F. P. HALL & J. O. SHARPE.

INTERCHANGEABLE ELECTRIC SIGN AND LAMP THEREFOR.

APPLICATION FILED OCT. 19, 1912.

1,067,024. Patented July 8, 1913.

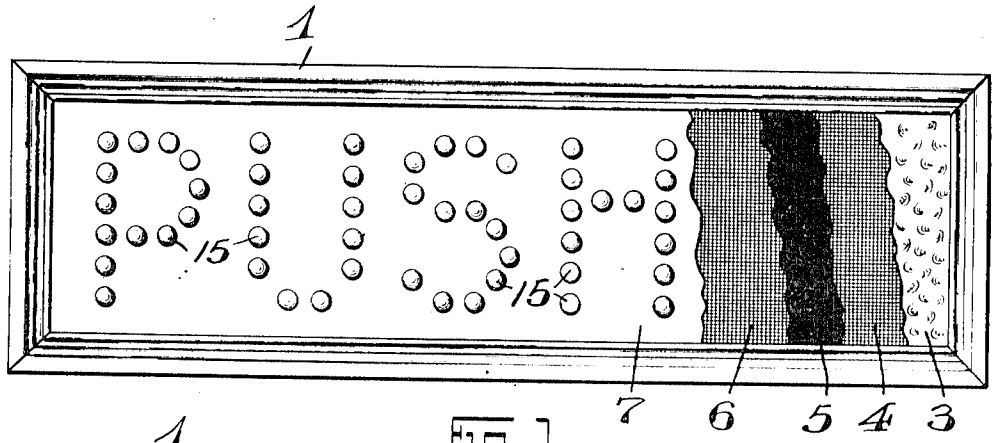


Fig. 1

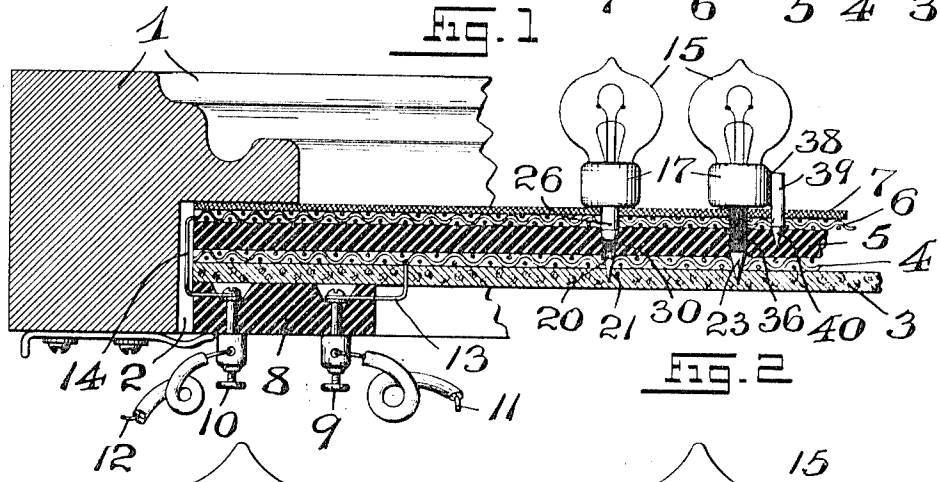


Fig. 2

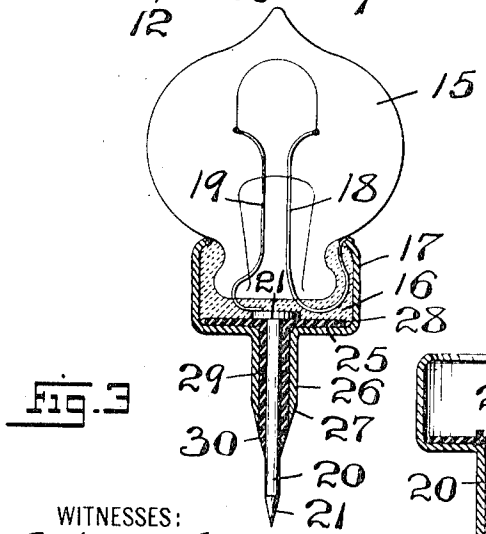


Fig. 3

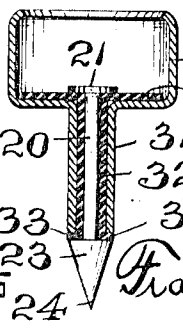


Fig. 5

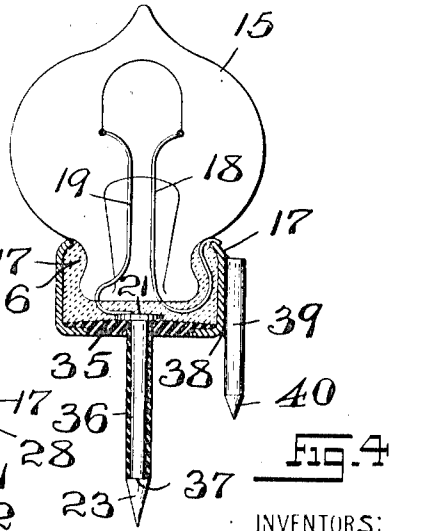


Fig. 4

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INTERCHANGEABLE ELECTRIC SIGN AND LAMP THEREFOR.

1,067,024. Specification of Letters Patent. Patented July 8, 1913.

Application filed October 19, 1912. Serial No. 726,622.

To all whom it may concern:

Be it known that we, FREDERICK P. HALL and JAMES O. SHARPE, both citizens of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Interchangeable Electric Signs and Lamps Therefor; 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 characters of reference marked thereon, which form a part of this specification.

This invention has reference, generally, to improvements in electric signs and detachable electric lamps therefor; and, the present invention has reference, more particularly, to a novel interchangeable electric sign and detachable electric lamps therefor, the lamps being provided with circuit-completing electric contact-making points which are adapted to be forced into perforated metal plates or metallic screens arranged in a normally broken circuit to complete an electric circuit through the lamps and the screens.

The present invention has for its principal object to provide a novel and simply constructed electric sign with which may be employed a plurality of detachable contact-making lamps, provided with contact points of varying lengths adapted to be pushed into and through a pair of metal circuit-producing elements, which are insulated from each other, and into which any number of such electric lamps may be pushed and variously arranged, so as to produce a neat and novel sign.

The invention has for its further object to provide a wireless electric sign and novel electric lamp therefor, which is especially adapted for use as an advertising sign comprising a circuit-completing body into which any number of electric lamps of the general character hereinafter described can be pushed, at any point or points in the face of the said body, whereby many different ornamental light-effects, or words can be instantaneously and readily and quickly produced.

Other objects of this invention not at this time more particularly enumerated will be clearly understood from the following detailed description of the present invention.

With the various objects of the present invention in view, the said invention consists, primarily, in the novel interchangeable electric sign and detachable electric lamp therefor hereinafter more fully set forth; and, the invention consists, furthermore, in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction of the same, all of which will be more fully described in the following specification and then finally embodied in the clauses of the claim which are appended to and which form an essential part of this specification.

The invention is fully illustrated in the accompanying drawings, in which:—

Figure 1 is a view of an electric sign embodying the principles of the present invention, the sign being represented partly in front face elevation, with portions of the various members comprising the main body of the device being represented as broken away, so as to show more particularly the general arrangement of the said parts, and an arrangement of socketless contact-making lamps pushed into the body in various places, to form a word; and Fig. 2 is a detail longitudinal vertical section, on an enlarged scale, of an end-portion of the wireless electric sign, showing more particularly the general arrangement of the members comprising the main body, and in elevation an arrangement of socketless electric lamps provided with contact-making points pushed into position in said body and establishing complete electric circuits by means of said contact points with an arrangement of insulated screens forming a part of said main body and connected electrically with the leading-in wires of a main electric circuit connected with an outside source of electricity. Figs. 3 and 4 are vertical sectional representations of two forms of electric lamps adapted to be used with the device shown in said Figs. 1 and 2; and Fig. 5 is a vertical sectional representation of a modified double contact-producing point and shell, adapted for use with the device represented in said Figs. 1 and 2, but the lamp-bulb and filament in this case being omitted from said view.

Similar characters of reference are employed in all of the above described views, to indicate corresponding parts.

Referring now to the drawings, the reference-character 1 indicates a suitably constructed frame, of any desirable size and shape, which is formed in the back with a

suitably recessed portion 2. Arranged in this recessed portion 2 is the main body herein-above mentioned, this body comprising a lower element or layer 3 of any suitable material which is a non-conductor of electricity, this material usually being a piece of cork. Arranged upon this lower element or layer 3 is a metallic electric circuit-producing member or element 4 of an easily pierceable material, such as a perforated metal plate or wire-screen of any suitable mesh and any suitable metal. Suitably disposed upon said circuit-producing member or element 4 is a member or layer 5 of a suitable insulating material, upon which is arranged another metallic electric circuit-producing member or element 6 of an easily pierceable material, such as a perforated metal plate or wire-screen of any suitable mesh and any suitable metal, and suitably disposed upon this member or element 6 is an ornamental facing 7 of any suitable fabric, such as plush or any other suitable material. Suitably connected with the lower face of the lower element or layer 3 is an insulating block, as 8, which is provided with a pair of binding posts 9 and 10 to which may be attached in the usual manner the end-terminals 11 and 12 of a main electric circuit leading from an outside source of electricity. Leading from the binding post 9 is a short connecting circuit-wire 13, said wire being suitably connected with the previously-mentioned circuit-producing member or element 4, and similarly leading from the binding post 10 is a short connecting circuit-wire 14, said wire being suitably connected with the previously-mentioned circuit-producing member or element 6, substantially in the manner illustrated in Fig. 2 of the drawings. To complete an electric circuit through the said binding posts, the main outside circuit-wires 11 and 12, the connecting circuit-wires 13 and 14, and the circuit-producing members or elements 4 and 6, any one or more of the forms of electric lamps represented in Figs. 3, 4 and 5, may be used.

The lamps consist of any suitably shaped bulb, as 15, which is embedded in a base 16 of a suitable vitreous, or other suitable material, arranged in a suitably formed metal shell or casing 17. The reference-characters 18 and 19 indicate a pair of leading-in wires, one of which, as 18, is electrically connected with a portion of said metal shell or casing 17, and the other leading-in wire 19 being electrically connected with the head or enlargement 21 of a contact-making pin, as 20, this pin, as in Fig. 3, having a pointed end 22, or as in Figs. 4 and 5, having an enlarged portion 23 which is pointed as at 24.

Referring now to the construction of lamp illustrated in said Fig. 3 of the drawings, it will be seen that the lower flat surface-portion 25 of the metal shell or casing 17 is made with a downwardly extending tubular member or element, as 26, terminating in a tapered annular surface 27. Arranged between the base 16 and the inner face of the flat surface-portion 25 is a disk 28 of a suitable insulating material with which is suitably connected and from which extends in a downward direction a tubular member or sleeve, as 29, said member or sleeve 29 being arranged within the tubular member or element 26, and incasing the contact-making pin 20, as shown, so as to perfectly insulate the said pin 20 from said tubular member or element 26. The lower end-portion of the tubular member or sleeve 29 also terminates in a tapered annular surface, as 30, which serves as a continuation of the tapered annular surface 27, substantially as shown in said Fig. 3 of the drawings, and for the purpose of providing a pair of contact-making points or members of different lengths adapted to be used in the manner to be hereinafter more particularly set forth.

In the construction represented in said Fig. 5, the shell or casing 17 is made with a downwardly extending tubular element or member 31, having a lower squared end-portion which rests upon an annular flange-like portion 33 forming part of an insulating tubular member or sleeve 32 resting upon the upper shouldered portion 34 with which the enlarged portion 23 of the contact-making pin 20 is provided, whereby the said contact point or member 20 is perfectly insulated from the downwardly extending tubular contact-making element or member 31, as will be clearly evident from an inspection of said Fig. 5.

In the construction represented in said Fig. 4 of the drawings, the metal shell or casing 17 has arranged therein an insulating disk, as 35, from which extends a tubular member or sleeve 36, also made of an insulating material, said member or sleeve 36 encircling the said contact-making pin 20, and having its lower end-portion resting upon the shouldered portion 37 with which the enlarged portion 23 of the contact-making pin 20, shown in said Fig. 4, is provided. Suitably secured by means of solder 38, or in any other suitable manner, is another metal contact-establishing pin or element, as 39, the said pin or element 39 having a pointed end-portion 40, substantially as shown.

From the foregoing description of said Figs. 3, 4 and 5 of the drawings, it will be clearly evident, that each lamp is provided with two perfectly insulating contact and circuit-producing pins, the said pins being of such varying lengths, so that the pointed or sharp end-portion of the said circuit-producing pins or elements, when pushed into the body of the illuminating device

herein-before described, will respectively make electrical connection with the herein-above mentioned electric circuit producing elements or members 4 and 6, as will be clearly understood from an inspection of said Fig. 2 of the drawings, and that without the use of any special arrangement of circuit-wires. It will also be evident that the clamps can be easily and quickly pushed into any place or places in the said body of the illuminating device, to establish a complete electrical circuit or circuits, whereby any desirable combinations of electrical illuminating effects, in the forms of words or other light-ornamentations may be most easily and effectively made.

The device is especially adapted for illuminating signs upon counters in stores and in the show-cases and show-windows, or for many other display purposes where effective light-effects are desired.

We are fully aware that various changes may be made in the general arrangements and combinations of the various devices and parts, as well as in the details of the construction of the said parts, as set forth in the foregoing specification and as defined in the clauses of the claim which are appended thereto. Hence, we do not limit our invention to the exact arrangements and combinations of the various devices and parts, as described in the said specification, nor do we confine ourselves to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

We claim:—

1. In a device of the character herein set forth, a frame, and a main body arranged in said frame, consisting of a lower element of a material which is a nonconductor of electricity, a wire-screen electric circuit-producing member upon said lower element, an insulating element upon said wire-screen, a second wire-screen electric circuit-producing member upon said insulating member, a fabric-facing upon said second-mentioned wire-screen, and means connected with said body for arranging said device in an electric circuit.

2. In a device of the character herein set forth, a frame, and a main body arranged in said frame, consisting of a lower element of a material which is a non-conductor of electricity, a wire-screen electric circuit-producing member upon said lower element, an insulating element upon said wire-screen, a second wire-screen electric circuit-producing member upon said insulating member, a fabric-facing upon said second-mentioned wire-screen, means connected with said body for arranging said device in an electric circuit, and a pair of short connecting circuit wires connected with said last-mentioned means and the wire-screens.

3. An electric lamp of the character herein stated comprising a metal shell, a base of vitreaus material in said shell, a lamp-bulb mounted in said shell and embedded in said base, an insulating disk in said shell and beneath said base, a tubular insulating member extending from said disk, and a pair of contact-pins of varying lengths, one of said pins extending into and from the lower end-portion of said tubular insulating material.

4. An electric lamp of the character herein stated comprising a metal shell, a base of vitreous material in said shell, a lamp-bulb mounted in said shell and embedded in said base, an insulating disk in said shell and beneath said base, a tubular insulating member extending from said disk, and a pair of contact-pins of varying lengths, one of said pins extending into and from the lower end-portion of said tubular insulating material, and the other insulating pin being made in the form of a tubular member forming a part of and extending from said shell and encircling the said tubular insulating member.

In testimony, that we claim the invention set forth above we have hereunto set our hands this 18th day of October, 1912.

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Witnesses:
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