J. H. BOWLING.

MAIL BAG CATCHING AND DELIVERING DEVICE.

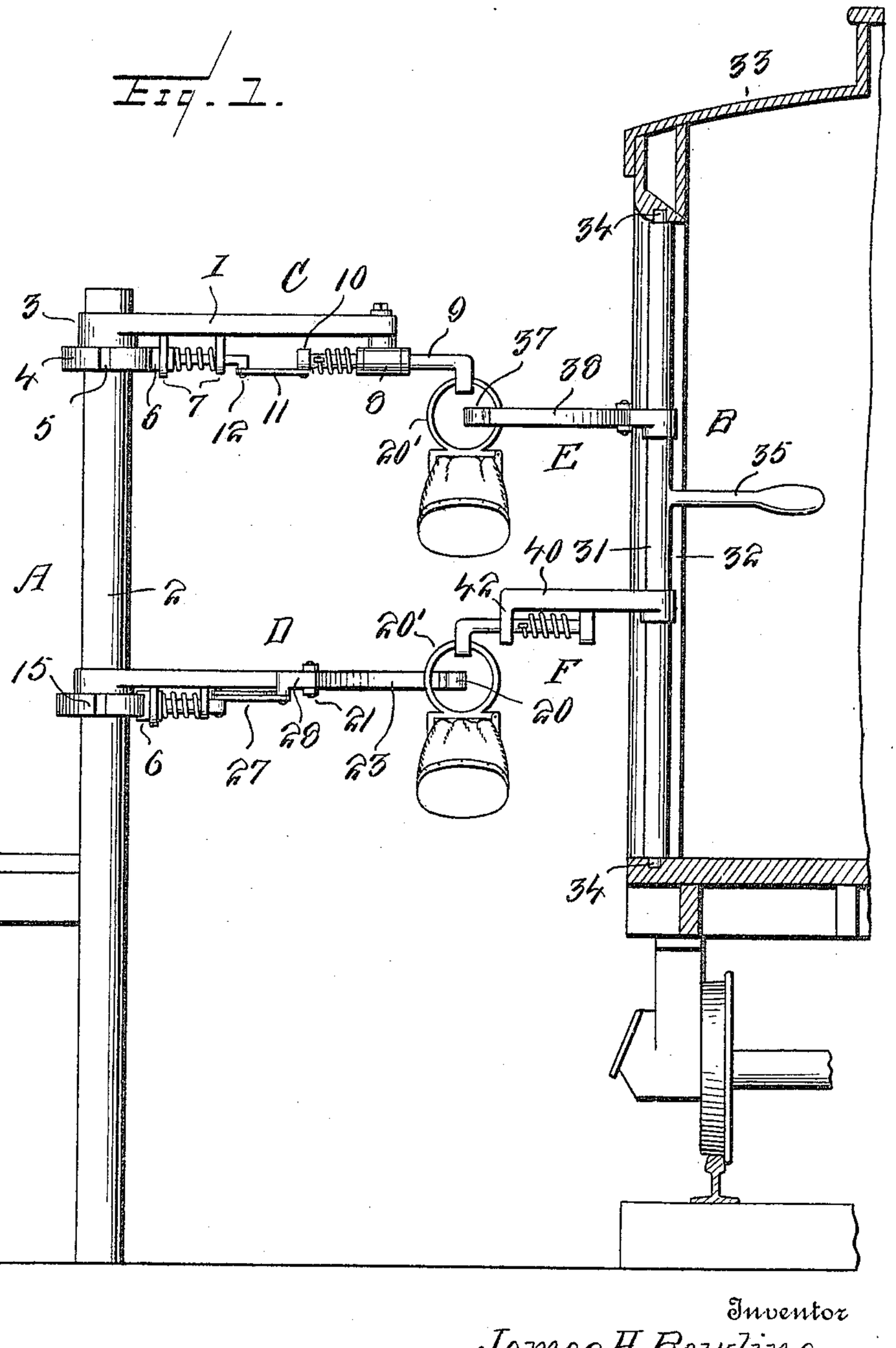
APPLICATION FILED AUG. 26, 1910.

993,952.

Patented May 30, 1911.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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3 SHEETS—SHEET 2.

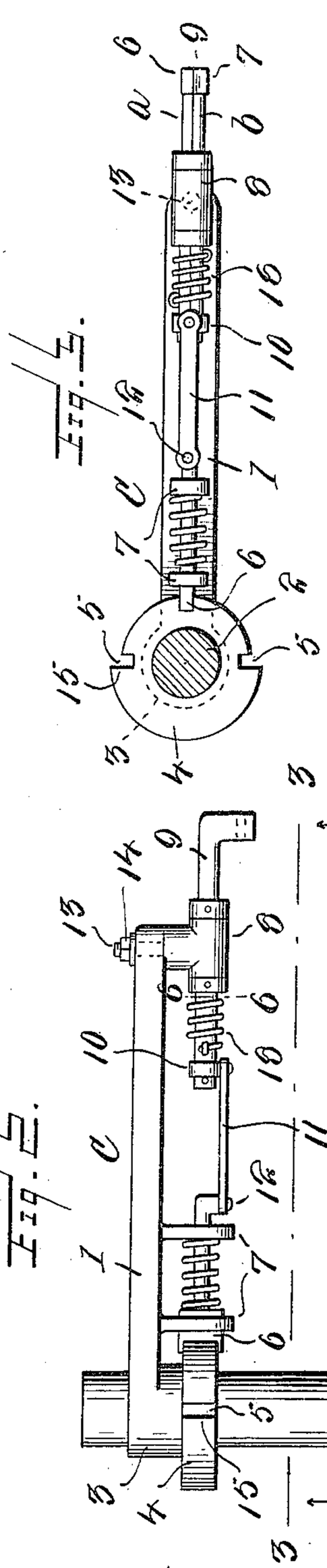

Fig. 4.

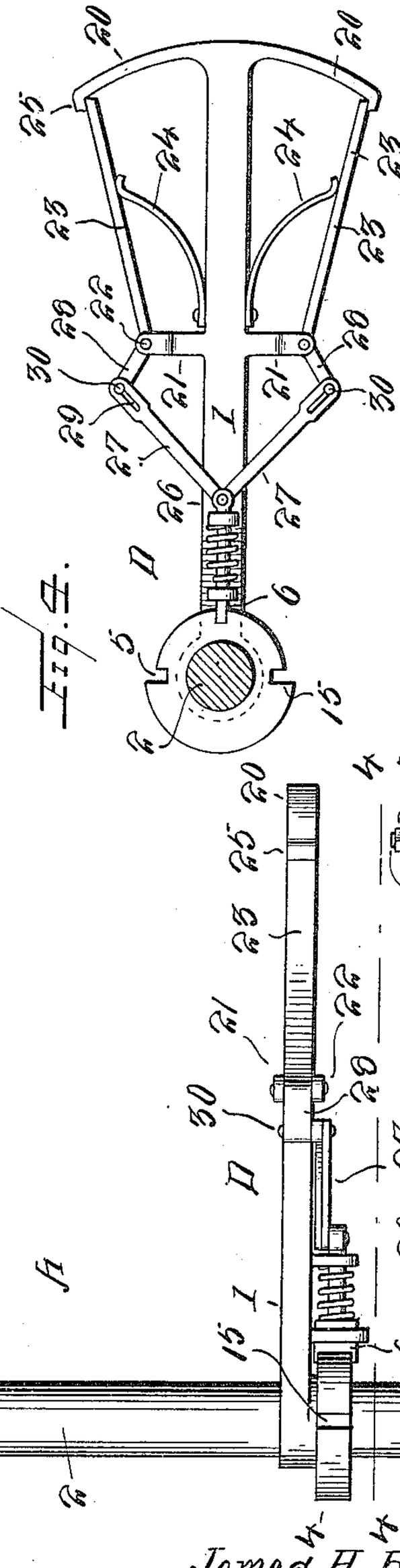

Fig. 2.

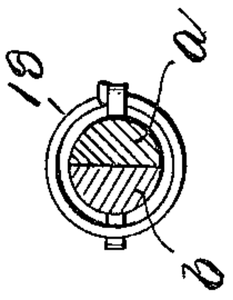

Fig. 5.

Fig. 1.

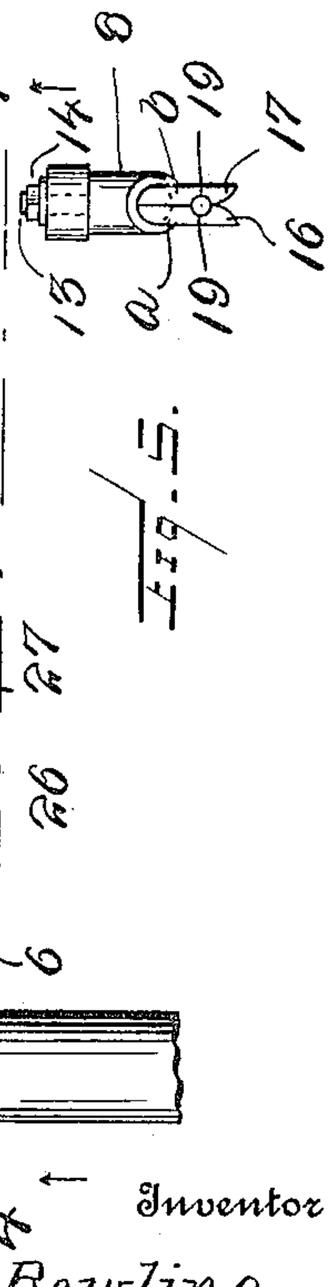

Fig. 3.

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3 SHEETS—SHEET 3.

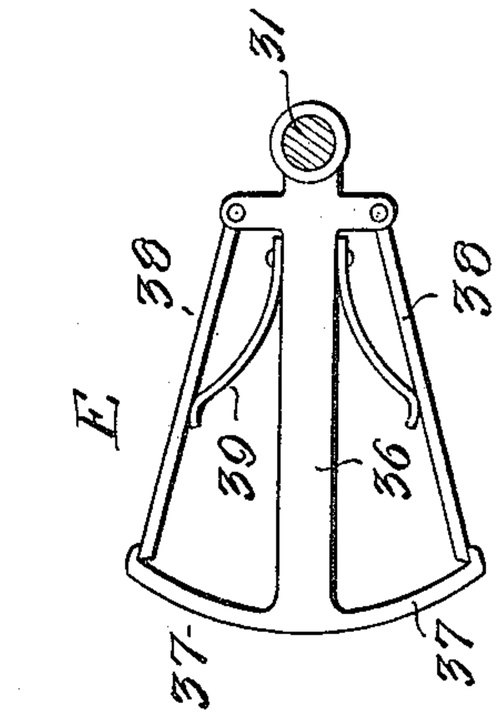

Fig. 8.

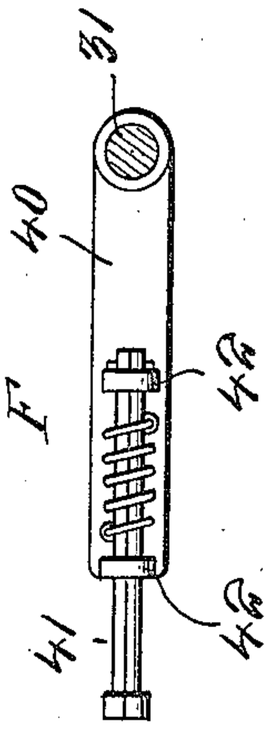

Fig. 9.

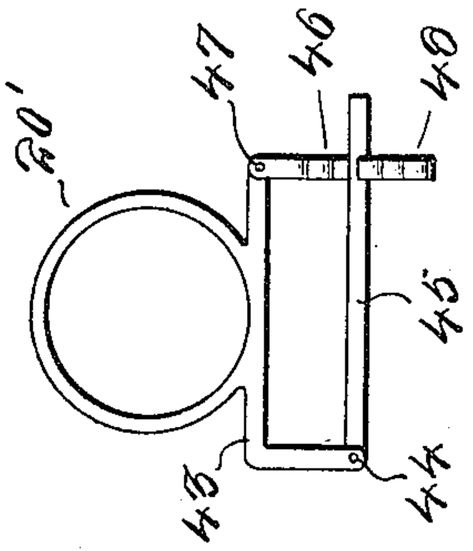

Fig. 10.

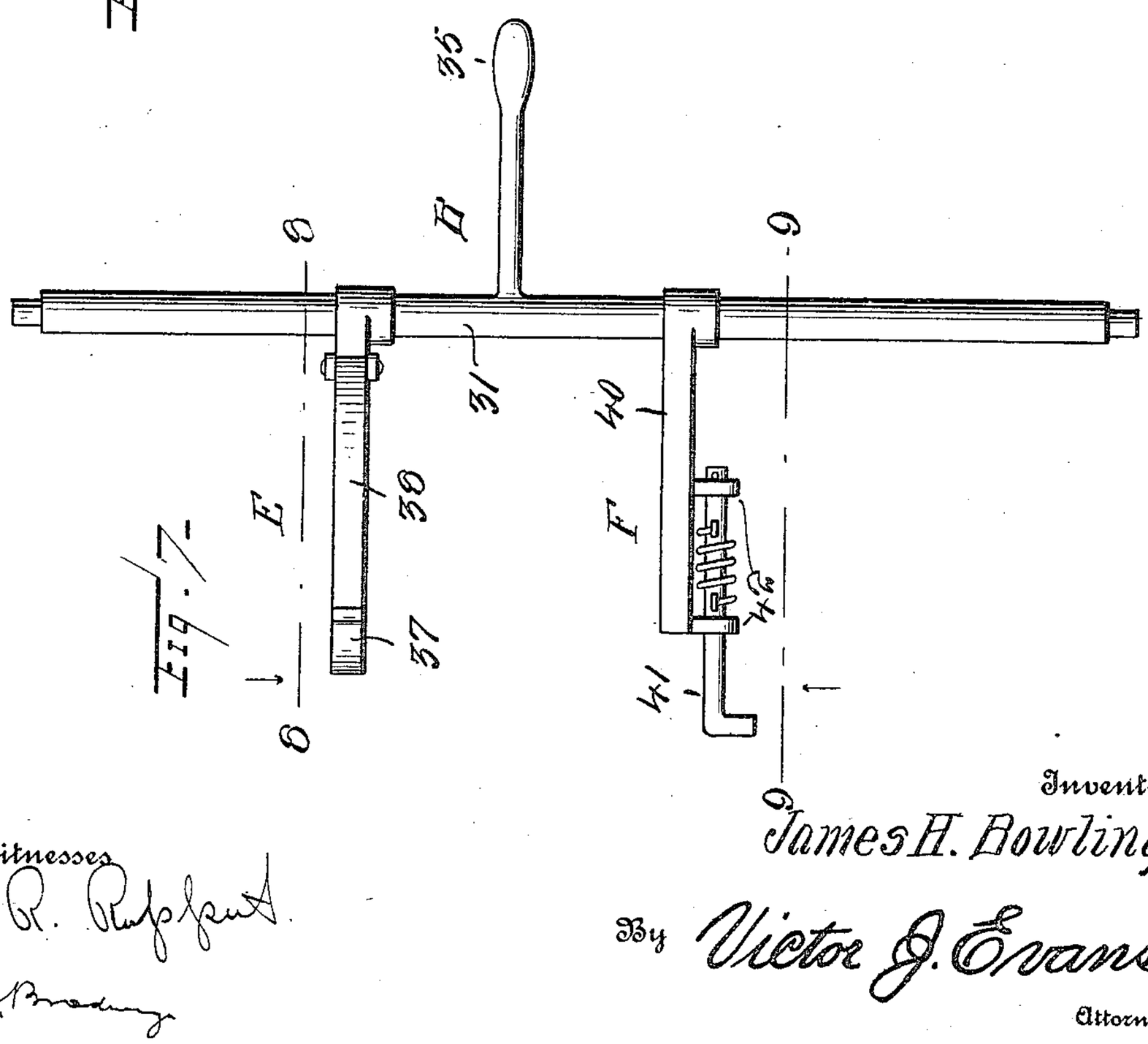

Fig. 7.

Witnesses

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UNITED STATES PATENT OFFICE.

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MAIL-BAG CATCHING AND DELIVERING DEVICE.

993,952. Specification of Letters Patent. Patented May 30, 1911.

Application filed August 25, 1910. Serial No. 578,829.

To all whom it may concern:

Be it known that I, JAMES H. BOWLING, a citizen of the United States, residing at Gatliff, in the county of Whitley and State of Kentucky, have invented new and useful Improvements in Mail-Bag Catching and Delivering Devices, of which the following is a specification.

This invention relates to devices for transferring mail bags from a station to a passing mail car and vice versa without the train to which the car is attached slacking its speed as it passes the station.

The invention has for one of its objects to improve and simplify the construction and operation of apparatus of this character so as to be comparatively simple and inexpensive to manufacture, reliable and efficient in use, and capable of being readily set in operative position.

A further object of the invention is the provision of a novel catching device which effectively picks up a suspended mail bag and retains the same against the rebounding effect.

A further object of the invention is the employment of a novel latch device for the mail bag catching or delivering arms of the station apparatus whereby the arms will be thrown automatically to one side so as to be out of the way after picking up or delivering a bag.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 is an elevation of the mail bag catching and delivering devices of a station platform and mail car, one bag being about to be delivered to the car and the other to the station. Fig. 2 is an enlarged view of the station apparatus. Fig. 3 is a sectional view on line 3—3, Fig. 2, showing the delivery device. Fig. 4 is a sectional view on line 4—4, Fig. 2, showing the catching device. Fig. 5 is an end view of the bag delivery device. Fig. 6 is a detail sectional view on line 6—6, Fig. 2. Fig. 7 is an enlarged side elevation of the car apparatus. Fig. 8 is a horizontal section on line 8—8, Fig. 7. Fig. 9 is a horizontal section on line 9—9, Fig. 7. Fig. 10 is a detail view of the mail bag suspending ring.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawings, A designates the bag-catching and delivery apparatus mounted along the track at a mail station, and B the bag-catching and delivery apparatus on a passing car so arranged on the car that mail bags can be exchanged from one apparatus to the other while the car is in motion.

The apparatus A includes an upper bag delivery device C that consists of an arm 1 fixed on the upper end of a standard or post 2, the said arm having a ring or collar 3 at one end which embraces the post so that the arm can swing from an outstanding position at right angles to the track to a position approximately parallel therewith and to either side of the post 2. Below the ring 3 is a bearing 4 on the post which has spaced notches 5 with any of which engages a spring-pressed bolt 6 that slides in depending lugs 7 on the inner end of the arm 1. The notches are so arranged that the bolt will lock the arm in outstanding position or parallel with the track. On the outer end of the arm 1 is pivoted a horizontal bearing sleeve 8 in which is mounted a bag-holding element 9. On the rear end of this element is a collar 10 to which is pivoted a link 11, the link in turn being pivoted at 12 to the bolt 6. The bearing sleeve 8 is pivoted on the arm by means of a threaded stud or bolt 13 on which is screwed a nut 14. A bag is suspended on the holder 9, and when the bag is picked up by the catcher of a passing train, the holder 9 will swing in a horizontal plane on the bolt or pivot 13 as an axis, and in doing this the inner end of the holder 9 will hold the spring-pressed bolt 6 outwardly so as to unlock the arm 1 from the bearing 4 fixed on the post, and after this occurs the arm 1, which will acquire considerable momentum from the passing train picking up the bag, will swing to the right or left until the bolt strikes an abutment 15 on the bearing 4, when the bolt will enter the recess at the said abutment and lock the arm in inoperative position approximately parallel with the roadbed so as to be out of the way.

The bag-suspending device or holder 9 is in the form of a horizontal bar split longi-

tudinally into two sections *a* and *b*, as clearly shown in Figs. 3, 5 and 6, and the outer ends of these sections are turned downwardly into jaws 16 and 17 that are held closed by a spring 18 encircling and fastened to the two sections *a* and *b* adjacent the inner ends thereof. These jaws 16 and 17 have opposed recesses 19 for receiving the ring 20 of the mail bag. The mail bag ring hangs in a vertical plane below the jaws 16 and 17 and as the ring is caught up by the catcher on the mail car, the jaws will open and allow the ring to slip out. The jaws, however, will grip the ring tightly enough to cause the holder 9 to first swing on its pivot far enough to release the bolt 6, and after this occurs the ring of the mail bag will be pulled from between the jaws. As soon as the ring has been detached, the jaws will automatically close under the tension of the spring 18.

Under the delivery device C there is arranged on the post 2 a bag catching device D which consists of an arm like the upper arm 1 and is provided with a similar locking means for holding the arm in operative or inoperative position, the similar parts being correspondingly designated by reference characters. The arm 1 of the device D has, as clearly shown in Fig. 4, oppositely-extending arcuate members 20 that form hooks for picking up a mail bag suspended from a car traveling in either direction past the station. On the arm 1 at a point inwardly from the hooks are oppositely-extending lugs 21 and on each lug is pivoted, at 22, a keeper 23 which is pressed outwardly and held in locking position by a leaf spring 24 fastened to the side of the arm 1 with its free end bearing on the keeper 23. On each hook is a short lug or stop 25 against which the keeper 23 is pressed by its spring 24. Each hook 20 is struck from a center different from the pivot on which the keeper swings so that the ring of the mail bag suspended in the path of the catching device will first strike the keeper 23 and cause the latter to swing inwardly against the tension of the spring, and during this movement the ring will slide off the free end of the keeper and be caught by the hook 20, the keeper immediately swinging back to locking position as soon as the ring of the bag passes off the same. It will thus be seen that the mail bag cannot become detached automatically after it is once picked up by the catching device. To release the bag, it is merely necessary to press the keeper inwardly and hold it in such position while the ring of the bag is slid along the hook 20 and passed off the same behind the keeper. The keepers 23 are operatively connected with the locking bolt 6 in any suitable manner so that when either keeper is pressed inwardly in the operation of picking up a mail bag, the bolt will be released so as to allow the arm 1 to be swung to inoperative position by the momentum of the mail bag picked up thereby. For this purpose, the bolt may be hingedly connected at 26 with links 27 which are attached respectively to short arms 28 on the keepers. In order that one keeper will not interfere with the action of the other in releasing the locking bolt, the links may be provided with slots 29 through which extend the pivot pins 30 on the arms 28 of the keepers.

As shown in Figs. 1, 7 to 9, inclusive, the catching and delivering apparatus B of the car consists of an upright shaft 31 which has an upper catching device E and a lower delivery device F, both rigid with the shaft so that they can be swung inwardly and outwardly through the door opening 32 of the car 33, the said shaft having its upper and lower ends journaled in bearings 34 in the doorway. To rotate the shaft, the same is provided with a handle 35 located at a convenient point for the mail clerk of the car to throw the devices to and from operative position.

The device E for catching a mail bag consists of an arm 36 rigidly fastened to the shaft 31 and having at its outer end oppositely-extending hooks 37 and with each hook coöperates a keeper 38 similar to the keepers 23, Fig. 4, the said keepers being backed by leaf springs 39.

The delivery device F consists of an arm 40 fixed on the shaft 31 and provided with a holder 41 mounted in depending lugs 42 on the arm 40. The said holder is similar in construction and operation to the bag holder 9 of Figs. 1, 2 and 3.

The bag-catching and delivering devices E and F are so located that the first will receive a bag from the delivery device C and the other deliver a bag to the catching device D, as clearly shown in Fig. 1.

The ring 20 to which a bag is attached is provided with a clasp or clamp for securing the bag thereto, the said clasp consisting of an L-shaped member 43, Fig. 10, which has hingedly connected at 44 a clamping bar 45 which is adapted to be engaged with a catch 46 which is hinged at 47 to the opposite end of the L-shaped member, the said catch having serrations or projections 48 so that the clamping bar can be engaged with the catch at any desired point to grip the mail bag with the desired tension. The clamping bar and catch coöperate with the L-shaped member to form a rectangular eye or loop for embracing the middle portion of the mail bag with the ends thereof hanging free. The clamping bar 45 projects beyond the catch so as to form a convenient grip, and by pulling the bar toward the member 43 and then moving the bar laterally, it can be engaged with or released from the catch 46.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim as new, is:—

1. In an apparatus of the class described, the combination of a horizontally-swinging arm, a swinging bag-holding device mounted on the arm, a catch disposed adjacent the arm, a bolt with which the catch normally engages, and means between the bag-holding device and bolt for automatically retracting the latter to permit the arm to swing to one side after receiving a bag.

2. In an apparatus of the class described, the combination of a horizontally-swinging arm, a support therefor, a notched catch mounted on the support, a spring-pressed bolt mounted on the arm to engage the catch and lock the arm in gripping position, a horizontally-disposed bag-holding device, means for pivotally mounting the device on the arm, and a link connecting the device with the bolt for retracting the latter when the bag is removed from the said device for permitting the arm to swing to either side of its operative position.

3. An apparatus of the class described comprising a supporting member, a bag holder consisting of two parts disposed side by side and each having a jaw, a spring surrounding the said parts and connected therewith for yieldingly holding the jaws closed, and a bag-suspending element yieldingly gripped between the jaws.

4. In an apparatus of the class described, the combination of a supporting member, a bearing thereon, a horizontally-disposed rod-like bag holder mounted in the bearing and composed of two parallel parts having depending jaws for suspending a mail bag, and a spring surrounding the said parts of the holder and connected therewith for maintaining the jaws yieldingly closed.

5. In an apparatus of the class described, the combination of a horizontally-swinging arm, a support therefor, a catching hook on the arm, a keeper pivoted on the arm to retain the caught bag on the hook, a locking bolt on the arm, a fixed catch with which the bolt engages for holding the arm in different positions, and a connection between the keeper and bolt for retracting the latter by the movement of the keeper during the catching of the bag.

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

JAMES H. BOWLING.

Witnesses:
LINNIE LAWSON,
HENRY S. BOWLING.