

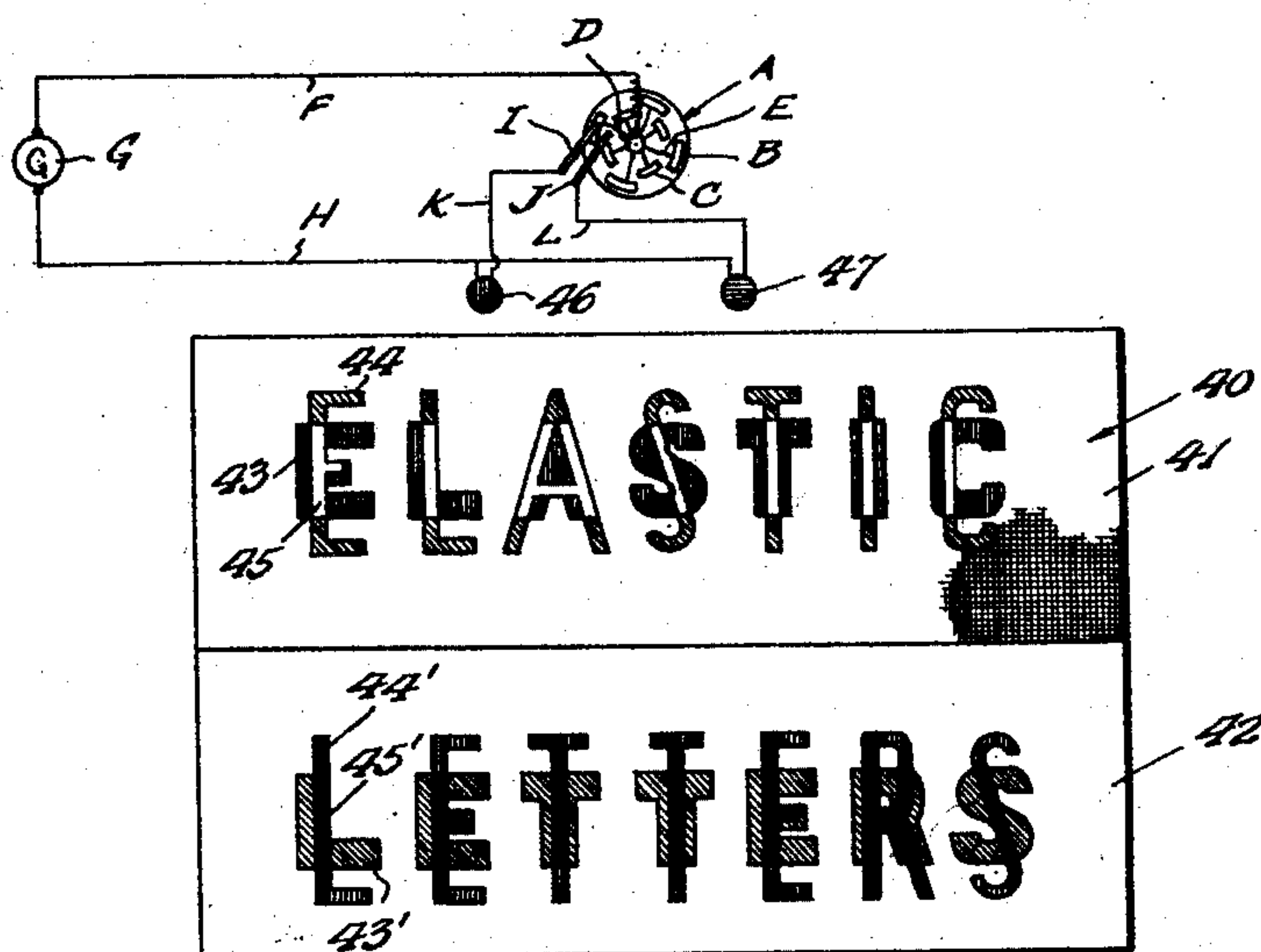
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DISPLAY APPARATUS

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UNITED STATES PATENT OFFICE

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DISPLAY APPARATUS

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This invention relates to display apparatus and more particularly to an advertising sign of the type disclosed in my Patent No. 1,698,216, issued January 8, 1929, of which the present application is a division.

One object of the invention is to provide a sign board having overlapped characters painted thereon against a neutral background in pigment colors contrasting with each other and subjected to spectral colors emitted by lamps in a controlled circuit so that the characters may be prominently displayed or absorbed according to the colors of the light rays thrown against the sign board.

Another object of the invention is to provide a sign which will be attractive in appearance and arouse the interest of an observer.

The invention is illustrated in the accompanying drawing wherein is shown an embodiment of the invention including a sign board and lights together with a circuit for the lights.

In the description which is to follow, reference will be made to pigment colors and by this term is meant colored pigments or the colors in which the images are represented on the display surface. Where reference is made to spectral colors such reference applies to colors of the spectrum as represented by colored light rays. Reference will also be made to neutral colors, which I employ as backgrounds, and by neutral colors I mean such as do not materially change under the spectral colors by which the images are displayed or, in other words, those which display no decided color characteristics such as relate to primary colors, and remain of about the same apparent density under complementary or primary colored light rays.

In the accompanying drawing the numeral 40 represents a display surface on which images are partially overlapped or superimposed and the display surface will preferably be painted to provide neutral areas 41 and 42 which will be, in the illustrated embodiment, respectively dark and light in color. As an example of this adaptation of the principles of the invention, one or more words comprising an advertisement, are

painted upon the background areas, each letter of each word being represented in two shapes and sizes, and portions of the two representations of each letter being overlapped. Thus, for example, the letters of one word are painted upon the background 41 in red, for example, as indicated by the numeral 43, in one size and style of letter, and the corresponding letter in another size and style will be printed in green, as indicated by the numeral 44. The letters of another word are printed, for example, upon the background 42, in green, as indicated by the numeral 43', in one size and style of letter, and the corresponding letter in another size and style will be painted in red as indicated by the numeral 44'. Where any portions of the two letter representations 43 and 44 overlap, the overlapping portions, indicated by the numeral 45, will be represented in white, inasmuch as these letter representations are on a black or dark neutral background. In a like manner, where any portions of the letter representations 43' and 44' overlap, they will appear in black inasmuch as these letter representations are on a white or light neutral background. The numeral 46 indicates a source of red light rays and the numeral 47 a source of blue light rays. It will now be apparent that when the display surface is illuminated by the red light rays, the letter representations 44 will be obliterated and the letter representations 43 and the overlapped portions 45 will stand out vividly against a black or dark background. At this time, the letter representations 44', which are in red, will be obliterated as they appear on the white or light background area 42, and the letter representations 43' together with the overlapping portions 45' which latter are in black, will both appear black against the white background. On the other hand, when the display surface is flooded with blue light, the representations 43 will be obliterated and the representations 44 together with the overlapping portions 45, will stand out vividly against a black background and, at the same time, the representations 43' will be obliterated and the representations 44' and the black overlapping portions 45' will stand out sub-

stantially black against a white background. Thus, if the letter representations 43 are, as shown in the drawings, relatively short and broad, and the letter representations 44 are relatively tall and narrow, there will be an appearance of expansion and contraction of the letters as the board or other display surface is alternately flooded with red and blue light rays. This application of the principles of the invention is, of course, not limited to the display of letters, for various images might be arranged in more or less overlapped relation and similarly displayed. Furthermore, this application of the principles of the invention is not limited to the use of contrasting backgrounds, for light neutral or dark neutral backgrounds might be employed.

It will be evident that while reference has been made to the use of pigment colors in the representation of the images or other matter to be displayed, they may be represented by colored lithographic prints, dyes, opaque or transparent oil or water colors, etc., and the invention may be employed for advertising, theatrical, amusement, educational and other purposes.

In the embodiment of the invention illustrated and described, the principles have been adapted primarily to advertising displays, but it will be understood that this is merely representative of one application of the principles of the invention and that the principles may be employed in color displays for any purposes whatsoever such for example as scenic effects, amusement displays, educational displays, walls, cabarets, etc.

It is, of course, essential to employ means for effecting illumination of the display surface which means will operate automatically, and inasmuch as there are many flashing devices which may be employed for this purpose, I have illustrated in connection with the figure a flasher indicated as a whole by the reference letter A, which may be a rotary disc of insulating material having concentric series of contact strips B and C upon its face in circuit with a shaft D which supports the disc for rotation, wires E serving to electrically connect the said contact strips and the shaft, and a conductor wire F being led from the shaft to one side of a source of current supply indicated by the numeral G. A conductor wire H leads from the other side of the source of current supply and is connected to the sockets for all of the electric light bulbs regardless of their distinctive colors. Brushes I and J are arranged to coact respectively with the contact strips B and C, and conductor wires K and L are led respectively from the brushes I and J and are connected, one with the other terminal of each socket for a light bulb of one color and the other with the other terminal of the socket for each light bulb of the other color. The contact strips B

and C are arranged in staggered relation so that the circuit will be successively alternately closed through the bulbs of the two distinctive colors.

What is claimed is:

Display apparatus comprising a display surface having a background of a neutral color bearing different matters to be displayed and represented in contrasting pigment colors, the matters having mutually overlapping portions represented in a neutral color contrasting with the neutral color of the background, and means for displaying said surface successively in the presence of contrasting spectral colors each of which corresponds to a respective one of the first mentioned pigment colors.

In testimony whereof I affix my signature.

RICHARD M. CRAIG. [L. S.]