

No. 894,191.

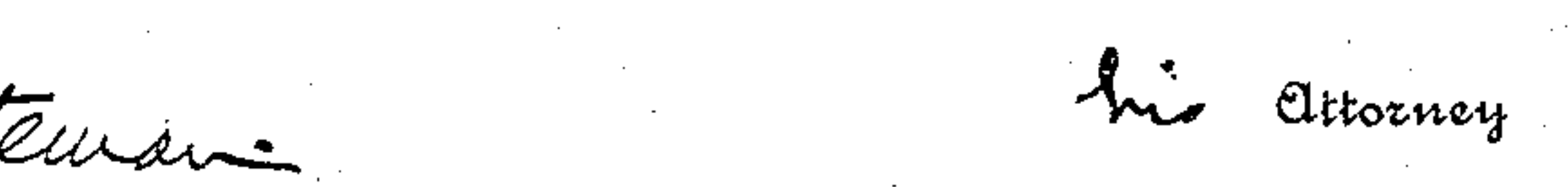
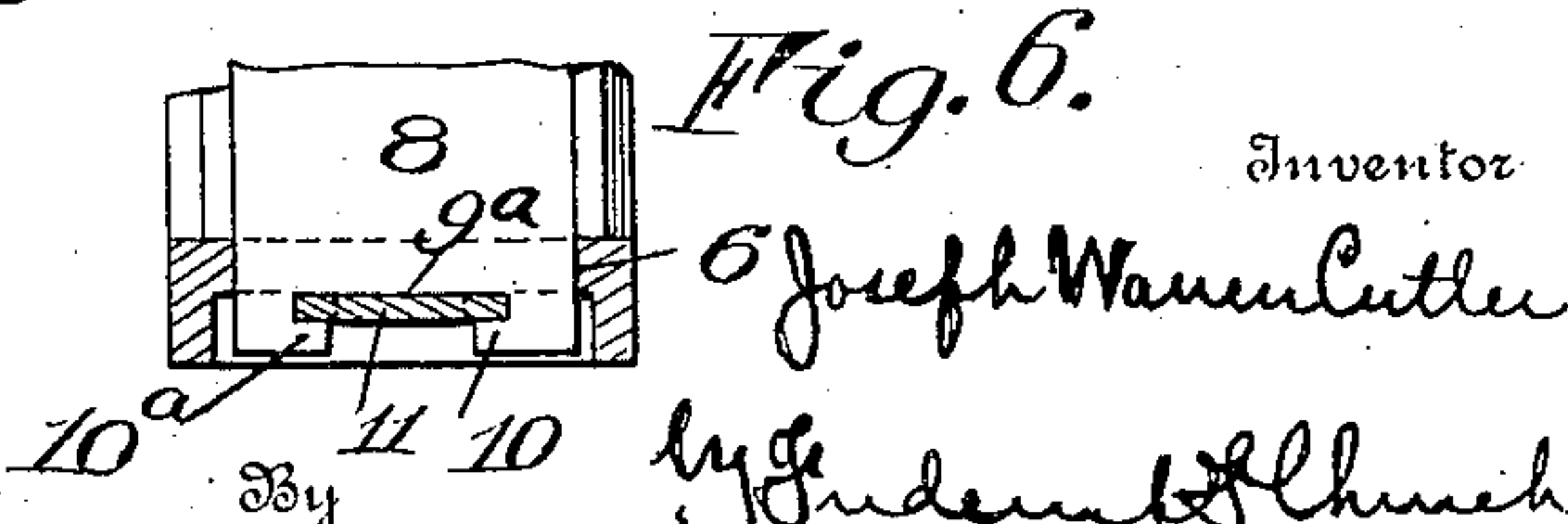
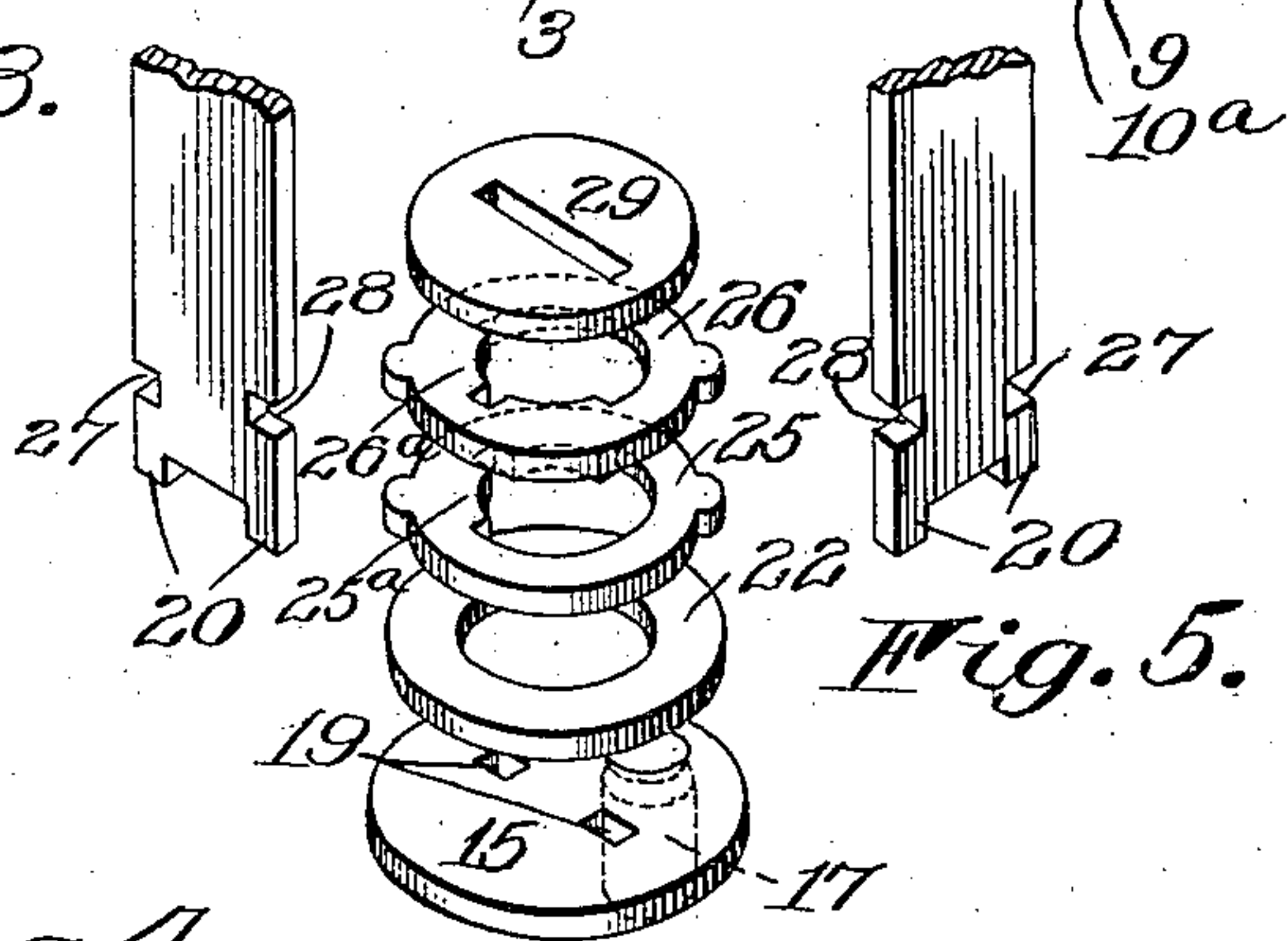
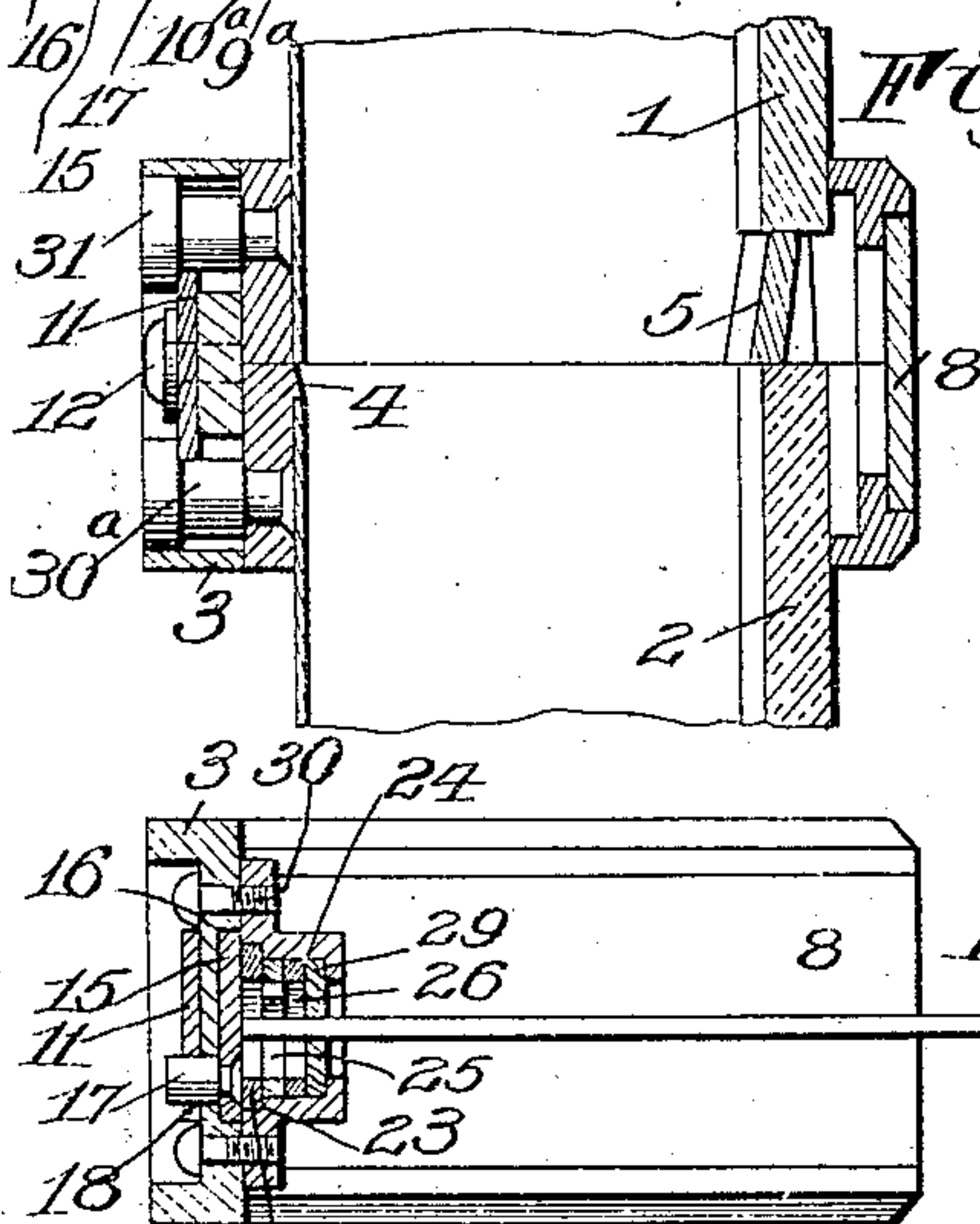
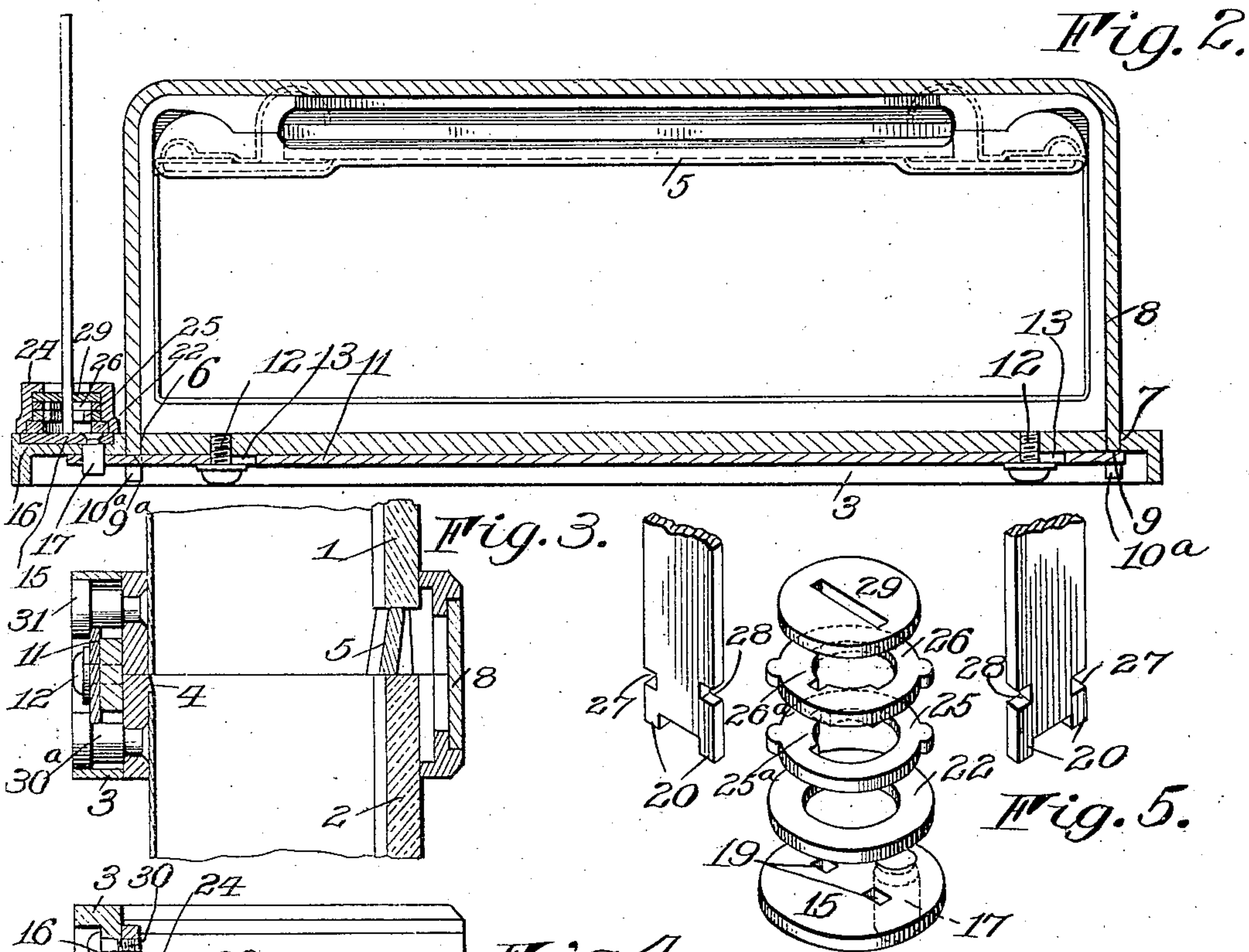
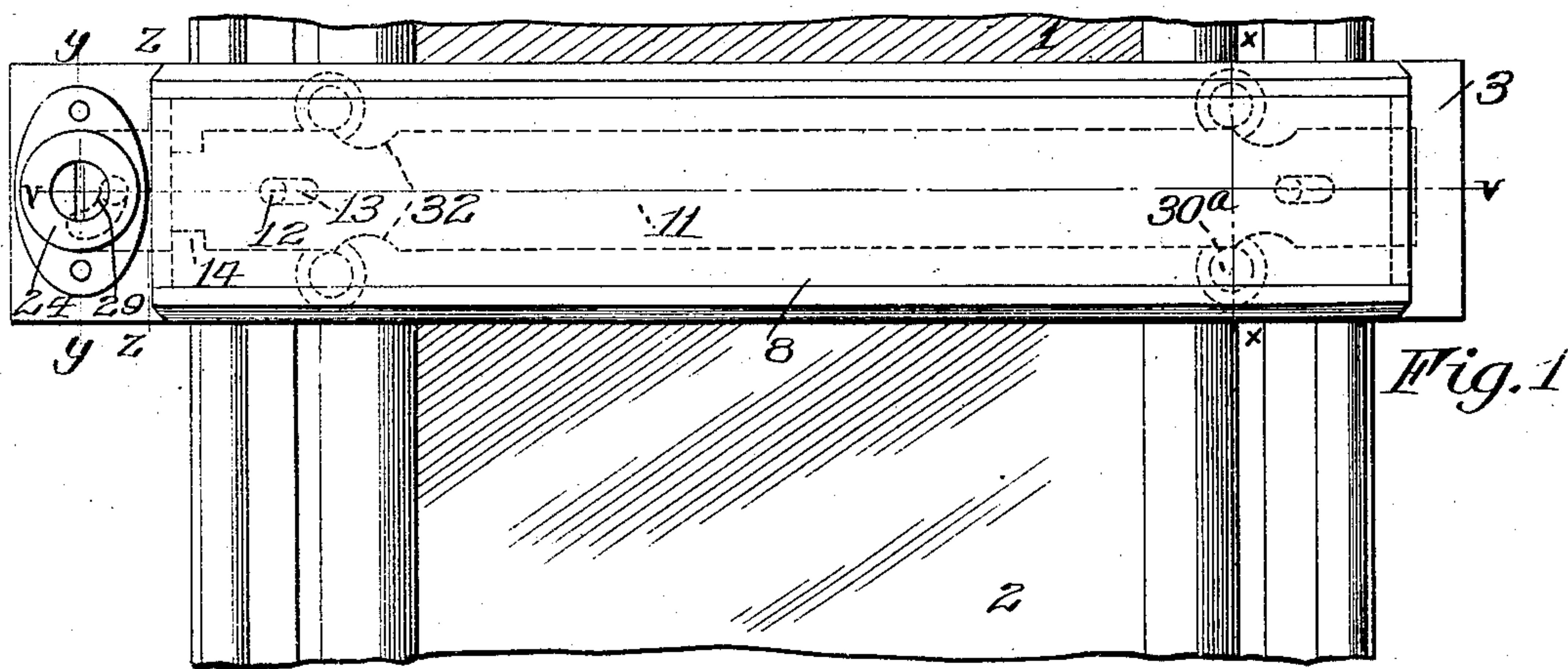
J. W. CUTLER.

PATENTED JULY 28, 1908.

LOCKING DEVICE FOR THE REMOVABLE SECTIONS OF MAIL CHUTES.

APPLICATION FILED OCT, 24, 1904.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 7.

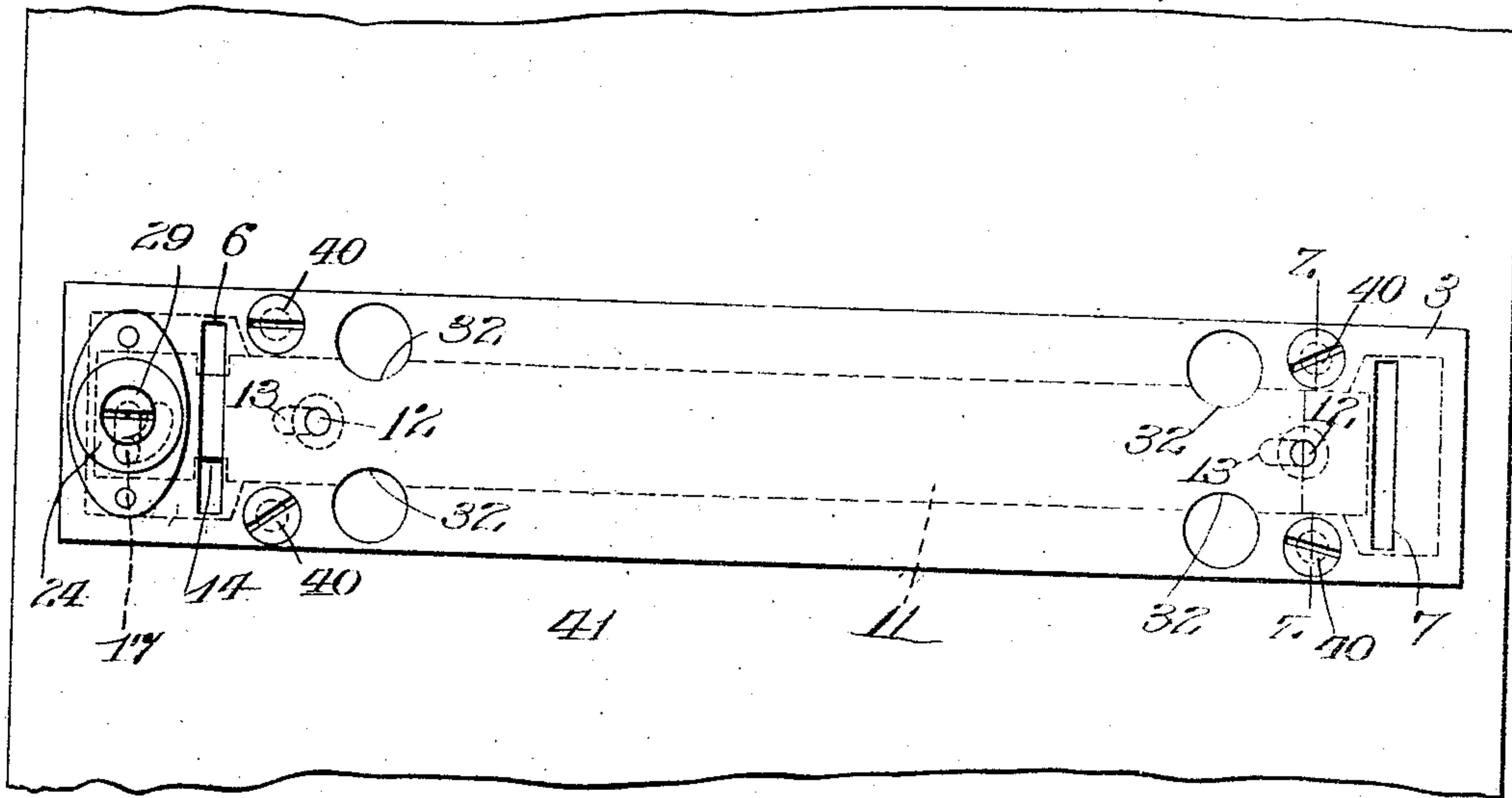
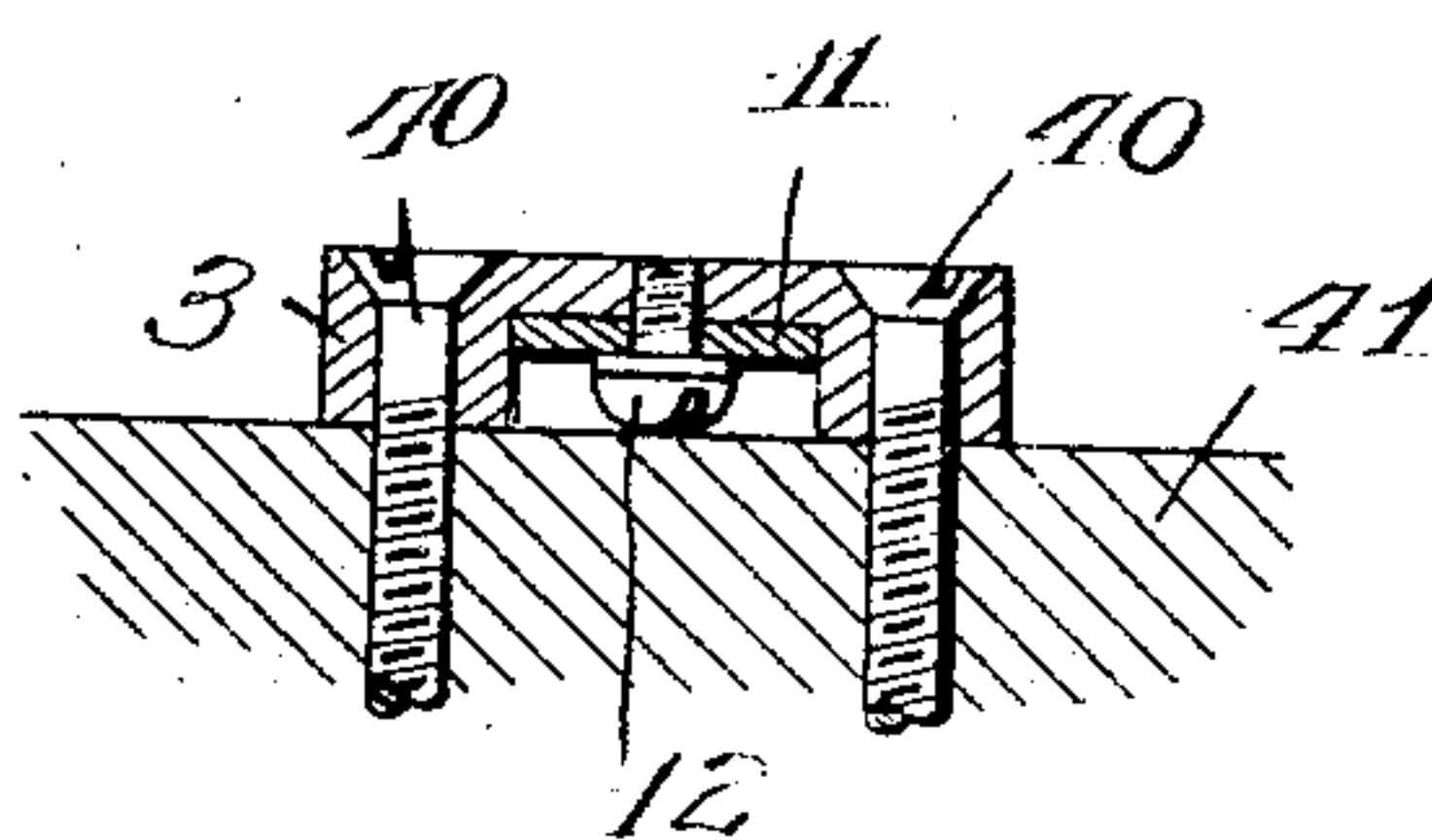


Fig. 8.



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# UNITED STATES PATENT OFFICE.

JOSEPH WARREN CUTLER, OF ROCHESTER, NEW YORK, ASSIGNOR TO CUTLER MANUFACTURING COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

## LOCKING DEVICE FOR THE REMOVABLE SECTIONS OF MAIL-CHUTES.

No. 894,191.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed October 24, 1904. Serial No. 229,749.

*To all whom it may concern:*

Be it known that I, JOSEPH WARREN CUTLER, of the city of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Locking Devices for the Removable Sections of Mail-Chutes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to improvements in mail chutes and analogous devices, and it is the purpose of this invention to provide suitable means for positively locking together the sections of which these chutes are usually composed in order that these chute sections when they are in proper position may be secured from removal or disarrangement by unauthorized persons, while the sections may be readily and conveniently removed or taken down for any desired purposes by the authorized persons.

To these and other ends the invention consists in certain improvements and combinations of parts that will be hereinafter more fully described, the novel features being pointed out in the claims hereunto annexed.

In the drawings: Figure 1 is a view in elevation of a portion of a mail chute to which my invention has been applied. Fig. 2 is a transverse sectional view of the same on the line *v—v* of Fig. 1. Fig. 3 is a sectional view on the line *x—x* of Fig. 1; Fig. 4 is a sectional view on the line *y—y* of Fig. 1, illustrating the locking device; Fig. 5 is a collective view of the parts of the lock and the key therefor the latter being shown in position for insertion and also its position after rotation; and Fig. 6 is a sectional view on the line *z—z* of Fig. 1, showing the cooperating parts of the locking bar and the securing strap. Fig. 7 is a front view of the support, back or backing showing the means for securing it to a wall or other object or support. Fig. 8 is a sectional view on the line 2—2 of Fig. 7.

The same numerals of reference designate similar parts in the several views.

Mail chutes for conducting mail matter from various parts of a building to a convenient point for collection usually extend from the upper parts of a building down-

wardly through the several floors thereof to a receptacle which is accessible only to the officials of the Post Office Department, apertures being provided in the chute in suitable positions to enable postal matter to be readily deposited and it is customary to form these chutes of a series of superposed sections in order that they may be more easily manufactured and assembled within the building and to enable any of the sections to be removed upon any of the floors for the purpose of reaching the interior of the chute for cleaning or removing obstructions which may form therein, or to enable the chute sections to be repaired or other substituted.

It is the purpose of my invention to provide a connection for the abutting ends of the chute sections which will enable them to be readily taken down and removed when the connecting device is unlocked, and when the latter is locked, the chute sections will be firmly and positively secured in position so that they cannot be removed except by a key in possession of an authorized person.

Although my invention comprehends various means by which the chute sections may be securely locked in position, I have deemed it necessary to show only two forms thereof, the herein shown embodiments of my invention being illustrated as applied to an ordinary mail chute comprising a plurality of tubular sections 1 and 2 which are placed end to end in the usual manner to form the continuous chute, the abutting ends of the adjacent chute sections being held in proper relation by a connection which is formed in the present instance of a support back, or backing 3 which is provided with suitable means to enable it to be secured by means, such as screws 40 to a wall or other suitable support 41 in a position directly opposite to the joint in the sections, the inclined surfaces 4 and 5 being preferably provided at the meeting ends of the chute sections for the purpose of preventing the edges or corners of mail matter descending the chute from lodging between the sections. In that form of my invention shown in the present application, the under side of this support is preferably hollowed out, and at each end of the support or back 3 are provided the apertures 6 and 7 respectively for the reception of the corresponding ends of the removable member band or strap 8, preferably of metal and gen-



erally of channel form the said ends being provided with the apertures 9 and 9<sup>a</sup> respectively, the latter having the oppositely-arranged projections 10—10<sup>a</sup> located at the under side thereof. At the under side of the support 3 is mounted the locking bar 11 which is capable of sliding in a direction longitudinally of the said support, screws or other retaining devices 12—12 extending through slots 13—13 in the locking bar and secured in the support serving to permit a relatively longitudinal motion of the said bar. One end of this bar is arranged to enter an aperture 9 in one end of the strap 8 while a portion near the opposite end of the strap may be inserted in position to permit the oppositely-arranged projections 10—10<sup>a</sup> thereon to pass the reduced portion 14 of the locking bar, longitudinal motion of the bar while the ends of the strap occupy such a position serving to lock the latter by reason of the fact that the end of the bar will enter the aperture 9 at one end of the strap while the aperture 9<sup>a</sup> at the opposite end of the strap will receive the wide portion of the locking bar at either side of the reduced portion thereof; a relatively reverse motion of the bar operating to unlock the strap 8 for the reason that the end of the bar will leave the aperture in one end of the strap while the reduced portion of the bar will move into position opposite to the projections 10 and 10<sup>a</sup> formed on the opposite end of the strap, and this will enable the latter to be readily withdrawn from the support. In order that this locking bar may be conveniently operated I have provided in the present instance a key lock which embodies a disk 15 which is revolvably mounted in a recess 16 of the support 3 and provided upon its under surface with a pin or projection 17 the latter extending through the support and cooperating with an aperture 18 in the locking bar in such a manner that rotation thereof will cause a longitudinal motion of the said bar, the upper surface of this disk being recessed as at 19 to receive the corresponding portion 20 of the operating key 21. Above this disk 15 is mounted a ring 22 which is seated in a recess 23 in the retaining cap 24, the interior diameter of this ring being equal to the outside diameter of the key to serve as a guide or support for the latter when it is rotated; and above this ring are mounted the ward plates 25 and 26 which are provided with the interior flanges 25<sup>a</sup> and 26<sup>a</sup> which are adapted to cooperate with the corresponding slots or recesses 27 and 28 respectively of the key, the slotted plate 29 being provided above the ward plate to admit keys of the proper shape and dimensions only, the flanged retaining cap 24 which is secured by the rivets 30 or otherwise to the support serving to inclose and secure the ring 22, the ward plates 25 and 26, and the plate 29 in their proper relative posi-

tions. Such a construction as above described enables the locking bar to be conveniently operated by a key fitting into a lock of such a kind that only those possessing a key of the proper form may unlock the securing strap 8 which serves to secure the chute sections in position and when a key lock is employed, the key serves as the operating member by means of which the sliding locking bar 11 may be readily and easily manipulated to lock the removable strap or member 8 in position; and by rotating the key in a reverse direction, this bar 11 will be reciprocated in the opposite direction, thereby disengaging from the cooperating portions of the member 8 to permit the latter to be readily removed, and this will enable the adjacent chute sections to be taken apart for permitting access to the interior of the chute or for any other desired purpose. The supporting rivets or projections 31—31 which are carried by the chute ends may be also provided with the heads or enlargements 30<sup>a</sup>—30<sup>a</sup> which serve to assist the strap or securing member 8 in retaining the chute sections in operative position by cooperating with the locking bar 11 when the latter is in locked position, recesses 32—32 being provided in the corresponding edges of the said bar to permit the passage of these heads 30<sup>a</sup> of the rivets when the bar 11 has been unlocked to enable the chute ends to be removed in a manner that will be readily understood.

A mail chute of sectional construction when provided with a locking device of the character described will be under normal conditions, entirely inaccessible to unauthorized persons and is entirely under the control of the postal authorities; but should it become necessary to remove any of the sections comprising the chute for any purpose whatever, an official possessing a key of the proper kind may readily unlock the devices employed for securing the chute sections in position and this will permit the adjacent sections to be immediately removed. Of course it may be necessary or desirable to equip a portion of the chute with the locking devices, as in such cases where the chute passes through a private room or other part of a building which would afford an opportunity for persons to tamper with the chute, and it will also be understood that I do not limit myself to the use of any particular form of device securing the removable chute sections to their supports, and although that form of my invention shown in Figs. 1 to 6 inclusive is so constructed that it may be operated with the greatest convenience and it may be applied to the chute support in such a way as to obtain the maximum strength while the parts are entirely inclosed and protected and present the neatest appearance, and that form shown in my application, Serial No. 276,515,



being a division of this one may be readily applied to chutes which are already in use without altering or disturbing them in any way, still the locking device as comprehended in my invention is capable of being applied in various ways to the chute in order to prevent its removal except by a key of the proper kind.

I claim as my invention:

10 1. The combination with a mail chute, of a relatively fixed support, a securing device for retaining the chute in position, and means under the control of a key for preventing the removal of the chute.

15 2. The combination with a mail chute, of a relatively fixed support, a securing device for retaining the chute in position, and a locking device cooperating with the securing device for preventing the removal of the chute.

20 3. The combination with a mail chute embodying two or more sections, of a relatively fixed support, a removable member for retaining the chute in position, and a locking device carried by the support for preventing the removal of the removable member.

25 4. The combination with a mail chute, of a relatively fixed support, a member formed to embrace the chute and having arms thereon, and a locking device cooperating with the arms of the member to secure the latter to the support.

35 5. The combination with a mail chute, of a relatively fixed support, a locking bar mounted thereon, a removable member engaging the chute and having portions cooperating with the locking bar and means for operating the locking bar.

40 6. The combination with a mail chute, of a relatively fixed support, a reciprocatory locking bar carried thereby, a removable member engaging the chute and having portions formed to cooperate with the locking bar and key-controlled devices for operating the locking bar.

45 7. The combination with a mail chute, of a relatively fixed support a reciprocatory locking bar carried thereby, a securing strap for the chute having its ends formed to cooperate with the locking bar, a rotatable disk having a projection thereon arranged to cooperate with the locking bar to reciprocate the latter, and operating means for the disk.

55 8. The combination with a mail chute, of a relatively fixed support, a reciprocatory locking bar carried thereby, a removable securing member for the chute having portions formed to cooperate with the locking bar, a rotatable disk having a projection thereon arranged to cooperate with the locking bar to reciprocate the latter, and a key for operating the disk.

60 9. The combination with a mail chute, of a support, a movable locking member carried thereby, a removable securing strap for the chute having portions formed to cooperate

with the locking member a rotatable disk operatively connected to the locking member for moving the latter, and a key-lock controlling the operation of the rotatable disk.

10. The combination with a mail chute, of a support a movable locking member carried thereby, a securing strap for the chute having portions formed to cooperate with the locking member, a rotatable disk operatively connected to the locking member for moving the latter, ward plates arranged adjacent to the disk and a key capable of extending through the ward plates and cooperating with the disk to rotate the latter.

11. The combination with a mail chute, of a support, a movable locking member carried thereby, a securing strap for the chute having portions cooperating with the locking members, a rotatable disk operatively connected to the locking member and having one or more recesses in the face thereof and a key having portions cooperating with the recesses of the disk for rotating the latter.

12. The combination with a mail chute, of a support, a relatively movable locking member, a securing device for the chute having portions formed to cooperate with the locking member, a rotatable disk operatively connected to the locking member, and a removable key formed to cooperate with the disk for rotating the latter.

13. The combination with a mail chute, of a support, a locking member mounted to reciprocate longitudinally of the support, a securing device for the chute having portions formed to cooperate with the reciprocatory locking member to unlock and lock therewith by the reciprocatory motion of the said member.

14. In combination with a mail chute, of a relatively fixed support having apertures therein at each side of the chute, a securing device formed to embrace the chute and having portions arranged to enter the apertures of the supports, said portions being provided with locking recesses, and a reciprocatory locking member formed to cooperate with the recessed portions of the securing device.

15. The combination with a mail chute embodying a plurality of superposed sections, of a single securing device for cooperating with the ends of adjacent sections and a key lock for fastening said device in position.

16. In a mail chute, the combination of a detachable metal channel or band, with or without mail-insertion openings, and means adapted to be actuated by a key, for locking said channel or band to a back or backing.

17. In a mail chute, the combination of a detachable metal channel or band, with or without mail-insertion openings, means adapted to be actuated by a key, for locking said channel or band to a back or backing and a back.

18. The combination with a mail chute, of



a support, a second support and means for securing the last mentioned support to the former and adapted to be covered or concealed by the chute when in position, a member engaging the chute and holding it in position and a key lock for preventing the unauthorized movement of said member.

19. In a mail-chute, the combination of a metal channel or band, as described, and movable means adapted to be actuated by a key for locking said channel or band to a back or backing.

20. In a mail-chute, the combination of a metal channel or band, as described, movable means adapted to be actuated by a key for locking said channel or band to a back and a back.

21. A mail chute composed of superposed separately removable sections, in combination with parts extending transversely of the chute at the adjacent ends of the sections and key locks for securing said parts in position.

22. The combination with a support, of a mail chute and key controlled locking devices for preventing the removal of said chute from its support.

23. The combination with a support, of a mail chute and key controlled locking devices for securing said chute in position on its support and preventing its unauthorized removal from the support.

24. The combination with a support, of a mail chute embodying separable channel sections and key controlled locking devices for securing the sections to the support but permitting their separate removal from the support.

25. The combination with a support, of a mail chute embodying separable sections, of key controlled locking devices engaging the adjacent ends of the sections and preventing their separation.

26. The combination with a support of a mail chute embodying separable sections, of key controlled locking bars engaging the adjacent ends of the sections and preventing their movement relative to each other.

27. The combination of a removable mail chute, a back, locking and fastening devices applied respectively to each and means actuated by a key for effecting the locking together of the parts.

28. The combination of a detachable chute, a back and removable means effecting the locking of the chute to the back controlled by a key.

29. In a mail chute, the combination with a bracket or support and means for fastening said bracket to a wall, of a chute having a portion adapted to conceal said fastenings and a chute retaining member controlled by a lock.

30. The combination with a mail chute, a bracket therefor and fastening devices for securing said bracket to a wall or support, a part of the chute serving to conceal the said fastening devices, of a member controlled by a lock for preventing access to the said fastening devices.

31. Means for locking parts of a mail chute from unauthorized removal, embodying a support, a removable member cooperating with a part of the chute, and a key lock for detachably securing said member to said support.

32. Means for locking a mail chute from unauthorized removal embodying a support, a member having detachable connection with the support and cooperating with a part of the chute to retain it in position and a lock for preventing removal of said member.

33. The combination with a stationary support, a plate or bracket, and fastening devices for attaching it to the stationary support, of a chute applied to the plate and extending over the said fastening devices and a chute securing band cooperating with the plate and controlled by a key lock.

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