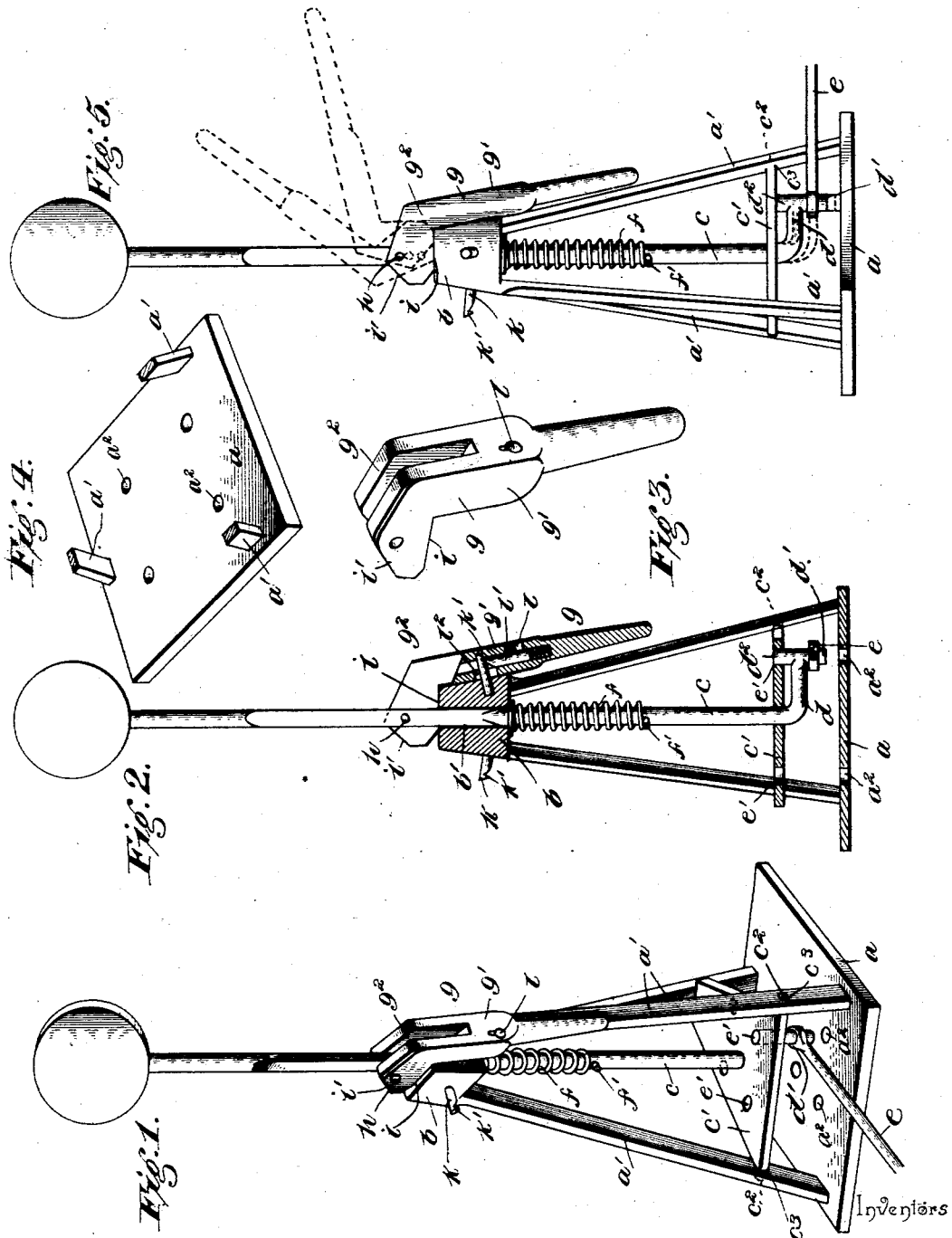


(No Model.)

B. F. DRIEVER & J. W. MIXON.  
SWITCH STAND.

No. 525,454.

Patented Sept. 4, 1894.



Witnesses

*John C. Shaw*  
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# UNITED STATES PATENT OFFICE.

BENJIMAN F. DRIEVER AND JAMES W. MIXON, OF PALMER, TEXAS.

## SWITCH-STAND.

SPECIFICATION forming part of Letters Patent No. 525,454, dated September 4, 1894.

Application filed March 10, 1894. Serial No. 503,150. (No model.)

*To all whom it may concern:*

Be it known that we, BENJIMAN F. DRIEVER and JAMES W. MIXON, citizens of the United States, residing at Palmer, in the county of Ellis and State of Texas, have invented a new and useful Switch-Stand, of which the following is a specification.

Our invention consists of certain hereinafter specified improvements in those switch stands wherein the crank bar is movable vertically and provided with a cam lever for operating it, and our object is to produce a device in which the crank bar may more effectually be locked in a permanent position, and operated with greater ease and speed.

In the accompanying drawings:—Figure 1 represents a perspective view of a switch stand constructed after our invention; Fig. 2 a vertical section thereof; Fig. 3 an enlarged perspective of the cam lever for operating the crank bar; Fig. 4 a similar view of the plate for locking the crank bar while the lever is released. Fig. 5 is a side elevation showing the position of the lever in dotted lines.

The reference letter *a* indicates the base of the stand which is preferably formed of a metallic plate having the three standards *a'* arising therefrom and joining each other at their upper ends, where the block *b* is formed. This block is provided with a vertical passage *b'* therein, in which the crank bar *c* of the switch stand is revolvably mounted. The lower end of the crank bar *c* is revolvably mounted in the horizontal plate *c'*, which is secured to the lower portion of the standards *a'* by means of the stud *c<sup>2</sup>*, which project into the openings *c<sup>3</sup>* of the same.

Formed integral with the lower end of the bar *c* is a crank *d*, which is provided with the downwardly extending wrist pin *d'* and the upwardly extending stud *d<sup>2</sup>*. The pin *d'* is pivotally connected to the switch bar *e*, which is in turn connected to the switch as usual, while the stud *d<sup>2</sup>* is adapted, when the bar *c* is moved vertically, to enter one of the openings *e'* of the plate *c'*, as will more fully appear hereinafter. Arranged on the bar *c* and held in place by the block *b*, and pin *f'*, is the spiral spring *f*, which operates to give the bar *c* a normal tendency downward.

*g* indicates the cam lever, which is formed

with a main portion *g'* and a bifurcated and cammed end *g<sup>2</sup>*. The lever *g* is fulcrumed to the crank bar by means of the pin *h*, which projects into the bar and is located at the upper end of the cam portion so that the stud *d<sup>2</sup>* will normally lie within the opening above it in the plate *c'*. The cam *g<sup>2</sup>* is formed with two degrees or faces *i* and *i'*, and face *i* is that which is adapted to normally engage and rest upon the block *b*, so that the stud *d<sup>2</sup>* will be placed in the position just described. Face *i'* is the nearest to the fulcrum, and when the lever is swung to engage this face and block *b*, the bar *c* will be dropped, so that stud *d<sup>2</sup>* will disengage the opening above it and the wrist pin *d'* engage the openings *a<sup>2</sup>* in the base plate. A point on the cam *g<sup>2</sup>* just intermediate the faces *i* and *i'*, will place the bar *c* in a position where it will be free to revolve so as to throw the switch. It will be remembered that when the lever *g* is moved to disengage face *i* and engage the other, it will be raised up horizontally, or nearly so, thus disengaging its body from the block *b*. This is shown in Fig. 5.

The connection between the lever and the block consists of the studs *k*, projecting out from the four sides of the block *b* and having their ends formed with the downwardly depending lugs *k'* thereon. These studs are adapted to enter the opening *l<sup>2</sup>*, and the lugs *k'* to engage the bolt *l'* of the lock *l*, whereby the lever is secured to the block. The lock may be of any preferred kind, and is arranged in the lever *g*, with its keyhole opening outwardly, thus permitting it to be readily reached. Since the studs *k* are four in number, it will be readily understood that the lever *g* may be locked to any one of them and consequently in any desired position. It is essential that the openings *a<sup>2</sup>* and *e'* and the studs *k* be arranged in vertical alignment, for the crank *d* and lever *g* are similarly arranged, and therefore the necessity. The bar *c* projects some distance above the block *b*, and may be provided with the signal or "target" *n*, if so desired.

To use our appliance, the bar *e* is properly connected to the switch and to the crank *d*. Now, supposing that the switch is closed when the parts assume their normal position, to open the switch the lock *l* is released and lever

5 *g* raised so that cam face *i* will disengage the  
 block *b* and that portion of the cam which  
 lies intermediate of two faces *i* and *i'*, engage  
 in its stead. This will be followed by a con-  
 10 sequent disengagement of the stud *d*<sup>2</sup> and  
 wrist pin *d'* and their respective openings,  
 thereby leaving the bar *c* free to revolve in  
 its bearings and by doing this the switch is  
 15 opened. By multiplying the number of studs  
 10 *k* and openings in the plates the rod *c* may  
 be changed to various positions and more  
 complicated adjustments of the switch ef-  
 fected. This, however, is knowledge common  
 to those acquainted in the art, and needs no  
 15 further description. After the switch has  
 been adjusted and it is desired to allow it to  
 remain so temporarily, as is very often the  
 case, the lever *g* may be swung up so that  
 20 face *i'* will engage the block *b*. This will be  
 followed by an engagement of the wrist pin  
*d'* and the opening *a*<sup>2</sup> directly below it, thus  
 locking the bar *c* incapable of movement.  
 Here it may remain until it is desired to close  
 or further adjust the switch, whereupon it is  
 25 operated as before described. It will not be  
 necessary for us to describe the adjustments  
 between the switch and the bar *c*, since these  
 may be done by any mechanic and may be  
 varied in many ways, and above all, do not  
 30 enter into this invention.

Having described our invention, what we  
 claim, and desire to secure by Letters Patent,  
 is—

1. A switch stand comprising the combina- 35  
 tion of a frame, a vertically movable and revo-  
 luble bar, mounted therein and having a con-  
 nection with the switch whereby it is adjusted,  
 two recessed plates arranged adjacent to the  
 bar and adapted to be alternately engaged  
 40 by the same, whereby the bar may be locked  
 incapable of rotary movement in either of  
 two positions in a vertical line, and a cam  
 lever for moving the bar vertically and revo-  
 lably, substantially as described.

2. A switch stand comprising the combina- 45  
 tion of a frame, a vertically movable and revo-  
 luble bar mounted therein, a crank on the  
 bar whereby it is connected to the switch,  
 two plates arranged one above each other and  
 adjacent to the bar, and having openings 50  
 therein, a stud on the bar and adapted to  
 alternately engage each of the plates when  
 moved vertically, whereby the bar may be  
 locked incapable of rotary movement in two  
 positions in a vertical line and a cam lever 55  
 for moving the bar vertically and revolubly,  
 substantially as described.

In testimony that we claim the foregoing as  
 our own we have hereto affixed our signatures  
 in the presence of two witnesses.

BENJIMAN F. DRIEVER.  
 JAMES W. MIXON.

Witnesses:

L. LEVY,  
 T. L. MCCARTY.