

No. 896,750.

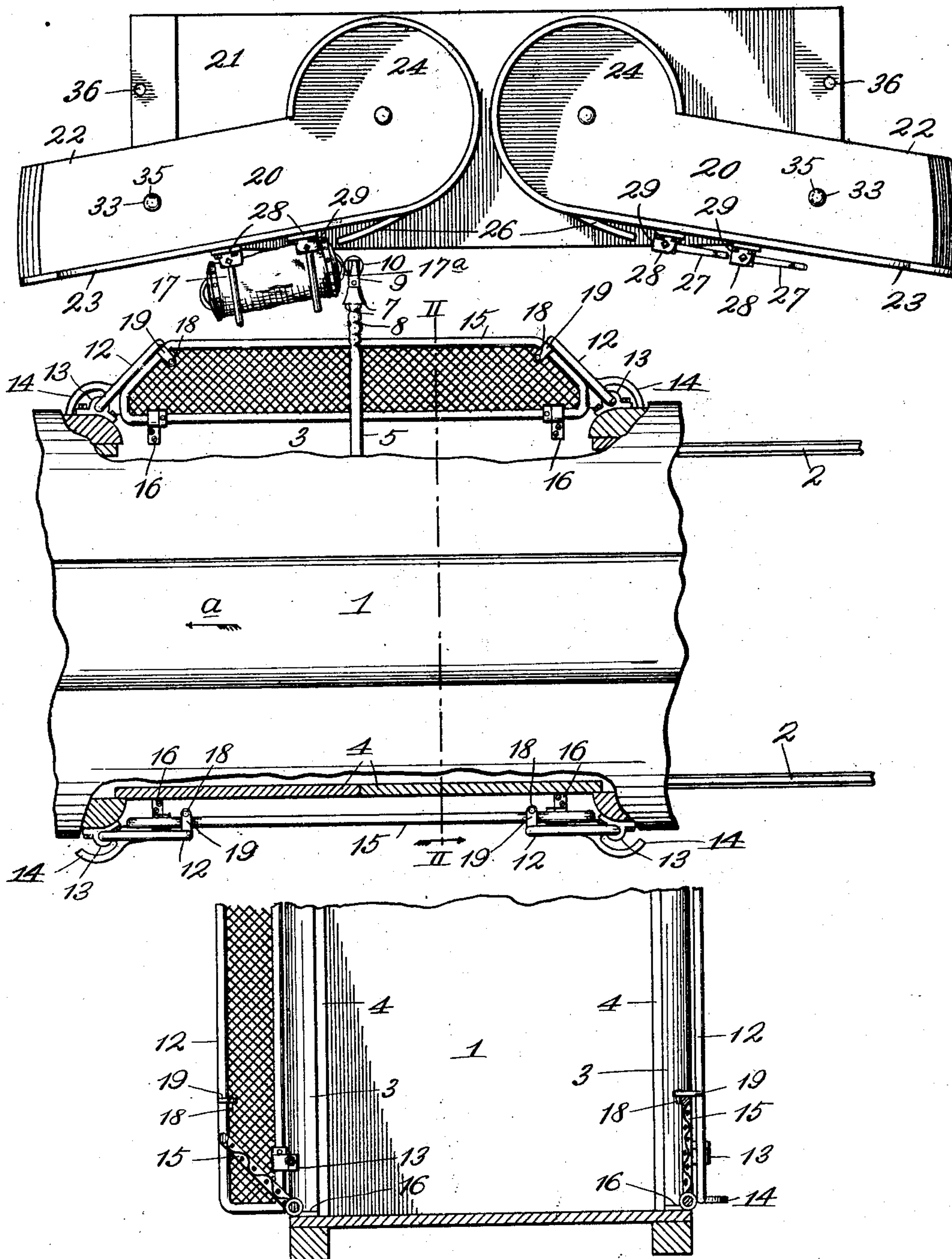
PATENTED AUG. 25, 1908.

R. H. NOLAN.  
MAIL BAG CATCHER AND DELIVERER.

APPLICATION FILED DEC. 10, 1907.

3 SHEETS—SHEET 1.

Fig. 1.



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E. Cahill.  
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Fig. 2.

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Richard H. Nolan.  
By F. G. Fischer, atty

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3 SHEETS—SHEET 2.

Fig. 3.

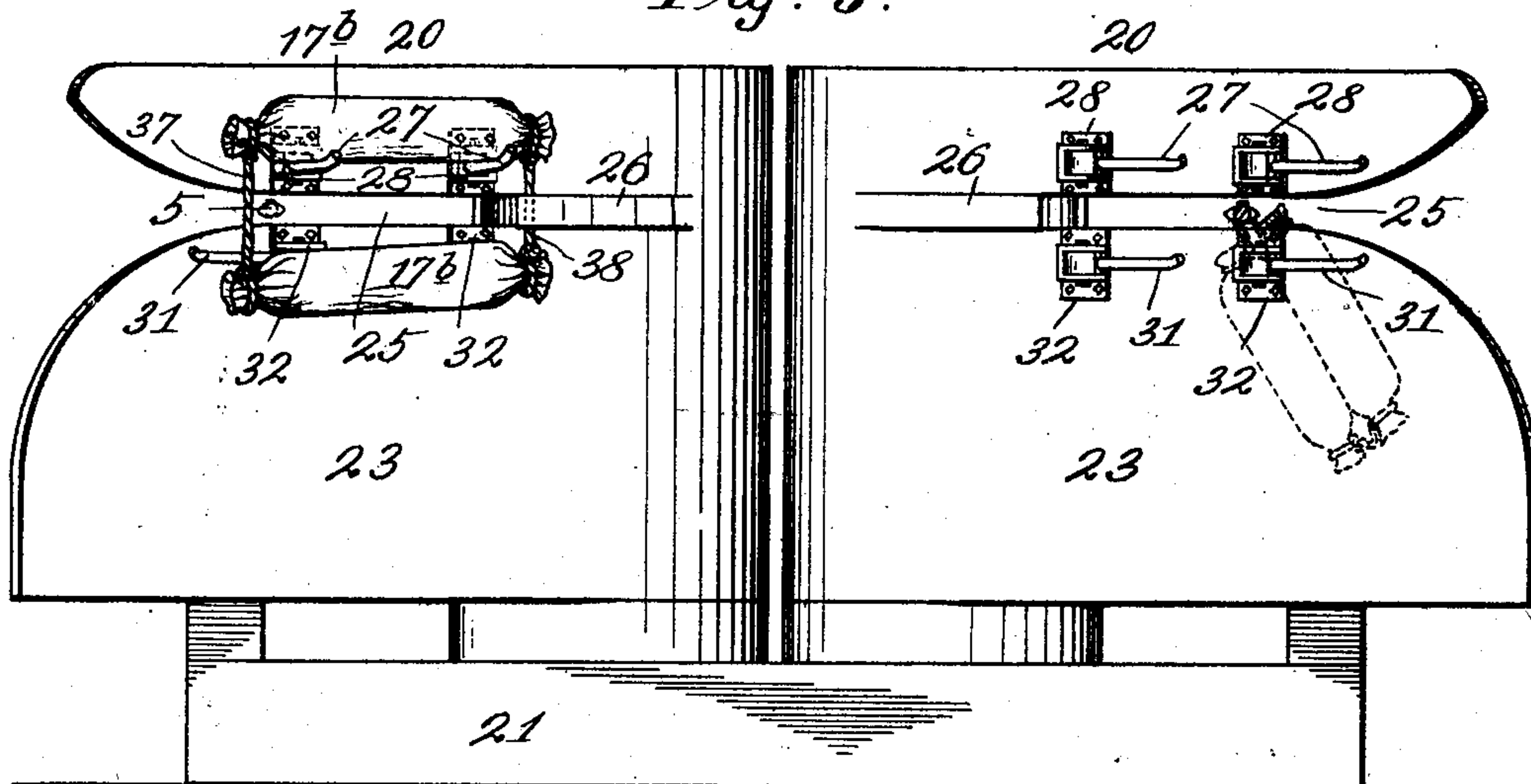
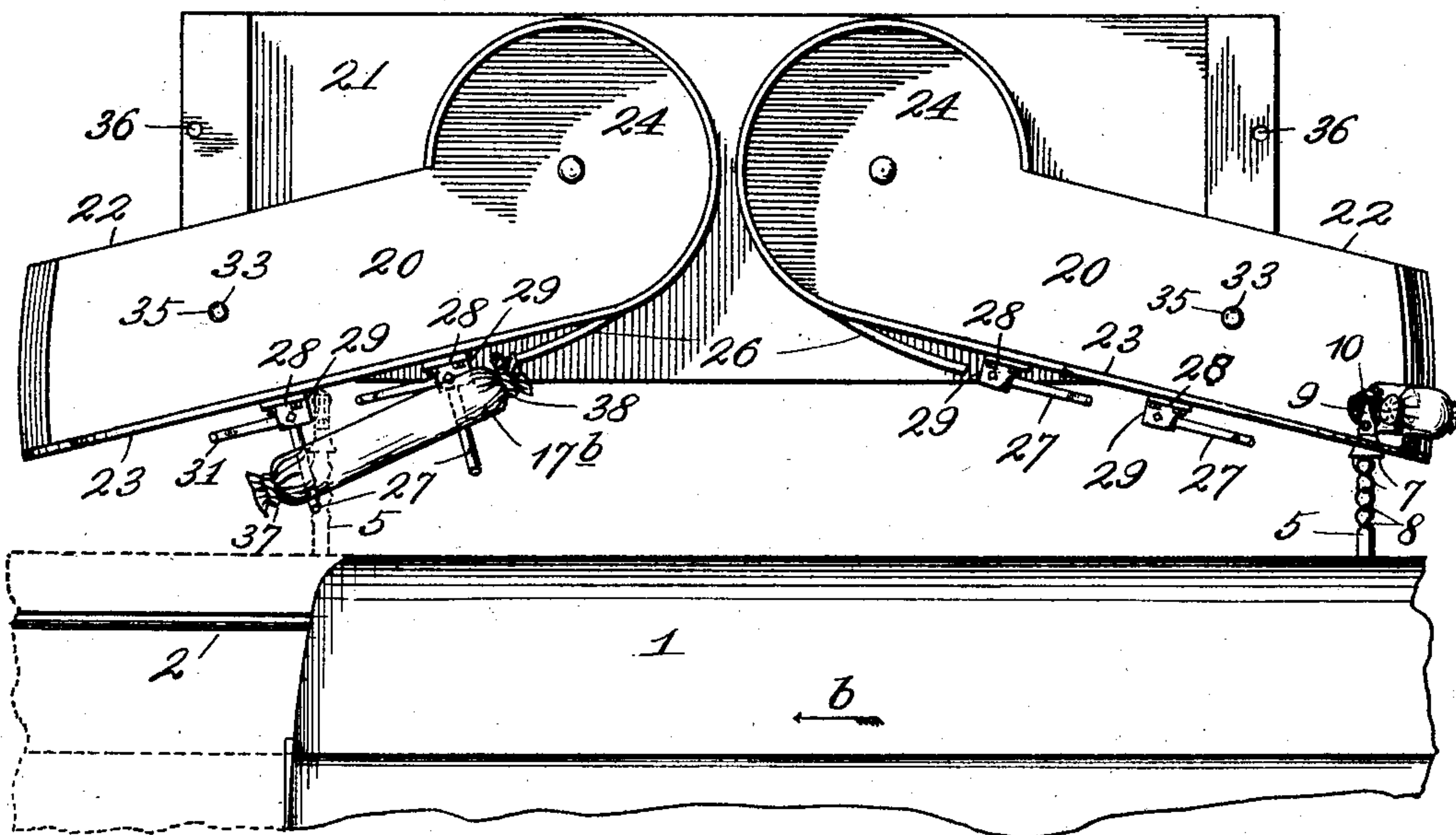


Fig. 4.



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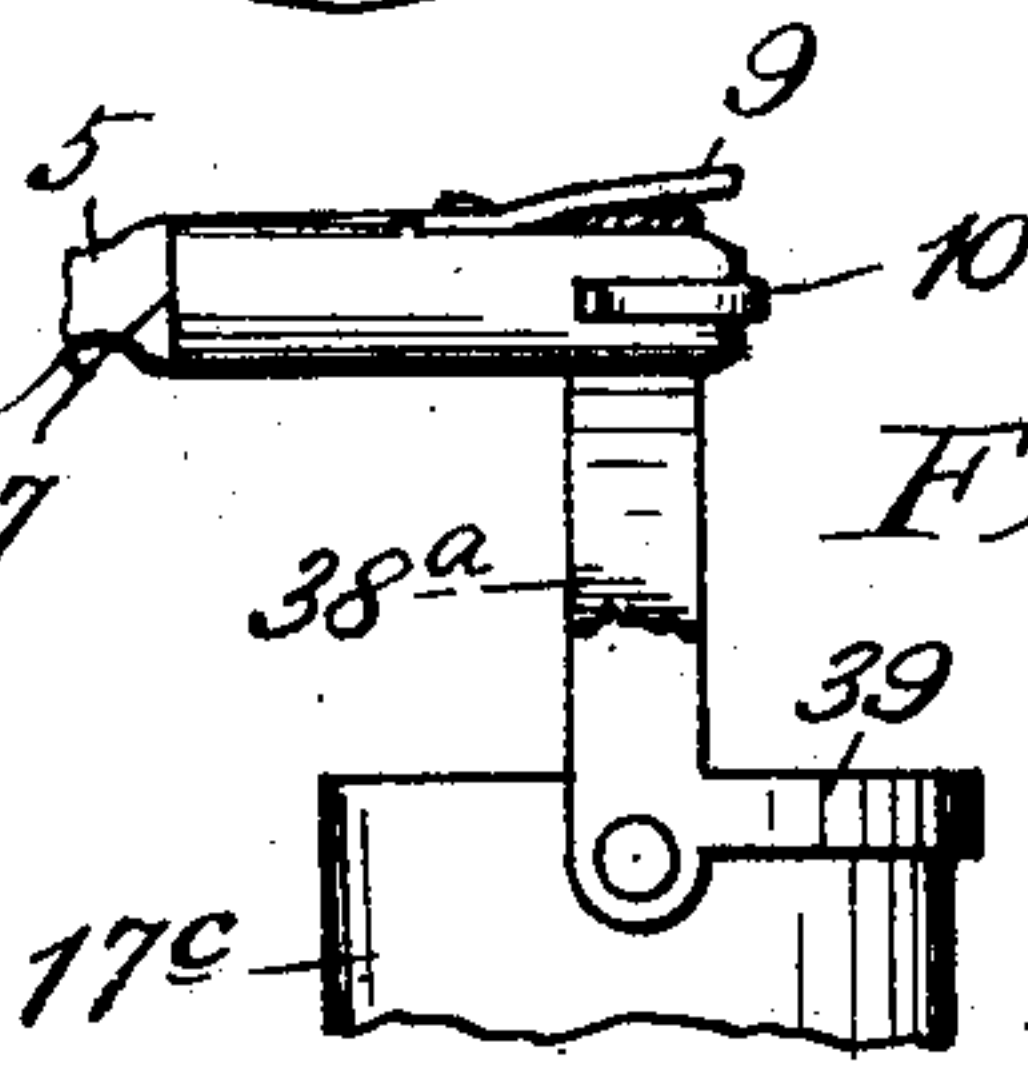
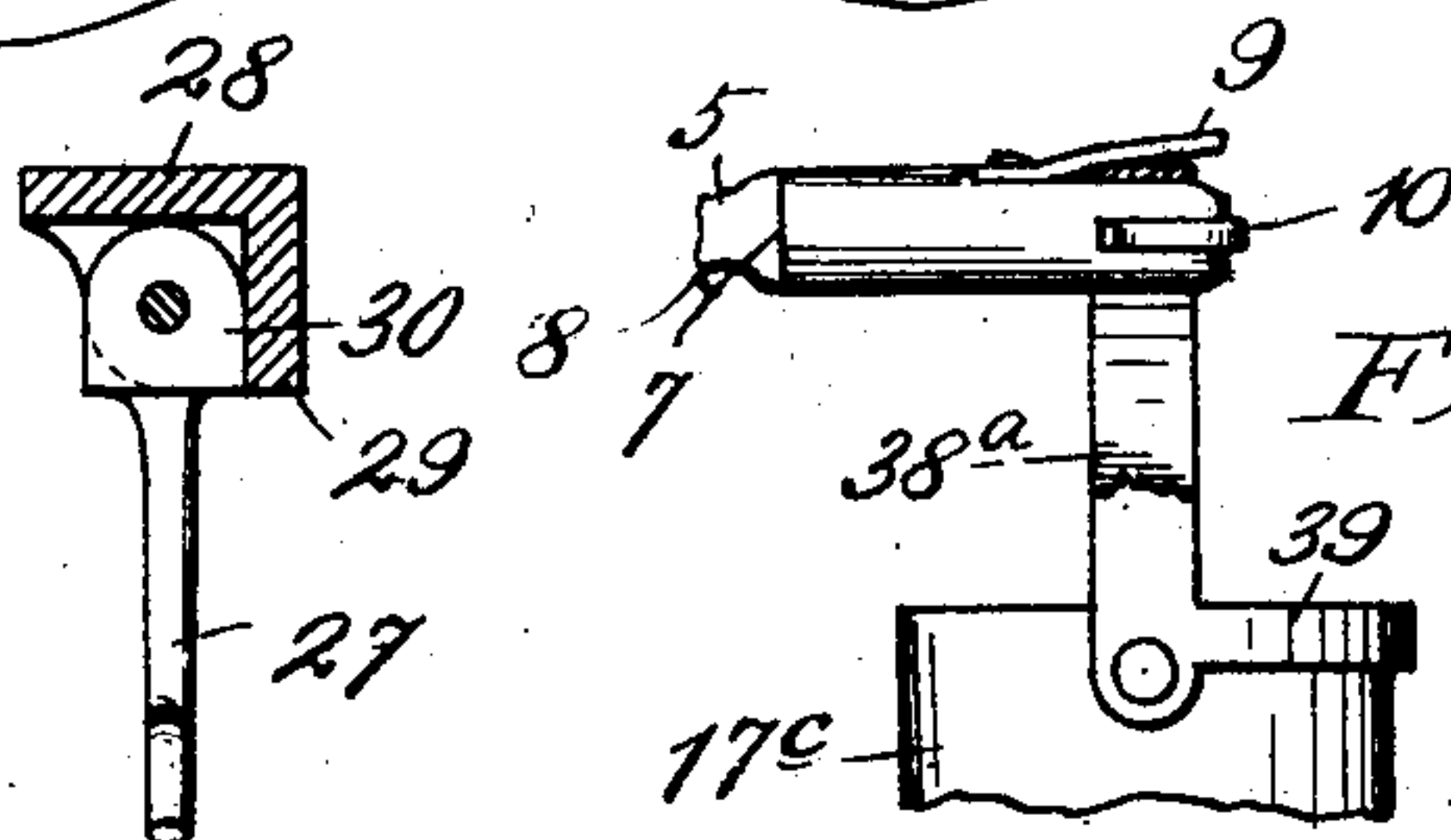
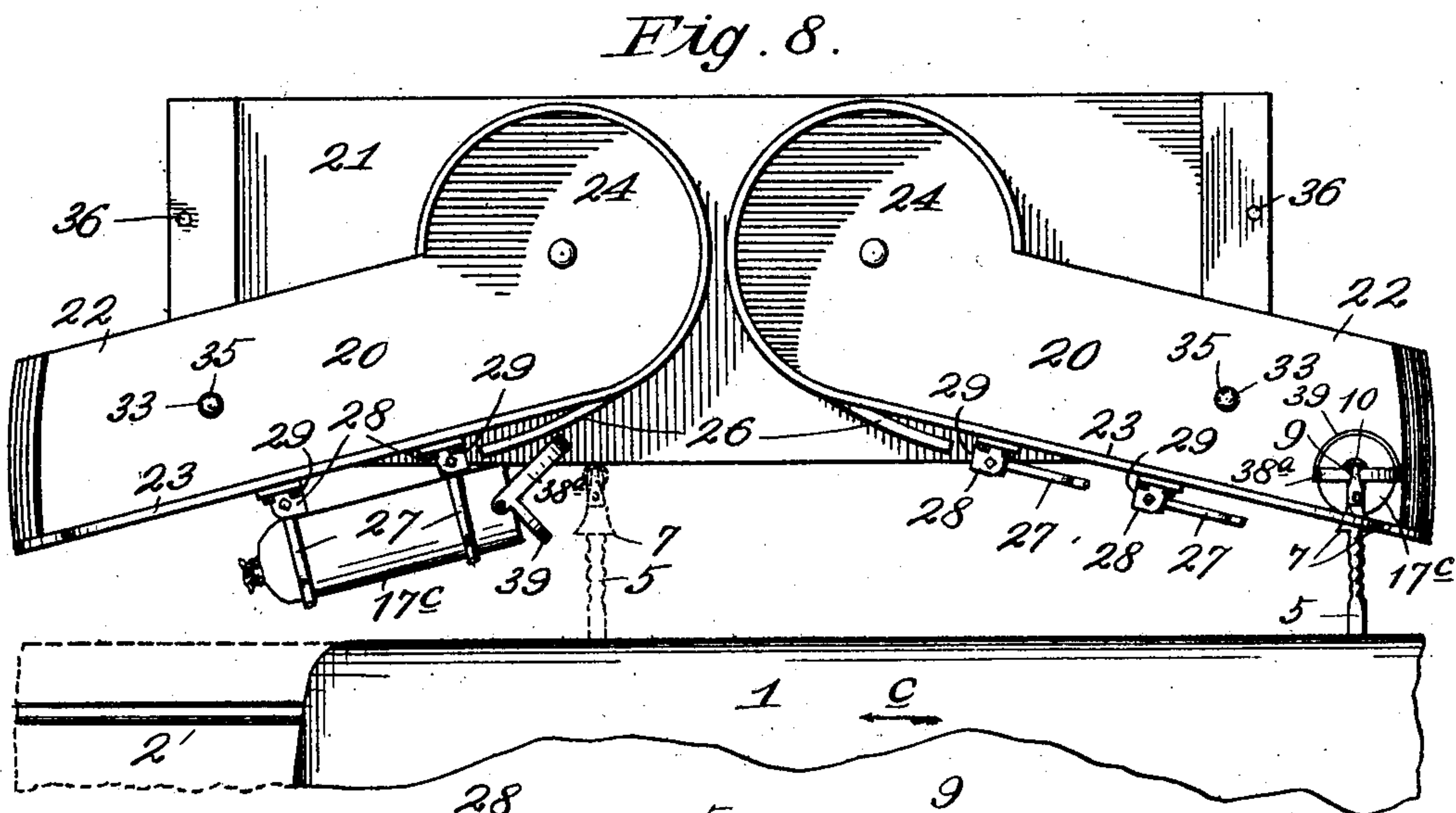
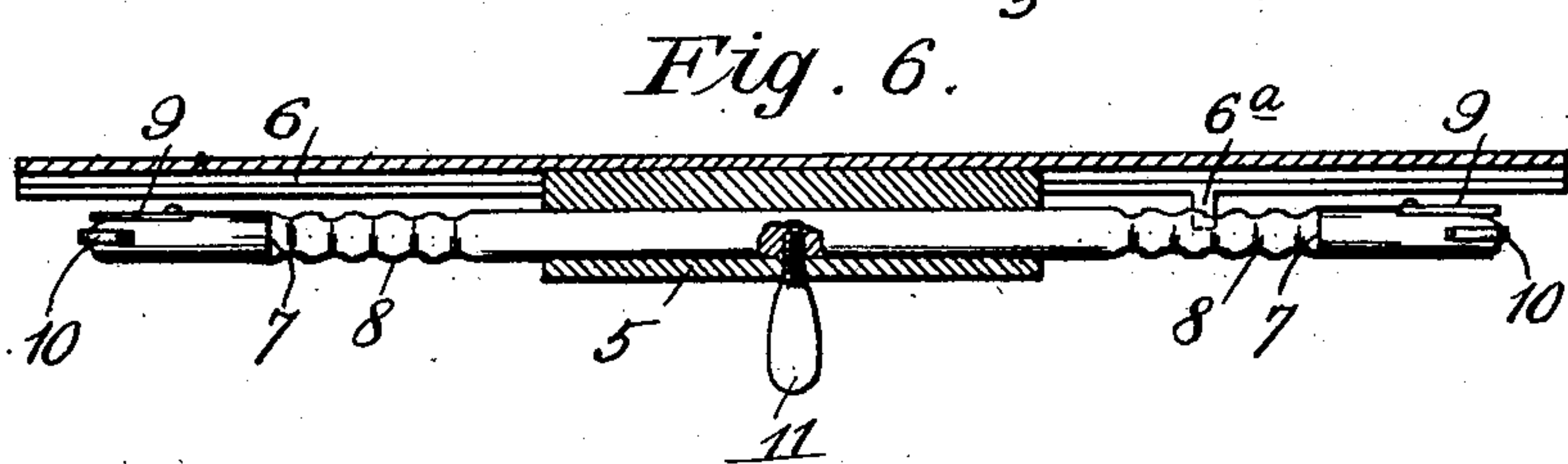
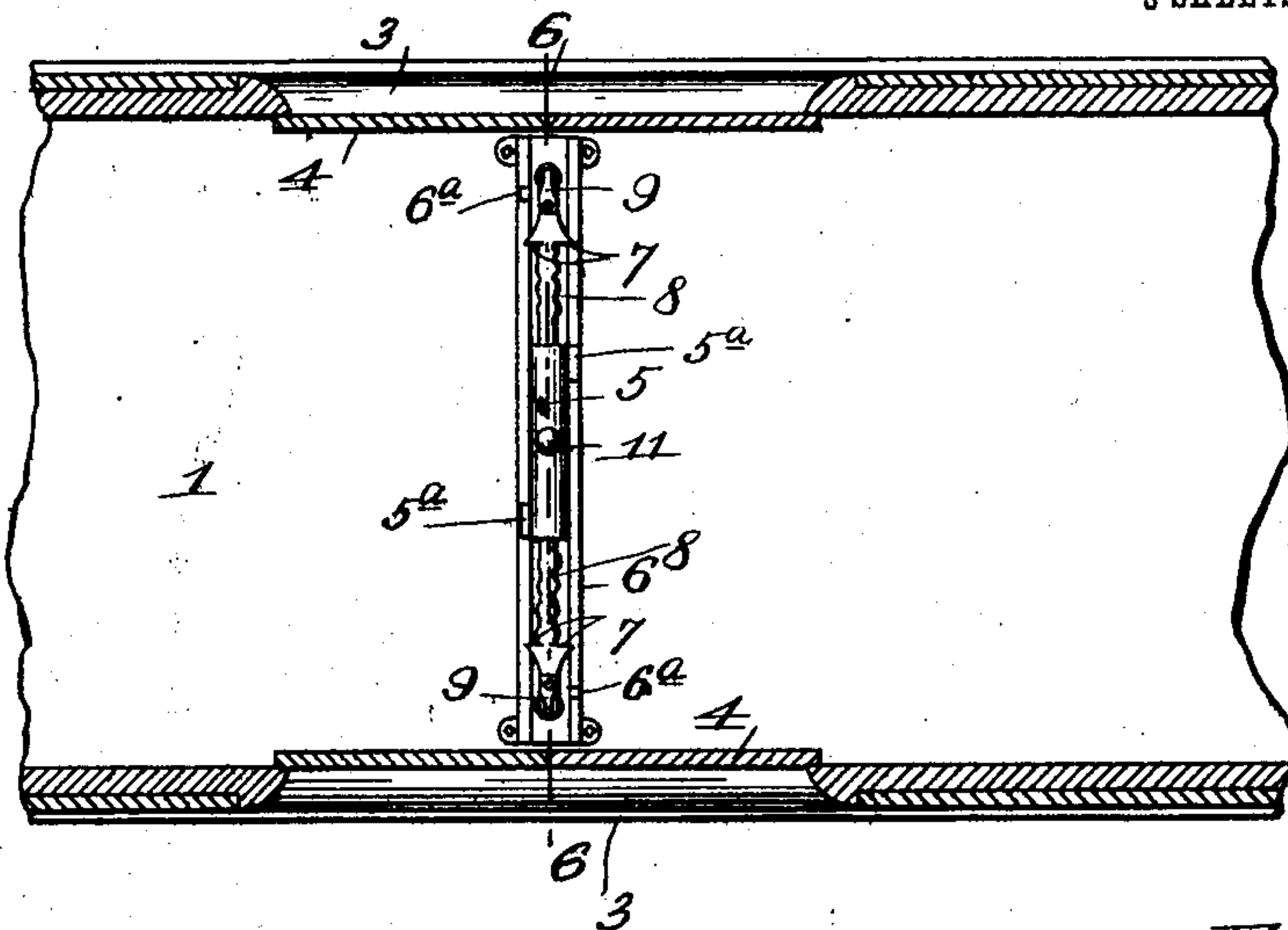
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3 SHEETS—SHEET 3.



**Witnesses:**

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*Fig. 10.*

*Inventor,*

*Richard H. Nolan,*

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# UNITED STATES PATENT OFFICE.

RICHARD H. NOLAN, OF KANSAS CITY, MISSOURI.

## MAIL-BAG CATCHER AND DELIVERER.

No. 896,750.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed December 10, 1907. Serial No. 405,847.

*To all whom it may concern:*

Be it known that I, RICHARD H. NOLAN, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Mail-Bag Catchers and Deliverers, of which the following is a specification.

My invention relates to improvements in mail-bag catchers and deliverers; and one of my objects is to provide an apparatus of this character whereby mail-bags may be taken up or delivered from rapidly moving railway cars without danger to the mail-clerks on the cars or to persons on the depot platform where the mail is taken up or delivered.

Other objects of the invention will hereinafter appear, and in order that it may be fully understood reference will now be made to the accompanying drawings, in which:—

Figure 1 represents a plan view of the apparatus in the act of catching a mail-bag. Fig. 2 is a broken cross section of a mail-car on line II—II of Fig. 1. Figs. 3 and 4, are side and plan views, respectively, of the apparatus, showing a modified form of mail-bag. Fig. 5 is a broken inverted plan view of a mail-car, showing the combined catcher and delivery arm. Fig. 6 is a section on line VI—VI of Fig. 5. Fig. 7 is an end elevation of the combined catcher and delivery arm. Fig. 8 is a plan view of the apparatus in the act of delivering and taking up another modified form of mail-bag. Fig. 9 is a detail plan view of a supporting arm for the mail-bag. Fig. 10 is a broken side elevation of the combined catcher and delivery arm, and the modified form of mail-bag shown in Fig. 8 suspended therefrom.

1 designates a mail-car arranged to travel upon a track 2 and provided with the customary door openings 3, which are normally closed by the sliding-doors 4.

5 designates the combined catcher and delivery arm, which is slidably mounted in a guide 6 in the upper portion of the mail-car so that when said arm is slid outwardly in either direction, it will clear the heads of persons standing upon the station platform. This arrangement also places the arm out of the way of the mail-clerks in the car. Arm 5 is provided at its ends with shoulders 7 and corrugated portions 8 so that the mail-bags caught by the arm will not slip therefrom. It is also provided at its ends with springs 9 for gripping the handles of mail-bags to be

delivered. It is further provided at its ends with rollers 10 for preventing injury to mail-bags pushed thereby into the car.

11 designates a centrally-disposed handle secured to the arm 5, for sliding the same through either of the door openings. The sliding movement of arm 5 is limited by lugs 5<sup>a</sup> thereon and lugs 6<sup>a</sup> on slide 6.

12 designates two pairs of mail-bag deflectors pivotally mounted in brackets 13 secured at the sides of the door openings, said deflectors being provided with stops 14 adapted to contact with the sides of the mail-car and thus limit the opening of the deflectors to angles approximating forty-five degrees, as shown in Fig. 1, so that should a mail-bag strike one of said deflectors while being taken up it will be directed into the car thereby.

15 designates a pair of mail-bag deflectors pivotally mounted in brackets 16 at the threshold of the door openings for holding deflectors 12 open and assisting the same in directing the mail-bags into the car. Brackets 13 and 16 are so located that when the deflectors are folded to an inoperative position, as shown in the lower portion of Fig. 1 and the right-hand side of Fig. 2, said deflectors will not interfere with the opening or closing of the sliding-doors 4, and when the deflectors occupy said folded position they are reliably secured by pins 18 engaging the upper portions of deflectors 15 and extending through lugs 19, projecting from the inner sides of deflectors 12.

20 designates a pair of mail-bag receptacles pivotally mounted upon a foundation 21 beside the track within reach of the combined catcher and delivery arm. Each receptacle consists of a floor portion 22 and a wall 23, which latter consists, preferably, of boiler iron, curved at one end to check the momentum of the mail-bag when delivered therein and to form a compartment 24 for the reception thereof. Wall 23 has a horizontal slot 25 flaring at its open end for the purpose of guiding the end of arm 5 therein.

26 designates an outwardly - extending finger at the closed end of slot 25, for a purpose hereinafter described.

27 designates a pair of arms for supporting the mail-bag to be taken up. Said arms are pivotally mounted in brackets 28 secured to wall 23 immediately above slot 25, and provided with shoulders 29 against which shoulder 30 on the pivoted ends of



arms 27 are adapted to abut, so that said arms can fold only in one direction.

31 designates a pair of arms pivoted to brackets 32 arranged on wall 23 immediately beneath slot 25, said arms and brackets being duplicates of arms 27 and brackets 28, and arranged to fold in the same direction.

33 designates a pair of pins which extend through the floors of the receptacles and enter openings 35 in foundations 21 for the purpose of locking the receptacles in the operative position shown in Fig. 1. Said pins are also adapted to enter openings 36 in the foundation for the purpose of locking the receptacles in an inoperative position when the free ends of the same are swung backwardly to leave ample clearance for the car.

When it is desired to take up mail-bag 17, Fig. 1, while the car is passing in the direction of arrow *a*, said mail-bag is placed upon arms 31 on the left hand receptacle 20. Arm 5 is then slid outward so that roller 10 will impinge against the end of the mail-bag and push it from the pivoted arms 31. As the mail-bag is pushed in the direction in which the car is traveling it will contact with the wall of the receptacle, which is arranged at an angle to the car-track for this purpose, and be directed thereby against the inner side of the foremost deflector 12, or upon the deflector 15, and be conducted thereby into the mail-car where it may be picked up by the mail-clerk. When the mail-car is traveling in a reverse direction, mail-bag 17 is placed upon arms 31 of the right-hand receptacle 20.

When it is desired to deliver the mail-bag from the car while the latter is traveling in the direction of arrow *a*, said mail-bag is suspended from the outer end of arm 5, it being secured thereto by inserting its handle 17<sup>a</sup> between the outer end of the arm and spring 9. Then as the arm passes through slot 25 in the right hand receptacle 20, the mail-bag will be stripped off the end of the arm by contacting with the inner surface of wall 23, and the momentum acquired by the bag, from the rapidly moving car, will be gradually checked by the curved portion of the wall and drop into compartment 24. By thus gradually checking the momentum of the bag the latter and its contents will escape injury.

It will be understood from the foregoing description that by locating a pair of receptacles at a station, mail-matter may be both delivered and taken up while the car is passing in either direction.

Where a large quantity of mail is to be taken up or delivered at a station, I prefer to employ two mail-bags 17<sup>b</sup> connected at their ends by straps or cables 37 38. In delivering sacks of this character, the cable 37 is inserted between one end of arm 5 and spring 9,

then if the car be passing in the direction of arrow *b*, the passage of the outer end of the arm through slot 25 of the right hand receptacle will cause the bags to be delivered into the latter by being stripped off the arm by the wall of the receptacle. In taking up bags of this character, when the car is traveling in the direction of arrow *b*, one bag is placed upon the upper pair of arms on the left hand receptacle, the lower pair of arms being folded out of the way of the suspended bag. This arrangement brings the cable 37 across slot 25 so that when the arm passes through said slot it will engage the cable 37 and drag the upper bag from its supporting arms 27. To prevent engagement of the rearmost cable 38 by arm 5 it is held out of the path of said arm by finger 26, above described. After the upper bag is dragged from the arms 27 cable 38 will successively contact with the latter and fold them against the side of the receptacle, so they will not retard the momentum of the bags, which are reliably suspended from arm 5 by cable 37 passing back of shoulders 7 and engaging the corrugated portion 8. Arm 5 may then be drawn into the car by the mail-clerk without exposing himself to danger.

The modified form of mail-bag 17<sup>c</sup> is provided with a metallic handle or bail 38<sup>a</sup> pivotally secured to one end thereof and provided near its pivotal end with a semi-circular loop 39. This mail-bag is taken up or delivered in much the same manner as bags 17<sup>b</sup>, the handle 38<sup>a</sup> affording means for suspending it from one end of arm 5 preparatory to delivering the bag. In taking up the bag, while the car is traveling in the direction of arrow *c*, it is placed upon arms 31 of the left hand receptacle 20, with the handle 38<sup>a</sup> tilted back out of the path of arm 5. Hence the latter will strike loop 39 and push the same forward, causing the handle to swing over the end of arm 5, so that the bag will be suspended therefrom when pushed from arms 31.

Having thus described my invention, what I claim is:—

1. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, and a wall beside the car-track provided with a slot for the passage of the arm, said wall being arranged to strip the mail-bag from the arm as the latter passes through the slot.

2. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, and a wall beside the car-track provided with a slot for the passage of the arm, said wall being arranged to strip the mail-bag from the arm as the latter passes through the slot and curved at one end to check the momentum of said bag.

3. The combination with a car, of a com-



5 bined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, and a wall beside the car-track provided with a slot for the passage of the arm, said wall being arranged at an angle to the track to strip the mail-bag from the arm as the latter passes through the slot.

10 4. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, and a receptacle beside the car-track provided with a slot for the passage of the arm, said receptacle being arranged to strip the mail-bag from the arm as the latter passes through the slot.

20 5. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, a pivotally-mounted receptacle beside the car-track provided with a slot for the passage of the arm, said receptacle being arranged to strip the mail-bag from the arm as the latter passes through the slot, and means for locking said receptacle in an operative or inoperative position.

30 6. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, resilient means on the end of the arm for gripping the mail-bag, and a wall beside the car-track provided with a slot for the passage of the arm, said wall being arranged to strip the mail-bag from the arm as the latter passes through the slot.

35 7. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, a wall beside the car-track provided with a slot for the passage of the arm, said wall being arranged to strip the mail-bag from the arm as the latter passes through the slot, and means on the wall for supporting a mail-bag in the path of the arm.

40 8. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby provided with oppositely-disposed shoulders and a corrugated portion, and means beside the car-track for supporting a mail-bag in the path of the arm.

50 9. The combination with a car, of a guide in the upper portion thereof, a combined

mail-bag catching and delivery arm slidably arranged in said guide, and a wall beside the car-track provided with a slot for the passage of the arm, said wall being arranged to strip the mail-bag from the arm as the latter passes through the slot.

10. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, and two walls beside the car-track provided with slots for the passage of the arm, said walls converging at their adjacent portions, for the purpose described.

11. The combination with a car, of a combined mail-bag catching and delivery arm carried thereby adapted to support a mail-bag, a wall beside the car-track, and folding means on said wall for supporting a mail-bag in the path of the arm, said means being adapted to fold against the wall.

12. The combination with a car, of means beside the car-track for supporting a mail-bag, an arm carried by the car adapted to dislodge the mail-bag from its support, and folding deflectors at the car-door opening for catching the mail-bag and conducting it into the car.

\* 13. The combination with a car and two mail-bags connected at their ends by cables, an arm carried by the car adapted to engage one of the cables and pick up the bags, a wall beside the car-track, a support on the wall which holds the mail-bags in such position that one of their cables will depend in the path of the arm, and means on the wall for holding the other cable out of the path of the arm.

14. The combination with a car, of an arm carried thereby, means beside the car-track for supporting a mail-bag, a mail-bag, a handle pivoted to said mail-bag, and a loop on said handle adapted to be struck by the arm and swing the handle over one end of said arm.

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

RICHARD H. NOLAN.

Witnesses:

F. G. FISCHER,  
M. Cox.