

987,274.

Patented Mar. 21, 1911.

3 SHEETS—SHEET 1.

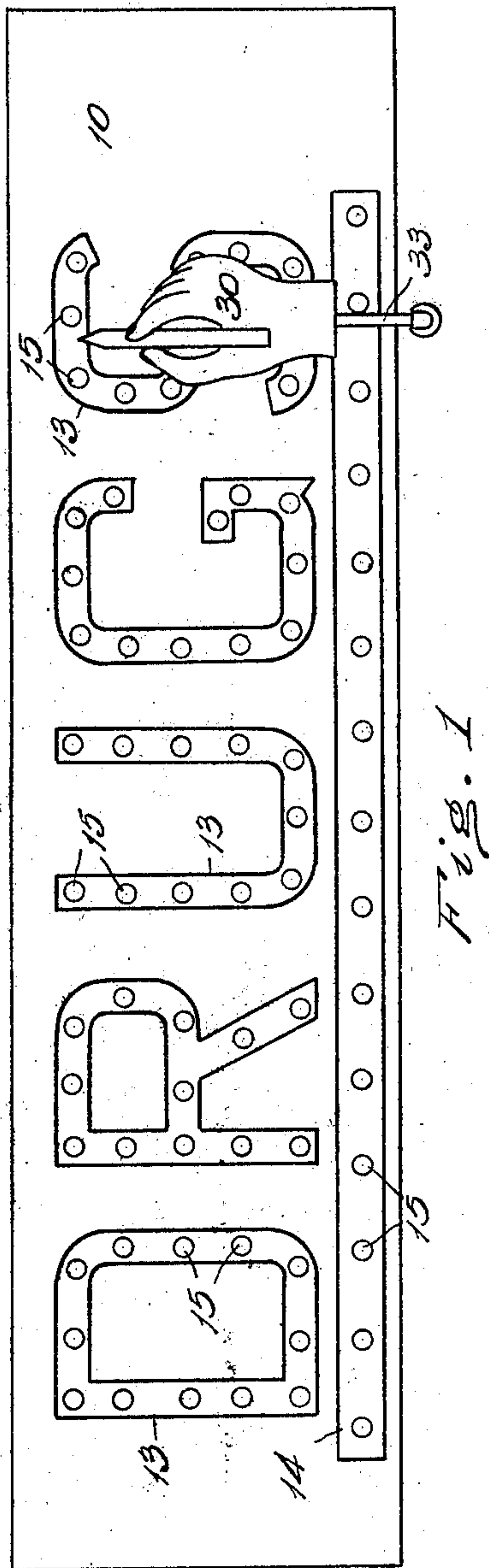


Fig. 1

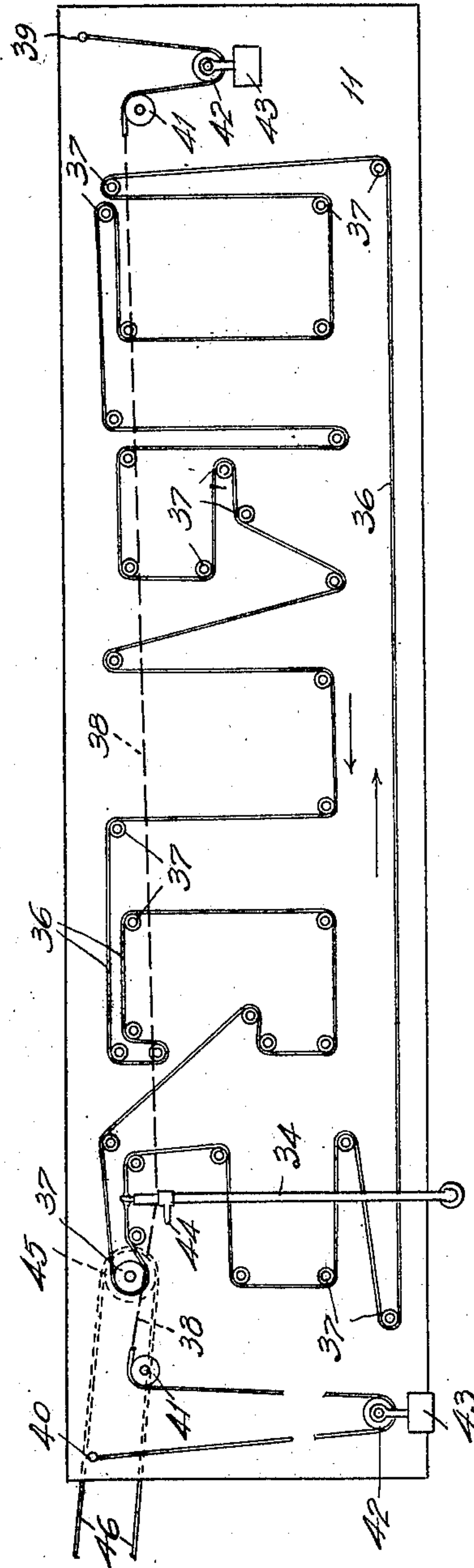


Fig. 2

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3 SHEETS—SHEET 2.

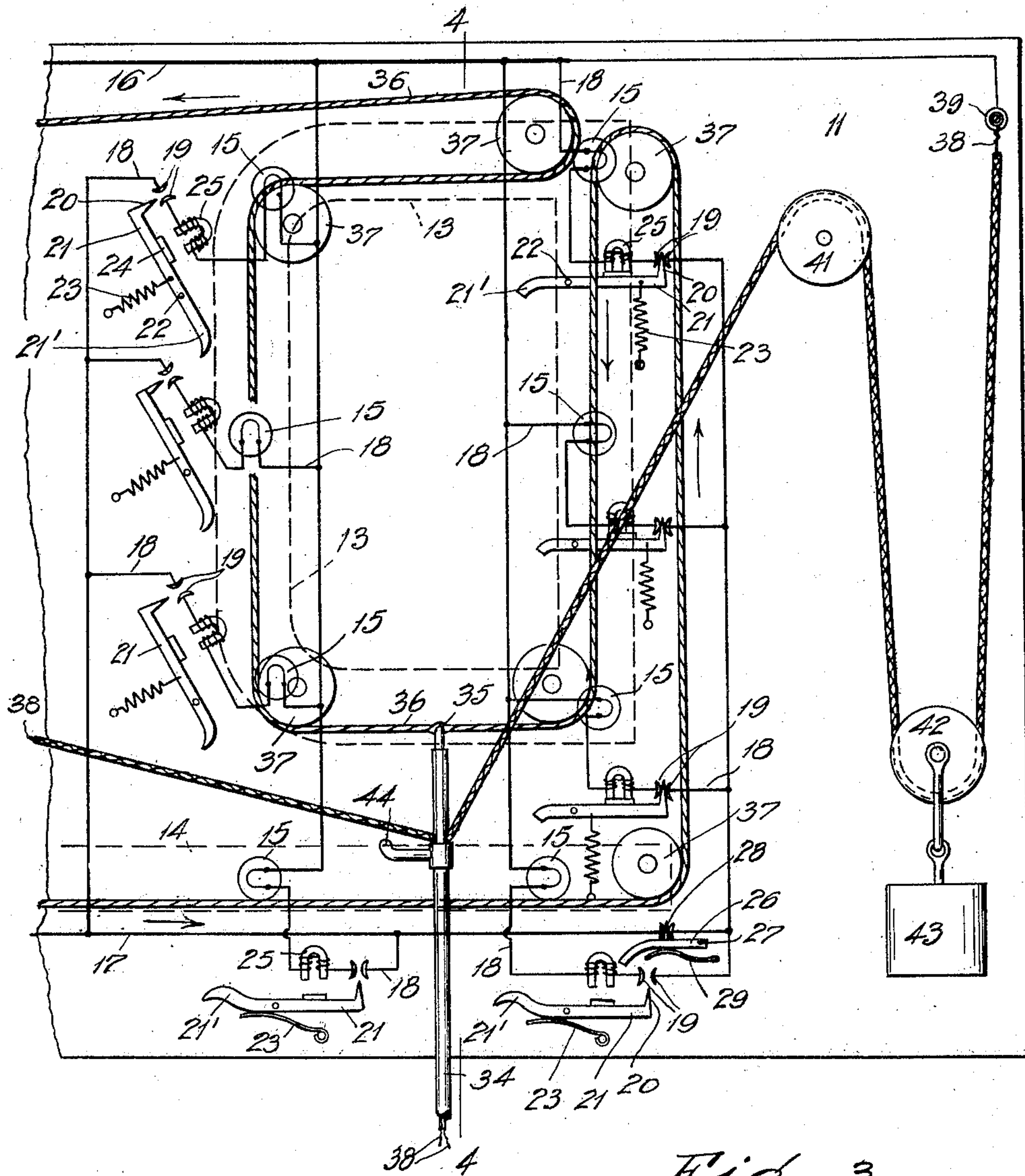


Fig. 3

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ILLUMINATED SIGN.  
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3 SHEETS—SHEET 3.

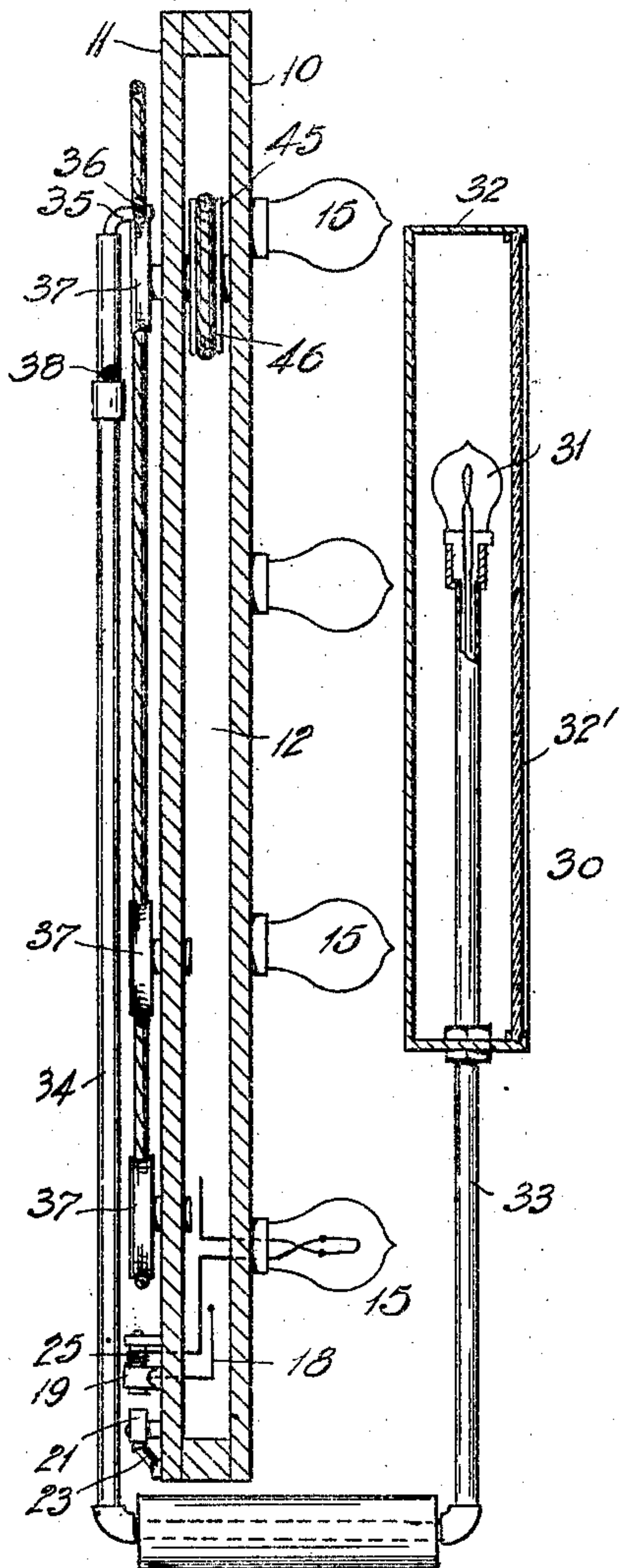


Fig. 4

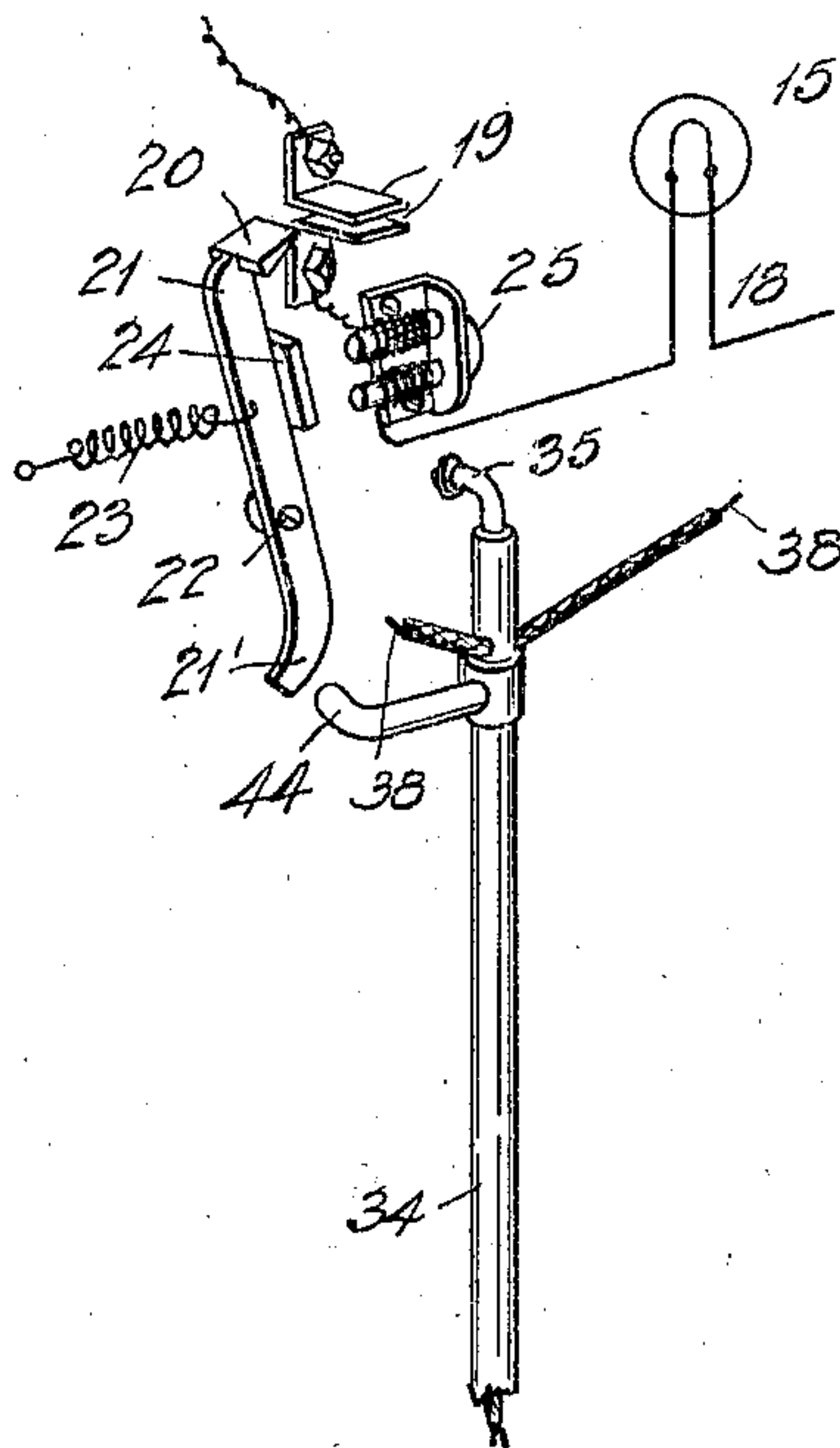


Fig. 5

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# UNITED STATES PATENT OFFICE.

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ILLUMINATED SIGN.

987,274.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed February 8, 1909. Serial No. 476,716.

*To all whom it may concern:*

Be it known that I, HUGO E. WESTERBERG, a subject of the King of Sweden, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Illuminated Signs, of which the following is a specification.

This invention relates to illuminated signs wherein outlined letters or characters upon the sign-board are further defined by series of electric lamps.

The object of the invention is to produce devices whereby an object having the semblance of a human hand grasping a stylus is caused to follow, as in writing, the lines of lamps distributed throughout the various sign characters and as the stylus is in proximity to the lamps the same are successively lighted and remain in such a state until the lamps throughout the sign are all lighted and then be simultaneously extinguished.

The invention consists in the novel construction, adaptation and combination of parts, as will be hereinafter described with reference to their embodiment in the accompanying drawings.

In the drawings, Figure 1 is an elevational face view of an illuminated sign together with the scribing element. Fig. 2 is a rear view of the sign board, with the lamp circuits and the switches therefor omitted. Fig. 3 is an enlarged fragmentary view similar to Fig. 2 showing the disposition of the lamp circuits and the switch devices. Fig. 4 is a vertical section taken through 4-4 of Fig. 3 but with the pointer and the parts connected thereto in different positions relative to the sign frame. Fig. 5 is a detail perspective view of various parts illustrated in Figs. 3 and 4.

In carrying out my invention there is employed a frame of any suitable shape and is desirably constructed with a front wall 10 and a back wall 11 which are rigidly secured to each other to afford a space or chamber 12 therebetween. Upon the outer face of said front wall are outlined letters, such as 13, or other characters, such as the bar 14. Disposed at intervals in the letters or characters is a plurality of electric lamps 15 of the incandescent type which, as illustrated diagrammatically in Fig. 3, are wired in parallel, that is to say, two main conductor wires 16 and 17 by normally incomplete

branch-circuit wires 18 are connected with the individual lamps. The conductor wires 18 are respectively formed with a gap intermediate two terminals 19 which are each closed by a conductor 20 carried by a lever 21 and fulcrumed at 22 so that it may be swung into contact with said terminals of the respective lamp circuit. The levers are severally connected with springs 23 which serve to normally retain the levers in their cutout positions and are also provided with armatures 24 for electro-magnets 25 which have their energizing coils included in the circuits of the respective lamps. Each of these levers is further provided with an arm 21' arranged to be encountered by a controlling element to be hereinafter explained which successively effects the swerving of the levers to cause the conductors 20 thereof to close the respective lamp circuit gaps and thus illuminate the affected lamp as well as energizing the magnets to retain the levers in such operative condition until the circuits are interrupted by the action of a cut-out switch 26 whereupon the springs 23 assert themselves to withdraw said conductors from the aforesaid circuit gaps.

The switch 26 comprises an arm pivotally connected to a pin 27 and has a conducting member 28 for closing a gap in the main line 17 and wherein it is normally held in closed condition by a spring 29 acting against the switch-arm.

Included in the invention is a pointer 30, see Figs. 1 and 4, which desirably consists of an effigy of a hand with a stylus and is arranged to be illuminated, as by a lamp 31, within a suitably shaped casing 32 which is provided with a transparent or translucent face 32', such as glass. Such casing is provided with a carrier 33 extending downwardly to below the sign frame where it extends to the rear of the frame and thence upwardly, as at 34, and is provided with a hook extremity 35 which is engaged in a belt-support 36. This support is comprised of an endless belt which, as best shown in Fig. 2, extends about a plurality of guide pulleys 37 disposed to convey the carrier so that the pointer thereof will trace the letters or characters as depicted upon the sign, such that, when motion is given to the belt, the path of the pointer will assume the appearance of writing with a stylus. In the illustrated example, see Fig. 1, a series of



letters 13 are employed with an underscore or bar 14, while in Fig. 2 the reverse view of such a sign represents the manner of leading the endless belt to cause the pointer to  
5 prescribe the sign characters.

The lamp 31 is electrically connected by branch wires 38 extending through the tubular members of the carrier with the main circuit wires 16 and 17, as at 39 and 40, and  
10 to accommodate the branch wires to the movements of the lamp with the carrier such wires are desirably led about pulleys 41 and sheaves 42 which carry weights 43 for taking up the slack. Upon the carrier part 34  
15 is a laterally projecting arm 44 which in the progressive movement of the carrier is adapted to successively encounter the lever-arms 21' for effecting the closure of the respective circuits of the lamps 15 and also to  
20 encounter the switch 26 to break the circuits of all the lamps with the exception of 31 in the hand. One of the pulleys 37 is fixedly connected to a spindle carrying a pulley 45 for a belt 46 which is driven from a suitable motor to afford motion to the endless  
25 belt 36.

The operation of the invention may be described as follows: Assuming that the belt 36 is driven in the manner as above explained and in the direction indicated by the  
30 arrows in Fig. 2, then the carrier is conveyed along lines corresponding to the disposition of the belt to cause the pointer at the front of the sign frame to be similarly  
35 moved and thereby trace out the various sign characters. As arranged the pointer will be conveyed to indicate the successive lamps of the various characters in sequence, that is from left to right, with respect to the letters  
40 13 in the example, and as the pointer designates the respective lamps throughout its course they are illuminated by reason of the arm 44 of the carrier influencing the proper movement of the levers 21 to complete the electric circuits thereto. When  
45 the lamps are thus illuminated the lighting current therefor passes through the magnet coils of the respective circuits to retain the latter in closed position by the maintenance  
50 of the levers 21 in operative positions. When the lamps of the letters are thus lighted the carrier is then conveyed by its supporting belt back to the initial letter and, in the present example, to have the pointer  
55 traverse the bar 14 where the lamps are successively lighted and in the before explained manner. Prior to arriving at the initial letter the switch 26 is influenced by the carrier arm 44 to temporarily break the circuits  
60 of the sign-lamps, whereupon the lights are extinguished and the magnets deenergized to allow the springs 23 to break the various branch circuits so that when the switch 26, through the agency of the spring 29, is re-  
65 stored to operative position, after the pas-

sage of the carrier arm thereby, the sign lamps can only be again lighted through again closing the lamp circuits in the next forward travel of the carrier.

It is to be noted that the sign lamps are  
70 successively lighted during the advancing movement of the pointer whereby the stylus is made to appear to be transcribing the sign letters, after the manner of writing, and when the letters are all illuminated the sign-  
75 lamps are simultaneously extinguished during the retrograde travel of the pointer.

The invention is simple in construction and operation and affords an attractive sign having exceptional value as an advertising  
80 medium.

Having described my invention, what I claim, is:

1. In a sign of the class described, a plurality of lamps arranged to form the sign  
85 characters, the circuits for said lamps, a switch in the circuit of each lamp, means carried through the tortuous path formed by the outline of the letters and adapted to actuate said switches successively to light  
90 the lamps as said carried means passes, and means actuated eventually to extinguish all the lights.

2. In a sign of the class described, a plurality of lamps arranged to form the sign  
95 characters, the circuits for said lamps, a switch in the circuit of each lamp, means carried through the tortuous path formed by the outline of the letters and adapted to actuate said switches successively to light  
100 the lamps as said carried means passes, a pointer mounted on said carried means to trace said sign characters, and means actuated eventually to extinguish all the lights.

3. In a sign of the class described, a plurality of letters forming the sign, a pointer,  
105 an endless belt carrying said pointer in position to trace said letters, means to guide said belt through the outline of said letters, a lamp carried by the pointer for illuminating the latter, and means to impart motion to said belt.

4. In a sign of the class described, characters forming the sign, lamps arranged to form the sign characters, the circuits for  
115 said lamps, a switch in each lamp circuit, means for successively closing said switches for lighting said lamps and means for there- after simultaneously extinguishing all said lamps, a pointer adapted to trace out said  
120 characters as the lamps are lighted, a conveyer carrying said pointer, a lamp carried by the pointer for illuminating the same, and a circuit for the last named lamp.

5. In a sign of the class described, a  
125 pointer, a power driven belt supporting the pointer, and mounted to carry the latter through a circuitous path, a lamp, a circuit therefor, a switch for said circuit, a spring tending to keep said switch in position to  
130



have the circuit open, an electro-magnet in said circuit, an armature upon the switch, and means carried by said pointer and operable during the advancing movement of the pointer with the belt for actuating said switch so as to close said circuit against the action of the spring and thereby light the lamp and also energize said magnet whereby the switch is retained in closed condition with respect to said circuit.

6. In a sign of the class described, a plurality of letters forming the sign, a pointer, a lamp carried by the pointer for illuminating the same, a circuit for the lamp, a carrier for the said pointer, an endless belt from which said carrier is suspended, and means to guide said endless belt so that the pointer will trace the letters upon the sign, and means for actuating said belt to render the aforesaid tracing movement to said pointer.

7. In a sign of the class described, a plurality of lamps arranged to form sign characters, switches for controlling the circuits of the individual lamps, an endless belt arranged to continuously follow the contour of the sign characters, means for imparting motion to said endless belt, a pointer mounted on said belt to trace the front contours of said characters, means mounted on said

pointer to successively light said lamps as the pointer traces said characters, and a normally closed switch adapted to be actuated by said pointer to simultaneously extinguish all of said lamps.

8. In a sign of the class described, the lamps arranged to form sign characters, switches for controlling the circuits for the respective lamps, a spring for each switch for normally maintaining the same in inoperative condition, a normally inoperative electro-magnet in each said circuit, tortuously arranged means overlying the contour of said characters, means carried by said tortuous means for affecting the successive switches for illuminating the respective lamps and energizing magnets for retaining the circuits in closed condition, and a normally closed switch located at the end of the path of said switch affecting means for controlling all of said lamp circuits and adapted to be affected by the aforesaid means for simultaneously extinguishing all of said lamps and deenergizing the respective magnets.

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