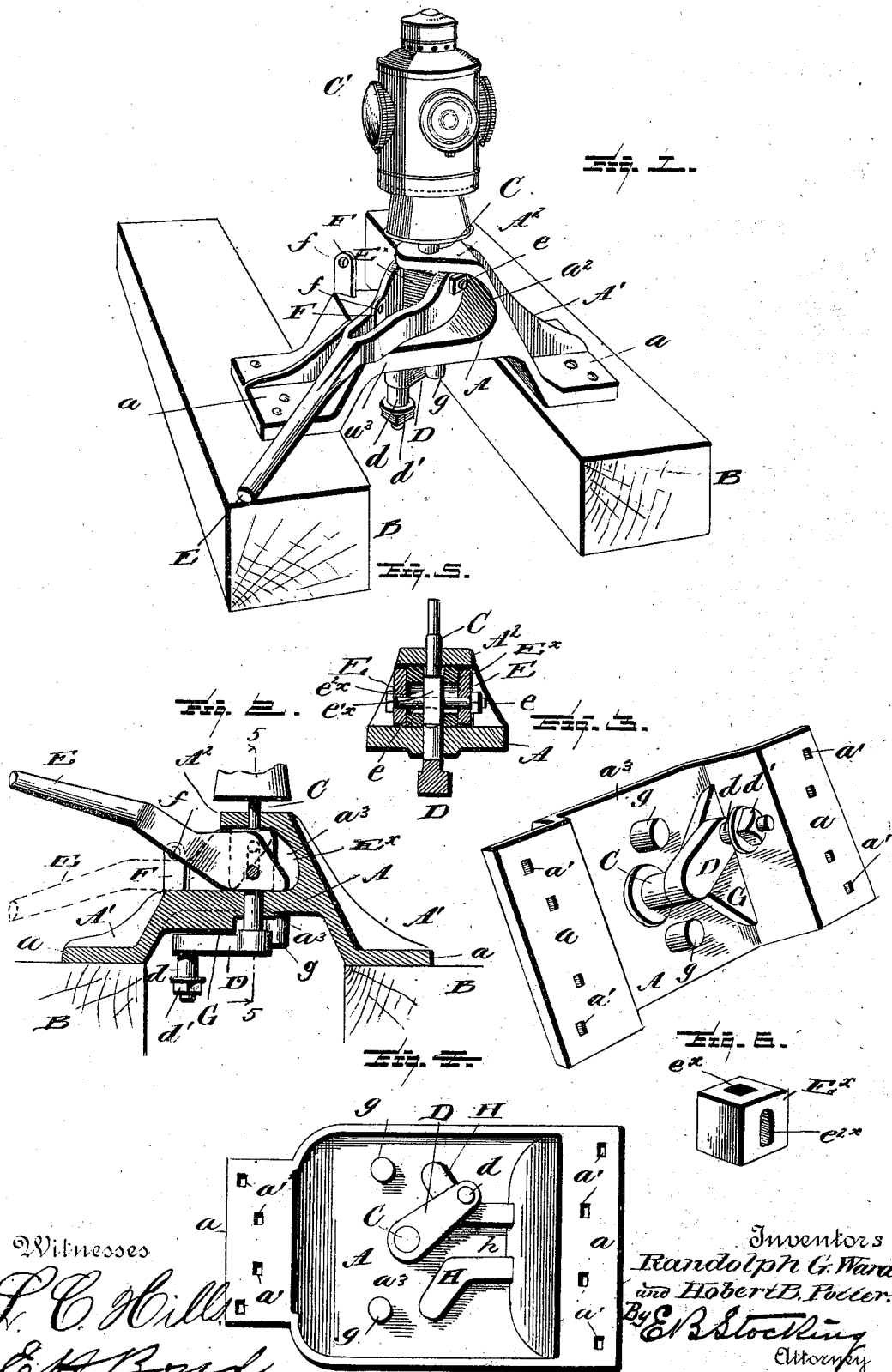


(No Model.)

R. G. WARD & H. B. POTTER.
SWITCH STAND.

No. 502,154.

Patented July 25, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

RANDOLPH G. WARD, OF CHARLESTON, SOUTH CAROLINA, AND HOBERT B. POTTER, OF HILLBURN, NEW YORK.

SWITCH-STAND.

SPECIFICATION forming part of Letters Patent No. 502,154, dated July 25, 1893.

Application filed April 18, 1893. Serial No. 470,913. (No model.)

To all whom it may concern:

Be it known that we, RANDOLPH G. WARD, residing at Charleston, in the county of Charleston, State of South Carolina, and HOBERT B. POTTER, residing at Hillburn, in the county of Rockland, State of New York, citizens of the United States, have invented certain new and useful Improvements in Switch-Stands, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in switch stands, and it has for its objects among others to provide a simple and cheap stand so constructed as to form a positive lock against accidental movement of the switch rail and the parts so arranged and the lever so connected that the latter cannot be returned to its normal position without first bringing the switch rail to its proper position, so that it is impossible to leave the switch open. The signal standard extends through and beneath the stand where it carries a crank arm designed for connection with the switch rail, and to this standard is pivotally connected the operating lever which has a cam portion which serves to raise and to lower the standard and crank arm as the lever is depressed or elevated to its normal positions of rest or movement. The signal standard has a square portion embraced by a square sleeve which is slotted for the passage of the pivot of the lever to relieve the pivot bolt of strain. The under face of the stand is provided with stop pins or portions between which the crank arm is designed to fit when the lever is depressed, and the upper face is provided with lugs to lock the lever in its adjusted positions. To move the switch the lever must be first raised to disengage the crank arm from between its stops and then the lever can be turned in the desired direction. The improvement is composed of few parts, those not liable to get out of order, readily assembled or disassembled and compactly arranged.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the

accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view showing our improvements set up in position for use. Fig. 2 is a view of the same partly in vertical section and partly in side elevation. Fig. 3 is a perspective view of the under side of the stand portion. Fig. 4 is a bottom plan of a slightly modified form. Fig. 5 is a section on the line 5 5 of Fig. 2. Fig. 6 is a perspective view of the sleeve removed.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter A designates the stand which is arched as seen in the various views and provided with flanges a having suitable openings a' for the reception of spikes or other means by which it is secured in position upon the ties or supports B; it is also preferably formed with the flanges A' to strengthen the same as seen in Figs. 1 and 2.

The stand is formed with the overhanging portion A^2 which forms a space a^2 in which works the end of the lever which is pivoted to the signal standard as seen in Figs. 1 and 2.

C is the signal standard; it is mounted for rotation in the overhanging part and in the base portion of the stand and also for vertical movement therein. It may carry above the overhanging portion a signal of any kind, as for instance a lamp C' , of any well known or approved form of construction. This stand extends below the base portion of the stand as shown and has secured thereto the horizontal arm D as seen best in Figs. 2, 3 and 4, from the free end of which the pin d depends, the latter being provided with the nut d' for attachment of the means (not shown) that connects the same with the switch rail (not shown).

E is the operating lever; it is pivotally connected with the standard or rod C within the space between the overhanging portion A^2 and the base portion a^3 upon the pivot e , its pivot end being bifurcated as seen in Fig. 1 and embracing a square sleeve E^x which has a square opening e^x therethrough through which passes a squared portion e'^x of the standard or shaft C as seen in Fig. 5. This

lever is formed with cam surfaces near its pivot end as seen in Figs. 1 and 2. The sleeve E^x is provided with vertical slots e^{3x} as seen best in Fig. 6 through which the bolt e works.

5 Upon the upper face of the base portion of the stand are the lugs F which are so located relatively to the same as to serve as means for retaining the lock to lock the lever in its adjusted positions; they are provided with holes
10 f for this purpose as seen best in Fig. 1.

Upon the under face of the base portion of the stand is the triangular shaped lug or portion G, the apex thereof being adjacent to the standard or rod carrying the signal. At diametrically opposite points substantially in line
15 with this standard or rod are the lugs or pins or projections g as shown clearly in Fig. 3; they serve as stops for the arm D as will hereinafter appear; the pins or projections project
20 farther than the portion G. Instead of the triangular portion G above described we may sometimes provide the arms H as seen in Fig. 4 having a space h therebetween and their ends nearest the standard or rod C inclined
25 outwardly as shown, at an angle of about forty five degrees.

The operation will be readily understood from the foregoing description when taken in connection with the annexed drawings and is
30 substantially as follows:—Normally the operating lever is in the lower position as seen in Fig. 1 and by dotted lines in Fig. 2 and the arm D is held between one of the pins g and the adjacent wall or face of the portion G or
35 one of the arms H. When it is desired to change the switch the lever is moved upward at its outer end thus throwing the other end down and moving the arm D out from between its stops so that the standard or rod is
40 thrown down free of the stops and portions G or arms H as seen best in Fig. 2 and the lever can be turned to move the switch in the desired position or direction. It will be observed that the lever must be first moved vertically
45 before it can be turned and that it cannot be left in an unlocked position with the lever down.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What we claim is—

1. The combination with the switch stand having pins upon its under face, of a signal
55 standard mounted in the stand for vertical and rotary movement, an arm carried by the standard below the base portion of the stem

and a lever pivotally mounted on the standard and having a cam portion whereby the standard may be moved vertically and rotated, as set forth.

2. The combination with the switch stand having stop pins upon its under face, of a signal standard mounted in the stand for vertical and rotary movement, an arm carried by the standard below the base portion of the
65 stem, a slotted sleeve around the standard and a lever having its pivot passed through the slots of the sleeve and supported in the standard, substantially as specified.

3. The combination with the switch stand having stop pins and inclined portion, of a signal standard mounted in the stand for vertical and rotary movement and having a squared portion, a square sleeve on the squared
75 portion and provided with slots and a lever pivotally mounted on the pin passed through the slots of the sleeve and held in the square portion of the standard, substantially as specified.

4. In a switch or gate stand, the combination of a base plate having upon its under side two stop pins and a lug of less projection, a shaft having a crank adapted to rotate and engage between said pins and lug, an overhanging lip with a space intervening
85 between such lip and the upper surface of the base, said shaft having square portion, the square sleeve adapted to fit between the base and lip having the slotted sides, the forked lever having cam shaped heads and bolt adapted to give vertical motion to the shaft by
90 means of the bolt acting upon the shaft through the slotted sleeve, and operated by the cam shaped heads of the lever acting upon the upper side of the base and under side of
95 the lip and adapted to rotate the shaft by means of the forked lever acting upon the square sleeve, which in turn acts upon the square portion of the shaft, causing it to be moved without strain upon the bolt, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

RANDOLPH G. WARD.
HOBERT B. POTTER.

Witnesses to signature of R. G. Ward:

F. M. RONAN,
W. STUART ROE.

Witnesses to signature of H. B. Potter:

W. W. ALLEN,
HENRY THOMAS.