

(No Model.)

J. CARSON.
SWITCH LOCK.

No. 584,985.

Patented June 22, 1897.

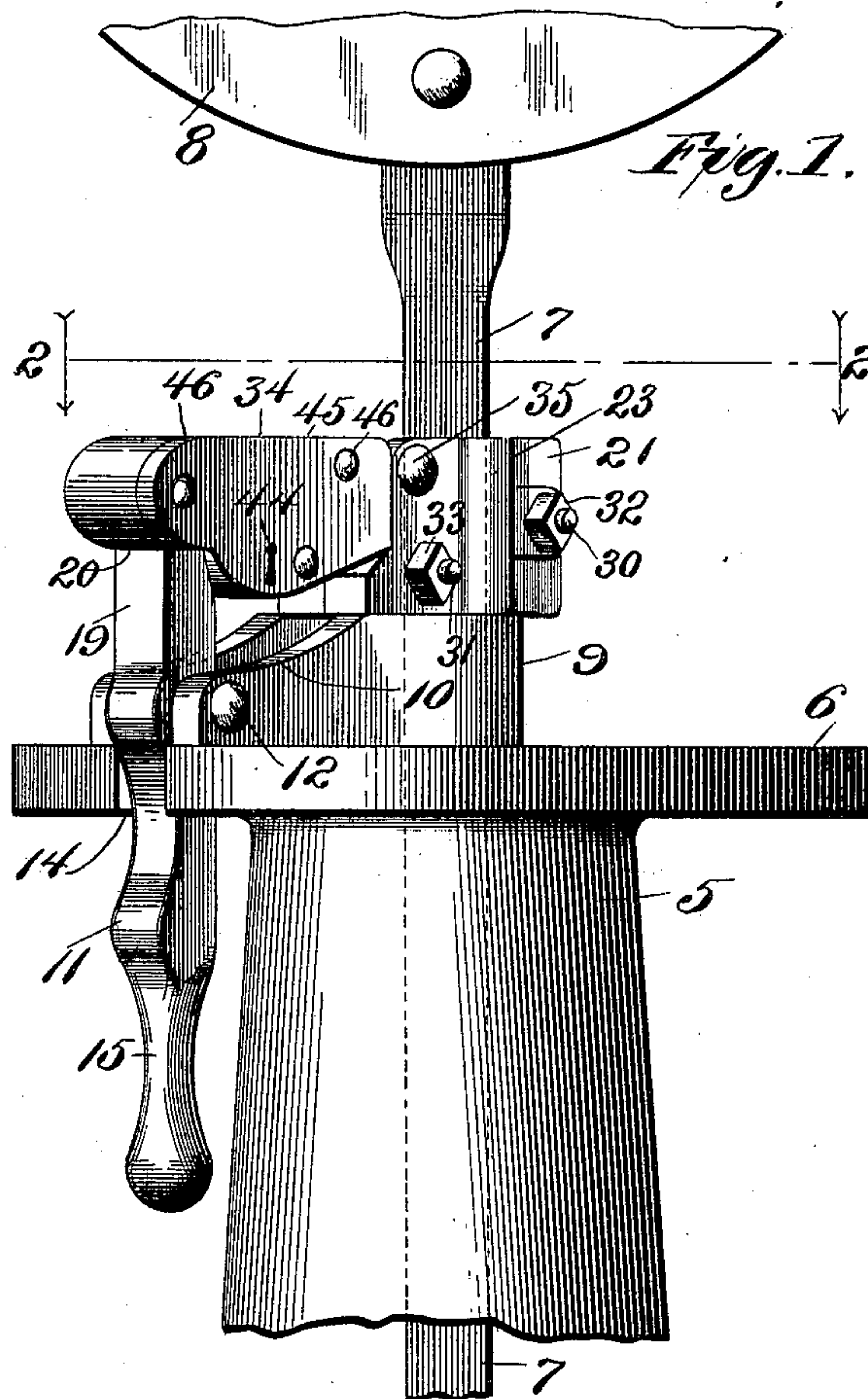
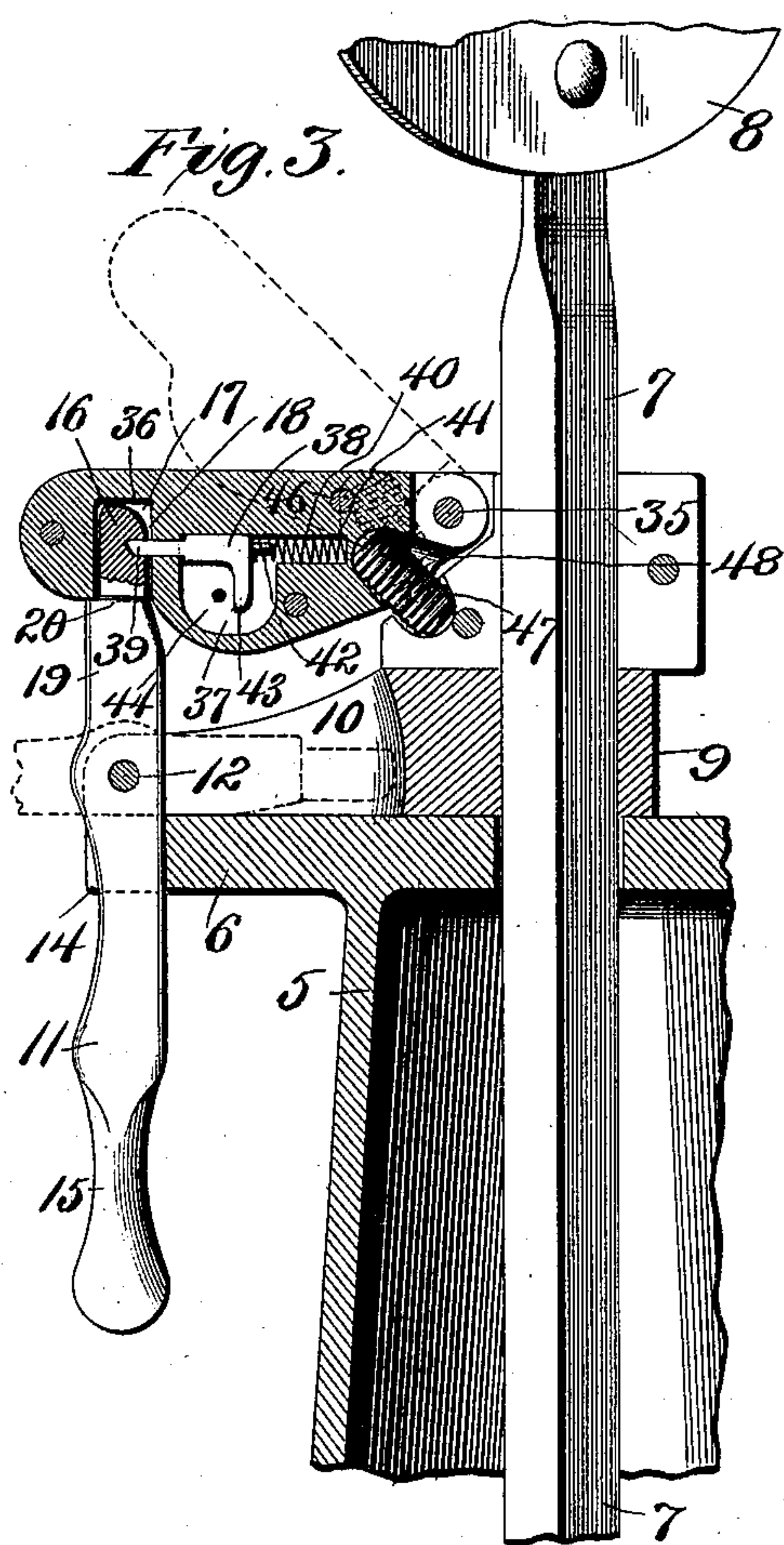
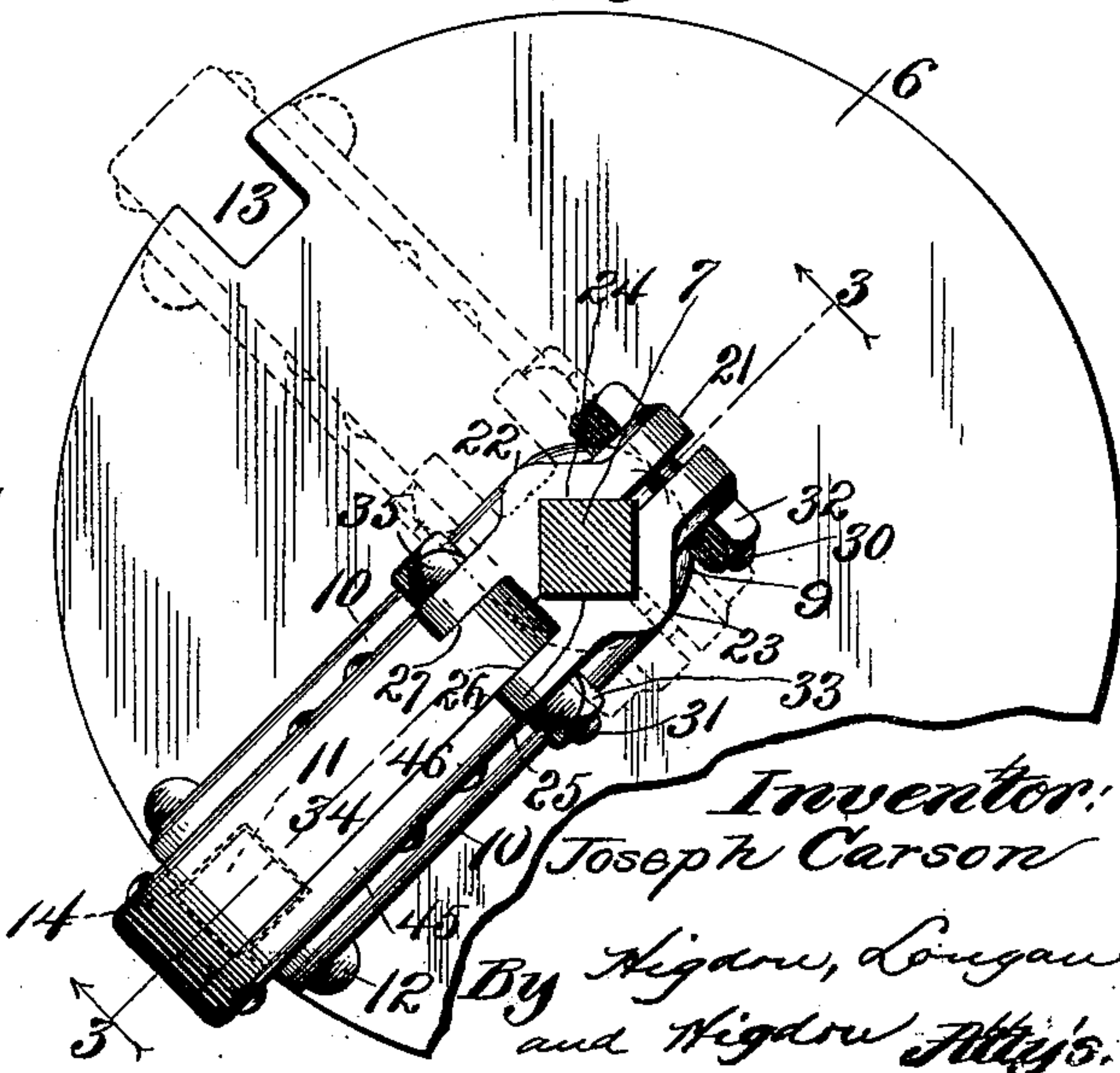
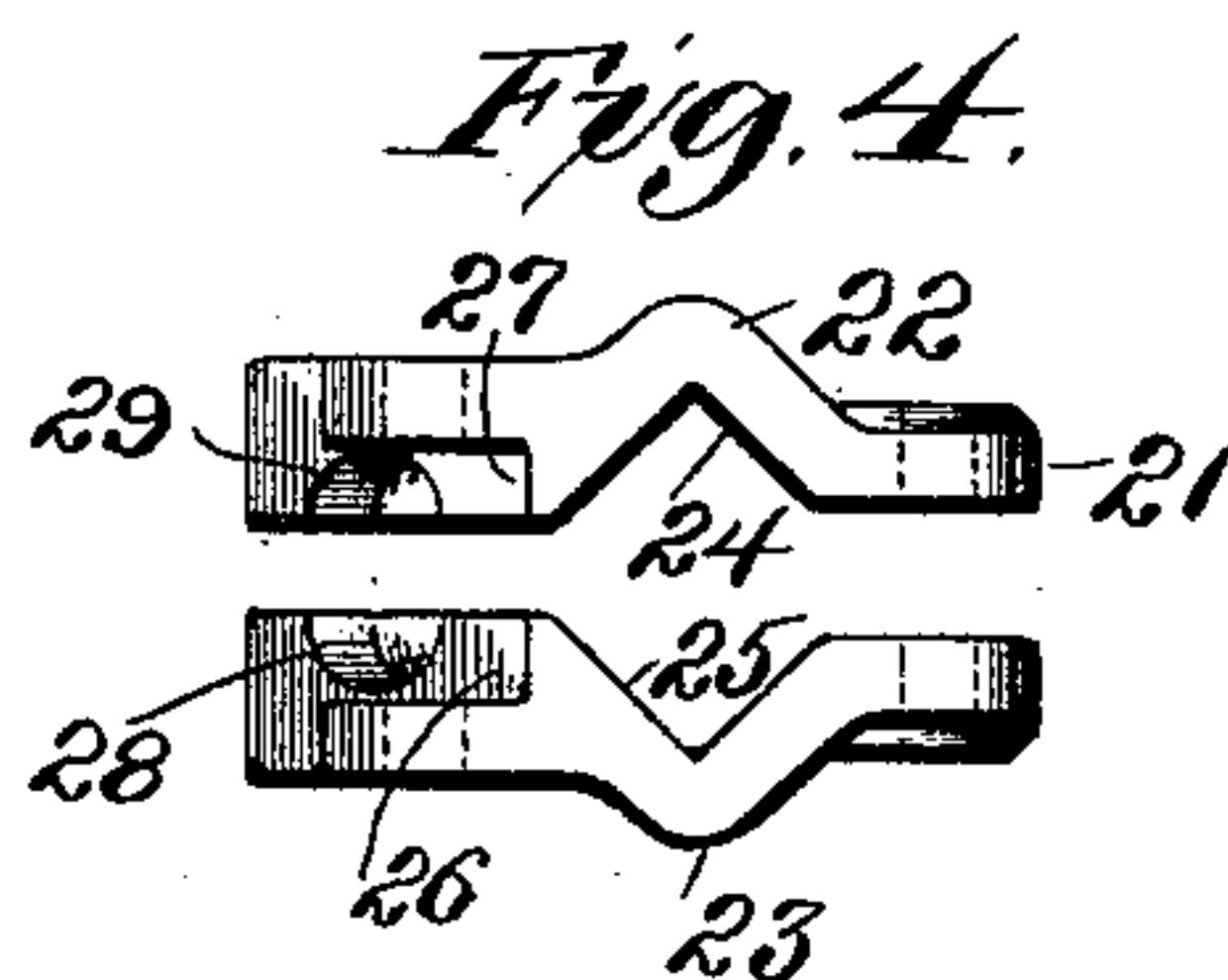


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOSEPH CARSON, OF BROOKLAND, ARKANSAS.

SWITCH-LOCK.

SPECIFICATION forming part of Letters Patent No. 584,985, dated June 22, 1897.

Application filed November 16, 1896. Serial No. 612,241. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CARSON, of the city of Brookland, Craighead county, State of Arkansas, have invented certain new and useful Improvements in Switch-Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to switch-locks; and it consists in the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a view in elevation of that part of a switch-stand to which my improved lock is applied and showing the lock in position for use. Fig. 2 is a horizontal sectional view taken on the line 2 2 of Fig. 1 and looking in the direction indicated by the arrows, the operation of the parts being indicated by dotted lines. Fig. 3 is a vertical sectional view taken approximately on the line 3 3 of Fig. 2 and looking in the direction indicated by the arrows, the operation of the parts being indicated by dotted lines. Fig. 4 is a top plan view of a clamp which I employ in attaching my lock to the switch-stand.

Referring by numerals to the drawings, 5 indicates the switch-stand, which is surmounted by the disk 6. The shaft 7 is vertically mounted through the centers of the stand 5 and the disk 6, and upon the upper end of said shaft is a vane 8, which indicates the position of the switch.

The shaft 7 is square in cross-section and at its lower end is attached to the shifting-rods which move the rails of the track.

The block 9 has a square opening to receive the shaft 7, and said block rests upon the upper face of the disk 6. The mating arms 10 extend horizontally from the block 9 in positions parallel with each other, and the hand-lever 11 is pivotally mounted between the outer ends of said arms 10 by means of the bolt 12. Notches 13 and 14 are formed in the edge of the disk 6 at right angles to the shaft 7 and in position to receive the hand-lever 11 when said lever is in a vertical position. The lower edges of the arms 10 slide upon the upper face of the disk 6, and the switch may be moved after raising the handle 15 of the hand-lever 11 to a horizontal position on a level with said arms 10. The switch cannot

be moved while the hand-lever 11 is in a vertical position; and the object of my invention is to hold said hand-lever in a vertical position except when the proper parties desire to move the switch. Upon the upper end of the hand-lever 11 is the portion 16, having the rounded inner corner 17 and the notch 18 upon its inner or lower face. The portion 19 of said hand-lever, which is immediately below the portion 16, is somewhat larger in cross-section than said portion 16, thus forming the shoulder 20, extending around the lever.

The clamp 21 is attached to the shaft 7 above the block 9. Said clamp 21 consists of the mating portions 22 and 23, (shown in Fig. 4,) which portions have the triangular notches 24 and 25 formed vertically in their meeting faces and designed to receive the shaft 7. The recesses 26 and 27 are formed upon the meeting faces of the parts 22 and 23, and in the lower walls formed by said recesses are the semicircular recesses 28 and 29.

When the parts 22 and 23 are placed around the shaft 7, as shown in Fig. 2, the bolts 30 and 31 are inserted horizontally through said parts and upon opposite sides of said shaft 7, and the nuts 32 and 33 are placed upon the screw-threaded ends of said bolts and hold the parts firmly in position upon said shaft.

The block 34 has one of its ends placed in the recesses 26 and 27 and is pivotally connected to the clamp 21 by means of the rivet 35. The block 34 has a recess 36 formed from the lower side and in the front end thereof, said recess 36 being designed to receive the portion 16 of the hand-lever 11. A recess 37 is formed in the side of the block 34 and near its center and contains the spring-catch 38, which is slidingly mounted in such a way that its end 39 engages within the recess 18 in the end 16 of the hand-lever 11. An expansive coil-spring 40 is placed behind the said catch 38 within the recess 41 and around the pin 42, which projects horizontally from the opposite side of the catch 38 from the end 39.

An arm 43 extends downwardly at right angles from the catch 38 and in position to be engaged by the key which is to be used in unlocking the switch and which will be inserted in the keyhole 44. A plate 45 is placed against the side of the block 34, in which the recesses

are formed, and is secured in position by means of the rivets 46, thus covering the recesses and parts contained therein. An expansive coil-spring 47 is placed with its lower end within the recesses 28 and 29 and its upper end within the recess 48, which recess 48 is formed in the block 34 from the lower side and a short distance in front of the rivet 35. The tension of the coil-spring 47 is normally exerted to hold the block 34 elevated, as shown in dotted lines in Fig. 3, and the tension of the coil-spring 40 is normally exerted to hold the end 39 of the spring-catch in the recess 36 and within the recess 18 when the end 16 of the hand-lever is within the recess 36, as shown in Fig. 3.

When the key of the operator is inserted into the keyhole 44 and is operated to withdraw the end 39 from the recess 18, the tension of the spring 47 will elevate the block 34, and the hand-lever is free to be operated. The operator then grasps the handle 15 and raises it to a horizontal position and upon turning the same moves the switch. Upon being released the handle 15 again assumes a vertical position, and the operator presses down upon the free end of the block 34, thus forcing the end 16 of the hand-lever into the recess 36, and the switch is automatically locked by the spring-catch 38.

A switch-lock of my improved construction is simple and inexpensive and at the same time is very efficient.

I claim—

1. In a switch-lock, a stand having notches, a rock-shaft vertically mounted in said stand, a block attached to said rock-shaft, parallel arms projecting horizontally from said block, a hand-lever pivotally mounted between the free ends of said parallel arms and in position to engage said notches when said lever is in a vertical position, a clamp fixed to said rock-shaft and above said block, a block pivotally connected to said clamp, and a spring-catch in the free end of said block and in position to engage the upper end of said lever, substantially as specified.

2. In a switch-lock, a stand having notches, a rock-shaft vertically mounted in said stand, a block attached to said rock-shaft, parallel arms projecting horizontally from said block, a hand-lever pivotally mounted between the free ends of said parallel arms and in a posi-

tion to engage said notches when said lever is in a vertical position, a clamp fixed to said rock-shaft and above said block, a block pivotally connected to said clamp, a spring-catch in the free end of said block and in position to engage the upper end of said lever, and a spring interposed between said block and said clamp in such a way that it will hold said block normally elevated and out of engagement with said lever, substantially as specified.

3. In a switch-lock, the clamp 21 consisting of the mating pieces 22 and 23 having the triangular notches 24 and 25 upon their meeting faces and having the mating recesses 26 and 27 and semicircular recesses 28 and 29, the bolts 30 and 31 positioned horizontally through said mating portions, and the nuts 32 and 33 upon the screw-threaded ends of said bolts, substantially as specified.

4. In a switch-lock, the combination with the stand 5, the disk 6 upon said stand and having the notches 13 and 14, and the shaft 7 vertically mounted in said stand, of the block 9 fixed to said shaft and resting upon said disk, the arms 10 projecting horizontally from said block, the hand-lever 11 pivotally mounted between the free ends of said arms 10 by means of the rivet 12, the clamp 21 fixed to said shaft 7, the block 34 pivotally connected to said clamp, the spring-catch 38 carried by said block 34 and engaging the upper end of said hand-lever, substantially as specified.

5. In a switch-lock, the block 34 pivotally connected to the rock-shaft, said block having the recess 36 designed to receive the upper end of the hand-lever, the spring-catch 38 slidably mounted in the recess 37 in said block and having its end 39 extending into the recess 36 to engage the hand-lever, the coil-spring 40 mounted in the recess 41 and operating to hold said spring-catch normally in position, the arm 43 extending downwardly from said spring-catch and in position to be engaged by the key, and the plate 45 covering said recesses and holding the parts in position, substantially as specified.

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

JOSEPH CARSON.

Witnesses:

W. F. JINKS,
B. G. GIBSON.