

J. K. CROSS.

PADLOCK.

APPLICATION FILED OCT. 20, 1909.

963,466.

Patented July 5, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

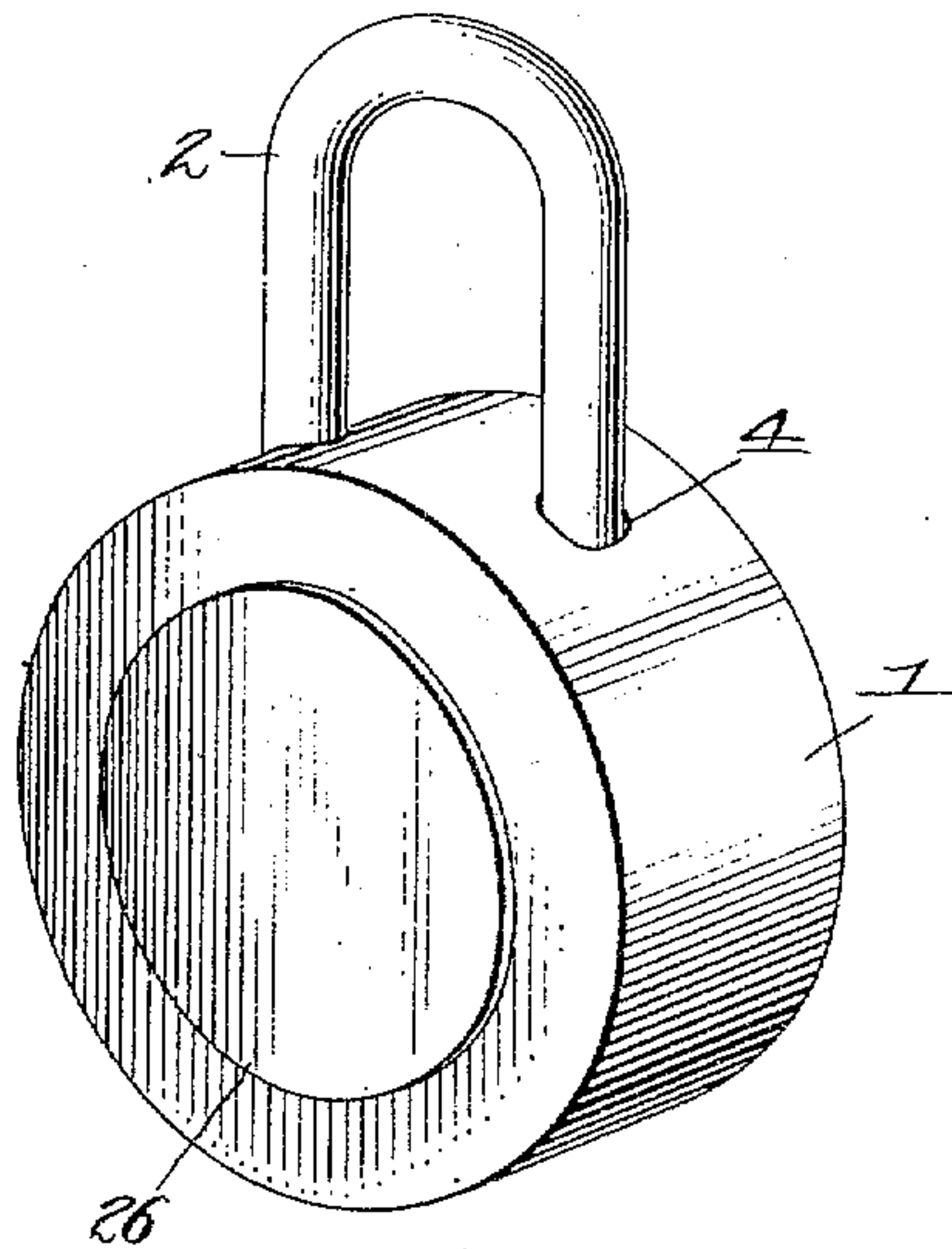


Fig. 2.

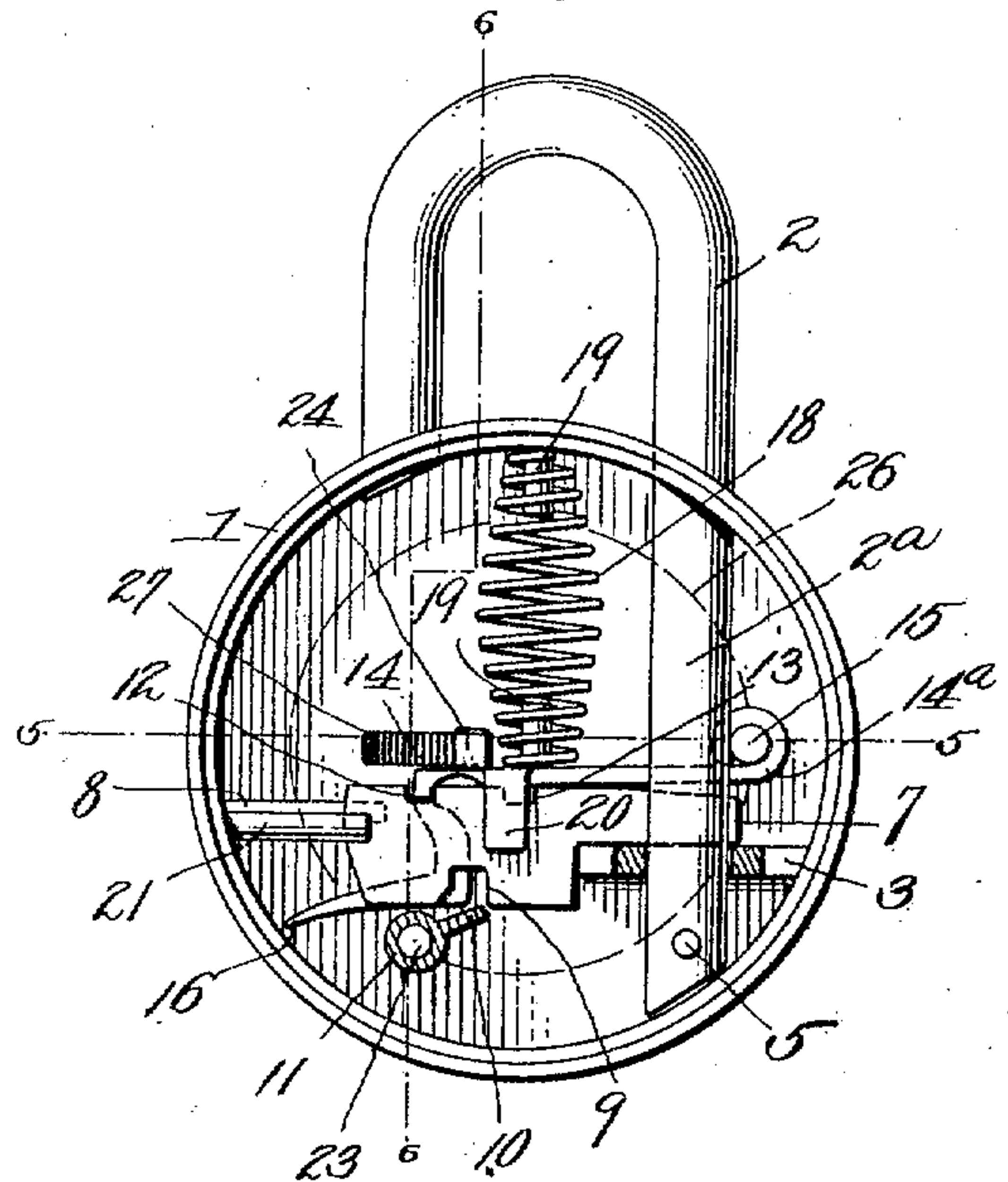
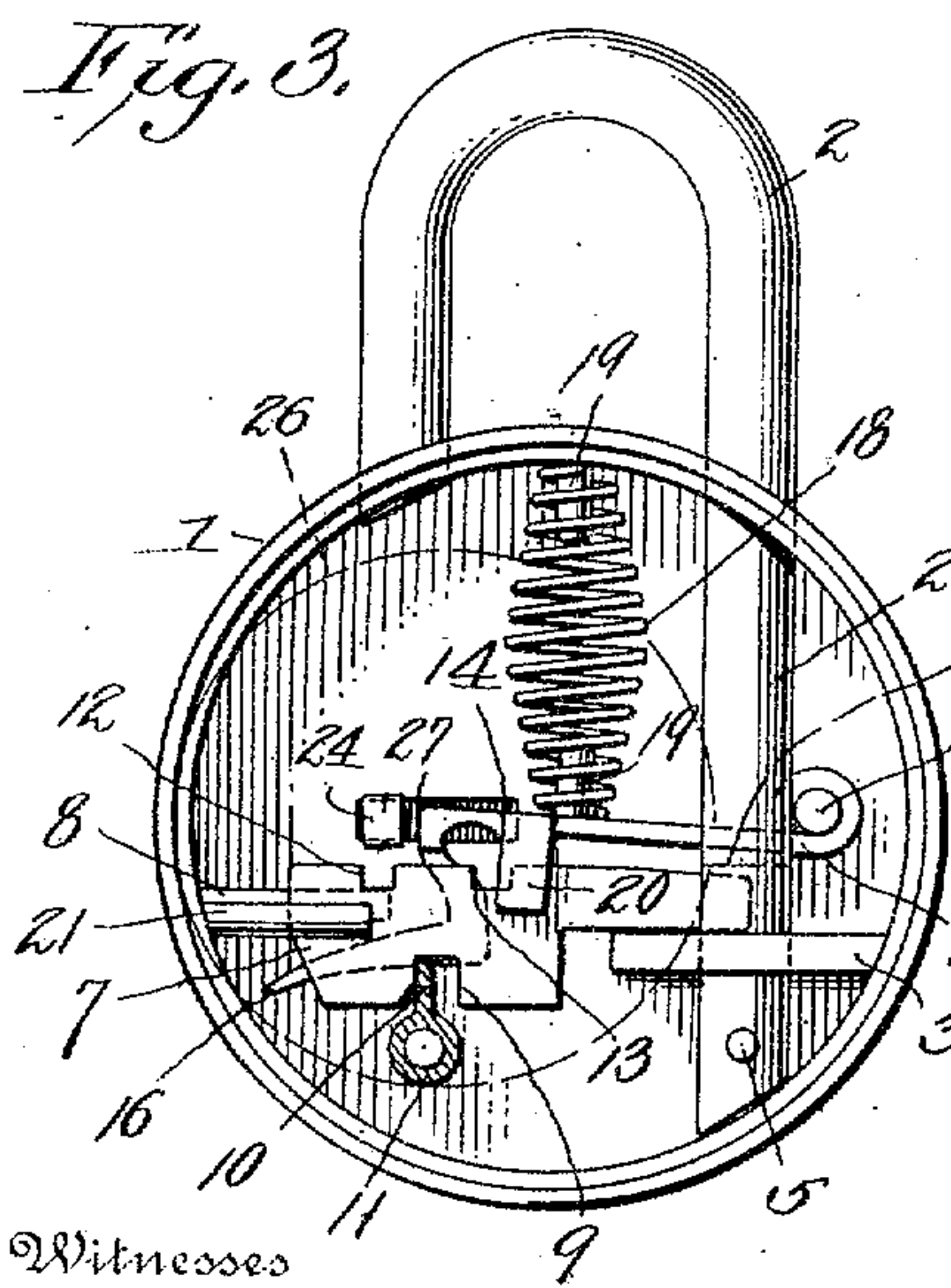


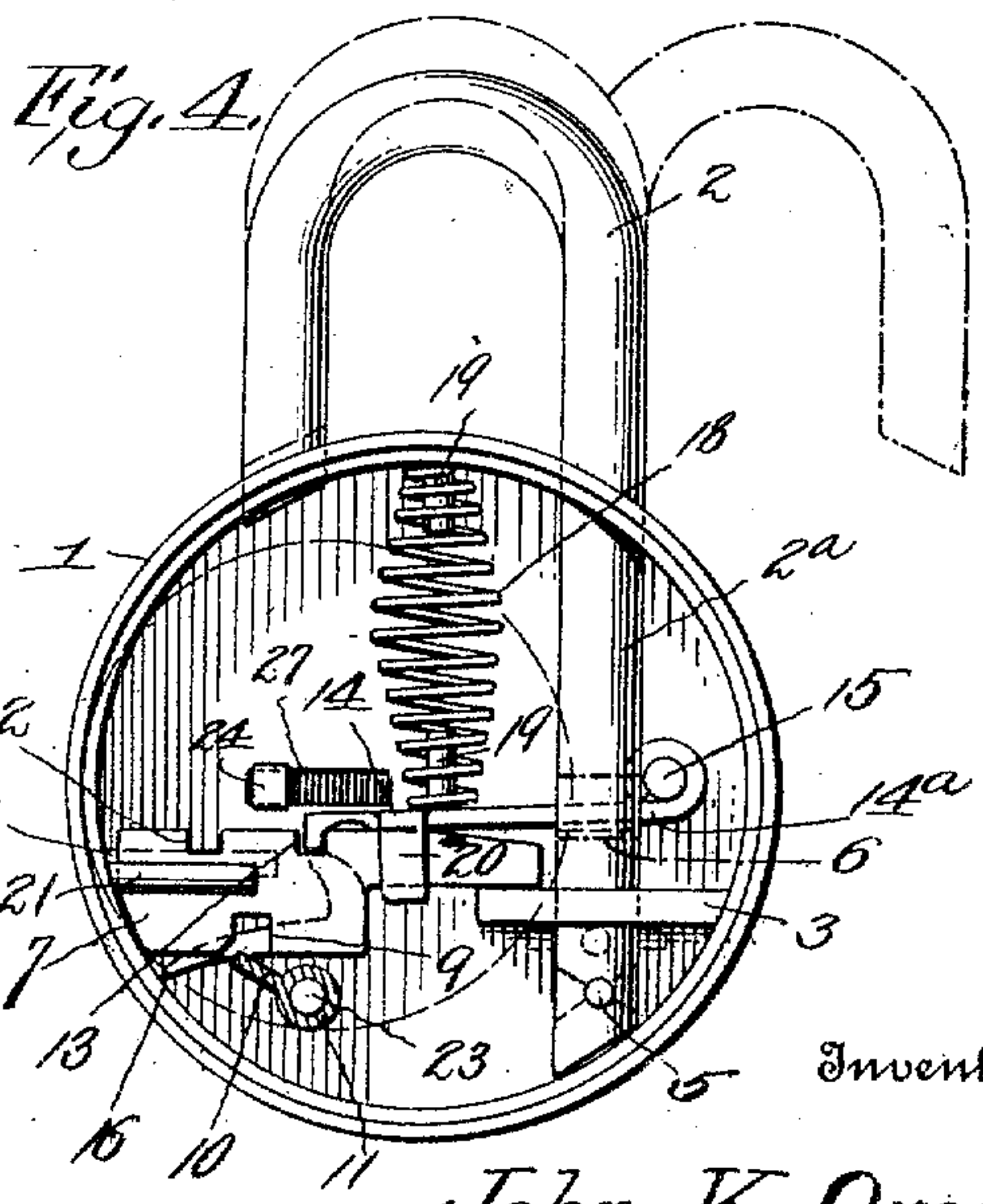
Fig. 3.



Witnesses

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Fig. 4.



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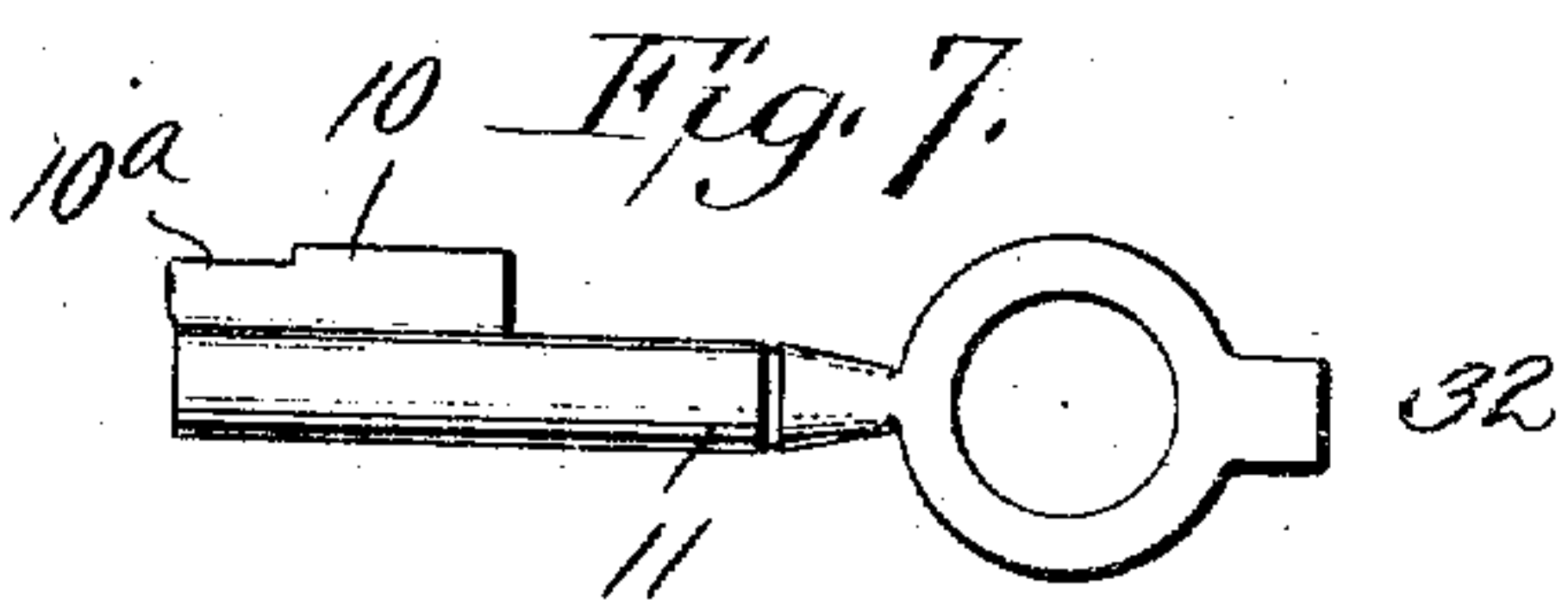
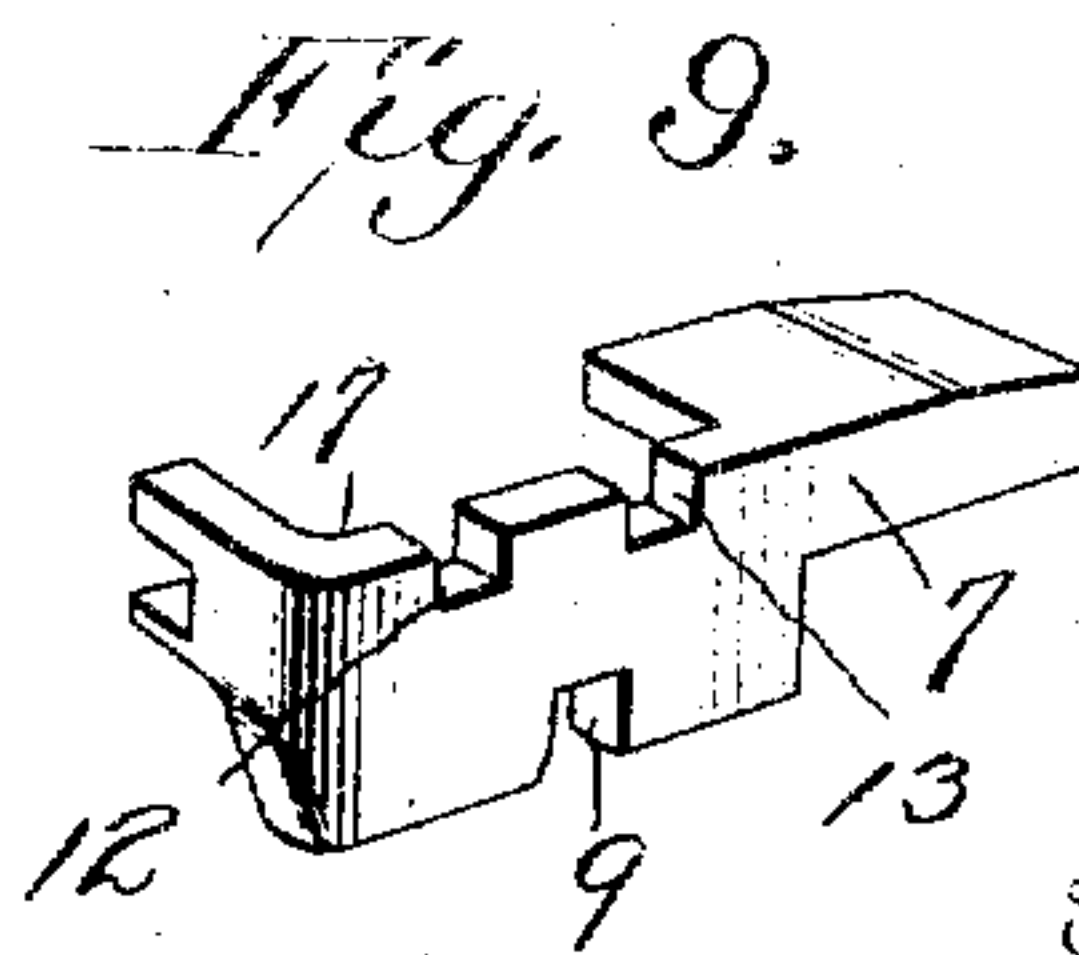
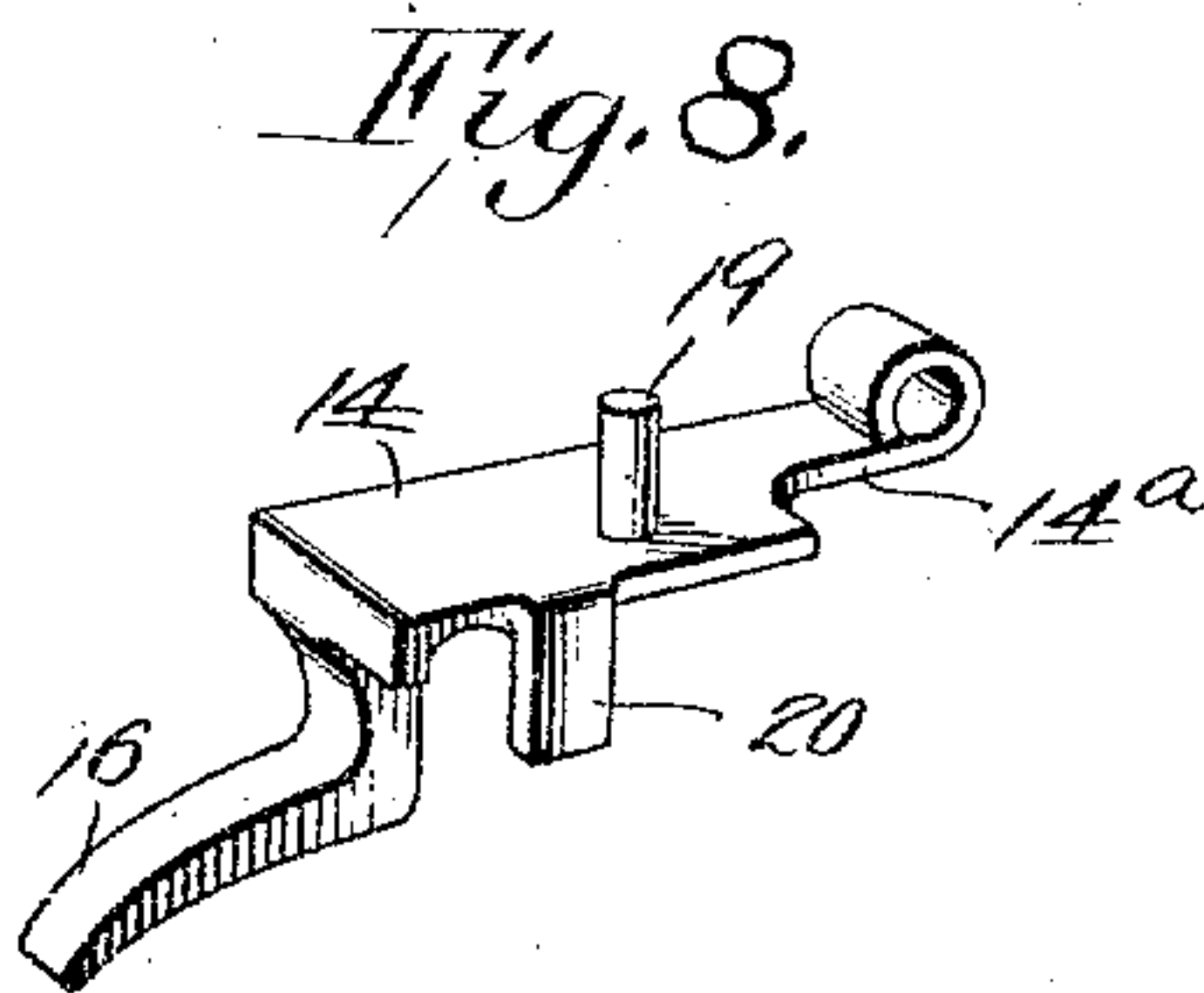
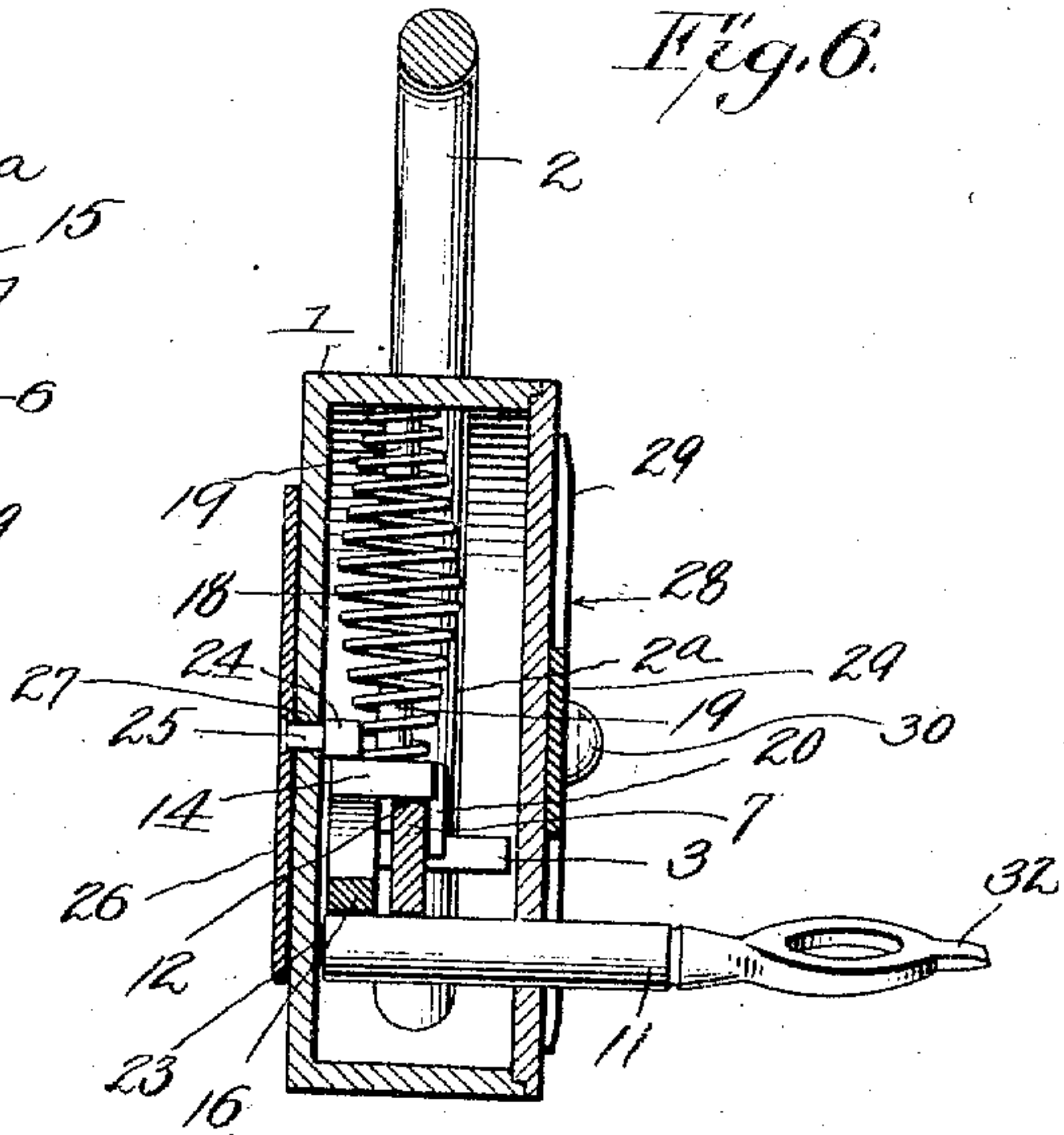
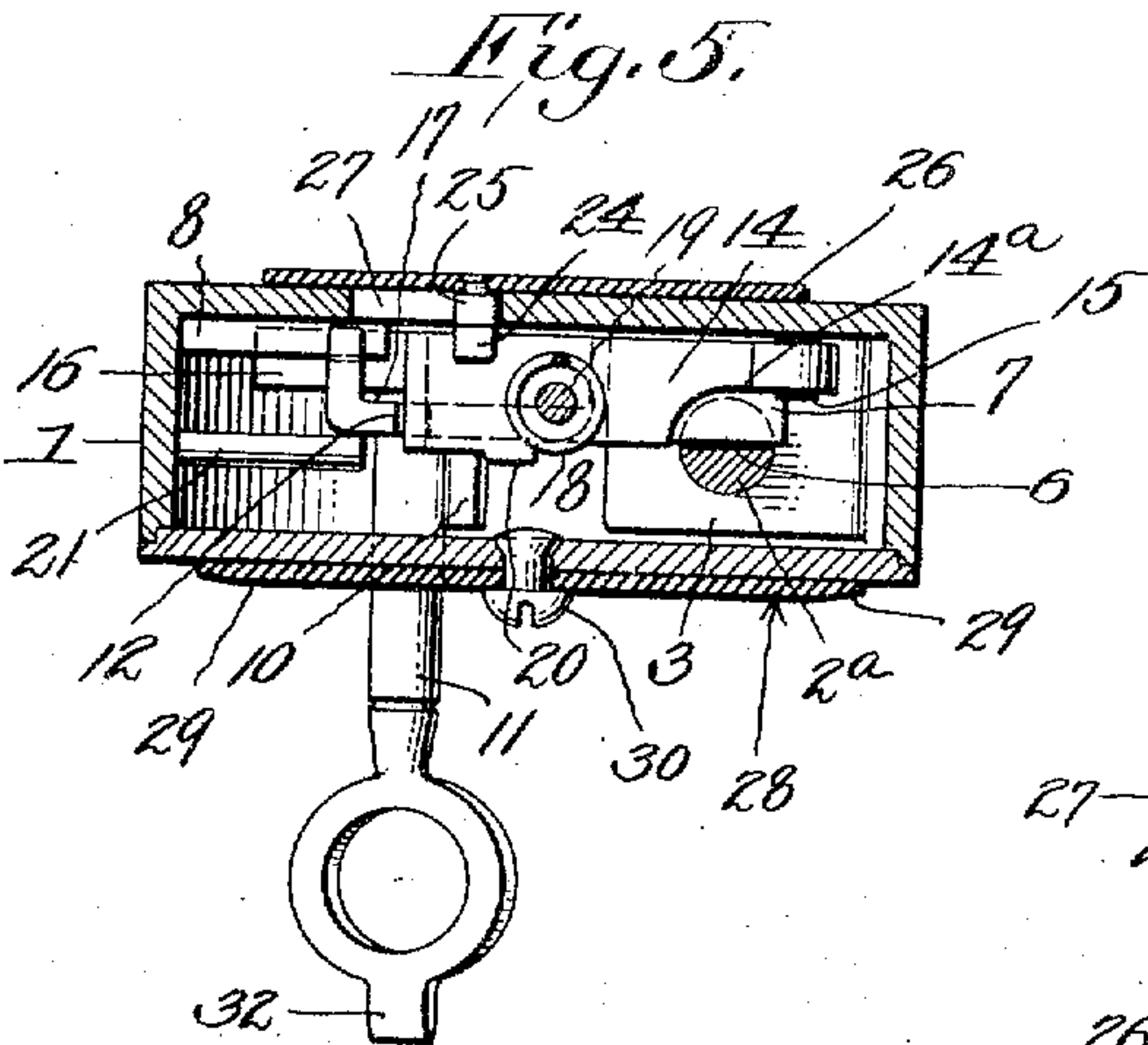
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN K. CROSS, OF VULCAN, WEST VIRGINIA.

PADLOCK.

963,466.

Specification of Letters Patent.

Patented July 5, 1910.

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To all whom it may concern:

Be it known that I, JOHN K. CROSS, a citizen of the United States, residing at Vulcan, in the county of Mingo and State of West Virginia, have invented certain new and useful Improvements in Padlocks, of which the following is a specification.

The present invention relates to certain new and useful improvements in the construction of padlocks, and the object of the invention is the provision of a lock of this character which is simple and inexpensive in its construction, which comprises few and durable parts, and which is positive and reliable in its operation.

The invention further contemplates a padlock provided with a novel detent adapted to lock the tumbler, the said detent being peculiarly mounted so as to be readily operated from the exterior of the lock by a person familiar therewith.

With these and other objects in view, the invention consists in certain arrangements and combinations of the parts as will more fully appear as the description proceeds, the novel features being pointed out in the appended claims.

For a full understanding of the invention, reference is to be had to the accompanying drawings, in which:—

Figure 1 is a perspective view of a padlock constructed in accordance with the invention, the said view showing the back of the padlock; Fig. 2 is a face view of the padlock with the front plate removed, the locking bolt being shown as thrown into an operative position; Fig. 3 is a similar view with the locking bolt in an intermediate or half shot position; Fig. 4 is also a similar view with the locking bolt in a retracted or inoperative position, the shackle appearing in dotted lines as drawn outwardly, and in dot and dash lines as swung to one side; Fig. 5 is a transverse sectional view on the line 5-5 of Fig. 2; Fig. 6 is a longitudinal view on the line 6-6 of Fig. 2; Fig. 7 is a detail view of the key; Fig. 8 is a detail perspective view of the tumbler; and Fig. 9 is a similar view of the locking bolt.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the casing of the lock which in the present instance is shown as circular in shape, and the shackle, one arm of the said shackle being extended as indicated at 2^a and passing loosely through an opening in the top of the casing and also through an internal wall or partition 3 within the casing. When the shackle is in a closed position the opposite arm thereof is designed to enter an opening 4 in the top of the casing, while after the locking bolt has been retracted the shackle may be moved outwardly until it is disengaged from the opening 4 and assumes the position shown in dotted lines on Fig. 4, and then swung to one side as indicated by the dot and dash lines on the said figure.

For the purpose of limiting the outward sliding movement of the shackle the inner end of the extended arm 2^a thereof is provided with a pin 5 the ends of which project laterally so as to engage the internal wall 3 when the shackle has reached the outer limit of its movement. One side of this extended arm 2^a of the shackle is formed with a recess 6 adapted to receive the locking bolt 7, one end of the said locking bolt sliding upon the wall 3 while the opposite end is grooved to receive a horizontally disposed guide rib 8 which projects from the back of the casing and serves to guide the locking bolt in its movements. The lower edge of the locking bolt is notched at 9 to receive the bit 10 of a key 11, while the upper edge of the locking bolt is formed with a pair of notches 12 and 13 adapted to cooperate with the tumbler 14 to hold the locking bolt either in a locked or unlocked position. This tumbler 14 is provided at one end with an extension 14^a which is pivotally mounted upon a pin 15 projecting from the back of the casing, while the opposite end of the tumbler is formed with a downwardly offset tang 16 received loosely within a cut away portion 17 in the rear face of the locking bolt and projecting across the bit receiving notch 9 in the lower edge of the locking bolt. A coil spring 18 the ends of which are engaged respectively by the studs 19 projecting from the top of the casing 1 and the back of the tumbler 14 serves to hold the latter normally in engagement with the locking bolt. For the pur-

pose of holding the said locking bolt 7 against the back of the casing 1 the tumbler 14 is provided at its forward edge with a downwardly extending lip 20 which projects over the front of the locking bolt, and a pin 21 projects inwardly from one side of the casing and extends over the outer face of the rear end of the locking bolt.

The key 11 is designed to be inserted through the usual key hole opening 22 in the front of the casing 1, and is shown as formed with a hollow stem adapted to receive a key post 23 projecting from the back of the casing. When this key 11 is turned the bit 10 thereof enters the bit receiving notch 9 in the lower edge of the locking bolt, the notched end 10^a of the bit first engaging the tang 16 of the tumbler 14 so as to lift the said tumbler out of engagement with either of the notches 12 or 13. A continued rotary movement of the key then causes a sliding movement of the locking bolt for throwing the same into either a locked or unlocked position as desired. When the key is turned to withdraw the bit 10 from the bit receiving notch 9 of the locking bolt preparatory to withdrawing the key from the lock, the tumbler 14 is forced downwardly into operative position by the spring 18 and engages one of the notches 12 or 13, the former if the bolt has been thrown into an operative position and the latter if the bolt has been retracted into an inoperative position.

A further essential feature of the invention resides in the provision of a sliding detent 24 which is connected by a shank 25 to a plate 26 upon the exterior of the lock, the said shank 25 operating within a slot 27 in the back of the casing. This plate 26 is slightly smaller in size than the back of the lock and has substantially the same shape as the lock itself so as to be inconspicuous in appearance and attract no attention from an unauthorized person unfamiliar with the lock and trying to open same. When this plate 26 is moved into a position concentric with the casing 1 as indicated in Figs. 1 and 2, the locking detent 24 is moved over the swinging end of the tumbler 14 so as to hold the same firmly in engagement with the locking bolt and prevent it from being lifted into an inoperative position either by means of the key itself or any other implement which might be utilized in an effort to pick the lock. However, when the plate 26 is moved to one side as indicated by the dotted lines in Figs. 3 and 4, the sliding detent 24 is drawn beyond the end of the tumbler 14 so as not to interfere with the swinging movement thereof. It will thus be obvious that in order to open the padlock the operator must first move the plate 26 at the back thereof to one side,

and then insert the key through the key hole opening 22 and turn the same in the usual manner so that the bit thereof will raise the tumbler and slide the bolt.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. In a padlock, the combination of a casing having a slot therein, a shackle, a locking mechanism within the casing for cooperation with the shackle, a movable detent for holding the locking mechanism against operation, a plate upon the exterior of the casing, and a shank connecting the plate and the detent and slidable within the before mentioned slot to move the detent into and out of operative position.

2. In a padlock, the combination of a casing, having a slot therein, a shackle, a locking bolt slidably mounted within the casing and adapted to engage the shackle to hold it in a closed position, a tumbler pivotally mounted within the casing and constructed at its swinging end to engage the locking bolt, a slide mounted upon the exterior of the casing, a stem connected to the slide and passing loosely through the before mentioned slot in the casing, and a detent carried by the stem and adapted to be moved over the swinging end of the tumbler to hold the said tumbler in engagement with the locking bolt.

3. In a padlock, the combination of a casing having a slot therein, a shackle, a locking bolt slidably mounted within the casing and adapted to engage the shackle to hold it in a closed position, the said locking bolt being formed with a bit receiving notch, a tumbler pivotally mounted within the casing and constructed at its swinging end to engage the locking bolt, the said tumbler being also formed with a tang which normally extends across the before mentioned bit receiving notch of the locking bolt, a key formed with a bit adapted to enter the bit receiving notch of the locking bolt to move the swinging end of the tumbler into an inoperative position and throw the locking bolt, a plate slidably mounted upon the exterior of the casing, a stem projecting from the plate and passing loosely through the slot in the casing, and a detent carried by the stem and adapted to be moved over the swinging end of the tumbler to retain the tumbler in a positive engagement with the locking bolt.

4. In a padlock, the combination of a casing formed with an internal partition and also with a rib projecting inwardly therefrom, a shackle having one arm thereof extended and passing slidably through the internal wall, a locking bolt slidably mounted within the casing and adapted to engage the extended arm of the shackle to hold the

shackle in a closed position, one end of the locking bolt sliding upon the before mentioned internal partition while the opposite end is grooved to receive the before mentioned rib, a tumbler pivotally mounted within the casing and constructed at its swinging end to engage the locking bolt, a lip projecting from the tumbler and engaging the locking bolt to hold it against that

side of the casing provided with the rib, and 10 a key for operating the locking bolt.

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

JOHN K. OROSS.

Witnesses:

J. T. REYNOLDS,
F. M. MASSIE.