(No Model.) 2 Sheets—Sheet 1.

E. T. GREENFIELD.

ELECTRIC LIGHT FIXTURE.

No. 459,088. Patented Sept. 8, 1891.

Fig. 4.

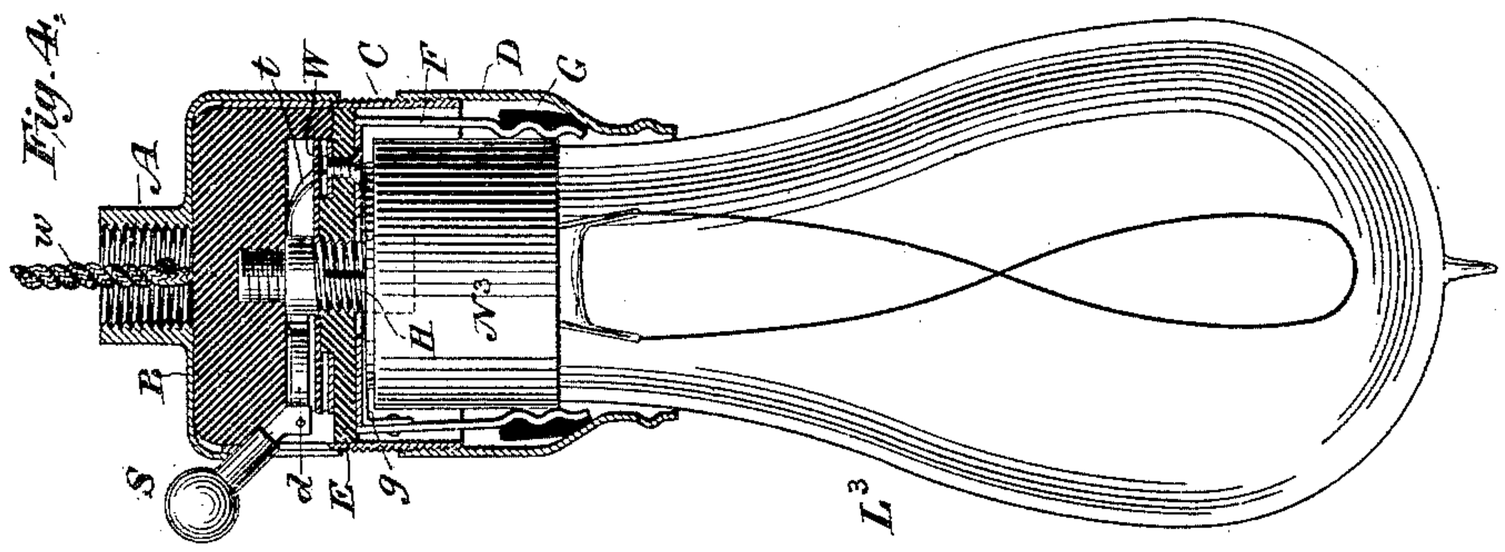


Fig. 3.

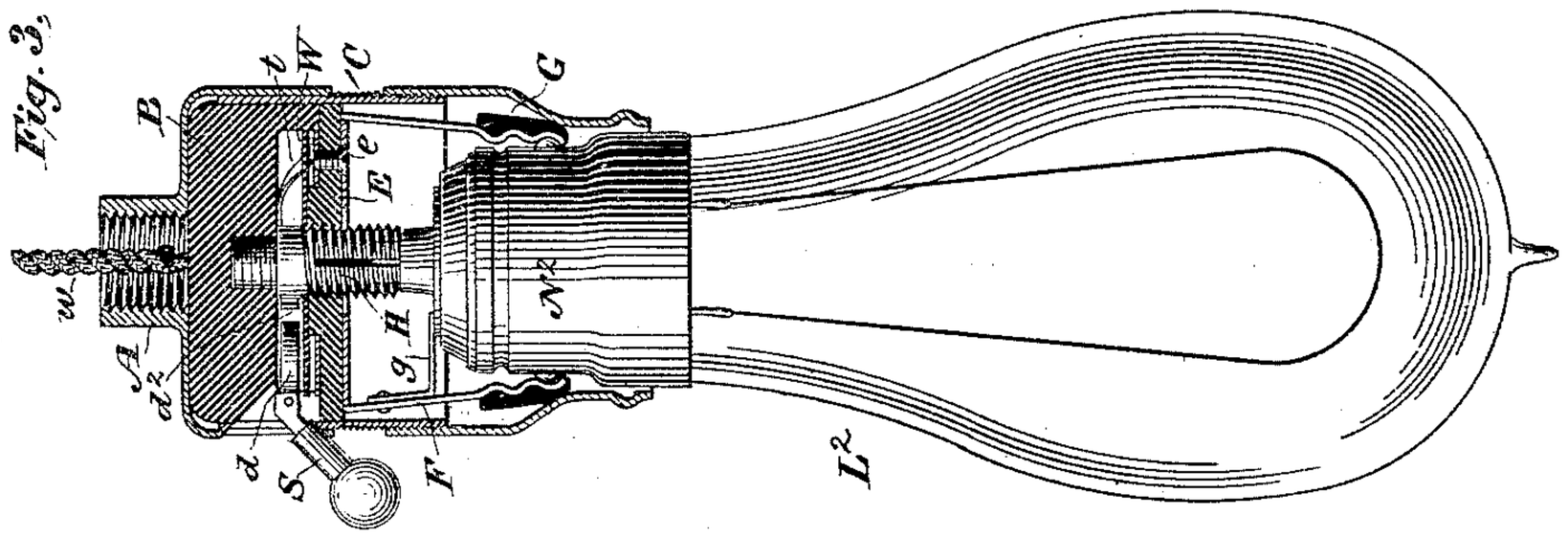
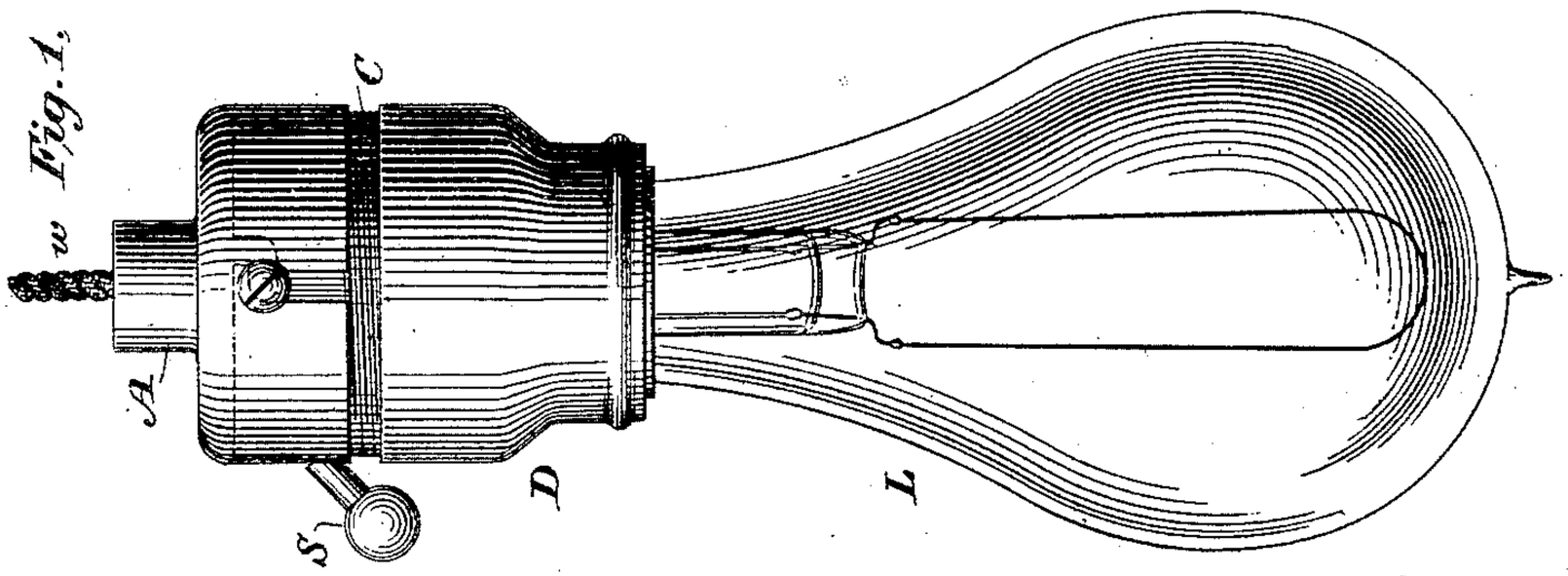


Fig. 2.

Fig. 1.



Witnesses
Geo. W. Breck.
Edward Thorpe.

Inventor
Edwin T. Greenfield
By his Attorney
Charles J. Kintner

(No Model.) 2 Sheets—Sheet 2.

E. T. GREENFIELD.

ELECTRIC LIGHT FIXTURE.

No. 459,088. Patented Sept. 8, 1891.

Fig. 5.

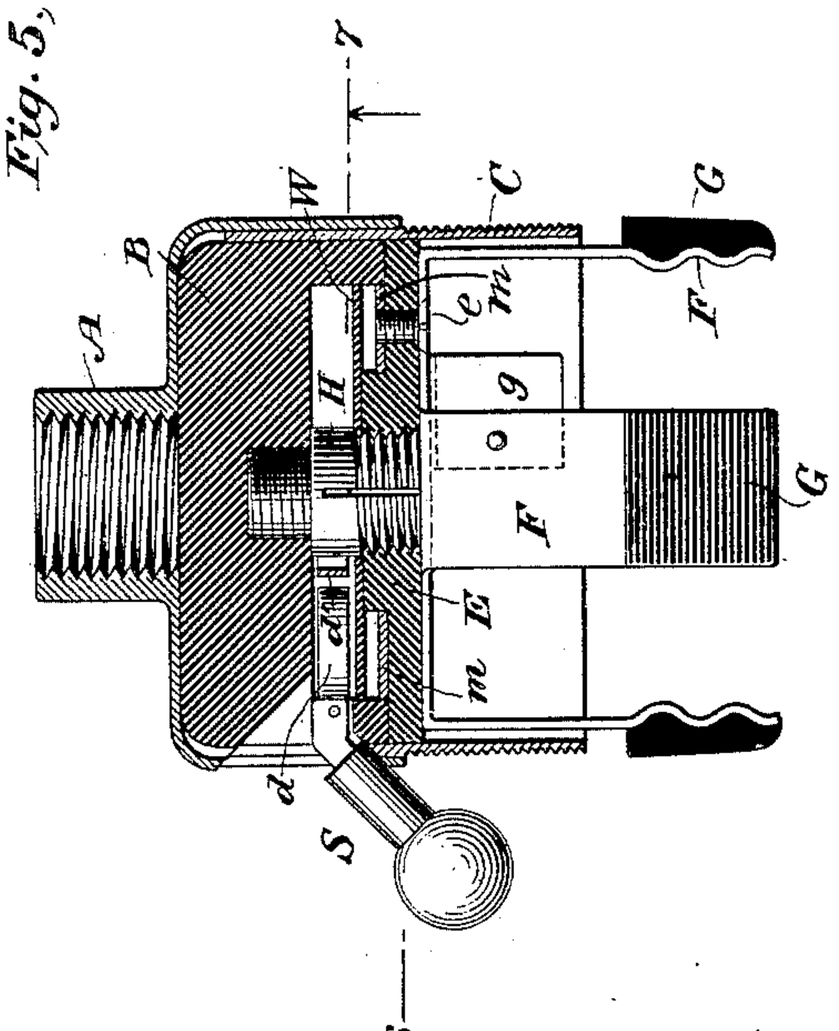


Fig. 8.

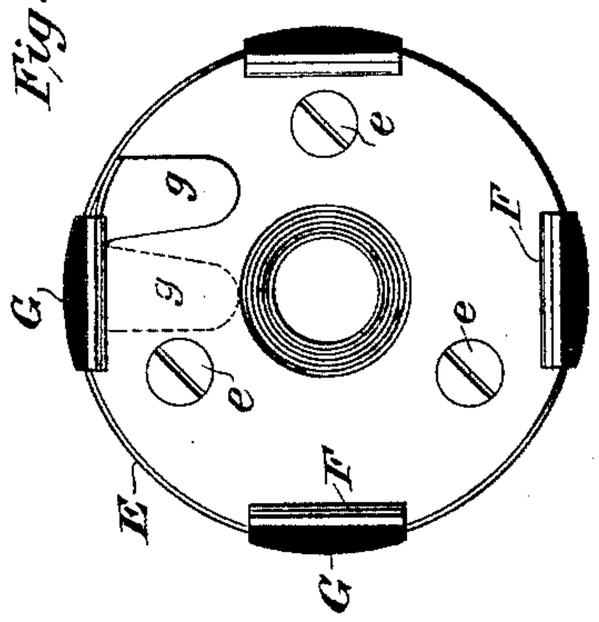


Fig. 6.

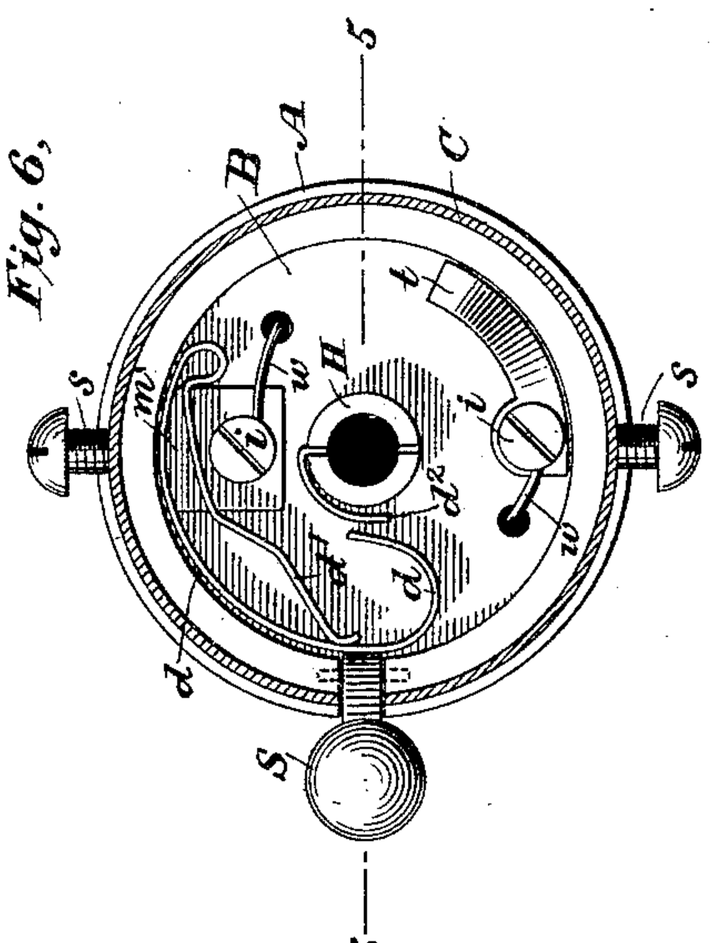
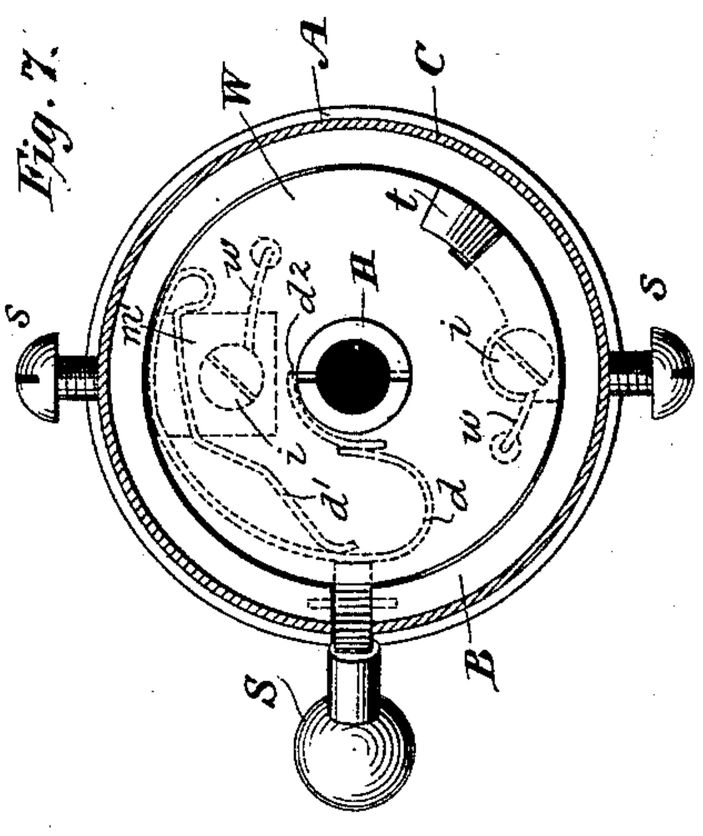


Fig. 7.



Witnesses
Geo. W. Breck.
Edward Thorpe.

Inventor
Edwin T. Greenfield
By his Attorney
Charles J. Kintner

UNITED STATES PATENT OFFICE.

EDWIN T. GREENFIELD, OF NEW YORK, N. Y.

ELECTRIC-LIGHT FIXTURE.

SPECIFICATION forming part of Letters Patent No. 459,088, dated September 8, 1891.

Application filed May 11, 1891. Serial No. 392,315. (No model.)

To all whom it may concern:

Be it known that I, EDWIN T. GREENFIELD, a citizen of the United States, residing at New York, in the county and State of New York, have made a new and useful Improvement in Electric-Light Fixtures, of which the following is a specification.

My invention is directed especially to improvements in sockets for use in connection with electric incandescent lamps or analogous translating devices; and it has for its objects, first, the production of a socket which is adapted for use with different types of incandescent lamps found in the open market; second, the production of a simple and efficient switch mechanism for use with this type of apparatus which shall be especially serviceable where incandescent lamps are suspended by flexible conductors.

There are now upon the market several well-known forms of incandescent lamps, the same being the production of the various electric-light companies in existence, and these types of lamps are so constructed that in no instance will the circuit connections of any of them adapt themselves for use with a socket designed for any other type of lamp.

It is the especial design of my present invention to provide what I term a "universal socket," and in connection therewith a simple switch mechanism which may be operated effectually with one hand by a person, whether the lamp be secured to a wall-bracket or suspended by flexible conductors.

I am aware that prior to my invention adjustable attachments have been connected to the various types of incandescent lamps above referred to in such manner as to adapt them for use with various forms of sockets; but I am not aware that any one has heretofore devised a universal socket in which there are combined two or more sets of fixed electrical contacts secured to the socket in such manner as to adapt it for use with two or more different types of incandescent lamps or analogous electrical translating devices.

In order that my invention may be fully understood, reference is had to the accompanying drawings, in which—

Figure 1 represents a side elevational view of my improved form of socket and switch with the lamp in position. Fig. 2 is a sectional view of the socket, showing one type of lamp in elevation and in position. Fig. 3 is a similar sectional view through the socket, showing a second type of lamp in position with the switch open; and Fig. 4 is a third sectional view showing still another type of lamp in position with the switch closed. Fig. 5 is an enlarged sectional view of the socket with the exterior locking-sleeve removed, said sectional view being taken on line 5 5, Fig. 6. Fig. 6 is a horizontal sectional view taken on line 7, Fig. 5, as seen looking in the direction of the arrow on the right. Fig. 7 is a similar sectional view taken through Fig. 5 on a plane slightly below that upon which Fig. 6 was taken. Fig. 8 is a plan view as seen looking at Fig. 5 from the bottom toward the top.

Like letters of reference wherever used throughout this specification indicate like parts.

Referring now to the drawings in detail, A represents a metallic socket-base screw-threaded, as shown, in its upper portion, so as to adapt it for connection with a fixture.

B represents a block of insulating material, to which the base A is secured by screws *s s*.

w represents the lead-wires, insulated from each other and twisted together and connected, respectively, to binding-posts *i i*. (See Fig. 6.)

C represents a screw-threaded collar surrounding the insulating-base B and held also in place by the screws *s s*.

E represents a second removable insulating-base, which carries on its upper side a metallic ring *m* and on its lower side four metallic corrugated arms F, having insulating-blocks G secured to the lower ends, the ring *m* and arms F being secured together by screws *e*, extending through the insulating-base E.

The insulating-base E is screw-threaded and adapted to be secured to a screw-threaded junction-pin H, hollow and also split at its lower end, as shown, and secured in turn by a screw-threaded portion at its upper end to the insulating-base B.

D is a removable screw-threaded sleeve having its lower end somewhat depressed, so as to produce a shouldered bearing upon the insulating-blocks G at the lower ends of the spring-arms F.

N′ N^2 N^3 represent the socket ends of three different well-known types of incandescent lamps L′ L^2 L^3, the end N′ having a struck-up ring adapted to contact with the lower ends of the spring-arms F and constituting one terminal of that lamp, the upper end being adapted to fit into the hollow end of the screw-threaded junction-pin H, which constitutes the other terminal of the lamp.

In the form shown in Fig. 3 the base N^2 is provided with a pair of metallic beads adapted to fit between the lower ends of the spring-arms F, said beads having a mechanical function only, the electrical contact through the lamp being had by a pivoted metallic elbow connection *g*, which bears upon a conducting-disk at the upper side, as shown, said elbow connection *g* being shown in Fig. 4 in a reverse position in order to admit the insertion of the base N^3 of the different type L^3 of lamp therein shown, where the electrical contacts are made through the arms F and the screw-threaded junction-pin H.

S represents the switch-lever, which is pivotally secured to the insulating-base B and is provided with two angular faces, either of which is adapted to bear against the conducting-spring *d* or to permit its withdrawal under the influence of the spring *d′*, depending upon the position of the switch-lever. (See Figs. 3, 4, 5, 6, and 7.)

d^2 is one of the terminals of the leading-in wires, secured to the split junction-pin H and adapted to contact with the free end of the spring *d*.

t is a conducting-spring secured to the insulating-base B by the binding-screw *i*, its free end being turned upward and extending through an insulating-washer W, which covers all of the contacting portions of the switch mechanism and separates them from the metallic ring *m*, except that portion of the spring which is exposed, as shown in Fig. 7.

Referring now to Figs. 4, 5, 6, and 7, one terminal of the lamp having been placed in contact with the split sleeve H and the other with the spring-arms F, the current enters by wire *w*, passing thence to binding-post *i*, conducting-plate *m′*, thence by way of conducting-springs *d d′* to the terminal d^2, (the switch being closed,) through split sleeve H, thence through the lamp and to the outer metallic fixed terminal N′, N^2, or N^3, (see Figs. 2, 3, and 4,) thence by way of the spring-arms F to screws *e* and conducting-ring *m*, thence by way of conducting-spring *t* to the other binding-post *i* and out by conductor *w*.

In Fig. 1 the lamp L therein shown is what is known as an "Edison lamp," having a screw-threaded socket the threads of which are adapted to fit into the corrugated ends of the spring-arms F, while the upper end rests against the metallic junction-pin H. The lamp is put in place and the screw-threaded sleeve D is rotated upon the collar C until the shouldered portion thereof forces the spring-arms F into secure electrical contact with the screw-threads, locking the lamp firmly in position. In a similar manner the screw-threaded sleeve is made to regulate the position of the spring-arms F for the different types of lamps, as shown in Figs. 2, 3, and 4, and to act also as a locking device for securely holding the lamps in position, insuring good electrical contacts between the terminals thereof and the socket-terminals.

By reason of the eccentric nature of the shouldered bearings at the inner end of the switch-lever S and the elastic conducting-spring *d* the switch acts to suddenly rupture the circuit between the spring *d* and its contact d^2 after the manner of what is known as "snap-action" switches, so that the user may actuate the switch-lever S by simply holding the lamp in his hand and causing the thumb to move it in either direction.

I do not limit myself to the specific constructions herein shown for adapting a socket to two or more different types of lamp, as I believe it is broadly new with me to devise a universal socket in which two or more fixed sets of electrodes are utilized for accomplishing this result.

I am aware, as I have above indicated, that it is old in the art to attach what is known as "adapting devices" to different types of lamps with the view of adapting them to a socket which is adapted, primarily, for use with only one of said forms of lamps, and my claims are not designed to be of such scope as to include this type of apparatus, but are directed particularly to a universal socket with fixed parts.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A universal socket for an incandescent electric lamp or analogous translating device, having a fixed central terminal provided with an inner and an outer contact-surface, in combination with a peripheral contact provided with a lateral branch, substantially as described.

2. A universal socket for an incandescent electric lamp or analogous translating device, having a fixed terminal provided with an inner and an outer contact-surface and one or more yielding terminals, in combination with means for varying the position of the yielding terminals, so as to adapt them to translating devices of different form or size, substantially as described.

3. A universal socket for an incandescent electric lamp or analogous translating device, having a fixed hollow terminal screw-threaded on its outer surface, in combination with one or more yielding terminals and means for adapting the yielding terminals to fit lamps or analogous translating devices of different form or size, substantially as described.

4. A universal socket for an incandescent electric lamp or analogous translating device, having a fixed terminal and two or more yielding springs provided with an adjustable col-

lar adapted to vary the position of the springs, substantially as described.

5. A universal socket for an electric translating device, having a fixed terminal and a yielding terminal, in combination with an adjustable locking-collar adapted to vary the position of the yielding terminal, substantially as described.

6. A universal socket for an electric translating device, having a fixed terminal and one or more yielding terminals, in combination with a screw-threaded collar having a shouldered bearing at its lower end against the yielding terminals, substantially as described.

7. An electrical switch consisting of a pair of horizontally-disposed yielding springs concealed in the socket of an electric lamp and a pivoted operating-lever located at right angles to the springs and provided with cam-surfaces on the end next the springs, in combination with an exposed operating-handle, the lever and handle having motion in the plane of the lamp's socket, substantially as described.

8. An incandescent electric-lamp socket having fixed terminals adapted to contact with the terminals of the lamp, in combination with a screw-threaded locking device in the nature of a sleeve surrounding all of the terminals and adapted to secure the lamp in place, substantially as described.

EDWIN T. GREENFIELD.

Witnesses:
C. J. KINTNER,
M. L. BUTLER.