

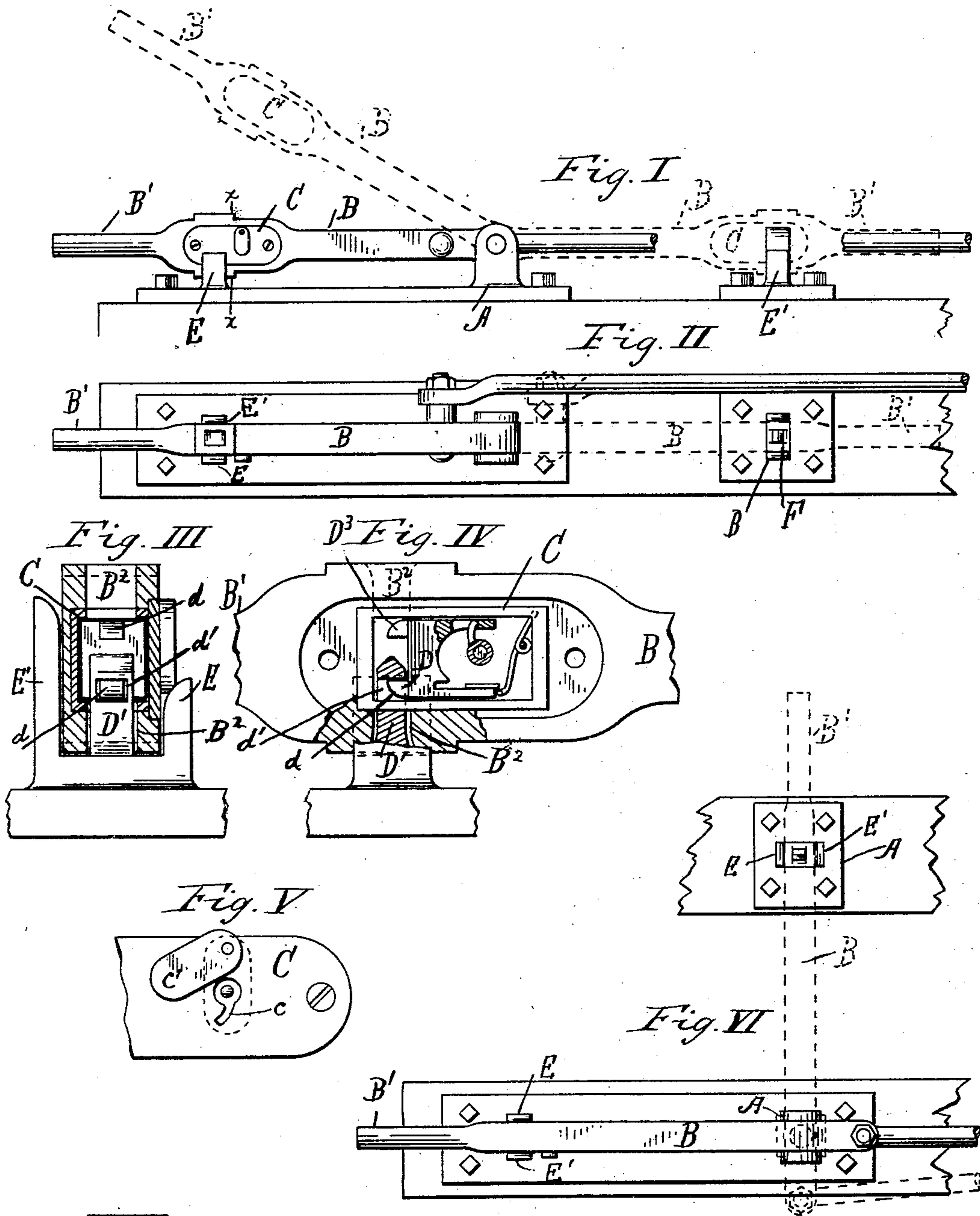
No. 713,593.

Patented Nov. 18, 1902.

J. BRENNAN.
SWITCH LEVER.

(Application filed Apr. 11, 1902.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN BRENNAN, OF CLEVELAND, OHIO.

SWITCH-LEVER.

SPECIFICATION forming part of Letters Patent No. 713,593, dated November 18, 1902.

Application filed April 11, 1902. Serial No. 102,389. (No model.)

To all whom it may concern:

Be it known that I, JOHN BRENNAN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Switch-Levers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to locks for switches, the object being to provide a switch-lever lock which is contained within the lever itself and is thus protected from accumulating foreign matter—such as dirt, snow, or ice—also to provide a lock in connection with a switch-lever which is at all times self-locking and connected to the lever permanently at all times.

My invention consists in providing a lock permanently secured to the switch-lever in connection with a keeper or engaging portion for the lock, attached to the frame of the switch mechanism or stand in position to be engaged by the lock of the switch-lever in any desired position of said switch-lever in which it is desired or becomes necessary to lock the same.

My invention further consists in providing a lock in connection with the switch-lever which may be used in reverse position of said switch-lever to engage oppositely-located keepers or engaging devices secured to the frame of the switch mechanism.

My invention further consists in details of construction and combination of parts, which will be hereinafter fully set forth and claimed.

In the drawings, Figure I is a view in side elevation of a switch-lever embodying my invention, showing the same in solid lines in locked position when the brake is set, also showing in dotted lines the disengagement of the lever and the locked position of the lever when the switch is reversed. Fig. II is a top plan view illustrating a construction as set forth on Fig. I. Fig. III is a sectional view taken through line *xx*, Fig. I, showing the interior construction of a lock as I prefer to construct it, also the engagement of the same with the keeper; and Fig. IV is a view in side elevation of a lock set forth in Fig. III. Fig.

V illustrates in elevation a fragmental view of the front plate of the lock, showing the keyhole-guard as I prefer to construct it. Fig. VI illustrates my invention as applied to a horizontally-moving switch bar or lever and illustrates how the same may be locked in any one variety of positions.

The following description, taken in connection with the drawings, clearly sets forth my preferred construction.

A represents any part of the stand or framework of a switch mechanism, to which the switch lever is pivoted or hinged.

B represents the switch-lever, which may be of the vertically-oscillating type or horizontal moving type, as illustrated, respectively, in Figs. I, II and Fig. VI.

To one end of the lever B is suitably secured that portion of the switch mechanism by means of which said lever as it is moved will operate to shift the switch. This mechanism may be of any suitable type or construction and connected to said lever B through any suitable means and in any suitable manner, always providing that the connection is such that the movement of said lever from one position to the other will shift or switch the track. The lever B is pivoted at *b* to a suitable support preferably connected to or forming part of the switch-stand or framework A, and at its opposite end close to the grasping portion or handle B' is provided with a lock C, having a spring-pressed bolt D, which is chamfered, as at *d*, for the purpose of allowing it to automatically force back when it engages with a stud D', which is preferably formed beveled at its upper end for this purpose. The stud D' is provided with a recess *d'*, in which the bolt D slips, and thus holds the parts in engagement. The lock C is set into the lever B at or near its handle portion B', and an orifice or opening B² is provided through the lever B at this portion to permit the entrance of the stud D' into the lock. A duplicate bolt D³ may be employed for engaging a stud similar to D' when the lever B is reversed, (see Figs. I and IV,) and in order to adapt such a lever as is illustrated in Fig. I to be locked in either position I have duplicated the openings B² (see Figs. III and IV) and also have duplicated the bolt F. The

lock C is operated by means of a suitable key which is inserted through a keyhole *c*, and a keyhole-guard *c'* is employed to close said keyhole, as illustrated in Fig. V, thus keep-
 5 ing all dirt and snow from the lock and leaving it in condition at all times for speedy operation. The keeper is composed of a short arm E, a longer arm E', and the intermediate stud D', the shorter arm E, in connection
 10 with the longer arm E', acting as a stop and guide for the lever B at its lock portion and limiting the throw of the lever B to a predetermined position, thus securing absolute position of the switch accordingly.

15 It will be seen by reference to the drawings and specification that in a construction of switch-lever lock such as set forth I attain absolute accuracy, safety, and economy in time in the operation of the switch and also
 20 obviate the use of a separate lock, such as padlock or the like, for locking the switch-lever, and hence the loss resulting from the use of a padlock, which is often broken, lost, or stolen, is obviated.

25 In setting forth this invention I have illustrated a simple construction of lock in connection with the lever; but it is apparent that any style of lock mechanism which will subserve the purpose may be employed. It
 30 will also be apparent that the exact location of the lock is not absolutely essential. Other

details of construction may also be departed from without avoiding my invention.

What I claim is—

1. The combination with the pivotally- 35
 mounted switch-lever having an opening extending therethrough from the lower to the upper face, of a spring-pressed locking-bolt mounted within the switch-lever and having
 40 two locking projections, a keeper having a long and a short arm, a stud carried by said keeper between the arms and provided with a recess to receive one of the projections on the locking-bolt, substantially as described.

2. The combination with the pivotally- 45
 mounted switch-lever, of a lock mounted within the lever and comprising a locking-bolt having two locking projections, one for locking the lever in one position and the other
 50 for locking the same in another position, a keeper having a long and a short arm between which the lever is received, and a stud having a recess to receive the locking projections, substantially as described.

Signed at Cleveland, in the county of Cuya- 55
 hoga and State of Ohio, this 31st day of March, 1902.

JOHN BRENNAN.

Witnesses:

E. B. DONNELLY,
 W. E. DONNELLY.