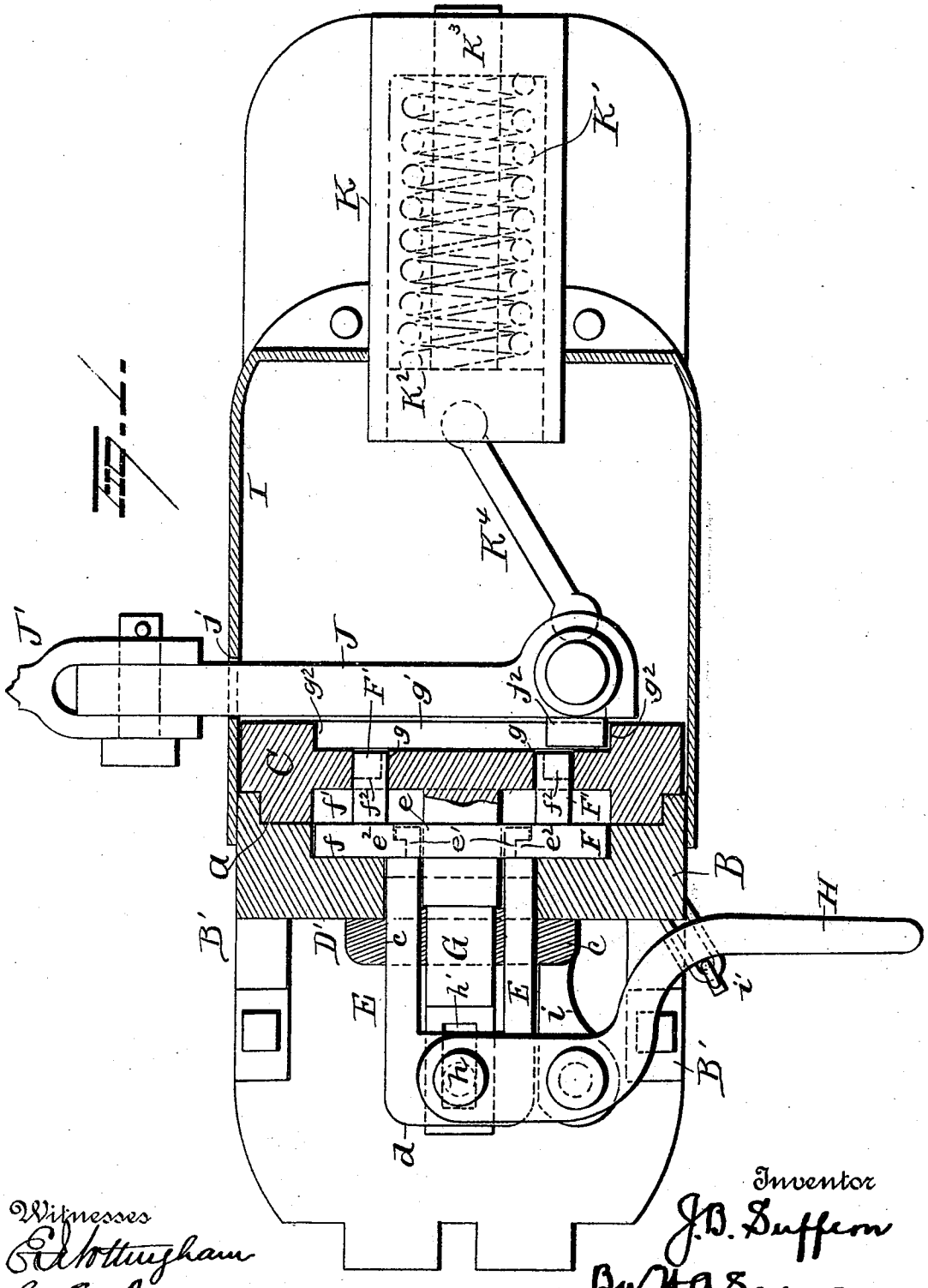
(No Model.) 3 Sheets—Sheet 1.

J. B. SUFFERN.

SWITCH STAND.

No. 516,241. Patented Mar. 13, 1894.



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(No Model.) 3 Sheets—Sheet 2.

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SWITCH STAND.

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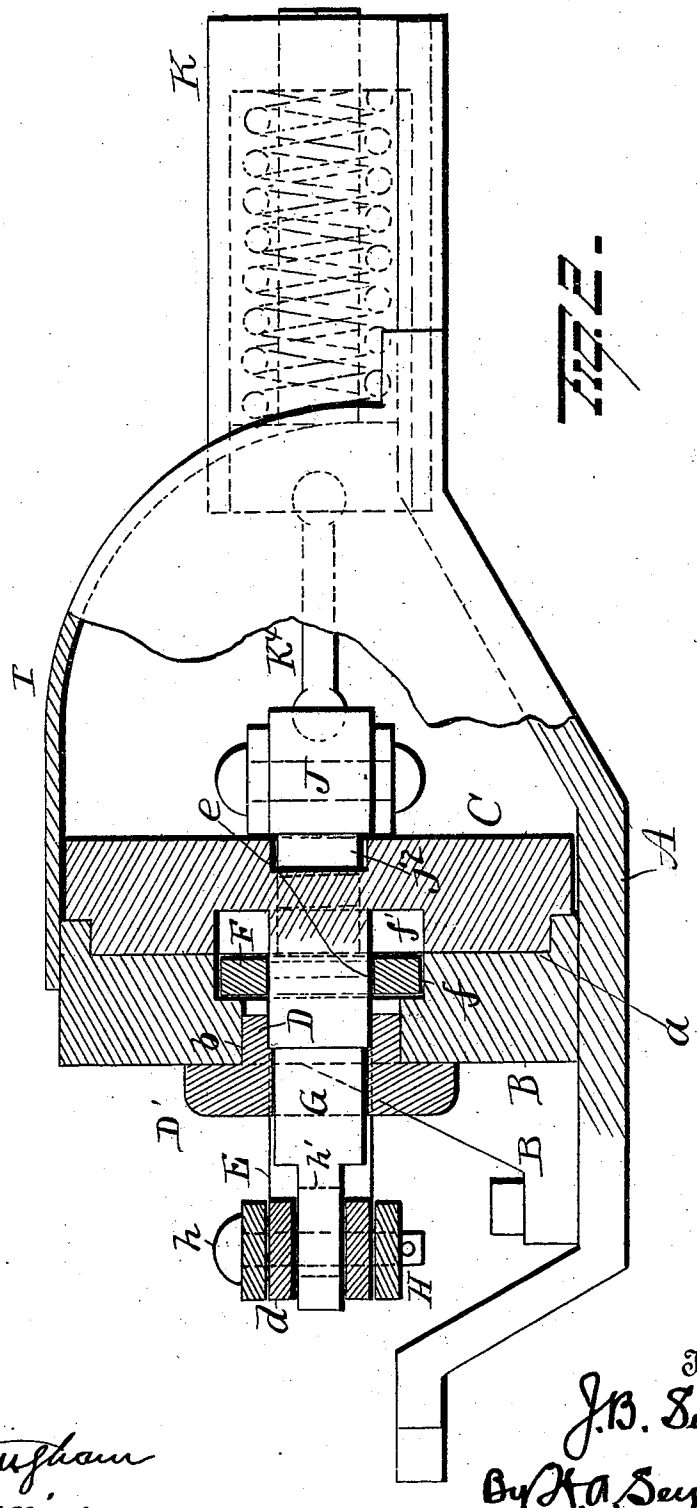

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

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Fig. 3.

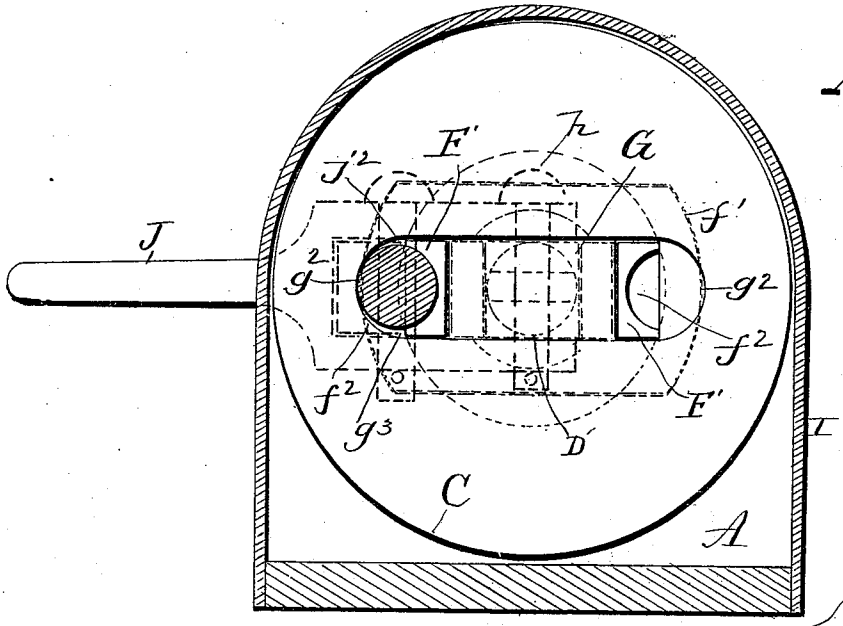


Fig. 6.

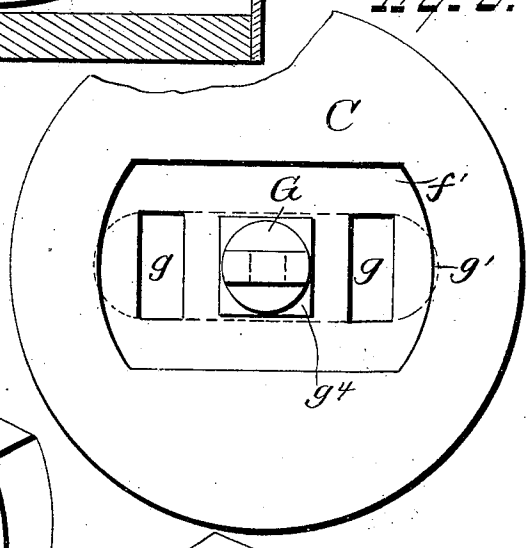


Fig. 4.

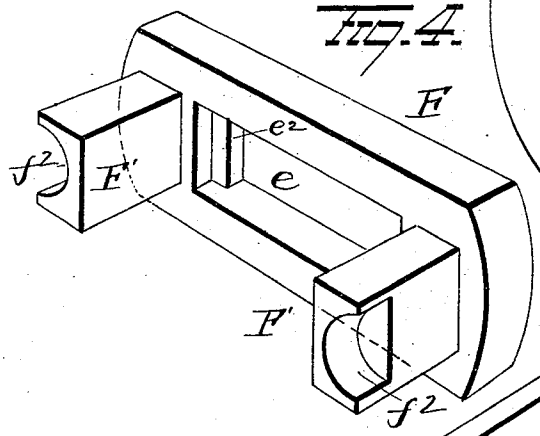
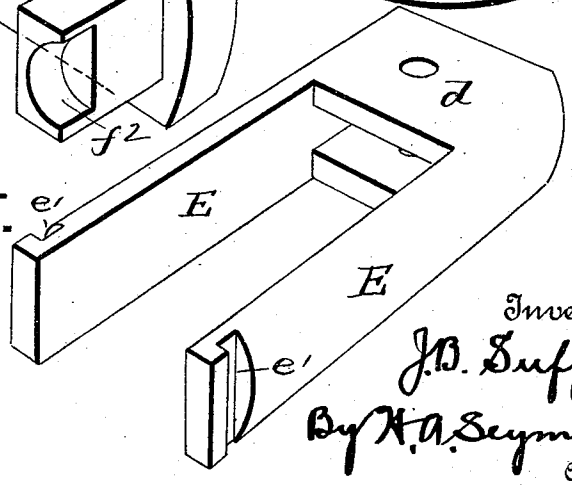


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES B. SUFFERN, OF HILLBURN, NEW YORK.

SWITCH-STAND.

SPECIFICATION forming part of Letters Patent No. 516,241, dated March 13, 1894.

Application filed June 21, 1893. Serial No. 478,398. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. SUFFERN, a resident of Hillburn, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Switch-Stands; 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 appertains to make and use the same.

My invention relates to an improvement in switch stands—the object of the invention being to produce a switch stand which can be readily operated, either automatically or manually, and the operation of which shall be easy, sure and effective.

A further object is to so construct a switch stand capable of being operated either automatically or manually, that the friction and wear between the parts will be reduced to a minimum.

A further object is to produce a switch stand capable of being operated automatically and manually, which shall be simple in construction, cheap to manufacture and effectual in the performance of its functions.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings: Figure 1 is a plan view, partly in section. Fig. 2 is a side view, partly in section. Fig. 3 is a cross sectional view. Figs. 4, 5 and 6 are detail views.

A represents a base, from which a standard or plate B projects upwardly and is supported by means of brackets B′. The upright or plate B is made with a circular recess *a* for the reception of an oscillatory hub C. The standard or plate B is made with a circular opening *b* for the reception of an oscillatory hub or collar D projecting from a disk D′ which bears against the outer face of said standard B. Two arms E, E, are adapted to pass loosely through angular perforations *c* in the disk D′ and collar D and are connected at their rear ends by means of a cross bar *d*. The arms E are preferably made of spring metal and enter a rectangular opening *e* in the block F, and said arms are provided in proximity to their ends with recesses *e′* adapted to receive flanges e^2 projecting inwardly from the ends of said elongated slot or opening *e*. The standard B is made with a rectangular recess or seat *f* for the block F, for a purpose which will hereinafter be explained. The inner face of the hub C is also provided with a rectangular recess or seat *f′* for the accommodation of the block F and in proximity to the ends of said recess or seat *f*, angular perforations *g* are made in the hub C for the passage of arms F′ carried by the block F,—said arms F′ being provided in their outer faces with curved recesses f^2. The angular perforations *g* communicate with an elongated slot or recess *g′* in the outer face of the hub C, said slot or recess *g′* being preferably made with curved ends g^2, which, with the curved sockets or recesses f^2 in the arms F′, produce circular sockets g^3 when said arms are projected. A shaft or axle G projects from the hub C, through the block F and hub or collar D, said axle or shaft being made angular as at g^4 where it passes through the block F and round where it passes through the collar D, the outer end of said axle or shaft being made angular and adapted to enter a recess in the cross bar *d* and connected with said cross bar by means of a pin *h*, passing through an elongated slot *h′* in an axle or shaft. The pin *h* also serves to pivotally connect to the cross bar *d*, the free, bifurcated, end of a lever H, said lever being pivotally connected at a point between its ends to an arm *i* projecting from the disk D′. The lever H is so bent as to approach the standard B, to which it will be normally secured by means of a pad-lock *i′*.

Bolted to the base A, is a hood I, which is provided with a slot or opening *j* for the accommodation and guidance of a moving rod J, to the free end of which the switch rod J′ is connected. The moving rod J extends inwardly, and is provided with a pin j^2 adapted to enter the elongated slot or recess *g′* in the face of the hub C. A casing or box K is located on the base A, within which a spring K′ is inserted, for which spring, a suitable follower K^2 and follower rod K^3 are provided. A toggle or link K^4 is connected at one end with the follower K^2 and at the other end with the moving rod J, preferably at a point dia-

metrically opposite the pin j^2. When the parts are in their normal positions and the lever H locked, the block F will be in the recess f and the ends of the arms F′ will be flush with the base of the slot or recess g' in the hub C. With the parts in these positions, should the switch be operated automatically by means of any suitable devices, the pin j^2 will move freely from one end to the other of the recess g' and thus permit the switch to be readily thrown.

Should it be desired to operate the switch by hand, the lever H will be first unlocked, and then turned on its fulcrum to force the block F forward and project the arms F′ into the recess g' thus producing the sockets g^3, one of which will inclose the pin j^2 on the moving rod. The lever H will now be thrown to the other side of the stand, thus oscillating the hub C so as to reverse the position of the ends of the recess g', whereby the moving rod J will be thrown to operate the switch. The lever H will then be turned on its fulcrum to withdraw the arms F′ from the recess g' and the lever locked in the manner above explained, but at the opposite side of the stand. The stand is now again set to permit the switch to be operated automatically.

My improvements are very simple in construction, easy to operate, cheap to manufacture and effectual in the performance of their functions.

Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to limit myself to the precise construction and arrangement of parts herein set forth, but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a switch stand, the combination with a standard, of a hub supported thereby and having an elongated recess, a moving bar, a pin projecting from said moving bar and adapted to enter said recess, and arms for locking said pin in the recess, when the switch is to be operated manually, substantially as set forth.

2. In a switch stand, the combination with a standard having circular recess therein, of a hub supported by said standard and adapted to oscillate in said recess, said hub having an elongated recess in its outer face, a moving rod adapted to be connected with a switch rod, a pin carried by said moving rod and adapted to enter said elongated recess, and arms for producing sockets at the ends of said elongated recess, when the switch is to be operated by hand, substantially as set forth.

3. In a switch stand, the combination with a standard, of a hub supported thereby and having an elongated recess in its outer face and an angular recess in its inner face, a moving rod adapted to be connected with the switch rod, a block adapted to enter said angular recess, arms projecting from said block through the hub and adapted to enter said elongated recess at points near the ends thereof whereby to produce a socket for the reception of a pin when the stand is to be operated by hand, and means for operating said block and arms, substantially as and for the purpose set forth.

4. In a switch stand, the combination with a standard having an angular recess therein, of a hub having an elongated recess in one face and an angular recess in the other face, a block adapted to enter said angular recesses and remain normally in the angular recess in the standard, arms projecting from said block through the hub and adapted to enter the elongated slot near its ends, when moved forward, and means for operating said block, substantially as set forth.

5. In a switch stand, the combination with a standard, and an oscillatory hub having an elongated slot in one face, of an axle or shaft projecting from said hub, a sleeve mounted in said standard for the reception of said shaft or axle, a block located between said standard and hub and adapted to enter recesses in the same, arms projecting from said block and adapted to pass through the hub and enter the elongated slot or recess therein, arms passing through said sleeve and connected with said block, a cross bar connecting said arms and connected to the shaft or axle, and a lever for reciprocating said arms and oscillating said hub, substantially as set forth.

6. In a switch stand, the combination with a standard and an oscillatory hub having an elongated slot in one face, of an axle or shaft projecting from said hub, a sleeve mounted in the standard for the accommodation of said shaft or axle, a disk projecting from said sleeve, a block located between the standard and hub and adapted to enter recesses in the same, said block having an angular opening for the accommodation of an angular portion of the shaft or axle, arms projecting from said block, through the hub and adapted to enter the elongated slot or recess therein near its ends, arms or bars passing loosely through said sleeve and connected with said block, a cross bar connecting said arms or bars, an arm projecting from said disk, a lever pivoted at a point between its ends to said arm and at its end to said cross bar, a moving rod adapted to be connected with the switch rod and a pin projecting from said moving rod and adapted to enter the elongated slot or recess in the hub, substantially as and for the purpose set forth.

7. In a switch stand, the combination with a standard, of an oscillatory hub supported by said standard and having an elongated slot, a moving rod adapted to be connected to the switch rod, a pin carried by the moving rod and adapted to enter said elongated slot, means for producing sockets at the ends of said elongated slot when the device is to be operated by hand, a lever connected with

said devices, said lever being bent to approach the standard and means for locking said lever to the standard, substantially as set forth.

8. In a switch stand, the combination with an oscillatory hub, and a moving bar having sliding connection with the hub, of arms connected with the hub for locking the moving bar thereto against sliding movement but to admit of pivotal action, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES B. SUFFERN.

Witnesses:
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A. W. WRIGHT.