

(No Model.)

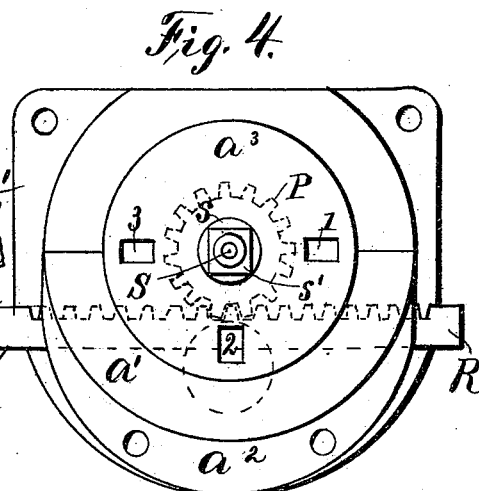
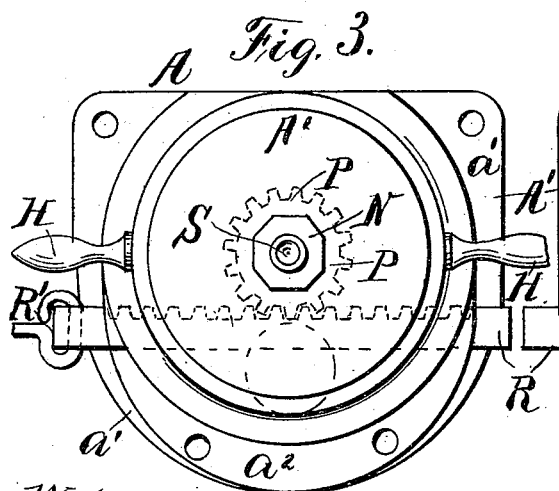
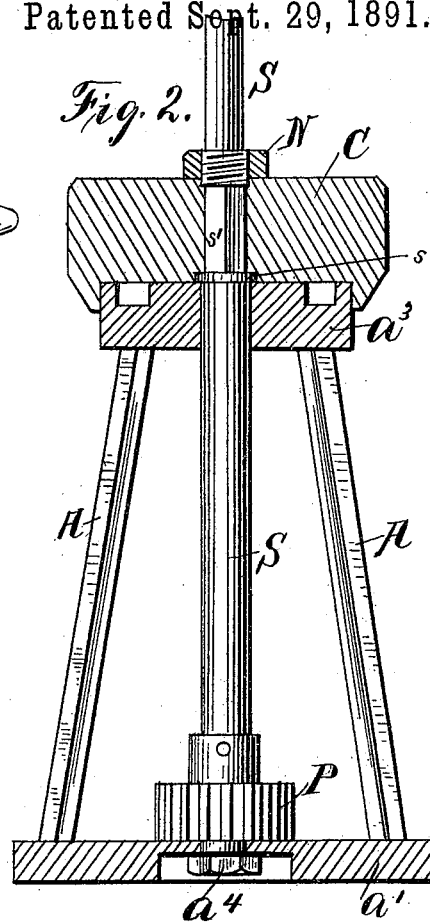
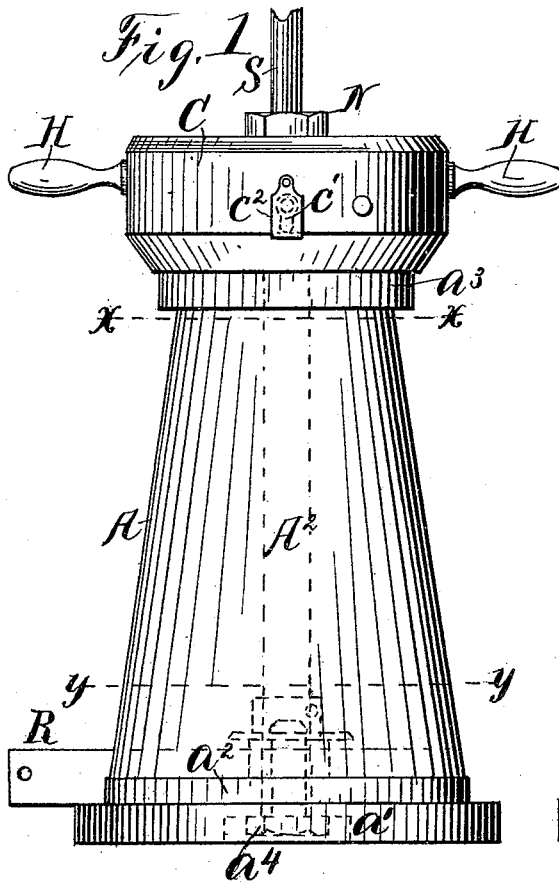
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Q. J. HOKE & J. R. WARREN.

SWITCH STAND AND LOCK.

No. 460,535.

Patented Sept. 29, 1891.



Witnesses:
Ella S. Johnson.
B. H. Sommers

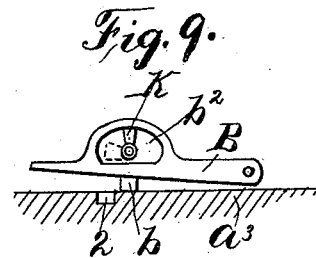
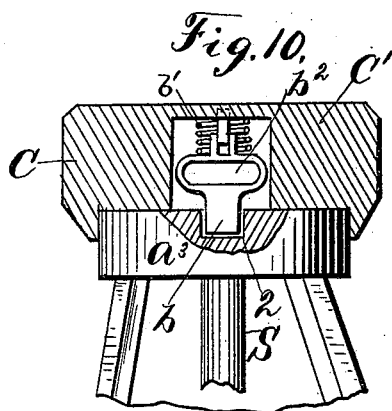
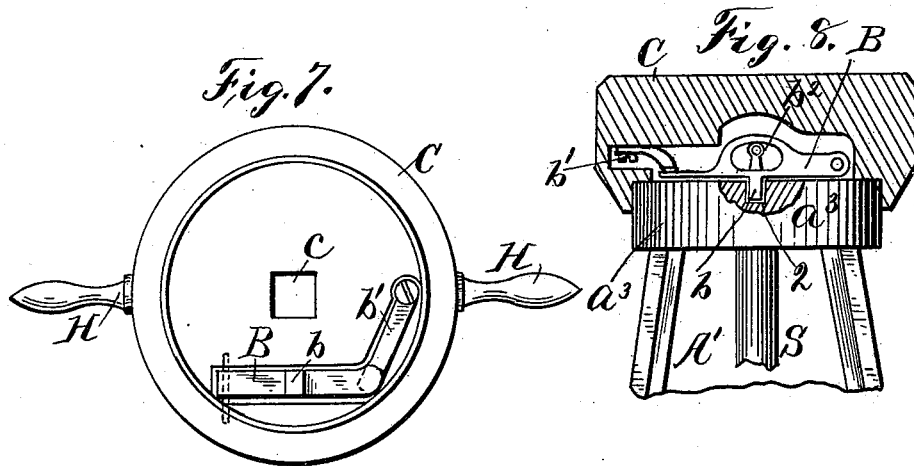
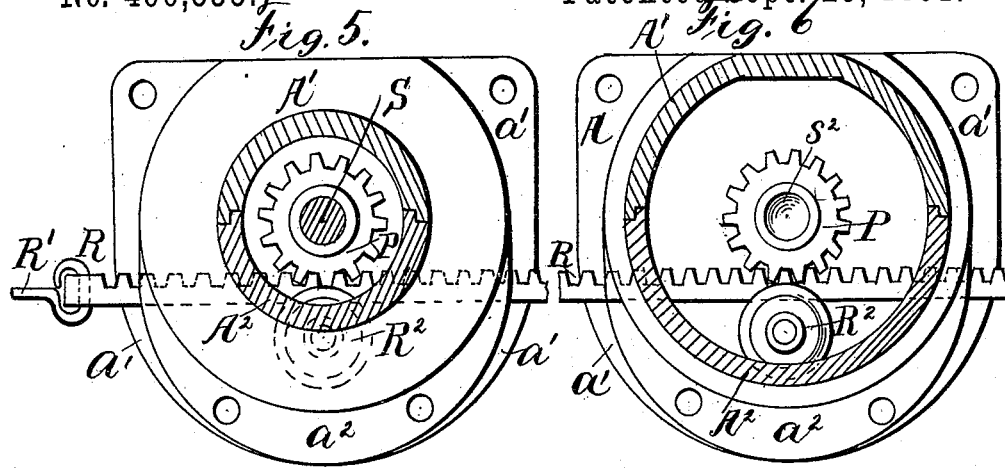
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UNITED STATES PATENT OFFICE.

QUINTON JEROME HOKE AND JOHN READY WARREN, OF YORKVILLE, SOUTH CAROLINA, ASSIGNORS TO THEMSELVES AND ADAM Y. CARTWRIGHT, OF SAME PLACE.

SWITCH STAND AND LOCK.

SPECIFICATION forming part of Letters Patent No. 460,535, dated September 29, 1891.

Application filed January 29, 1891. Serial No. 379,523. (No model.)

To all whom it may concern:

Be it known that we, QUINTON JEROME HOKE and JOHN READY WARREN, citizens of the United States, residing at Yorkville, in the county of York and State of South Carolina, have invented certain new and useful Improvements in Switch Stands and Locks; and we 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form part of this specification.

The invention relates to switch stands and locks, and has for its object to provide a switch-stand so constructed that all the switch-operating mechanism as well as the locking devices will be inclosed therein, and to provide a key-operated lock so constructed that the key cannot be withdrawn from the lock unless the switch-operating devices are locked.

To these ends the invention consists in the construction of the stand and in the combination therewith of the switch-operating devices and in the construction of the lock and its combination with the stand and switch-operating devices, as will now be fully described, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation, Fig. 2 a vertical central section, and Fig. 3 a top plan view, of the switch-stand. Fig. 4 is also a top plan view of the main section of the switch-stand, the revoluble cap being removed. Figs. 5 and 6 are sections taken, respectively, on lines *xx* and *yy* of Fig. 1, the operating-spindle being omitted in Fig. 6; and Fig. 7 is an under side view of the revoluble cap, and Figs. 8, 9, and 10 are detail views.

The switch-stand *A* (illustrated in the above-described drawings) is constructed in two sections, indicated by *A'* and *A²*. The section *A'* has the base-plate *a'*, provided with bolt-holes for bolting the same to a suitable timber foundation, and with the cylindrical head *a³*, provided with three bolt sockets or recesses 1, 2, and 3, respectively, that limit the movements of the switch-operating de-

vices, as will be more fully referred to hereinafter. The base-plate *a'* and head *a³* are provided with bearings for a vertical spindle *S*, that may have its lower end screw-threaded for the reception of a locking-nut *a⁴*, (shown in dotted lines in Fig. 1,) said nut seating in a suitable recess in the base-plate *a'*.

In order to securely hold the spindle *S* in its bearings in the stand *A*, said spindle has a collar or annular flange *s*, that has bearing on the upper face of the head *a³*, above which flange said spindle is square in cross-section, as at *s'*, (see Figs. 2 and 4,) and above the squared portion the spindle is screw-threaded for the reception of the locking-nut *N*, Fig. 1. Instead of the arrangement described, the spindle *S* may have its lower bearing in a step *s²*, (shown in Fig. 6,) which step may be formed or set in or secured to the base *a'* in any usual or preferred way.

The section *A²* of the stand fits against section *A'* and under head *a³* and has a base-flange *a²* bolted to flange *a'*. In order to exclude dirt, moisture, and snow from the interior of the stand, the meeting edges of the two sections are rabbeted to form a tongue-and-groove joint, as shown in Figs. 5 and 6.

At its lower end and within the stand the spindle *S* carries a pinion *P*, that gears with a rack-bar *R*, which latter is or may be connected directly with the switch or through the medium of a connecting-rod *R'*. The rack-bar has bearing on a guide-roller *R²*, revoluble on a vertical stud or pin secured to the base *a'*, as more clearly shown in Fig. 6.

The construction of the sections *A'* and *A²* of the switch-stand is such that the rack-bar will lie in a plane coinciding with the tongue-and-groove jointed meeting edges of said sections, each of which is provided in said meeting edges with a rectangular recess, which, when the sections are united, form slots for the passage of the rack-bar *R*, thus leaving no opening at those points for access of dirt or snow.

By means of the pinion and rack the operation of the switch is rendered more easy than would be the case with a crank or radial arm connection, and as the stand *A* is entirely closed, except at the points where the rack-bar *R* extends through the walls there-

of, moisture or dirt or snow are effectually excluded from the pinion and toothed portion of the rack-bar.

On the head a^3 of the stand is fitted a cap C, provided with handles H for revolving the said cap, with a central square opening c , that fits the squared portion of the spindle S, as shown in Fig. 7, and with a key-hole c' , normally closed by a drop c^2 , as shown in Fig. 1. Within a suitable recess in the cap C is pivoted a bolt B, the lug or projection b of which is adapted to engage or drop into one or the other of the locking-sockets 1, 2, and 3 in the head a^3 of the stand under the stress of a spring b' . The bolt has an oblong opening b^2 . When the bolt is in a position to lock the cap C to the stand-head a^3 , as shown in Fig. 8, the key can be turned in the opening so that the bit thereof will engage the upper inner face of the opening and lift the bolt. If, when said bolt is lifted, the cap C is partially turned, the parts will assume the position shown in Fig. 9—that is to say, the lug b of the bolt will rest on the upper face of the head a^3 , thereby bringing the lower inner edge of the opening b^2 so close to the guide-pin for the key that the latter cannot be turned to the proper position for its withdrawal. Hence the cap must be rotated in one or the other direction until the bolt engages one of the locking-sockets, in order that the key K may be withdrawn, thereby insuring the proper positioning of the switch and the locking of the same.

Instead of the form of bolt shown in Figs. 8 and 9, the form of bolt shown in Fig. 10 may equally well be applied.

From what has been said above the manner of operating the rack-bar R and therethrough the switch and the locking and unlocking of the revoluble cap will be readily understood and will need no further description.

Having thus described our invention, what we claim is—

1. A switch-stand comprising a base, a hollow upwardly-tapering body, and a cylindrical head, said stand being constructed in two sections A' and A^2 , the section A' having a base-flange and the cylindrical head provided with bearings for an axial spindle, and the section A^2 having also a base-flange adapted to seat on the flange of section A' , the upper

end of the body of said section A^2 fitting under the cylindrical head of said section A' , for the purpose set forth.

2. A switch-stand comprising a base, a hollow upwardly-tapering body, and a cylindrical head, said stand being constructed in two sections A' and A^2 , the section A' having a base-flange and the cylindrical head provided with bearings for an axial spindle, and the section A^2 having also a base-flange adapted to seat on the flange of section A' , the upper end of the body of said section A^2 fitting under the cylindrical head of said section A' , in combination with an axial spindle carrying a pinion at its lower end and a rack-bar extending through slots in the stand and in gear with said spindle, for the purpose set forth.

3. The combination, with a switch-stand having a cylindrical head provided with locking-sockets and a revoluble spindle extending axially through the said head, of a cap rigidly connected with the spindle and adapted to revolve on the head, said cap having a suitable key-hole, and a locking-bolt contained within the cap and having an oblong key-opening, and a lug or projection adapted to engage the locking-sockets in the stand-head, for the purpose set forth.

4. A switch-stand composed of two sections A' and A^2 , constructed as set forth, said sections being recessed to form a slot on diametrically-opposite sides, the half-tubular body of each section being rabbeted to form a tongue-and-groove joint, for the purpose set forth.

5. The switch-stand A' and A^2 , constructed as set forth, the spindle S, extending axially through said stand and carrying a pinion P, and the rack-bar R, extending through slots in the tubular body of the stand, in combination with the cap C, fitting and revolving on the head a^3 of said stand, and a locking-bolt contained within the cap and adapted to engage locking sockets or notches in said head, said bolt being constructed to lock the key against removal when moved out of its normal position by said key, for the purpose set forth.

QUINTON JEROME HOKE.
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Witnesses:

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JAMES F. HYNDMAN.