

(No Model.)

P. F. KEELYN.
ILLUMINATED SIGN OR DISPLAY.

No. 540,742.

Patented June 11, 1895.

Fig. 1.

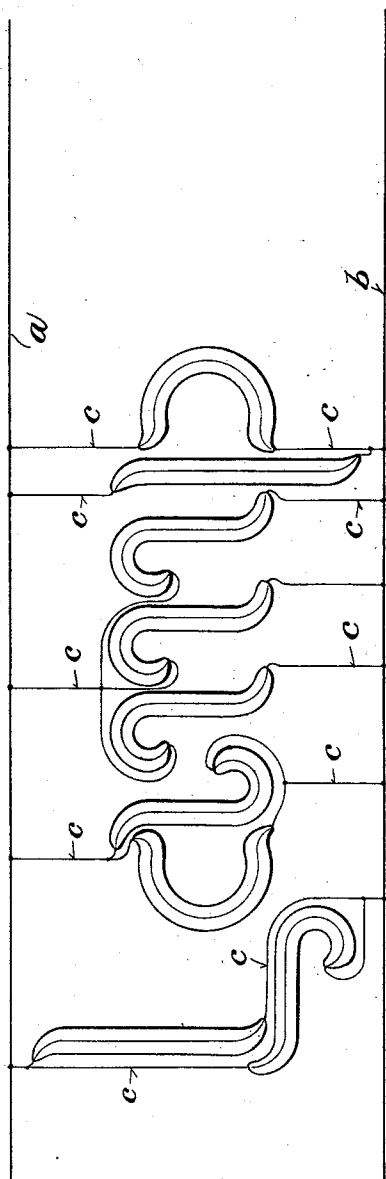
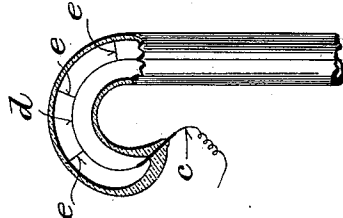


Fig. 2.



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UNITED STATES PATENT OFFICE.

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ILLUMINATED SIGN OR DISPLAY.

SPECIFICATION forming part of Letters Patent No. 540,742, dated June 11, 1895.

Application filed January 18, 1895. Serial No. 535,400. (No model.)

To all whom it may concern:

Be it known that I, PETER F. KEELYN, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Illuminated Signs or Displays; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to illuminated signs and consists in certain peculiarities in the construction of the same, and a novel arrangement and combination of the parts thereof, all as will be fully set forth hereinafter and subsequently claimed.

In the drawings, Figure 1 is a representation of the essential elements of a sign embodying my present invention. Fig. 2 is a detail.

Heretofore various attempts have been made to utilize the ordinary incandescent electric lamps for purposes of display and advertisement, and signs and inscriptions have been formed by placing a great number of the small glass bulb lamps closely together on a suitable background, the arrangement of the said lamps following the contour of the letters or designs to be represented, this requiring, of course, a large number of lamps for every letter or character, and this being very expensive, not only on account of the original cost of the lamps themselves, but further on account of the great quantity of electric current which has to be employed to illuminate a large number of these lamps.

To reduce the number of lamps employed, and to consequently effect a saving in the cost of operation, as well as to furnish a more attractive and novel display, are the principal objects of my present invention.

The letters and characters of which my signs and displays are formed are composed of separate lamps, arranged in series, between the wires *a b* which connect directly with the dynamo or other source of electricity. (Not shown.) It is desirable that there should be the same resistance in each lamp, and therefore all the lamps in said series and their contained carbons, are of the same length. As the various letters and characters differ in size and form one from the other, it follows that in order to have all the lamps of which

they are made of the same length, and at the same time to properly represent said letters and characters, it becomes necessary to employ, in many instances, a plurality of lamps for a single letter or character. I do not deem it necessary to show an entire alphabet, but in Fig. 1 I give an illustration, taking the word "Lamp," wherein I show the capital letter "L," and the small letters "a" and "p," each formed of two lamps, and the small letter "m" formed of three lamps. Other letters, figures and other characters are, of course, similarly formed, and it will be noted that all of the nine lamps employed for the four letters above named are of equal length.

The described lamps are formed of glass tubes, closed at each end, and with carbon filaments of equal length in each tube connected at each end to suitable leading-in wires and with the air exhausted from said tubes, as in ordinary incandescent electric lamps. If desired, the ends of the said lamps may be held in suitable sockets, but such I have not deemed necessary to show, as the same may be of any appropriate construction to protect the ends of the lamps, and connect the leading-in wires with the wires *c c* which run to the main wires *a b* of the circuit. As the tubes of which the lamps are formed are of glass they may be bent, during the process of manufacture, into the desired form or shape, and, as illustrated in Fig. 2, where the tubes are curved the carbon filament *d* may be sustained in correspondingly curved position, away from the walls of the tubes, by suitable anchors *e* of any necessary number. These are details of the glass-blowers' and lamp-makers' art, which do not call for further explanation.

My lamps are sustained in proper position, between the wires *a b*, in any suitable manner, preferably by a system of light wiring, or by suitable connections to the end sockets referred to, if such be employed, or merely by the described connecting wires *c*, as found desirable or convenient in any given instance.

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

1. An illuminated sign or display, consisting of a series of letters or characters built up from elements thereof, each of said elements comprising an independent incandescent elec-

tric lamp having a filament of the same size as that of the filament in any other of the elements, substantially as set forth.

2. An illuminated sign or display, consisting of a series of letters or characters built up from elements thereof, each of said elements comprising an independent incandescent electric lamp of exactly the same length as that of all the other lamps, and each of said elements having a filament of the same size and length as that of the filament in any other of

the elements, and connected to leading-in-wires at opposite ends of each element, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

PETER F. KEELYN.

Witnesses:

H. G. UNDERWOOD,
C. W. SCOTT.