

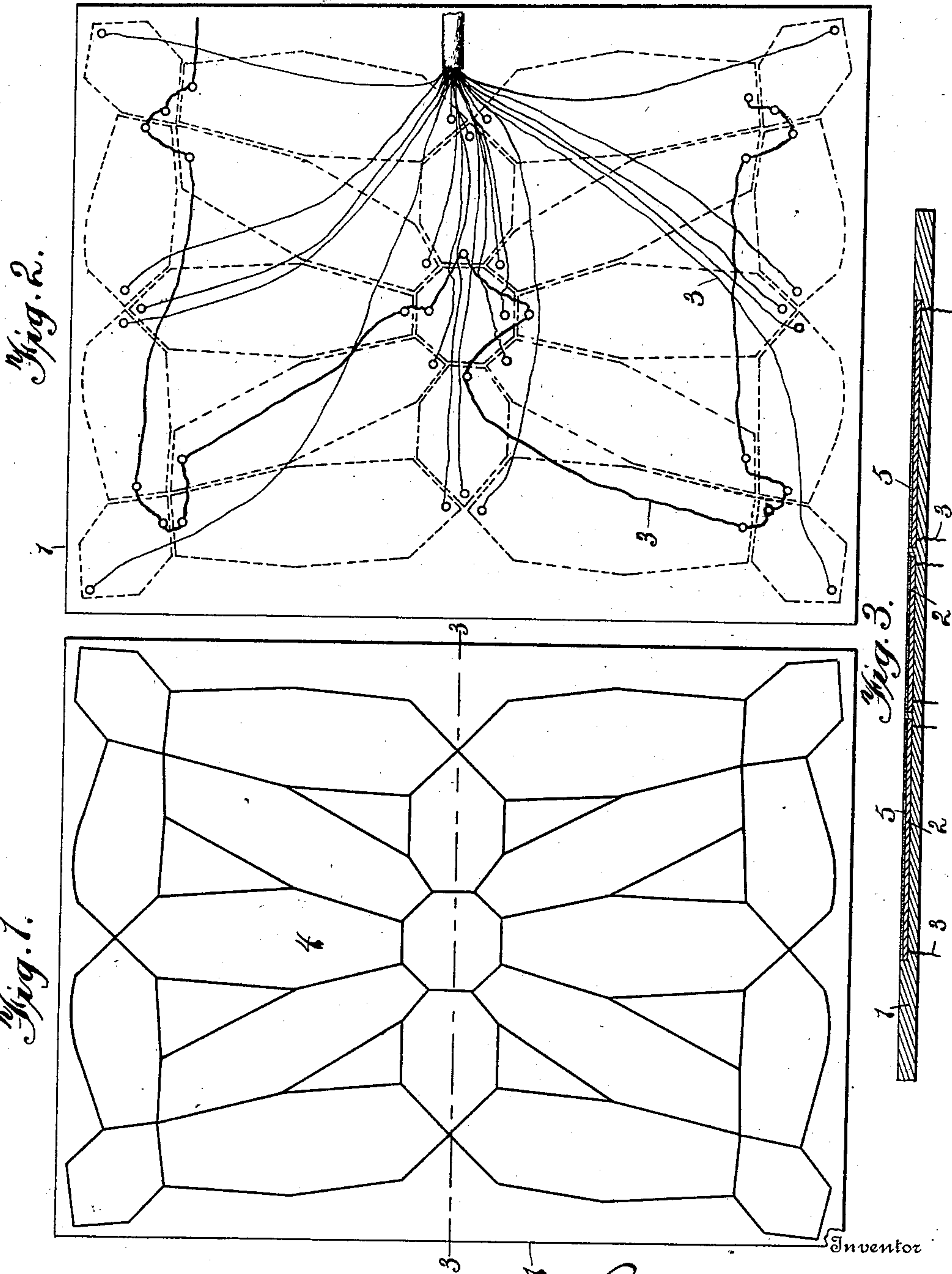
No. 730,854.

PATENTED JUNE 9, 1903.

H. B. WREN.
ELECTRIC SIGN.

APPLICATION FILED JUNE 7, 1902.

NO MODEL.



Witnesses

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HARRY B. WREN, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF THIRTEEN-FORTIETHS TO JOHN I. CASSEDY, OF FOREST GLEN, MARYLAND, AND WALTER R. HENSEY AND M. LE ROY GOUGH, OF WASHINGTON, DISTRICT OF COLUMBIA.

ELECTRIC SIGN.

SPECIFICATION forming part of Letters Patent No. 730,854, dated June 9, 1903.

Application filed June 7, 1902. Serial No. 110,612. (No model.)

To all whom it may concern:

Be it known that I, HARRY B. WREN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Electric Signs, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to electric signs; and it consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of the invention is to provide a sign adapted to be electrically operated, said sign consisting of a single monogram or design or a series of monograms or designs. Each monogram of the sign or signal apparatus is composed of a plurality of elements of suitable form, such that by differentiating predetermined groups or series of elements letters of the alphabet, numerals, or other characters may be represented, said elements being composed of suitable conducting materials coated or permeated with or composed of a chemical or chemical compound that changes color with change of temperature or other change of state, said monogram or monogram-sign being adapted for use in combination with a suitable switchboard mechanism, (not shown,) whereby any design or any element or predetermined series of elements of a monogram and successively of a plurality of similar monograms may be charged at will with an electric current from a suitable generator, said current or charge being adapted to produce in the material of said elements or the chemical constituents thereof change in color, and thereby to produce graphically at will any desired numerals or characters, choice being made of any suitable substance or combination of substances that possesses the property of repeated cyclic change of color with change of electric, physical, or chemical state, which change of state is produced directly or indirectly by local electric action.

Without departing from the spirit of my

invention the conducting material of the elements may be substituted by electromagnets, which may attract metallic filings of various colors and produce the outline of the letter or character desired.

In the accompanying drawings, Figure 1 is a face elevation of one monogram, showing the arrangement of the elements. Fig. 2 is a rear view of one monogram, showing the electrical connections between the various elements; and Fig. 3 is a transverse sectional view of one of the monograms cut on the line 3 3 of Fig. 1.

I do not make claim to the arrangement of elements nor to the electrical connections for the same, and I do not confine myself to the particular arrangement of elements as shown in the drawings, my invention residing principally in the construction of the monogram or sign and the substance of which they are composed.

The monogram or sign consists of a foundation 1, made of suitable non-conducting material, in which the conducting elements 2 2 are embedded, each element being electrically connected by means of suitable wires 3. The outline of the elements may be such as shown in Figs. 1 and 2 of the monograms. By referring to Fig. 3 it will be seen that each element 2 is insulated from the other elements by means of the material 1, and the exposed faces of the elements 2 are covered or permeated with or composed of a chemical or chemical compound 5, which changes color with change of temperature or other change of state. The chemical compound 5 above referred to may consist of ingredients put together as follows: a mixture of one part of powdered cobalt and four parts of aqua regia, add one part of sodium chlorid and sixteen parts of water, filter, and mix with gum to the consistency of paint. The electric current is passed over the wires 3 3 to the element 2, the temperature, electrical, physical, or chemical state of which is instantly changed. Thus changing the temperature or other state changes the color of the elements

or coating 2 of the particular elements charged, and thus the outline of the letter or character is produced in color different from that of the element or coating at normal temperature.

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

1. A sign consisting of a foundation of non-conducting material, a series of plates or elements insulated from each other mounted on said foundation, each adapted to be independently electrically connected and presenting a chemically-prepared surface, adapted to change color with the change of temperature or other change of state.

2. A sign consisting of a series of chemically-prepared plates or elements suitably mounted and separately insulated, a means for changing the temperature of said plates

or elements, said elements adapted to change color with change of temperature.

3. A sign consisting of a series of plates or elements suitably mounted and insulated from each other, and a means for conducting an electric current to each plate, whereby the said plate may be magnetized or its temperature changed.

4. A sign whereby letters and characters may be produced at will, consisting of a chemically-prepared surface and a means for applying an electric current locally to said surface to produce a change of color.

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

HARRY B. WREN.

Witnesses:

CHARLES F. HATCH,
ANNA E. STULL.