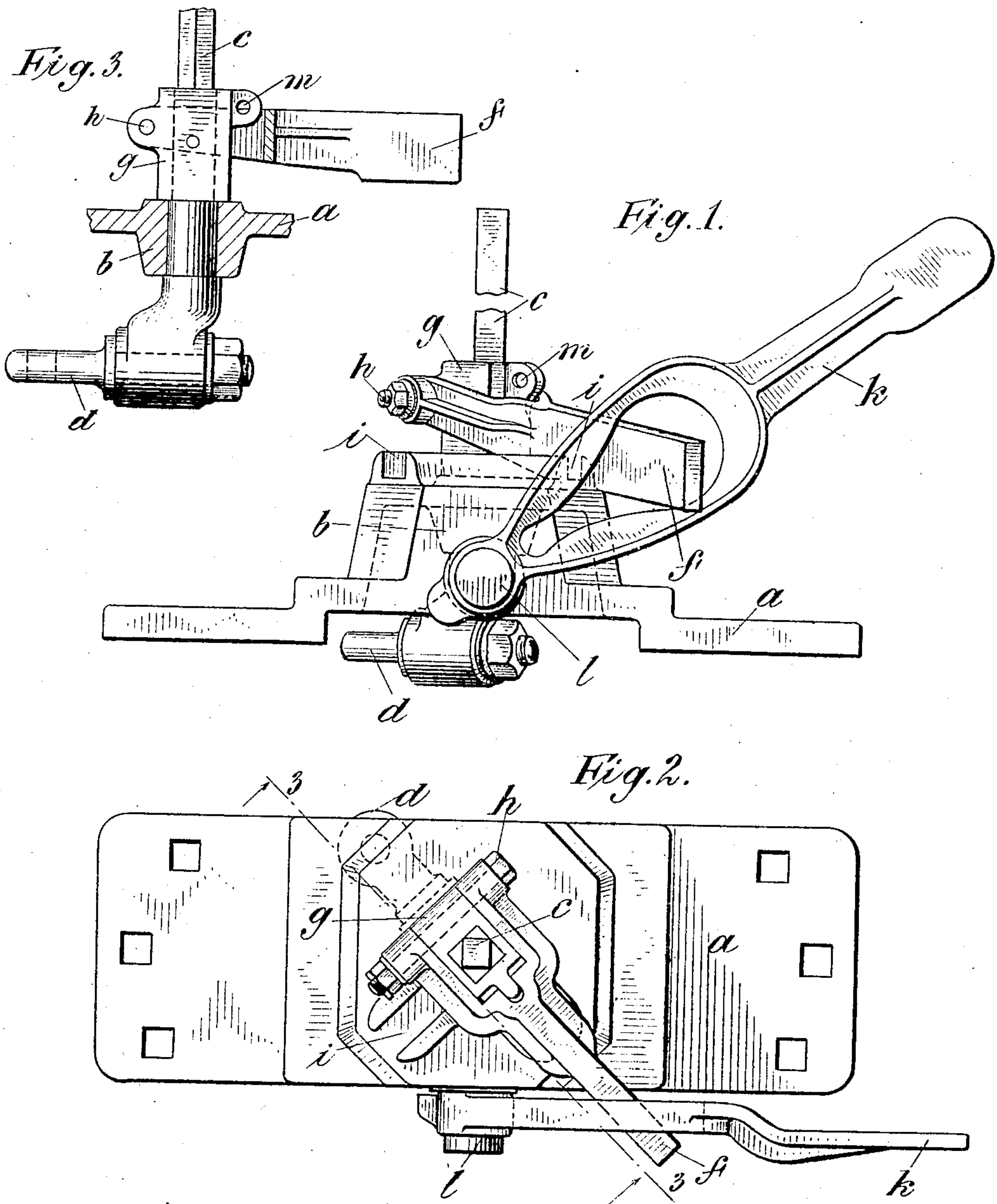


No. 882,069.

PATENTED MAR. 17, 1908.

W. C. KIDD.  
SWITCH STAND.

APPLICATION FILED DEC. 20, 1907.



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# UNITED STATES PATENT OFFICE.

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## SWITCH-STAND.

No. 882,069.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed December 20, 1907. Serial No. 407,385.

*To all whom it may concern:*

Be it known that I, WILLIAM CHARLES KIDD, a citizen of the United States, and a resident of the town of Suffern, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Switch-Stands, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

The object of this invention is to provide a stub or rigid switch stand which can be unlocked and thrown and then locked again by what is substantially a single operation, and to accomplish this end without necessarily having to employ gearing or any complicated mechanism which would tend to make the stand bulky as well as expensive to manufacture.

The improvements, as will be seen herein-after, may be applied in automatic switch stands as well as in stub stands, but it will suffice for the purposes of this specification to illustrate and describe these improvements in connection with a stub stand, for which they have been specifically developed.

In the drawings, Figure 1 is a front elevation of a stub stand embodying the improvements, Fig. 2 is a plan view, and, Fig. 3 is a detailed sectional view on a plane indicated by the line 3—3 in Fig. 2, with the handle omitted.

Referring to the drawings, the frame or base of the stand is indicated by the letter *a*, said frame or base being of any suitable construction and provided with a bearing *b* for the shaft *c* which, as usual, is vertically disposed and is provided with means *d* upon the lower end thereof underneath the frame for operative connection with the switch.

Projecting from the shaft and preferably in a substantially horizontal direction, is an arm *f* the inner end of which may be forked so as to embrace a block *g* which is fitted upon a squared portion of the shaft *c* and is rigidly secured thereto. The arm *f* is pivoted to this block by a bolt *h* or the like which extends through both prongs of the fork while the other end of the arm may be said to consist of a projection or projecting portion which is adapted to engage in a correspondingly recessed portion *i* of the frame *a*. In the present case two such recessed portions *i* are shown, the object of which is to permit the arm to engage the frame in two positions which correspond respectively to the two

positions of the switch, one against one track and the other against the other track. It will be obvious that when the arm *f* engages the frame in either one of these recesses *i*, the shaft *c* will be prevented from turning and consequently will lock the switch in the particular position to which it has been turned.

Where such a stand as this is employed in a train yard or some other place where quickness and ease of operation is desired, it is desirable to have some means whereby the switch may be unlocked and thrown in a single operation. Moreover, in many of the switch stands now employed for this purpose and particularly in stub stands, it is not only necessary to perform more than one operation to accomplish this end, but the construction of such stands involves the swinging of the operating lever around in a more or less horizontal plane, which is undesirable in many cases on account of the cramped space in which it is oftentimes necessary to locate these switches. The present improvements have therefore been developed with the object of giving the operating lever a movement in a single plane, preferably a vertical one, as well as to effect through the swinging of this lever the unlocking of the switch and the throwing thereof, and also the subsequent locking again of the switch, in a single operation. With all of these objects in view, a lever *k* has been provided and is pivoted near the lower end of the stand at *l*, and, as will be seen, is arranged to swing in a substantially vertical plane. This lever is provided with a slot through which the free end of the arm *f* extends, and the slot is so shaped that the first movement of the lever will effect a lifting of the free end of the arm so as to disengage it from the recess *i*, while the further movement or swing of the lever will cause the arm to be swung over and to drop into the other recess *i*, thereby turning the shaft *c*, and throwing and locking the switch in its other position. It has been found that a slot which is approximately pear-shaped as illustrated in the drawing will suffice to produce the necessary movement of the arm *f*, such slot, or a portion of such slot, obviously constituting a cam which operates upon the arm *f* to produce the movement desired.

It is, of course, possible to provide means as illustrated at *m* (Figs. 2 and 3) through which a padlock or the like may be passed in order to permanently lock the arm in one of



the recesses *i* and therefore to lock the switch in its turned position indefinitely. Moreover, other additions or changes may be made in the construction shown and described without departing from the spirit of the invention.

I claim as my invention:—

1. In a switch stand, the combination of a frame, a shaft rotatable therein, an arm projecting from the shaft and adapted to lock the shaft from turning in the frame, and means to unlock the shaft and turn it in a single operation.

2. In a switch stand, the combination of a frame, a shaft rotatable therein, an arm projecting from the shaft and adapted to lock the shaft from turning in the frame, and a lever pivoted to swing in a single plane and adapted as it is moved in said plane to unlock the shaft and turn it.

3. In a switch stand, the combination of a frame, a vertical shaft rotatable therein, an arm projecting substantially horizontally from the shaft and adapted to lock the shaft from turning in the frame, and a lever pivoted to swing in a vertical plane and adapted as it is moved in said plane to unlock the shaft and turn it.

4. In a switch stand, the combination of a frame, a shaft rotatable therein, an arm pivoted thereto and adapted to lock the shaft from turning in the frame, and a lever having a slot through which said arm extends whereby, as the lever is moved, the arm is unlocked from the frame and turns the shaft.

5. In a switch stand, the combination of a frame, a shaft rotatable therein, an arm pivoted thereto, a projection upon the arm to engage the frame, and a lever having a slot through which said arm extends whereby, as the lever is moved, the projection is disengaged from the frame and the shaft is turned.

6. In a switch stand, the combination of a frame, a shaft rotatable therein, an arm pivoted thereto and adapted to lock the shaft from turning in the frame, and a lever having a slot through which the arm extends, said slot forming a cam which serves, as the lever is moved, to disengage the arm from the frame, the rest of the movement of the lever causing the arm to swing around and turn the shaft.

7. In a switch stand, the combination of a frame, a vertical shaft rotatable therein, an arm pivoted thereto and projecting substantially horizontally therefrom, means upon the arm to engage with the frame, and a lever having a pear-shaped slot through which the arm extends, said slot constituting a cam which, as the lever is moved, serves first to

disengage the arm from the frame and then to turn the shaft through the further movement of the arm and permit the arm to engage the frame again upon the completion of its movement.

8. In a switch stand, the combination of a frame, a shaft rotatable therein, an arm having one end forked, embracing the shaft and being pivotally secured thereto, a projection upon the other end of the arm to engage with the frame, and means to disengage the projection from the frame and move the arm in a single operation.

9. In a switch stand, the combination of a frame, a shaft rotatable therein, said shaft having a squared portion, a block secured upon said squared portion of the shaft, an arm having one end forked, embracing said block and being pivotally secured thereto, a projection upon the other end of the arm, said frame being provided with recesses for the projection to engage in order to lock the shaft from turning in the frame, and a lever having a slot through which the arm extends, whereby upon the swinging of the lever the arm is first moved to disengage it from the frame and then swung around to turn the shaft.

10. In a switch stand, the combination of a frame, a shaft rotatable therein, an arm projecting from the shaft and engaging the frame, and means to disengage the arm from the frame and move it into another position of engagement with the frame, thereby turning the shaft, in a single operation.

11. In a switch stand, the combination of a frame, a shaft rotatable therein, an arm projecting from said shaft and engaging the frame, and a lever pivoted to swing in a single plane and adapted as it swings in either direction to disengage the arm from the frame and move it, thereby turning the shaft, in a single operation.

12. In a switch stand, the combination of a frame, a vertical shaft rotatable therein, a substantially horizontal arm pivoted thereto and adapted to engage the frame, and a lever adapted to swing in a vertical plane and having a slot through which the arm extends, said slot forming a cam whereby, as the lever is moved in either direction, the arm is first lifted to disengage it from the frame, then swung around to turn the shaft and finally permitted to drop again into engagement with the frame.

This specification signed and witnessed this 30 day of November A. D., 1907.

WILLIAM CHARLES KIDD.

Signed in the presence of—

SCHUYLER C. PEW,

JEAN S. MACGREGOR.