A. C. MEYER.

ELECTRIC SIGN.

APPLICATION FILED MAY 3, 1917.

1,271,600. Patented July 9, 1918.

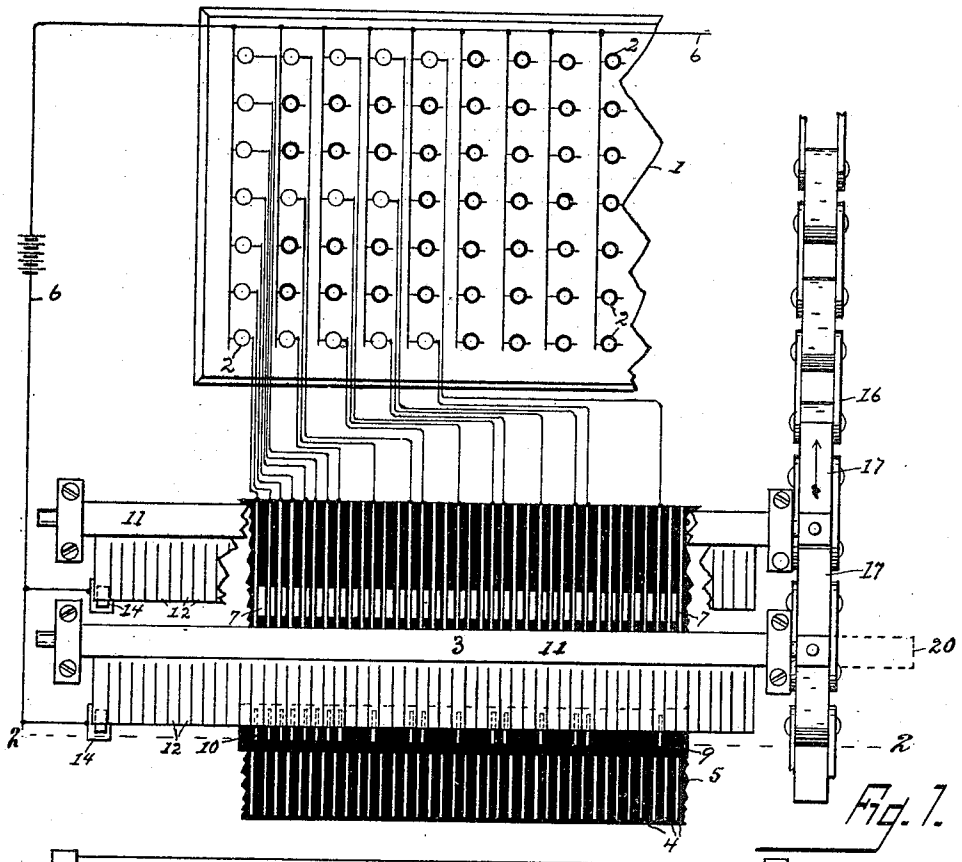


Fig. 1.

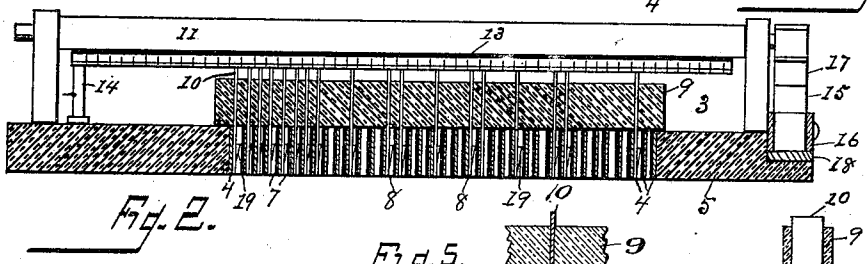


Fig. 2.

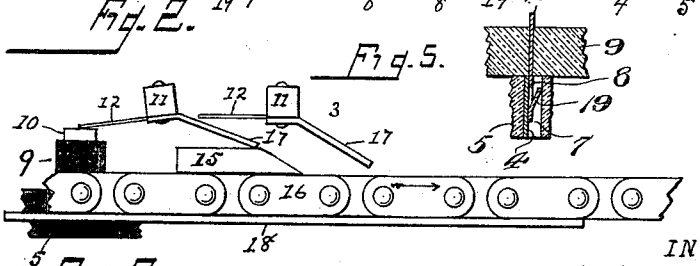


Fig. 3.

Fig. 5.

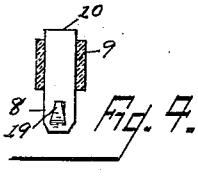


Fig. 4.

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ELECTRIC SIGN.

1,271,600. Specification of Letters Patent. Patented July 9, 1918.

Application filed May 3, 1917. Serial No. 166,245.

To all whom it may concern:

Be it known that I, ALBERT C. MEYER, a citizen of the United States, and resident of San Diego, in the county of San Diego and State of California, have invented a new and useful Electric Sign, of which the following is a specification.

This invention relates to electric signs, and some of the objects of my improvement are, simplicity of construction, comparative inexpensiveness of construction, facility of operation, low cost of maintenance, facility of changing the wording of the sign, to facilitate the making of a large number of changes in the sign with comparatively small flashing apparatus, compactness, economy of space required for the flashing apparatus, durability, and to require little power for operation.

These and other objects I attain by means of the apparatus and mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a fragmentary front elevation of a portion of a sign and a top plan view with parts broken away of a flasher electrically connected therewith; Fig. 2, a section of the flasher, on the line 2—2 of Fig. 1; Fig. 3, a fragmentary side elevation of the cam mechanism, and letter bar; and Fig. 5 is a sectional view at right angles to Fig. 4 and including a fragment of the base and one of the conductor bars; and Fig. 4 is a detail view of a switch blade.

Similar reference numbers refer to similar parts throughout the several views of the drawings.

A sign board, 1, is set with electric lamps, 2, in square section related, so that when certain series of the lamps are lighted they form letters of the alphabet. The sign board is made of such length and provided with such a number of lamps as may be required for the maximum number of letters to be used in any sign to be produced. In Fig. 1 the letter E is shown by lighted lamps.

All the lamps on the sign board 1 are connected by electrical conductors or wires with flashing mechanism, 3, called a flasher. This flasher consists of a series of flat strips of metal, 4, set on edge and embedded in a base board, 5, of insulating material, so that the strips are well insulated. Each lamp on sign board 1 has one of its terminals connected with a corresponding strip in the flasher and its opposite terminal connected with a bus wire, 6. I prefer to form the base board 5 by pouring plastic cement material into a mold in which the strips 4 have been previously arranged. In the board 5 thus produced are formed series of sockets or mortises, 7, which leave each of the strips 4 bare on one side for electrical contact with metal spring tenons, 8, mounted in letter bars, 9, which are also preferably formed of plastic material, in a mold, in which the tenons have previously been arranged. The tenons 8 extend through bar 9, so that they are exposed for electrical contact above, as shown at 10.

Rock shafts, 11, are journaled above and across base board 5 and strips 4, a rock shaft being provided for each change of sign required.

On each shaft 11 is mounted a series of switch tongues, 12, so arranged that they extend over sockets 7 and tenons 8, so as to make contact at 10 when they are depressed by rocking the shaft. The tongues 12 are preferably formed on a single sheet of spring sheet metal, by slitting the metal at intervals as shown. By this means there is insured a good contact with each of the tenons 8 at 10. The series of tongues 12 is preferably insulated from shaft 11, as shown at 13.

A switch post, 14, is mounted on base 5, and this is connected with wire 6, so that when tongues 12 are depressed, the current is switched into the entire series and the circuit is closed through tenon 8, strips 4 and lamps 2.

The shafts 11 are rocked, to close the circuit through the successive series of lamps to form successive signs, by means of cam blocks, 15, mounted on an endless chain, 16, traveling in the direction indicated by the dart. It will be understood (Fig. 3) that as a block 15 raises a lever, 17, mounted on the end of a shaft 11, tongues 12 are depressed into contact with tenons 8 at 10 and switch post 14. When block 15 leaves lever 17 the lever drops down, and the circuit is broken, and the lever 17 of the next shaft is at once engaged and the next series of lamps, forming the next sign, is lighted, and when this block has completed the entire series of signs, another cam block 15 on the endless chain begins and proceeds through the series.

Chain 16 travels upon a metal base, 18, which keeps it in proper alinement to raise levers 17 the required distance.

The tenons 8 are formed with protruding, spring tongues, 19, which press against the insulated side of sockets 7 and provide a good, yielding contact of the tenon with the bare side of strips 4, and at the same time renders the tenons easy to insert into and extract from the sockets.

When it is required to insert or remove a letter bar 9 lever 17 may be swung out of alinement with chain 16 (Fig. 1), as shown at 20, and the tongues 12 raised to vertical posture from over the bar 9, whereupon said bar may be lifted up off of the baseboard 5.

The letter bars 9 may be provided in fonts with tenons properly arranged to light the required letters. The one illustrated in the drawings produces the letter E. Only those lamps lighted to form this letter are shown connected by wires with strips 4, in order to avoid confusion in the drawings.

It will be understood that little power is required for driving chain 16, since only one cam lever 17 is bearing at any time, and the tongues 12 do not make a rubbing contact. It is obvious the letters can be easily and quickly changed. The construction is simple, inexpensive and durable.

Having thus described my invention, so that any one skilled in the art pertaining thereto may make and use it, I claim—

1. In an electric sign, a sign board, electric lamps mounted on said sign board in square sectional relation, a flasher connected with said lamps, said flasher comprising stationary, insulated conductor bars, a removable letter bar comprising tenons secured in a bar of insulating material and extending into mortises contiguous to said conductor bars making contact with said conductor bars and exposed at their upper ends, a rock shaft journaled across and over said conductor bars, a series of switch tongues mounted on said rock shaft and insulated therefrom and extending over said letter bar and in contact relation with said tenons, a switch post in contact relation to said series of tongues, and means for rocking said rock shaft to bring said tongue into circuit closing relation with said tenons.

2. In an electric sign, the combination with a sign board studded with electric lamps, of a flasher comprising a series of stationary conductors connected to said lamps, removable letter bars having conducting tenons or fingers in contact at their inner ends with said stationary conductors and exposed at their outer ends, a switch supported in operative relation to said exposed ends, and means for moving the switch into contact therewith.

3. In an electric sign, the combination with a sign board studded with electric lamps, of a flasher comprising a base provided with a series of parallel conductor bars or plates connected to the lamps and each having a portion of one side exposed, a letter bar having conducting tenons or fingers engaging with their inner portions the exposed portions of said conductor bars and exposed at their outer ends, and a switch supported in operative relation to the said exposed ends of said tenons or fingers, and means for moving the switch into contact therewith.

4. In an electric sign, the combination with a sign board studded with electric lamps, of a flasher comprising a base board having a series of parallel conductor bars connected to the lamps and formed with a series of sockets along one side of said bars, a letter bar having tenons or fingers projecting therethrough to enter said sockets and contact with said plates, and a switch extending over the outer exposed ends of the tenons or fingers, and means for moving the switch into engagement with said exposed ends.

5. In an electric sign, the combination with a sign board studded with electric lamps, of a flasher comprising a base board provided with series of conductor bars connected to said lamps, a removable letter bar for every series of conductor bars and provided with a series of tenons or fingers held in electrical contact with the conductor bars, switch bars having switches extending over the exposed outer ends of each series of tenons or fingers and provided with switch tongues, and a traveling actuator to successively engage the switch bars and throw the switches into contact with said tenons or fingers.

6. In an electric sign, the combination with a sign board studded with electric lamps, of a flasher comprising a base board having series of rows of parallel conductor bars and sockets alongside of said bars, letter bars having tenons or fingers entering corresponding sockets in contact with the said bars, and exposed at their outer ends, rock shafts provided with switch members movable into contact with said exposed ends, an operating arm on one end of each rock shaft, and a traveling operating device provided with a cam to engage said operating arms.

7. In an electric sign, the combination with a sign board studded with electric lamps, of a flasher comprising a base board provided with series of parallel conductor bars connected with said lamps, sockets alongside of said bars, removable letter bars having tenons or fingers entering certain of the said sockets in contact with the exposed portions of the conductor bars, rock shafts having switch tongues extending over the letter bars to engage the outer exposed ends of said tenons or fingers and provided with operating arms at one end, a traveling belt or chain provided with a cam to engage the

said rock shaft arms, and contact posts in the path of the switches and connected to one of the terminals of the lamps.

8. In an electric sign, the combination with a sign board studded with electric lamps, of a base having series of stationary conductors connected to said lamps, removable letter bars having tenons or fingers engaging at their inner ends said conductor bars and exposed at their outer ends, rocking switches extending over the outer exposed ends of said tenons or fingers, operating arms for the switches, a belt or chain provided with a cam to engage said arms and throw the switches into contact with the letter tongues or fingers, and contacts also in the path of the switches when swung toward the letter bars and connected to one terminal of the lamps.

ALBERT C. MEYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."