

(No Model.)

2 Sheets—Sheet 1.

J. H. ROGERS.  
PRODUCING ILLUMINATED LETTERS.

No. 512,395.

Patented Jan. 9, 1894.

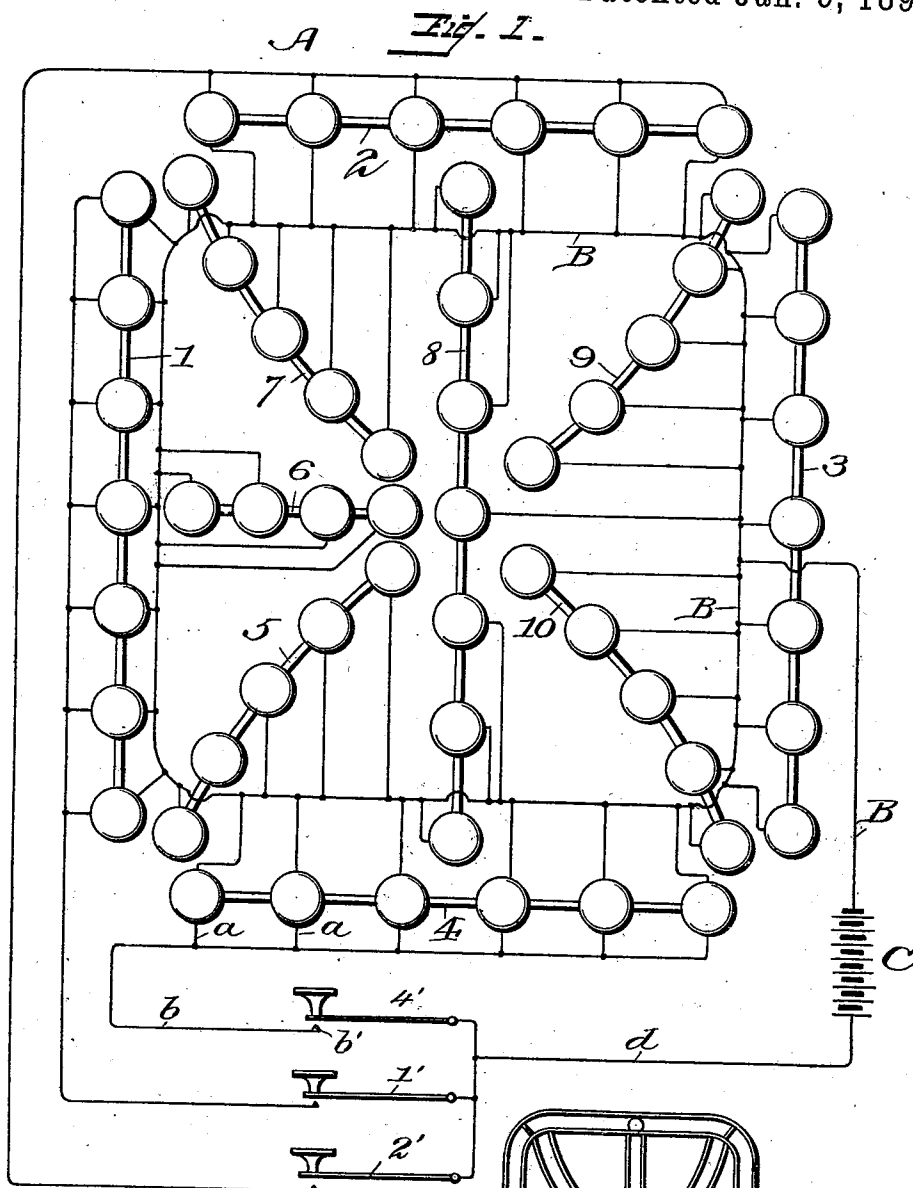
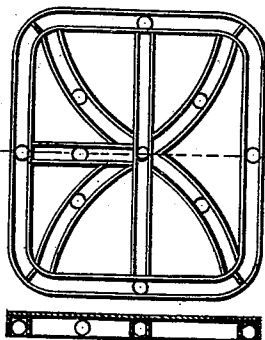


Fig. 3.



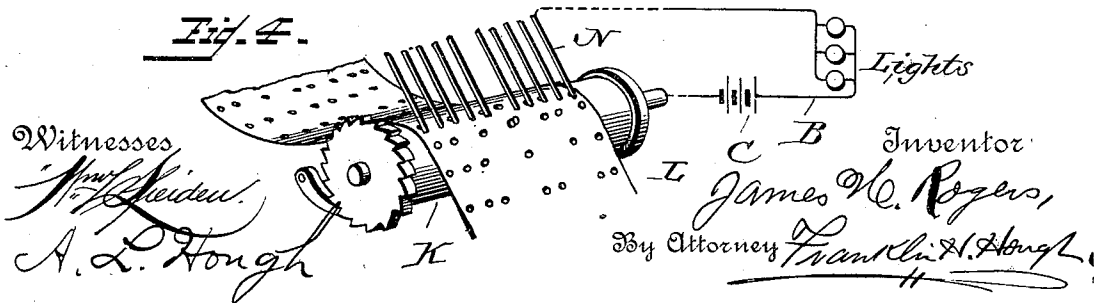
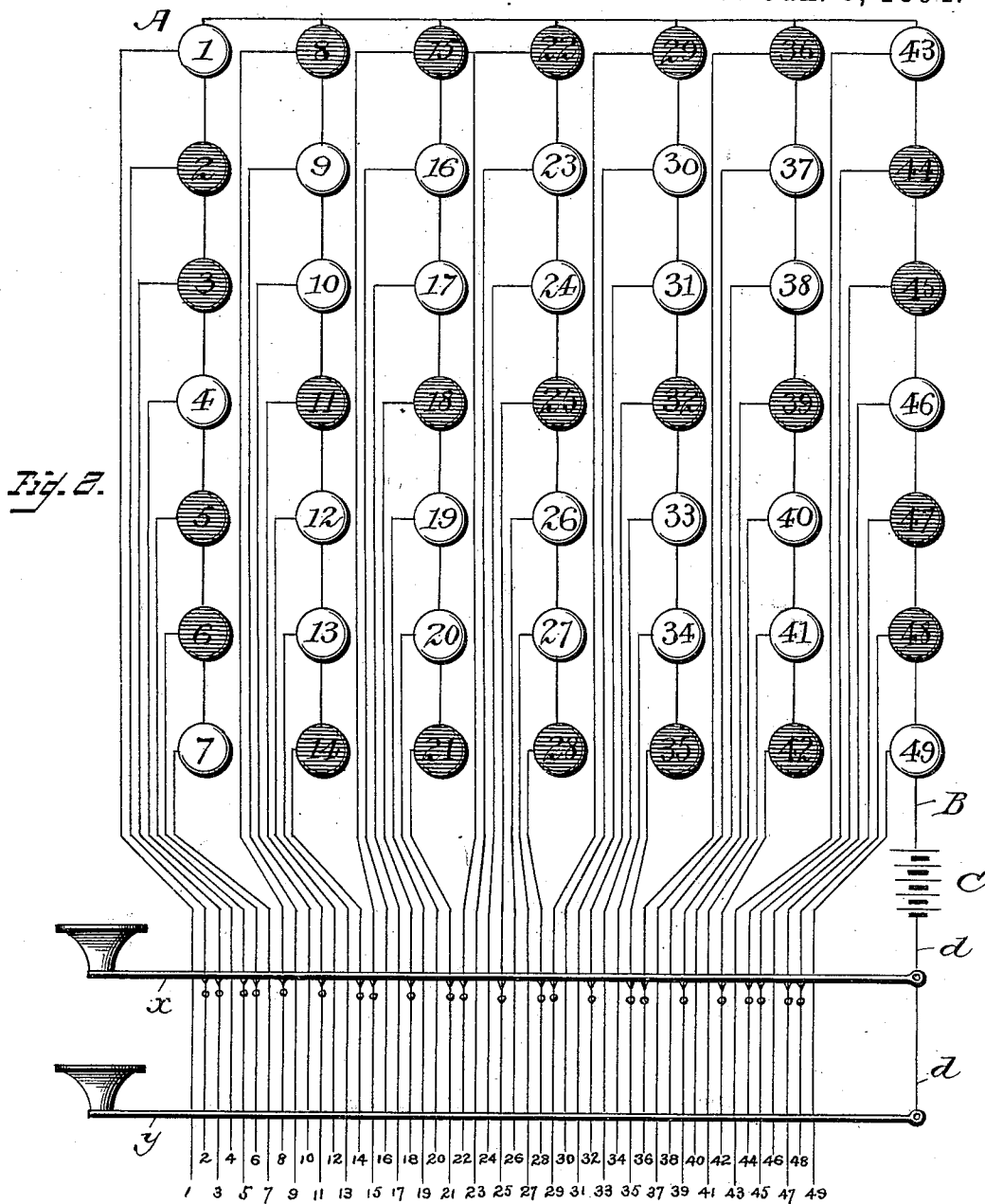
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# UNITED STATES PATENT OFFICE.

JAMES HARRIS ROGERS, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR  
OF ONE-HALF TO CALVIN V. GRAVES, OF NATURAL BRIDGE, NEW YORK.

## PRODUCING ILLUMINATED LETTERS.

SPECIFICATION forming part of Letters Patent No. 512,395, dated January 9, 1894.

Application filed February 28, 1893. Serial No. 464,106. (No model.)

### *To all whom it may concern:*

Be it known that I, JAMES HARRIS ROGERS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Means for Producing Illuminated Letters, &c.; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in electrical illuminating devices, and it has particular reference to that class of devices in which the object sought is to produce in succession within a given space the letters of the alphabet, or figures, characters or designs, either for advertising purposes, or in producing ornamental designs for decorative purposes, and the like.

The invention consists in the arrangement of the lights, the electric circuits, and the means for making and breaking the circuits, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters and figures of reference marked thereon, form a part of this specification, like letters and figures of reference indicating the same parts throughout the several views, and in which drawings—

Figure 1, is a diagrammatic view, showing the preferable arrangement of the lights constituting a bank, the arrangement of the batteries and their connections, and illustrating the means provided for making and breaking the current. Fig. 2, is a like view, in which the lights are shown as arranged in a regular series, each light having an independent electric connection. Fig. 3, shows a diagrammatic and a sectional view of a modification, in which a single light is employed in the place of each of the ten independent sections constituting the bank of lights shown in Fig. 1. Fig. 4, shows a modification in the means

employed in making and breaking the currents.

Reference now being had to the details of the invention by letters and figures, A designates a bank of electric lights. In Fig. 1 of the drawings I have shown these lights as arranged within a rectangular space, in separated and independent lines. Shown as 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10, respectively. A ground wire B communicating with one pole of the battery C, connects all of the lights in the bank. Each of the sections, 1, 2, 3, &c., is provided with an independent wire, to which, by short branch wires *a*, *a*, each light in the section is connected, and the free end of this section wire *b* is provided with a contact point *b'*, through which the current is established, through the lights in the particular section with which the wire is attached, by means of an operating key *c*, which, by a wire *d* is connected with the opposite pole of the battery C.

It is my purpose to have each of the sections, 1, 2, 3, &c., provided with an independent operating key, but, for the sake of clearness of illustration, I have shown but three of the sections thus provided with keys, viz: the sections 1, 2 and 4, which are provided with operating keys 1', 2' and 4' respectively.

In Fig. 1 of the drawings the lights are shown as arranged in ten sections. The sections 1, 2, 3 and 4, are arranged to form the sides of a rectangular space, the sides of which are of substantially the same length. The sections 5, 7, 9 and 10 are each slightly curved and these sections radiate from the center of the rectangle outward in the direction of the corners of the rectangle. The section 6, is a short one extending horizontally from the center of the rectangle to the section 1, while the section 8 extends in a vertical line through the center of the rectangle. By this arrangement of the lights, it will be at once evident that by making the current pass through either a single section, or two or more sections as the case may be, at one time any of the letters of the alphabet may be produced, and it is also plain that this arrangement of the sections is capable of an infinite number of changes or modifications, so as to render it possible to produce in the same way, any desired figures or designs. If for example it

should be desired to produce the letter I, the key connecting with the section 8 would be depressed. The letter T would be produced by operating simultaneously the keys connected with sections 2 and 8, simultaneously, &c.

In Fig. 3 of the drawings I have shown the sections arranged the same as in Fig. 1, but in this instance, instead of showing each section provided with a series of lights, as in Fig. 1, I have shown each section as consisting of a groove or narrow depressed panel in the rear face of a rectangular board or partition. The main body of the board being impervious to light, while the panels themselves, within each of which is located a single light, is provided with a face of glass or other transparent material, which will serve when the light within the panel is illuminated, to illuminate the entire panel.

In Fig. 2 of the drawings, I have shown the bank of lights arranged in a series of rows, seven lights being placed in each row. As in the other arrangement of lights just described, and illustrated in Fig. 1, a ground current is maintained throughout the entire number of lights, by the wire B, leading from one pole of the battery C. In this case each of the lights in the bank is provided with an independent return wire and the circuit is completed through the lights by contact therewith of contact points upon the levers, as *x*, *y*, &c., which levers are connected by wire *d* with the opposite pole of the battery.

I have shown in Fig. 2, the lights constituting the letter S, as illuminated; (this being indicated by shading the several lights employed in forming the letter.)

For clearness in illustration I have numbered the several lights in the bank, from 1 to 49 inclusive, and have numbered the wires connected with the lights to correspond therewith.

It is my purpose to employ as many key levers as there may be letters, figures or designs which it may be proposed to at any time produce. To produce the letter S, I depress the key lever *x*, which lever is provided with contact points so placed as to contact

with the wires 2, 3, 5, 6, 8, 11, 14, 15, 18, 21, 22, 25, 29, 30, 32, 35, 36, 39, 42, 44, 45, 48 and 49, which connect with the lights which it is necessary to illuminate, in producing the said letter S. It will be seen at once that by providing a lever key for each combination of lights that may be required to produce any character, letter, figure or design, an indefinite number of such characters may be produced at will.

In Fig. 4 of the drawings I have shown a practical method of completing or changing the circuits. In said figure I have shown a cylinder adapted to receive the current from one pole of the battery, and over this cylinder K is passed a sheet of insulating material L, said sheet having perforations or openings to receive the ends of the contact wires N, at such points as may be necessary to make the circuit, in producing any desired letter or character, said contact wires being connected with the lights in the bank or system, as heretofore described.

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

As a means for producing a pre-determined illuminated design, the combination with a group or bank of electric lamps composed of a number of independent sections, arranged in separated and independent lines, each section with an independent wire to which each light in said section is connected by a short wire a source of electric energy having one of its poles connected electrically with all of said lamps, a pivoted circuit making and breaking device provided with contact points and electrically connected with each section, and electrical connections between all of such devices and the other pole of the source of energy, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES HARRIS ROGERS.

Witnesses:

FRANKLIN H. HOUGH,  
P. J. ROGERS, Jr.