

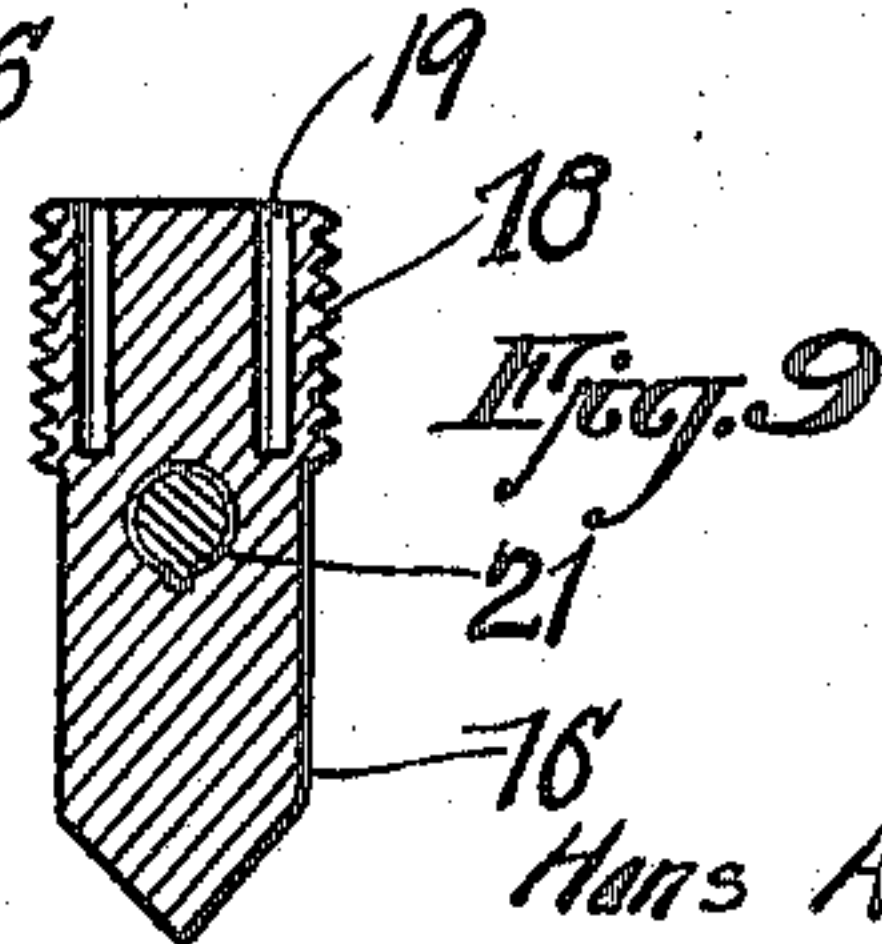
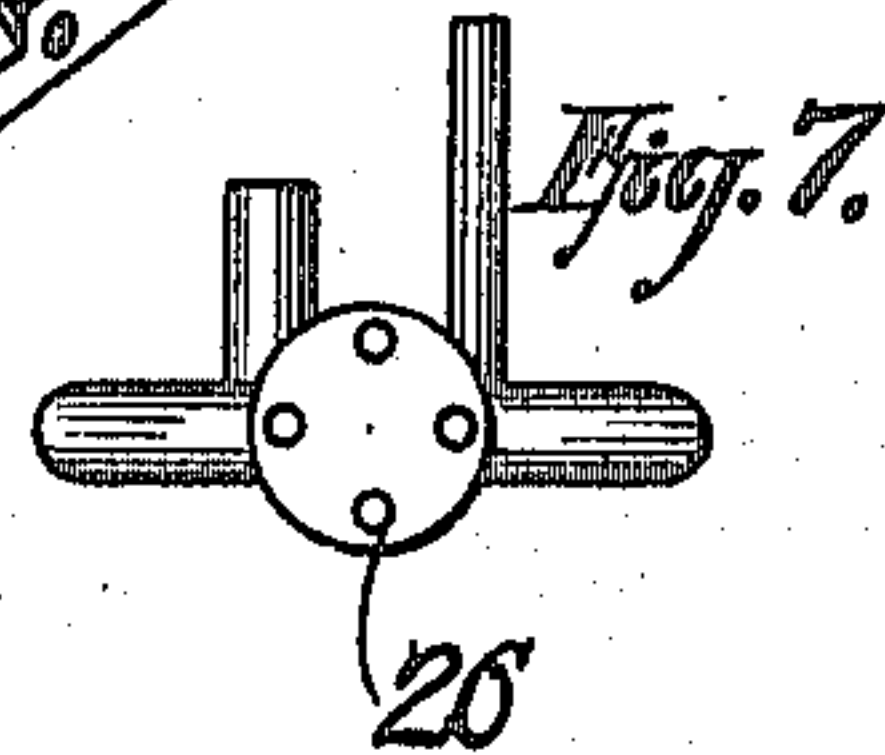
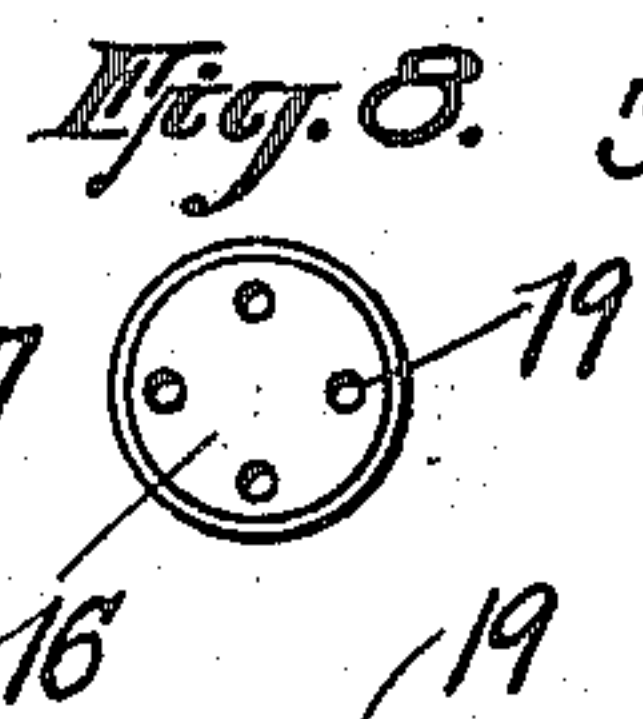
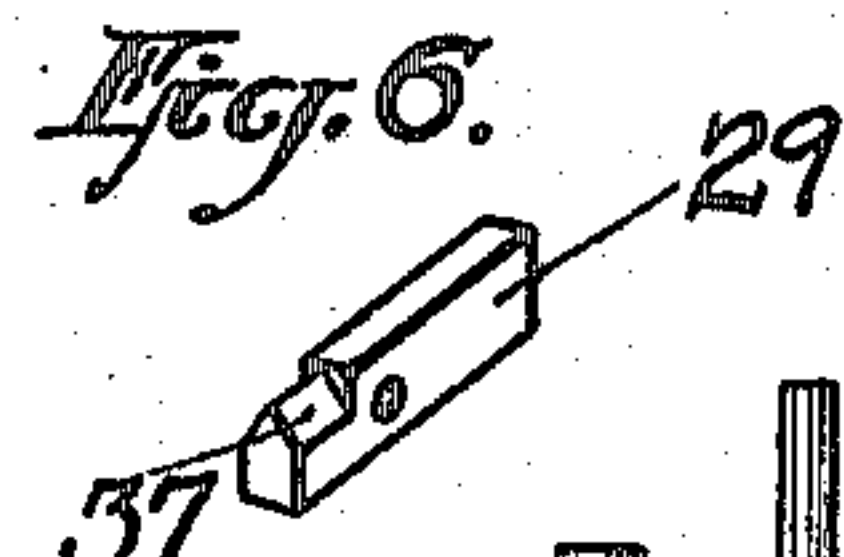
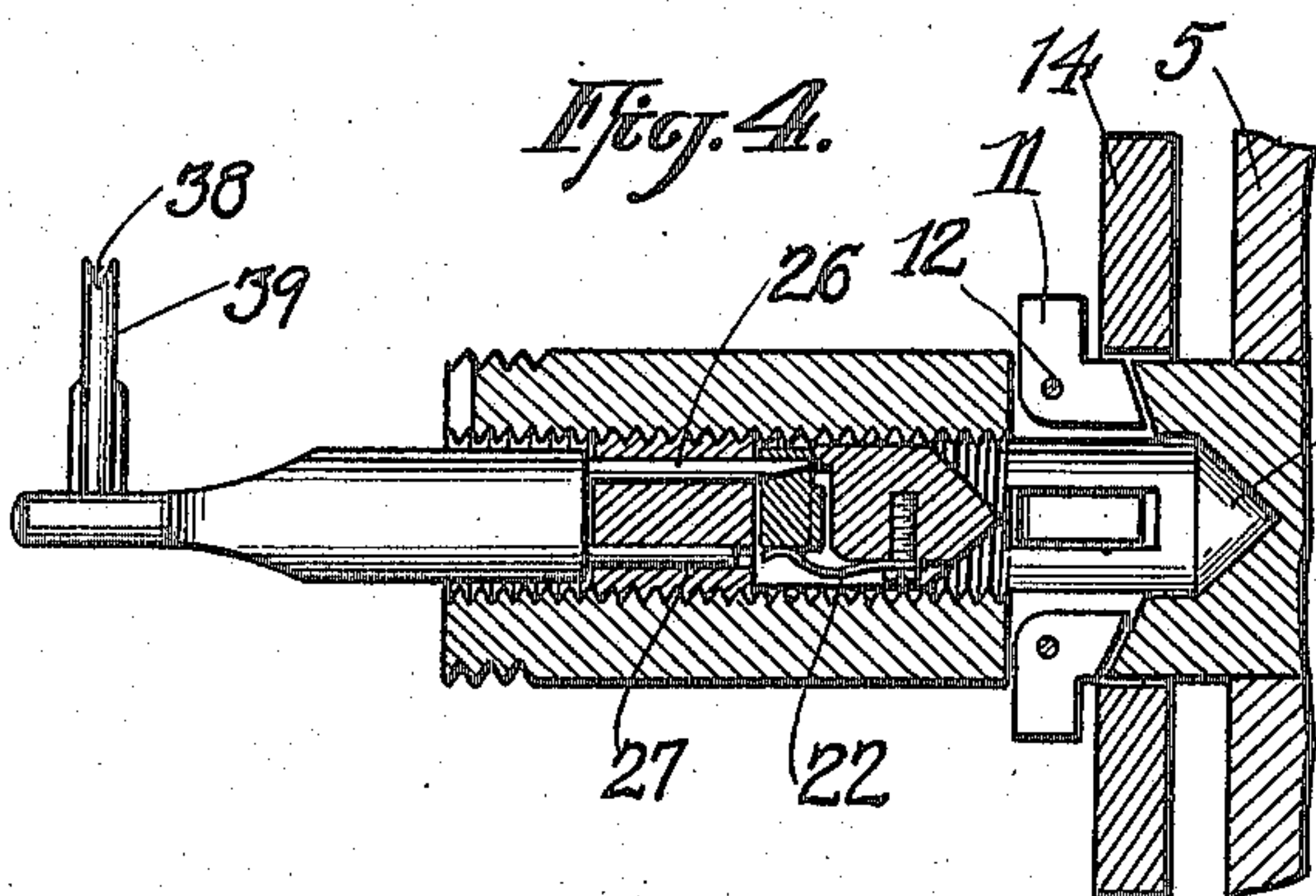
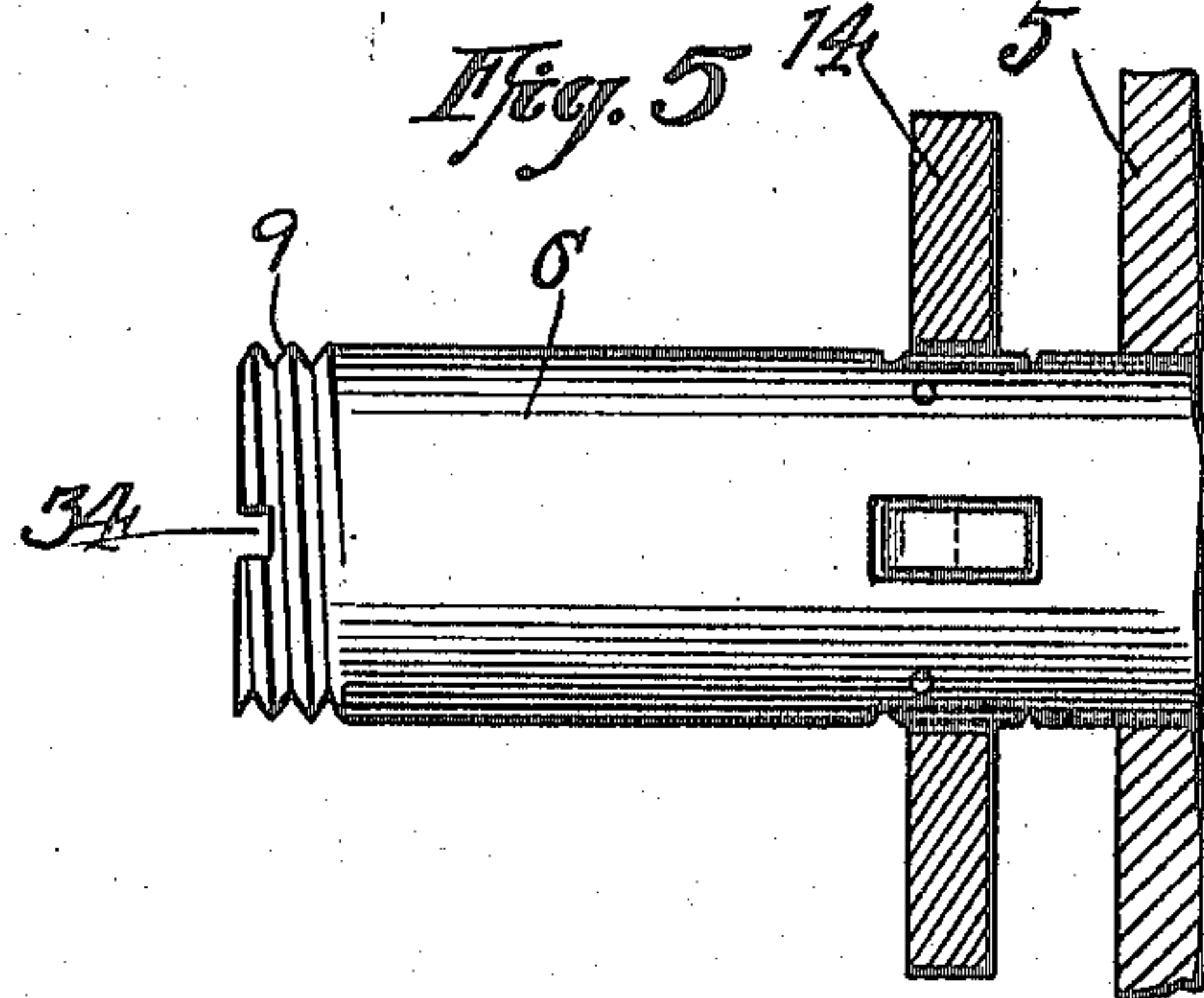
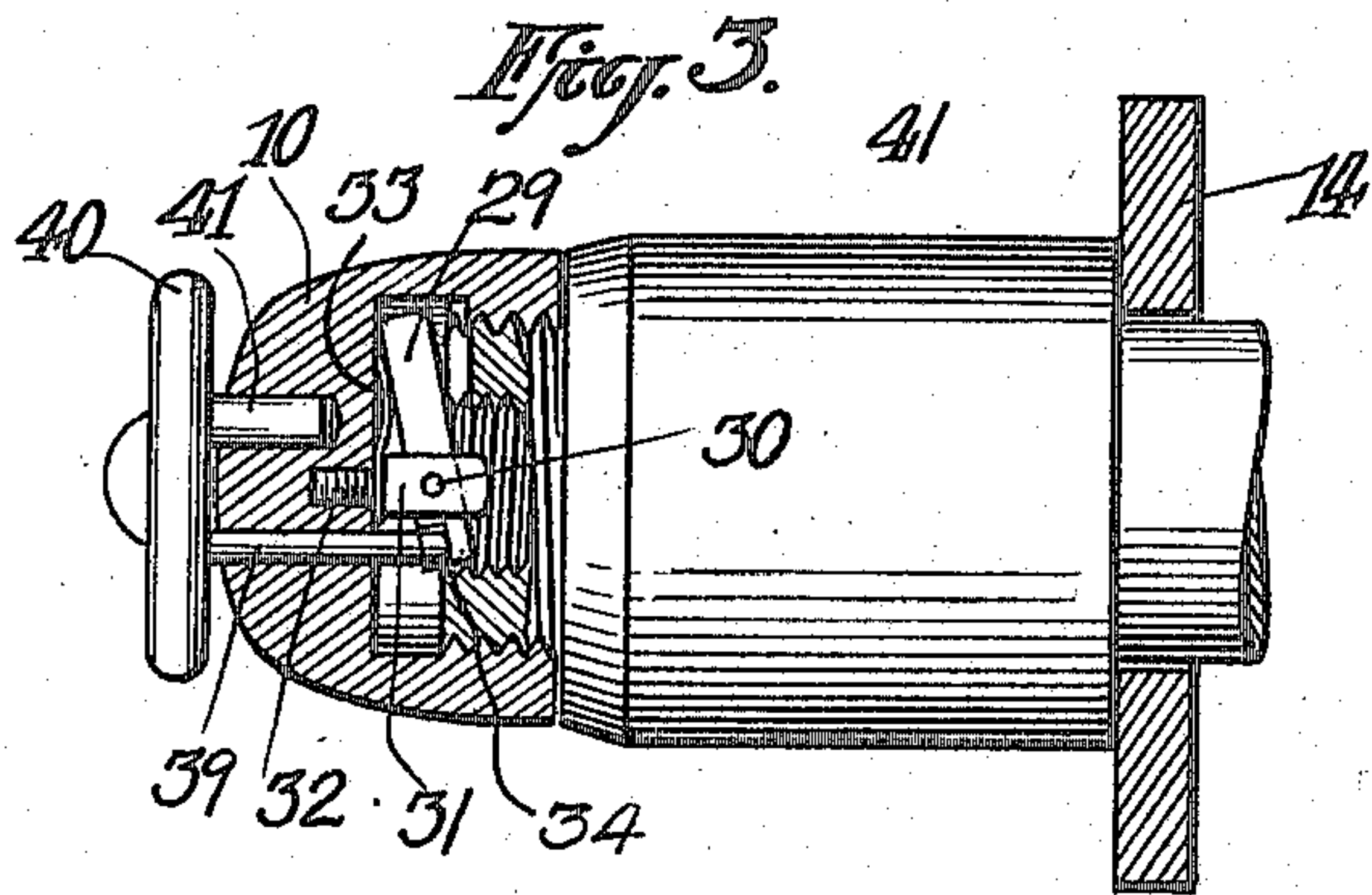
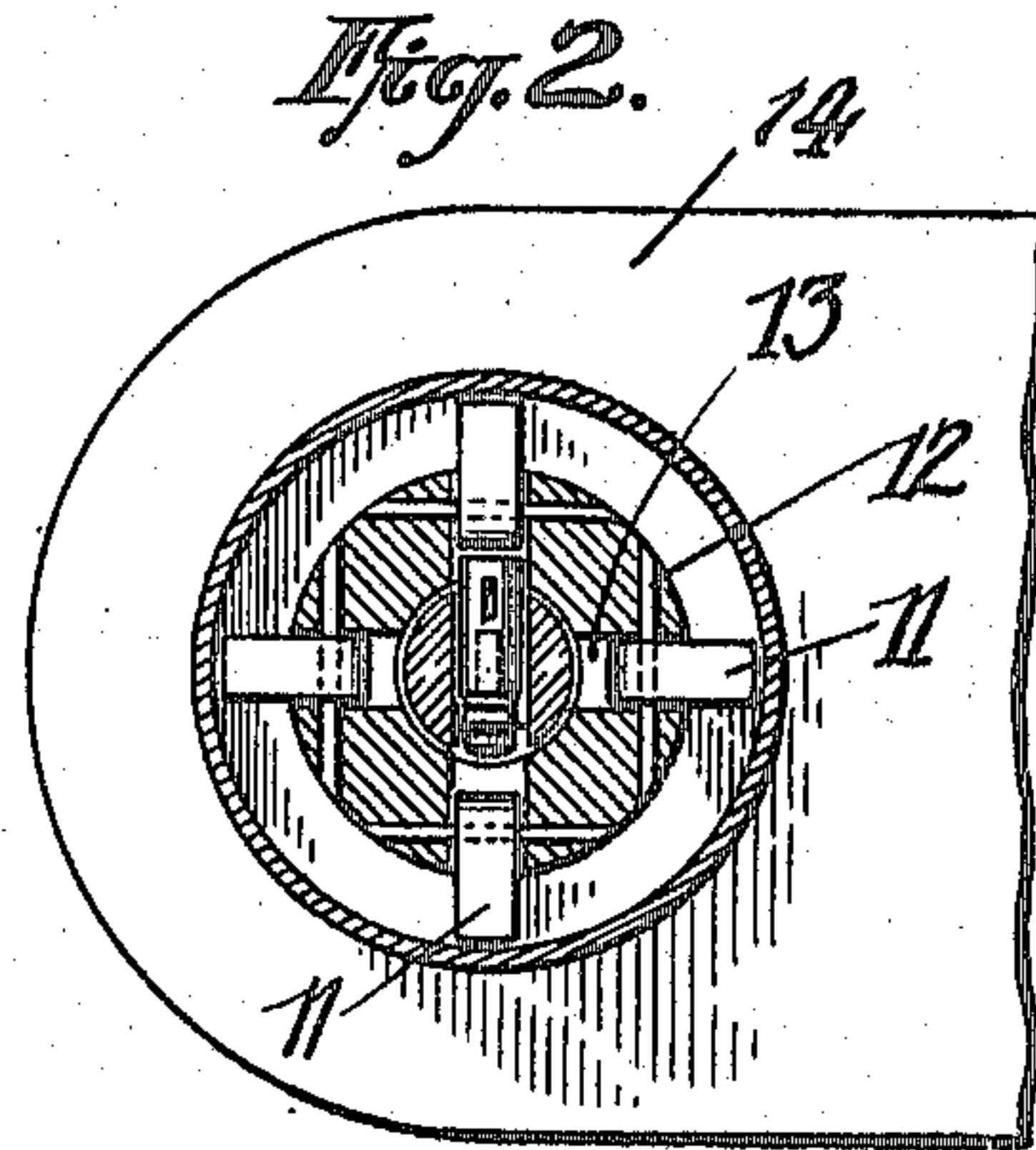
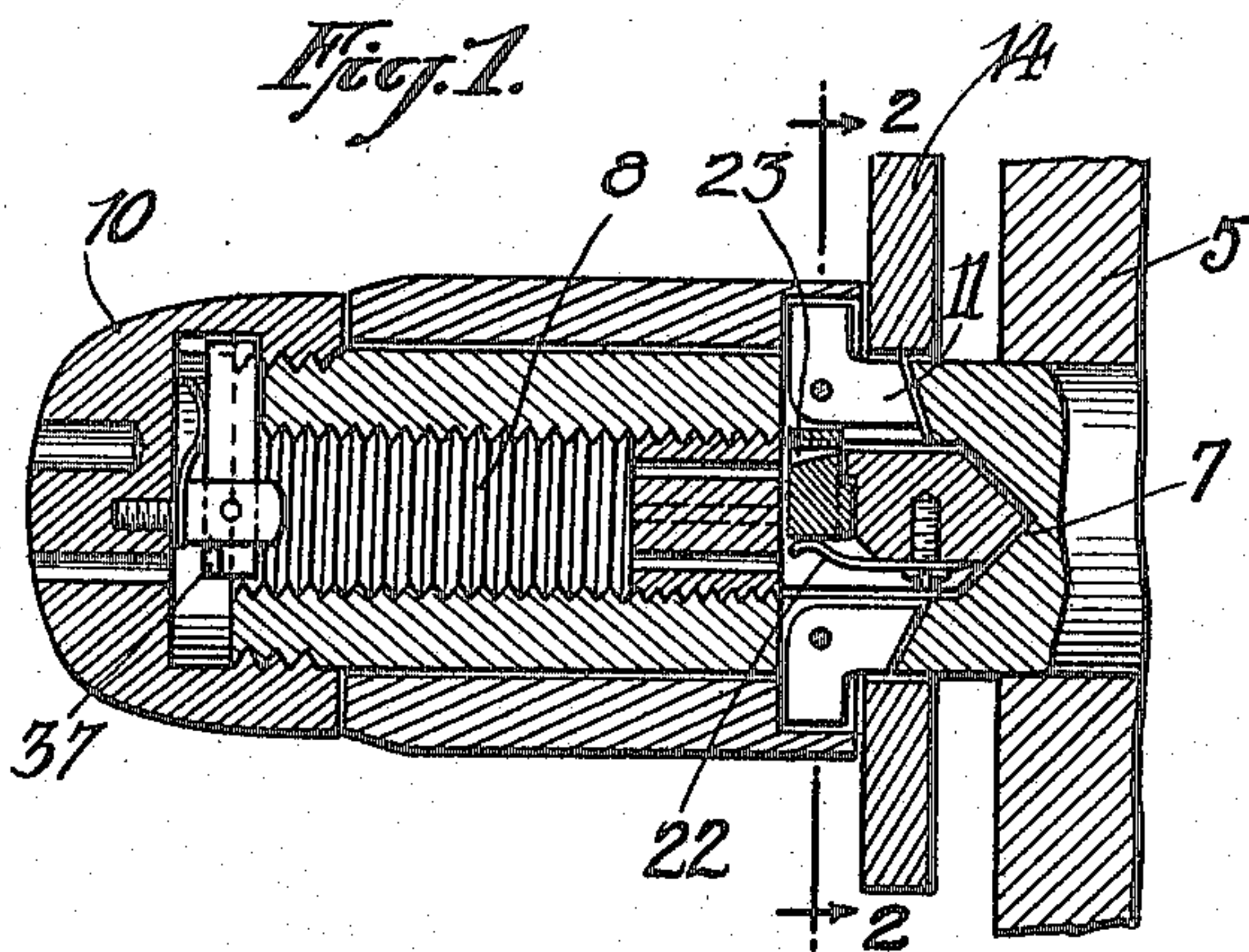
Nov. 18, 1924.

H. ALVENSLEBEN

1,515,919

LOCK

Filed April 30, 1923



INVENTOR.

Hans Alvensleben

BY

Richard R. Brown
ATTORNEY.

Patented Nov. 18, 1924.

1,515,919

UNITED STATES PATENT OFFICE.

HANS ALVENSLEBEN, OF CAMMIN, GERMANY, ASSIGNOR OF ONE-HALF TO KURT RANDIG, OF BALDWIN, LONG ISLAND, NEW YORK.

LOCK.

Application filed April 30, 1923. Serial No. 635,777.

To all whom it may concern:

Be it known that I, HANS ALVENSLEBEN, a citizen of Germany, residing at Cammin, Pommern, Germany, have invented certain new and useful Improvements in Locks, of which the following is a specification.

This invention relates to locks and more particularly to a novel and improved key operated lock applicable for use on freight car doors and closures of various types to prevent the unauthorized opening of the closure.

One of the objects of my invention is the provision of a lock capable of universal application including a plurality of locking lugs operable by the insertion of a key controlled threaded plug.

Another object of my invention is the provision of a key operated lock including a threaded plug adapted to be seated in a locked position including means for concealing said threaded plug and preventing its removal unless operated by the particular key required.

A continued object of my invention is the provision of a lock of the character above set forth including a key operated threaded plug for engaging a plurality of pivoted lugs and wherein a specially designed key is required to open and close the locking mechanism to prevent the unlocking of the bolt or bar in use.

I accomplish the above objects and others which will be more readily understood when taken in connection with the accompanying drawings, showing a preferred embodiment of my invention, and wherein;

Figure 1 is a longitudinal sectional view through the lock when the various parts are assembled.

Figure 2 is a view taken on the line 2—2 of Figure 1.

Figure 3 is a view showing the locking head and key inserted preliminary to the removal of said head.

Figure 4 is a sectional view showing the other end of the key inserted before removing the threaded plug.

Figure 5 is a view showing the stationary wall rod.

Figure 6 is a view of a lock pin used in connection with the locking cap.

Figure 7 is one view of the key.

Figure 8 is an end view of the threaded locking plug and,

Figure 9 is a sectional view of said locking plug.

Referring now to the drawings wherein like reference characters designate corresponding parts throughout the several views, 5 5 designates the wall or door or a permanent structure wherein a bolt 6 is inserted in any well known manner, permanently secured therein and extending outwardly of said wall. The bolt 6 is provided with a central bore, the inner end of which is cut out to form a conical seat 7. The bolt 6 is also threaded internally as at 8, being also provided with external threads 9 at the outer end thereof, to receive an internally threaded locking cap 10 as clearly shown by Figures 1 and 3 of the drawings.

Adjacent the seat 7 of the bolt, I have provided a plurality of pivotally connected, swinging, substantially right angular lugs 11, which, as shown, are supported on pins 12 and swing in the recesses 13 in the manner clearly indicated by Figure 2 of the drawing. The bolt bar is indicated at 14 and is prevented from being swung outwardly when the lugs 11 are in their operative or locked position.

The locking plug 16 is provided with a conical seat 17 at its inner end and is externally threaded as at 18 for cooperation with the threads 8 of the bolt, it being observed that a plurality of recesses 19 in the opposite end of the locking plug is provided for the insertion of a specially provided key to permit of the rotation of the plug in its locked position. The plug 16 is further provided with an auxiliary spring controlled catch in the form of a member 21, held, by the spring 22, to the position shown by Figure 1 whereby the plug 16 cannot be rotated or removed unless the member 21 is released from the notch beneath the pivoted lug 11. It will be observed that the member 21 is provided with a bevelled groove 23 which is substantially in alignment with the slot 19 so that when the pins 26, 27, are inserted in the plug 16, the bevelled end of the pin 26 will press the member 21 against the resistance of the spring 22 to release the catch and permit of the rotation of plug 16 as shown by Figure 4.

The locking cap 10, above referred to, is also provided with an auxiliary locking member consisting of a spring controlled pin 29 which is pivoted at 30 on a yoke 31,

the inner end 32 of which is threaded into the body of the cap 10 as clearly shown. The spring 33 normally urges the pin 29 into a groove 34 in the end of the bolt 6, it being observed that the end of the pin 29 is bevelled as indicated at 37 for cooperation with the grooved end 38 of the pin 39 of the key head 40. It will thus be seen that upon the insertion of the pin 39 and 41 of the key head, that the pin 29 will be released from the groove 34 and consequently permit a rotation of the cap 10 from the threaded end 9 of the bolt whereupon the key may be removed and the pins 26, 27 inserted into the locking plug 16, preliminary to the removal of the same.

Between the removable cap 10 and the bolt bar 14, it will be seen that I have also provided a housing 41 which can be removed when the cap 10 has been unthreaded from the bolt 6. Sufficient clearance is also had between the bolt bar 14 and the side of the wall or door 5 so that when the bolt bar 14 is moved inwardly, the lugs 11 may be rotated on their pivots and inwardly within the body of the bolt so that the bar 14 may be removed. On the other hand, it will be readily seen that as the key rotates the plug 16 and moves it into its seat, the said plug will engage the respective lugs 11 and rotate them to their locked position and thus prevent the removal of the bolt bar 14. The specially devised key for the lock of this construction prevents the unauthorized removal of the mechanism and even though the cap 10 is removed, it will be seen that the member 21 prevents the removal of the plug 16 unless the proper character of key is had to remove the catch 21 beneath the lugs 11.

While I have illustrated and described my invention with some degree of particularity, I realize that in practice various alterations therein may be made. I therefore reserve the right and privilege of changing the form of the details of construction or otherwise altering the arrangement of the correlated parts without departing from the spirit of the invention or the scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by United States Letters Patent is:—

1. A lock of the class described compris-

ing a stationary internally threaded bolt, a plurality of radially disposed locking elements pivotally secured within the bolt, a threaded plug rotatable within the bolt to actuate the locking elements to their locked position, a bolt housing and a cap secured to the outer end of the bolt.

2. A lock of the class described comprising a stationary internally threaded bolt, a plurality of radially disposed lugs pivotally secured within the body portion of the bolt, a threaded plug rotatable within the bolt to actuate the lugs to their locked positions, means for locking the plug, a bolt housing and a cap locked on the outer end of the bolt.

3. A lock of the class described comprising a stationary internally threaded bolt, and having a recess forming a seat therein, a plurality of radially disposed lugs pivoted within the bolt, a key actuated threaded plug operable to swing the lugs outside the periphery of the bolt, means for locking said plug when situated in the seat, a bolt housing and a cap locked on the outer end of the bolt.

4. A lock of the class described comprising a stationary internally threaded bolt, having a recess at the inner end of the same, a key operated threaded plug within the bolt, a plurality of L-shaped lugs disposed about the seat and movable to their operative or locked position when the plug is seated, spring controlled means for locking the plug in its seat, a housing for the bolt, a cap threaded on the outer end thereof and means within the cap for locking the same.

5. A lock of the class described comprising a stationary internally threaded bolt, a plurality of hingedly connected lugs within the bolt, a key actuated threaded plug operable within the plug and in the path of the lugs to rotate the same to their locked position, spring controlled means for locking the plug when seated, a housing, a cap threaded on the outer end of the bolt, and key operated locking means carried by the cap.

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

HANS ALVENSLEBEN. [L. s.].

Witnesses:

CHARLES B. DYAR,
N. V. JACOBS.