificing any of the advantages thereof.

From the above it will be readily apparent that I have produced new and useful improvements in mail-bag catching and delivering devices, embodying the objects above set forth, while every contingency liable to occur in its operation is fully provided for.

Having now fully shown and described my invention and its intended operation, what I claim and desire to secure by Letters Patent of the United States, is—

1. In a mail-bag catching and delivering device, the combination with a mail-car having side-door openings, an upper arm hinged to swing out at right-angles to the car and means for locking said arm in its extended position, a catching device carried by the outer portion of said arm, a pair of delivering arms located below the catching arm and adapted to swing out at right-angles to the car, means for securing the delivering arms in extended position, a delivering hook carried by each of said delivering arms, a post located at the side of the car, an upper arm and a lower arm pivoted to the post some

distance apart, oppositely disposed hooks carried by said arms, and a catching device carried by the lower arm of the post, all substantially as shown and described.

2. A mail-bag catching and delivering device, comprising in combination, a pair of parallel integrally connected arms adapted to swing out horizontally from a car, braces for preventing said arms from moving beyond a right angular position with reference to a car, means for securing said arms at right angles to the car, a second arm also hinged at the side of the car door opening and adapted to swing out parallel with the first named arms, means for locking the last named arm extended at right angles to the car, a catcher carried on the outer end portion of second arm, hooks carried by each of the first named arms between which hooks a mail bag may be suspended carried thereby, a post located at the side of the car, an upper pivoted arm and a lower pivoted arm carried by said post, and means for suspending a mail-bag between said arms of the post, and a catching device carried by the lower arm of the post, all substantially as shown and described and for the purposes set forth.

3. In combination with a mail-bag catching and delivering device, a mail-bag to be employed in connection therewith, a band disposed diagonally around the mail-bag, a slotted link carried by the lower end of said band, a short chain carried by the upper end of said band, a D-shaped link carried by the upper end of said chain, and a cup-shaped washer secured around the chain below the last named link, all substantially as shown and described and for the purposes set forth.

4. In combination with a mail-bag catching and delivering device, mail-bags carrying each a short chain, having a D-shaped link on its upper end, a cup-shaped washer secured around the chain below said link, catching devices each comprising two diverging fingers forming a throat terminating in a circular aperture, and springs for normally closing said throat, all substantially as shown and described and for the purposes set forth.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

CLARA MAY DEETER DINES.

Witnesses:

R. E. RANDLE,

ROBT. W. RANDLE.