

Fig. 1

Fig. 2

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ELECTRIC DISPLAY CONTROL.  
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1,119,371.

Patented Dec. 1, 1914.  
2 SHEETS—SHEET 2.

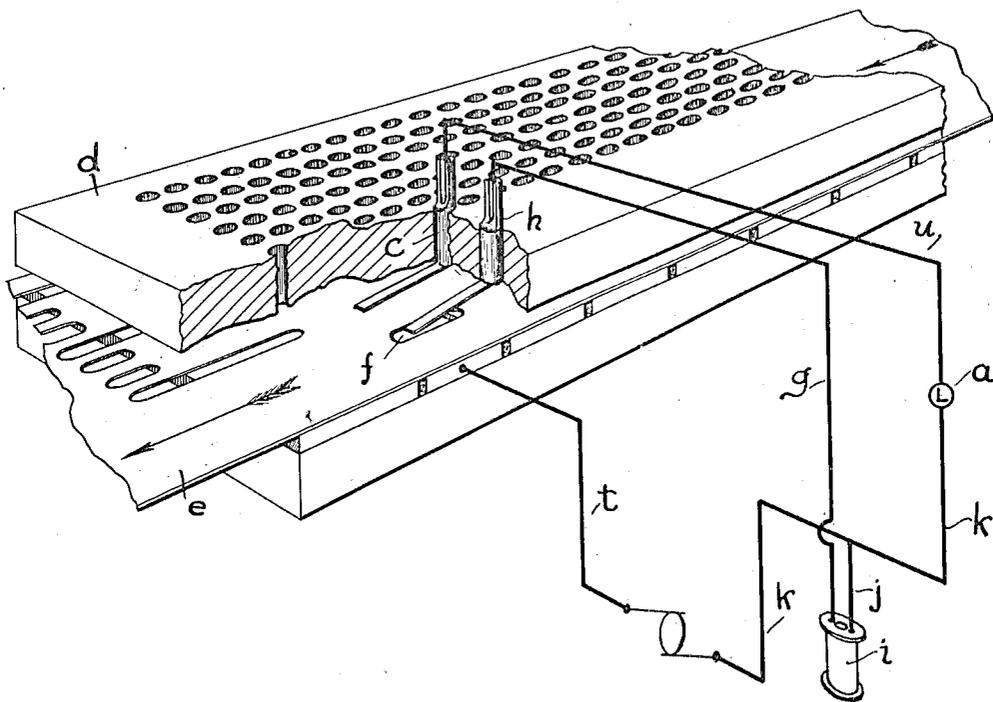


Fig. 3

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# UNITED STATES PATENT OFFICE.

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ELECTRIC-DISPLAY CONTROL.

1,119,371.

Specification of Letters Patent.

Patented Dec. 1, 1914.

Application filed May 1, 1913. Serial No. 764,734.

To all whom it may concern:

Be it known that I, FRANK C. REILLY, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Electric-Display Controls, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to moving electric signs and especially to that form of moving electric signs that is known as a motograph and which is described in Patent No. 1,050,203, issued to E. H. Bickley.

The present invention is an improvement upon the invention described in said patent and involves the idea of automatically controlling a "flash" sign in connection with the moving literal display upon the motograph board. The motograph comprises apparatus for moving a perforated insulating ribbon across a field of electric terminals to produce moving letters that travel from right to left upon a display-board. It occurs to the applicant that it would be very desirable to be able to display flash or temporary stationary signs, figures or borders with the reading matter that is moved across the motograph display board; for instance, where the motograph is used by a number of advertisers, it would be quite desirable to have the name of the advertiser, whose matter was, at a given time, appearing on the motograph display-board constantly before the observer during such period. To effect this and carry out this idea, I have designed the apparatus hereinafter described.

In the drawings:—Figure 1, is a diagrammatic view of the apparatus. Fig. 2, is a vertical section of the switching mechanism or control which is shown somewhat diagrammatically. Fig. 3, is an enlarged fragmentary view of the switching mechanism or control, showing diagrammatically the operation of the brushes, and differing from the switching mechanism in Fig. 1 in having only one brush to help operate the stationary sign.

*a*, indicates the motograph display board which comprises a rectangular field studded with equally spaced electric light bulbs. These are not shown in such arrangement for the reason that only the illumined bulbs

are shown in the full lines for the purpose of clearness. *b*, is a superimposed board which likewise carries a plurality of electric lights rectangularly arranged to form the studded field. This board will be termed the second field of electric lights and it is upon this field that the stationary signs, figures, representations or borders are flashed. It will of course be understood that it is not absolutely necessary that the illuminary effects be stationary during the period in which they remain upon the board, for this field might be devoted to a border which has a changing effect as is quite common with borders in electric illumination. It will also be understood that the shape of this second field may be varied to accord with the effects desired.

The lights on the motograph board *a* are each one connected with terminals *c* upon the brush block *d*. These terminals, as described in the aforementioned patent, are arranged in the same way as the bulbs are arranged on the motograph display board. There passes between the two parts of the brush block *d*, a switching strip *e* which is constructed of insulating material such as perforated tough paper. This strip is slotted as shown in the drawings and these slots represent the representation or sign that it is desired to throw upon the display board, for instance, the word "Meat" is observed on the insulating strip *e*. It will, also, be seen that the word "Meat" is just appearing on the motograph display board. As the strip travels across the brush block, the word "Meat" will travel across the display board. This traveling action is apparent by the appearance of the letters "esh" which are a portion of the word "Fresh" which is just disappearing off the board at the left.

Intermediate control devices might be interposed between the "motograph" display board and the terminals so that the arrangement of the terminals would not just correspond with the arrangement of the lights on the board. I wish it understood that my invention could be applied to almost any kind of switching mechanism for operating the board on which the moving illuminary effects are produced. At one side of the switching strip *e* I arrange two rows of perforations *f*. A pair of brushes or terminals *h* are located on the brush block so that the perforations

5  $f$  will pass under them and electrically close the circuit through the wire  $g$ . I employ the two terminals  $g$  so as to insure the closure by this double precaution, although one is all that is necessary and only one is shown in Fig. 3. The circuit from these terminals is traced through the wire  $g$  about the magnet  $i$  through the wire  $j$  to the return wire  $k$ . When the slots  $f$  come under the brushes  $h$ , one circuit is established, the magnet  $i$  energized and this attracts a bell-crank armature  $l$ , which moves the pawl-carrying arm  $m$ , forcing the pawl  $n$  to drive the ratchet wheel  $o$  one notch. This ratchet wheel operates a control contained in the control box  $p$ . This control is not illustrated as there are a number of control or switches for bringing onto an electric display board a different combination of letters or different representations. This is part of the prior art. It suffices to say that my invention consists of operating such switching control to bring on a new sign or representation for the second display board. This operation is performed automatically and synchronously with the change of the subject matter on the motograph.

A cable  $r$  leads from the switching box  $p$  of the display board to the second display board  $b$  and it will be understood that, in the familiar way, the wires lead from each of the lights of the display board  $b$  to terminals in the switching box  $p$ . A return conductor  $s$  leads from the board  $b$ . A return wire  $k$  leads from the "motograph" board while the feed conductor  $t$  leads to the "motograph" switch board  $d$  to furnish current for the individual circuits that run through the cable  $u$  to the "motograph" board and also for the circuit that controls the magnet  $i$ . A branch feed wire  $x$  furnishes current for the individual circuits that lead through the cable  $r$  to the second display board  $b$ .

The switching ribbon  $e$  passes over the rollers  $v$  and  $y$ , the latter of which is driven by a belt  $z$ , into the storage box  $w$ . It will be understood that almost any form of control for the second display board can be used without avoiding the principle of my invention.

What I claim is:—

1. In an electric sign control, the combi-

nation of a display board provided with rows of electric lights arranged in a compact field and a second display board provided with electric lights arranged to be capable of different arrangements in illumination, of a field of contacts connected with the first-mentioned display board, a control strip bearing means which travel across the field of contacts for producing illuminary effects traveling from side to side across the first-mentioned display board, and means operated in conjunction with said strip for producing temporarily stationary effects upon the second display board, the said last mentioned means cooperating with the control strip and contacts to produce certain temporary stationary effects at times when they will have significant relation with the particular illuminary effects at that time traveling across the first display board, substantially as described.

2. In an electric sign control, the combination with a display board provided with rows of electric lights arranged in a compact field and a second display board provided with electric lights arranged to be capable of different arrangements in illumination, of a field of contacts connected with the first-mentioned display board, a control strip provided with characters which, passing across the contacts, produce similar illuminary characters traveling from side to side across the first-mentioned board, the said strip being provided with means for making and breaking a circuit, and means for producing different flash illuminations upon the second display board, the said last-mentioned means being operated by the means on the strip that makes the circuit, the said means for establishing the circuit being located on the strip in a relation to the characters on the strip to bring a flash illumination upon the second board which will have a significant relation with respect to the illuminary characters at that time appearing on the first display board, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

FRANK C. REILLY.

Witnesses:

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VIRGINIA C. SPRATT.