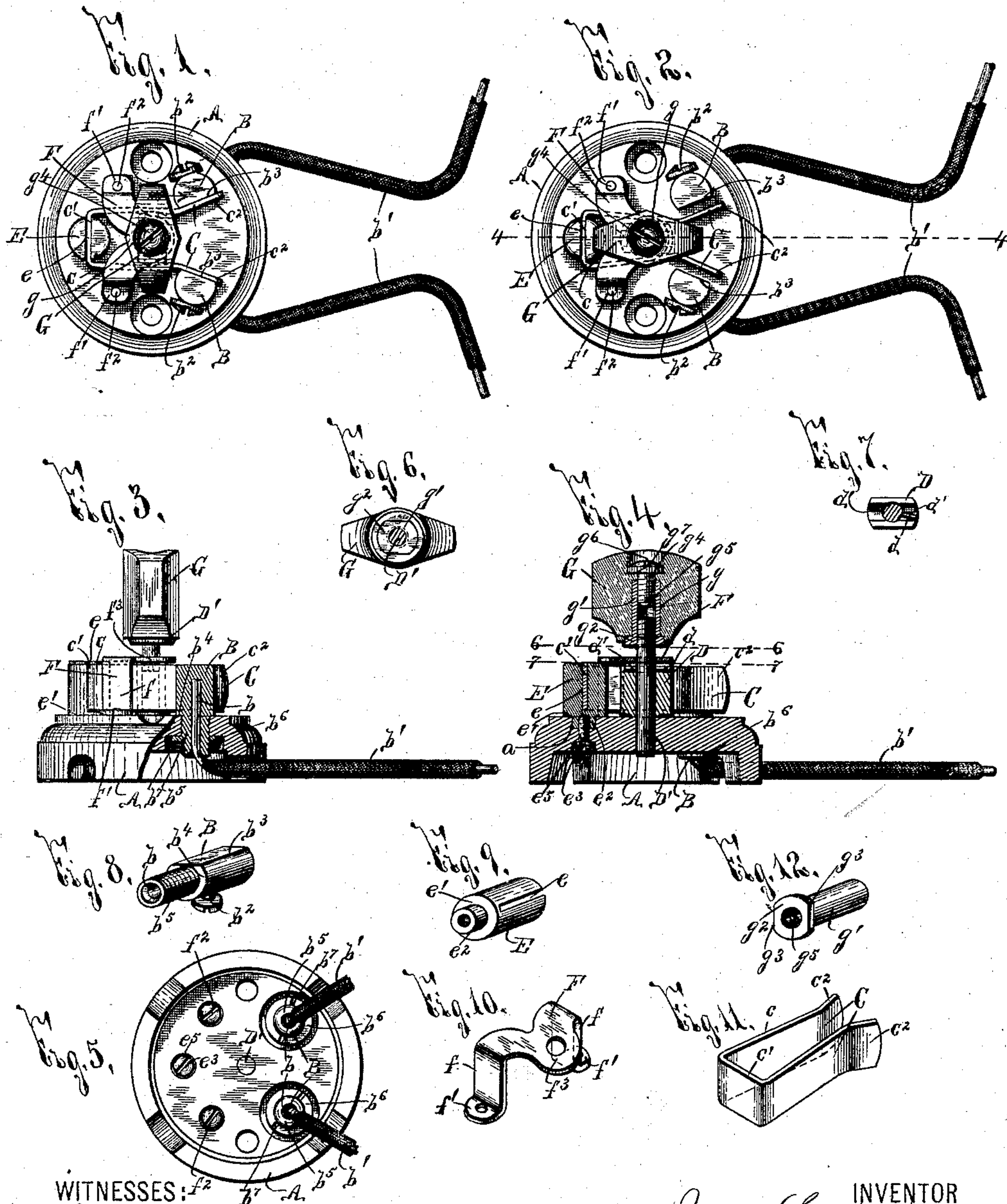


(No Model.)

J. L. HINDS.
ELECTRIC SWITCH.

No. 477,595.

Patented June 21, 1892.



WITNESSES:

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JESSE L. HINDS, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE ELECTRIC ENGINEERING AND SUPPLY COMPANY, OF SAME PLACE.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 477,595, dated June 21, 1892.

Application filed July 23, 1891. Serial No. 400,501. (No model.)

To all whom it may concern:

Be it known that I, JESSE L. HINDS, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful
5 Improvements in Electric Switches, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to an improved electric switch, and has for its object the production of a simple and effective device which is practical in operation and highly economical in manufacture.

To this end it consists, essentially, in a base-plate, a support mounted upon the base-plate,
15 a spring having its central portion carried by the support and formed with arms extending in substantially the same direction, terminals adapted to be engaged by inclined extremities on said arms, and a cam for forcing the
20 arms into engagement with the terminals.

The invention also consists in a spindle connected to said arm with a lost motion between the two and a porcelain handle having
25 a central aperture for receiving a sleeve adapted to screw upon the projecting end of the cam-spindle and be secured in operative position by a screw having its head depressed below the top face of the handle.

The invention furthermore consists in the detail construction and arrangement of the parts, all as hereinafter more particularly described, and pointed out in the claims.

In describing this invention reference is
35 had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figures 1 and 2 represent top plan views
40 of my switch, the circuit being shown as open at Fig. 1 and closed or broken at Fig. 2. Fig. 3 is an elevation, partly in section, of the parts as illustrated in Fig. 1. Fig. 4 is a vertical sectional view taken on line 4 4, Fig. 2.
45 Fig. 5 is an inverted plan view of the parts as shown at Fig. 1. Figs. 6 and 7 are horizontal sectional views taken, respectively, on lines 6 6 and 7 7. Figs. 8 and 9 are respectively isometric perspectives of one of the
50 terminals and of the support for the spring. Figs. 10 and 11 are respectively isometric

perspectives of the bracket for supporting the spindle and the spring mounted on the supports shown in isometric perspective at Fig. 9; and Fig. 12 is an isometric perspective of
55 the sleeve socketed in the handle for securing the same to its spindle.

A represents the base-plate of desirable form and size composed of porcelain or other
60 suitable material.

B B represent the terminals, C C the spring-arms, and D the cam for forcing the arms into engagement with the terminals. The terminals B are preferably composed of a block provided with a socket *b* for receiving the
65 wire *b'*, adapted to be securely held therein by a screw *b²*. The upper extremity of the terminal B is cylindrical on its outer face and is formed with a vertical inclining shoulder
70 *b³* on its inner face for making contact with the spring-arm C.

b⁴ is a horizontal annular shoulder on the terminal mounted upon the top face of the base-plate A, and *b⁵* a screw-threaded shank
75 extending beneath the shoulder *b⁴* through the top wall of the base-plate and adapted to receive a nut *b⁶*, whereby the terminal is firmly held in position.

The nut, for the purpose of economy of manufacture, is composed of a thin disk provided at its lower face with a slot *b⁷*.
80

The spring-arms C consist, preferably, of the opposite extremities of a single spring plate or bar *c*, having its central portion *c'*
85 mounted on the support E, with its extremities extending in substantially the same direction, but slightly inclining toward each other and provided at their extreme ends with outwardly-extending extremities *c²*, adapted
90 to engage the terminals B.

The support E preferably consists of a block having its upper end formed with a slot *e* for receiving the portion *c'* of the spring C and with a horizontal shoulder *e'* adapted to rest
95 on the top face of the base A. Depending beneath the shoulder *e'* is a hub or projection *e²*, mounted in a recess *a* in the base A and formed with a socket for receiving the extremity of a screw *e³*, having its head engaged with a shoulder *e⁵* on the under side of the
100 base.

The cam D (best seen at Figs. 4 and 7) is

pivoted between the two arms C C upon a spindle D', connected to said cam with a lost motion, the cam being provided at its upper extremity with a slot d and the spindle with lugs d' , mounted in the slot and of considerably-less diameter than the width of the slot.

Mounted above the cam is a bracket F, having one or more arms f , provided with feet f' , secured by screws f^2 to the frame. Projecting from said arms f is the laterally-extending hub f^3 , formed with a journal-opening adapted to receive the spindle D'. This bracket prevents upward movement of the spindle as its lower face is encountered by the pin d' . The spindle D' projects upwardly beyond the bracket F, and secured at its upper extremity is the handle G, having a central perforation g , within the lower extremity of which is a sleeve g' , having a head g^2 , provided with angular shoulders g^3 , adapted to engage corresponding shoulders at the lower extremity of the aperture g and prevent the sleeve from turning. The sleeve g' is firmly held in position by a screw g^4 , having one extremity adapted to engage threads in the upper portion of the central chamber g^5 of said sleeve and its opposite extremity provided with a head g^6 , imposed upon a shoulder g^7 within the aperture g and depressed beneath the top face of said handle G, in order to prevent engagement of the screw when the handle is operated. The spindle D' is screw-threaded at its upper extremity and engages the threads at the lower end of the recess g^5 of the sleeve, and when the handle is turned in the direction indicated by the arrow at Fig. 1 the cam is readily rotated, whereas when the handle is returned in a reverse direction the handle unscrews from the spindle.

The operation of my invention will be readily perceived from the foregoing description, and upon reference to the drawings, it will be particularly noted that the parts are simple, strong, and durable, and when operatively assembled produce a practical and economical electric switch.

It is evident that the detail construction and arrangement of the parts of my switch may be somewhat varied without departing from the spirit of my invention. Hence I do not specifically limit myself to such precise detail construction.

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

1. In an electric switch, the combination of a supporting-post, a spring-plate having its central portion carried by the post and its arms extending in substantially the same direction, a pair of terminals on opposite sides of the free extremities, and a cam for forcing said extremities against the terminals, substantially as set forth.

2. In an electric switch, the combination, with the herein-described post formed with a slot opening from its outer face and a spring-plate having its central portion seated in said

slot and its extremities arranged opposite one to the other, of a pair of terminals adapted to be engaged by said arms and a cam for forcing said arms into engagement with the terminals, substantially as described.

3. The combination of a base-plate and a bracket having a vertical arm and a laterally-extending hub, a spring-plate having opposite arms mounted beneath the hub, a support for the central portion of the spring, terminals adapted to be engaged by the free extremities of the spring, and a cam provided with a spindle having one extremity journaled in said hub and the other in the base-plate, substantially as and for the purpose specified.

4. In an electric switch, the combination, with a base-plate and a U-shaped bracket having a hub, of a support having its upper extremity slotted, a spring having its central portion seated in said slot and its arms disposed between the arms of the U-shaped bracket, a pair of terminals adapted to be engaged by the free extremities of the spring-plate, and a cam mounted between the free extremities of the springs and provided with a spindle having one extremity journaled in said base-plate and the other in said bracket, substantially as set forth.

5. In an electric switch, the combination, with a base-plate and a U-shaped bracket having a hub, of a support on the base-plate, a spring having its central portion mounted on said support and its arms disposed between the arms of the U-shaped bracket, outwardly-inclining extremities formed on the spring-arms, a pair of terminals adapted to be engaged by said inclining extremities, and a cam mounted between the free extremities of the springs and provided with a spindle having one extremity journaled in said base-plate and the other in said bracket, substantially as and for the purpose set forth.

6. The combination, with a terminal, a spring-arm for engaging the terminal, and a cam for forcing the arm against the terminal, of a spindle for operating the cam, having its free end screw-threaded, a non-conductor handle for the spindle, provided with a central aperture having an enlarged outer end and a recess at its inner face, a sleeve having one end provided with screw-threads for engaging the free end of the spindle, a shoulder on said sleeve for engaging the recess in the inner face of the handle and a screw having a screw-threaded shank for engaging said sleeve, and a head arranged within the enlarged end of said aperture with its outer face within the outer face of the handle, substantially as and for the purpose specified.

7. The combination, with a terminal, a spring-arm, and a cam forcing said spring-arm into engagement with the terminal, of a spindle connected to said cam with a lost motion between the two, a non-conductor handle for the spindle, provided with a central aperture, a sleeve engaged with said spindle and inserted into one extremity of said aperture

and formed with a head provided with an angular shoulder adapted to engage a corresponding shoulder on the handle for preventing revolution of the sleeve, a shoulder within
5 the aperture beneath the top face of the handle, and a screw having its shank engaged with the central chamber of the sleeve and its head resting upon said shoulder and arranged beneath the top face of the handle,
10 substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 19th day of June, 1891.

JESSE L. HINDS.

Witnesses:

CLARK H. NORTON,
L. M. BAXTER.