Jan. 1, 1929. 1,697,753

G. C. CANNON

ELECTRIC SIGN

Filed July 10, 1926 4 Sheets-Sheet 1

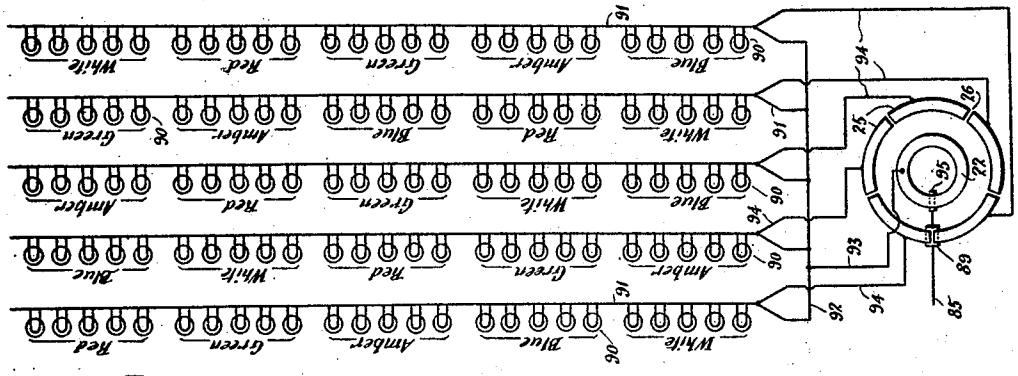


Fig. 9

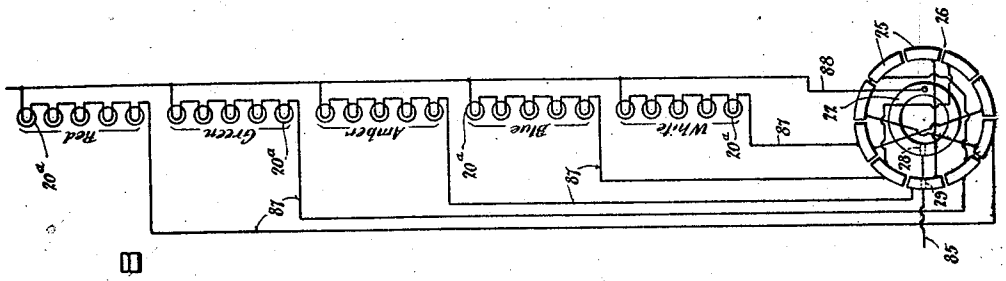


Fig. 8

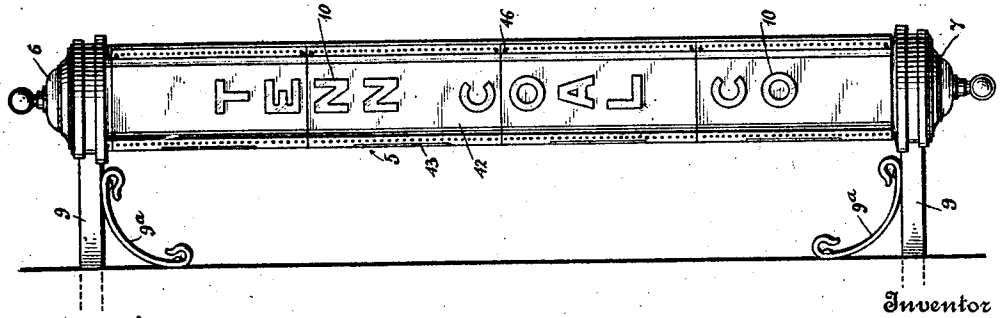


Fig. 1

Inventor

George C. Cannon,

By

Attorney

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G. C. CANNON

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FIG. 2

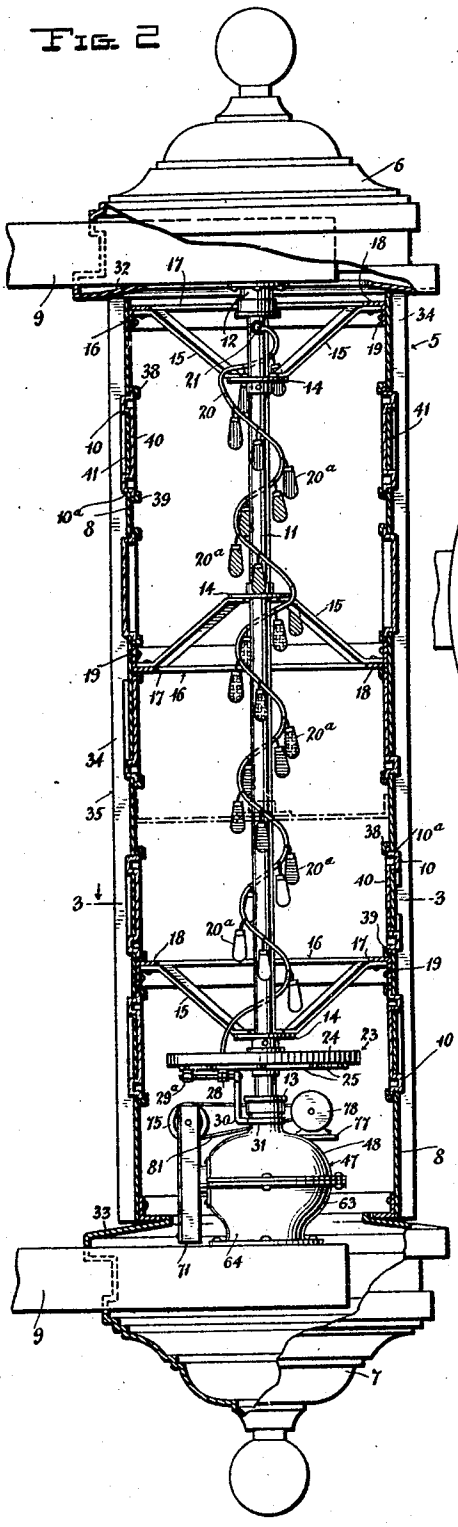


FIG. 6

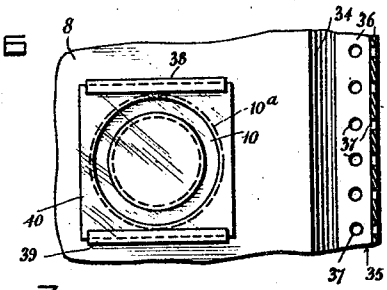


FIG. 3

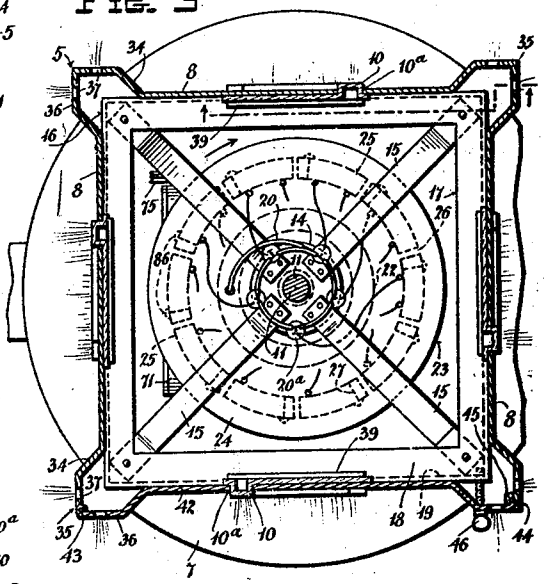
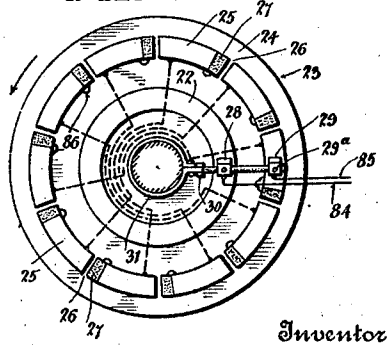


FIG. 7



Inventor

George C. Cannon,

By

Attorney

Jan. 1, 1929. 1,697,753

G. C. CANNON

ELECTRIC SIGN

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Fig. 5

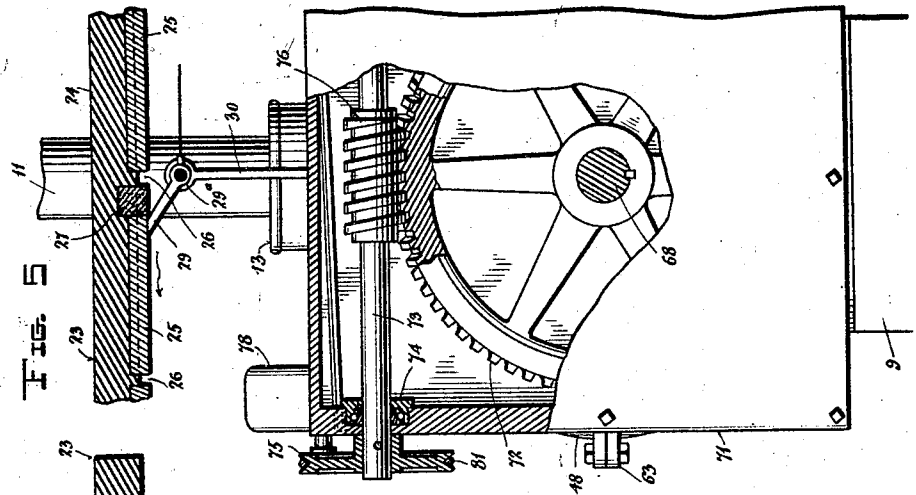
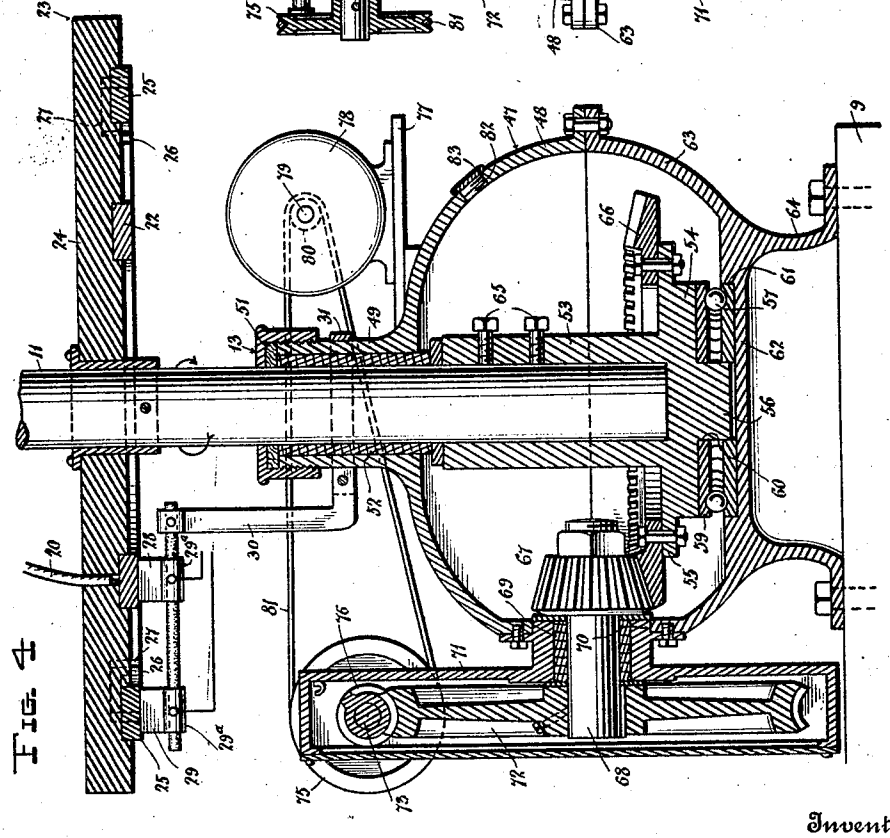


Fig. 4



Inventor

George C. Cannon,

By

Attorney

Jan. 1, 1929. 1,697,753

G. C. CANNON

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Fig. 10

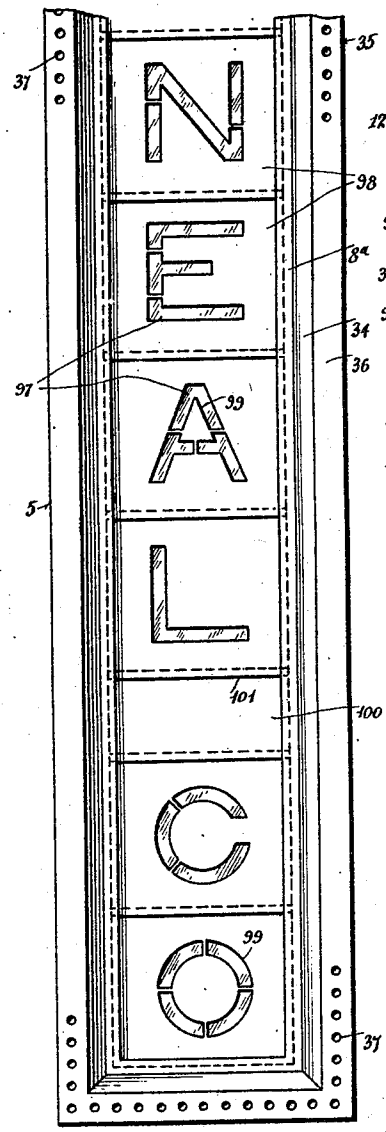


Fig. 11

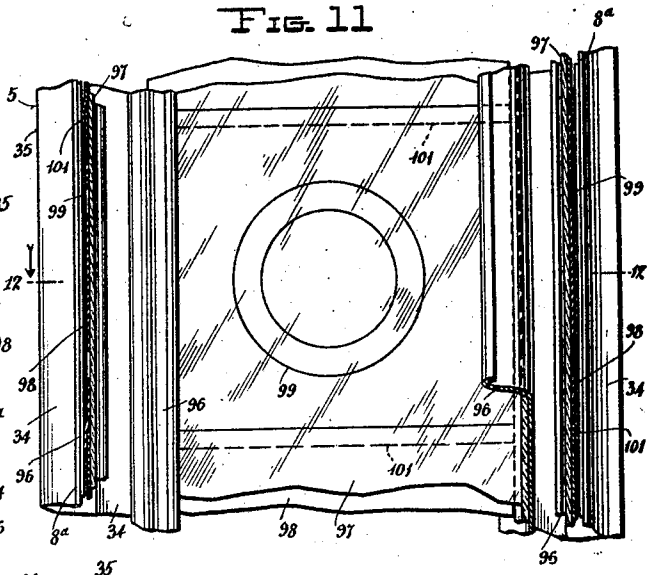
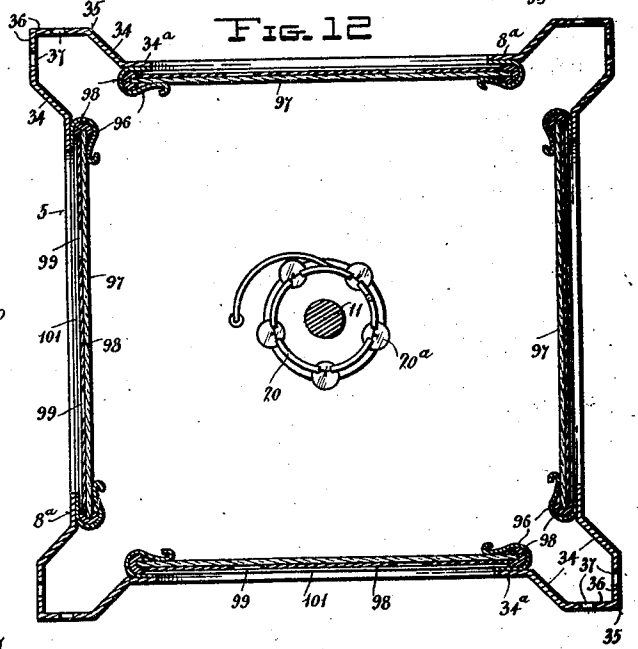


Fig. 12



Inventor

George C. Cannon,

By

Attorney

Patented Jan. 1, 1929. 1,697,753

UNITED STATES PATENT OFFICE.

GEORGE C. CANNON, OF LOUISVILLE, KENTUCKY.

ELECTRIC SIGN.

Application filed July 10, 1926. Serial No. 121,691.

This invention relates to a rotatable, electrically illuminated sign for advertising and other purposes.

The main object of the invention is to provide a rotatable sign of the class specified that may be vertically or horizontally mounted and having a multiplicity of faces or panels of an opaque nature to which are applied, in a novel manner, letters, symbols, characters or other devices, preferably constructed of translucent material, and wherein the body of the sign is tubular and has mounted therein a plurality of groups of electric lights of white and various colors, as may be desired, to produce different light effects and combinations that will show through the advertising matter consisting of the letters, symbols and characters in the panels, and also to provide for outward display of iridescent streaks of light that will have an extraordinarily attractive and pleasing effect.

A further object of the invention is to provide a sign of the class specified wherein the body, a shaft within the body and groups of lighting devices of white and varying color characteristics will all rotate as a unit at a controllable degree of speed, with advantages in display sign or other matter carried by the body.

A still further object of the invention is to provide a sign of the class specified having a rotating body with advertising and other devices thereon together with an interiorly located operating means and groups of lighting devices, all rotating as a unit, together with mechanism which is so constructed as to enable the weight and resistance to rotation of the sign to be overcome by a minimized power source or a motor having a comparatively low horse-power.

With these and other objects and advantages in view, the invention consists in the construction and arrangement of the several parts which will be more fully hereinafter described and claimed.

In the drawings:

Fig. 1 is a side elevation of a sign arranged vertically and embodying the features of the invention and showing one means for mounting the same.

Fig. 2 is a sectional elevation of the improved sign on an enlarged scale.

Fig. 3 is a horizontal section on the line 3—3, Fig. 2.

Fig. 4 is an enlarged sectional view of the operating mechanism, showing the commutator controlling the flashing of the lighting groups and also a portion of the main shaft.

Fig. 5 is an end elevation, partially broken away, of a portion of the mechanism shown by Fig. 4.

Fig. 6 is an enlarged sectional elevation of a portion of one of the panels of the body of the sign, showing the manner of mounting the translucent letters, symbols or characters, and also the lines of perforations at the corner for emitting the iridescent streaks of light.

Fig. 7 is a detail top plan view, particularly showing a commutator or means for controlling the flashing of the groups of electric lights.

Fig. 8 is a diagrammatic view, showing the electrical connections for the groups of lights and commutator in association therewith.

Fig. 9 is a diagrammatic view, showing a modification of the commutator and brushes and the groups of lights in electrical connection therewith.

Fig. 10 is a side elevation of a portion of the improved sign embodying a modified construction.

Fig. 11 is a transverse vertical section through a portion of the sign shown by Fig. 10 on an enlarged scale.

Fig. 12 is a horizontal section on the line 12—12, Fig. 11.

The improved sign comprises essentially a tubular body 5, formed of sheet metal of suitable thickness and having upper and lower caps 6 and 7 of any preferred configuration. The body 5 in the present instance is shown as having four faces or panels 8, and the caps 6 and 7 are also illustrated in one preferred design or contour. The improved design is adapted to be supported and stand out from the front of a building or be erected on a roof and, as heretofore indicated, may be arranged either vertically or horizontally. A simplified means for positively and securely supporting the sign consists of bracket beams 9 having suitable braces 9^a, the outer ends of these bracket beams extending into the caps 6 and 7 as clearly shown by Fig. 2. The general shape of the body 5 and the caps 6 and 7 may be varied as conditions will permit, and the sign is of all metal construction and at intervals translucent letters, characters or symbols 10 are secured in the panels, and when the sign is arranged vertically, the advertising words or characters are disposed in vertical aline-

ment as shown by Fig. 1. The translucent material used in the formation of the letters, characters or symbols is opal glass, but it will be understood that other materials having a similar translucent characteristic may be substituted for this preferred material. A shaft 11 extends upwardly through the center of the body 5 and has its upper end engaged in a top bearing 12 secured to the underside of the bracket beam 9, the lower end of this shaft being mounted in a gland above a lower bearing generally designated by 13 and similar to the bearing 12 and disposed upon the top portion of the operating mechanism. At predetermined intervals disks 14 are secured on the shaft and thereto are firmly fixed the inner ends of radiating connecting brace arms 15, which have their outer ends attached to brace frames 16, the said frames being each formed with an opening 17 therethrough and providing flanges or members 18 to which the outer ends of the connecting braces 15 are attached. The frames 16 also have depending flanges 19, which are secured to the panels 8. The connecting braces or arms 15 at the upper and lower portions of the shaft extend downwardly to the disks 14 and the intermediate connecting braces or arms 15 are reversely disposed in an upward direction, the said braces converging to the disks and having their outer ends attached to the corner portions of the frames 16. This particular disposition of the connecting braces or arms 15, however, may be varied, and to conform to modifications in the proportions and general dimensions of the sign, it is obvious that their number may be increased or decreased. The purpose of the disks 14 and the specific arrangement of the connecting braces or arms 15 together with the frames 16 is to positively and strongly connect the body 5 to the shaft so that said body may be rotated with the shaft and during such rotation the torsional stress relieved as much as possible from the shaft and rotation of the body 5 regularly effected. Around the shaft is wound a cable 20 carrying groups of incandescent electric lights 20^a having white and varying colored globes, the upper end of the cable being secured to the shaft, as at 21, and the lower end of said cable connected to the central annulus 22 of a commutator 23 carried by a disk 24 which is fixed to and rotatable with the shaft 11. Concentrically arranged with relation to the annulus 22 and secured to the disk 24 are a plurality of segments 25 with spaces 26 between the ends thereof, the segments at one end of each having carbon tips 27 for purposes which will be readily understood, and engaging the annulus 22 and the segments 25 are carbon brushes 28 and 29 carried by spring holders 29^a fixed to an angle arm 30 having a securing loop or ring 31 applied to and held against movement on the upper portion of the operating mechanism below the lower bearing 13 for the shaft 11.

The sign is constructed in such manner as to render the same water-proof or to exclude moisture from the interior thereof, the upper cap 6 having a lower upwardly and inwardly projecting flange 32 which prevents ingress of moisture in view of the inclination thereof, and the lower cap has an upper flange 33 which is also inwardly and upwardly inclined to effect a drainage away from the interior of the cap. Both flanges 32 and 33 will be assocated with the body and interior structural features of the latter in such manner as to form tight joints.

The panels 8 terminate at their opposite side edges in close joint connection with the inner side members 34 of diagonally arranged, tubular corners 35 having outer converging sides 36 in which a plurality of openings 37 are formed and arranged in vertical alinement, as clearly shown on an enlarged scale by Fig. 6. It is obvious that the contour of the tubular corners 35 may be modified and provided with the openings 37 therein, but in all formations of these corners they will be open at their inner portions with relation to the hollow body 5. The letters, characters or symbols 10 are also applied to the panels 8 in a preferred manner, consisting in forming upper and lower flanges 38 and 39, either secured to or forming parts of the upper and lower walls around the openings 10^a formed in the panels 8 for mounting and exposure of the sign letters, characters or symbols. The flanges 38 and 39 are respectively bent downwardly and upwardly to positively and removably hold the body 40 of each letter, character or symbol, and primarily the upper flange 38 is bent out to permit insertion of the body 40 and its letter, character or symbol 10, this insertion consisting in first placing the lower edge of the body in the lower flange 39 and pressing the same against the panel to expose the letter, character or symbol through the opening 10^a therefor and then bending the upper flange 38 downwardly over the upper edge of the said body. Where letters, characters or symbols are used which have open structures and must be rendered opaque, the said open structures will be filled by means of sheet metal or analogous fillings as at 41.

One panel 8 is provided with a series of doors 42 which are bent at one side edge portion to conform to the contour of the tubular corner 35 of which the said side edge portion of the door forms a part, the door at this point being hinged, as at 43, and the remaining portion of the door extending over to the opposite corner where its side edge portion conforms to and makes up the one side of the said opposite tubular corner. The doors will have their joints between letters,

characters or symbols or between parts of words and distinct words in accordance with the character of the sign matter. The free side edge portion of each door terminates in an inwardly bent flange 44, which is pressed into a seat formed by a flange 45 secured to the interior of the corner 35 of which the free side edge portion of the door forms a part. To secure the door in closed position, thumb or hand screws 46 will be inserted therethrough and engage the adjacent side member of the frame 16, the said securing screws serving to hold the flange 45 tightly in its seat so that no moisture may pass into the interior of the corner 35 and from the latter enter the body 5. These doors 42 at varying elevations in one side form the complete panel of the said side and have the letters, characters or symbols disposed therein at intervals, and by means of these doors the interior of the body 5 may be rendered accessible at any elevation or throughout the full elevation or length of the body 5 for the purpose of repairing or adjusting the mechanism and replacing the electric light bulbs as may be found necessary. The doors may be readily opened by simply loosening the screws 46, and subsequently said doors may be secured in tight fitting closed position by the screws 46. By having the opposite side edge portions of the doors formed as sides or side members of the hollow corners 35, the continuity of the panel comprising the doors in one side of the body 5 will be preserved, and moreover, the doors are thus conveniently attached without marring the contour of the panel side.

The operating mechanism shown in the drawings and which will now be described is preferred in view of its effectiveness, but it will be understood that other mechanism might be used to rotate the shaft 11 and the body 5 and the groups of lights as a unit. The gland 13 into which the lower extremity of the shaft 11 is fitted is disposed on the upper portion of a cast-iron casing, generally designated by 47 and for convenience formed in two pieces and machined to fit the various connecting elements thereof and also to provide an oil-tight enclosure. The upper section or piece 48 of the casing 47 is formed with a central, upwardly extending gland collar 49 to which is applied a screw cap 50 with a suitable packing 51 between the cap and the upper end of the collar. Within the collar 49 is a suitable collar bearing 52, closely engaging the shaft 11, which extends through the cap and collar as shown by Fig. 4, and below this collar bearing is an upwardly projecting bored socket 53 into which the shaft 11 extends, the said socket 53 being integral with a lower base member 54 with an upper surrounding flange 55 and a lower boss 56, which extends into a ball bearing 57 disposed between upper and lower plates 58 and 59. The member 54 bears on the upper plate 59 and the boss 56 extends downwardly into an opening 60 formed in the center of the ball bearing. This ball bearing is mounted in a seat 61 formed in the base 62 of the lower section 63 of the casing, the said base having a hollow flanged attaching member 64, which is secured to the lower bracket beam 9 by suitable fastening devices. The socket 53 has set screws 65 which engage the shaft 11 therein so that the said socket with its base 54 constructed as specified rotates with the shaft 11. Secured to the flange 55 of the base member 54 of the socket 53 is a case-hardened steel beveled ring gear 66, which is in continual mesh with a beveled pinion 67 on the inner end of a short countershaft 68 mounted in a roller bearing 69 secured in an opening 70 formed in the sections 48 and 63 and preferably continuous with a housing 71 having therein a worm wheel 72 also keyed on the countershaft 68. In the upper part of the housing a worm shaft 73 is mounted in a suitable bearing 74 and projects outwardly through one end of the said housing as shown by Fig. 5 and has thereon a belt wheel or grooved pulley 75. The worm shaft 73 is also provided with a worm 76, which is held in continual mesh with the worm wheel 72. Secured on a ledge or support 77 is an electric motor 78 and has on the armature shaft 79 thereof a grooved pulley or belt wheel 80, of smaller dimensions than the pulley or belt wheel 75, and trained over these two belt wheels or pulleys is a belt 81. As hereinbefore noted, all of the parts of the operating mechanism run in oil and suitable oil cups and means for the supply of the lubricant will be provided at points found necessary, the upper section 48 of the casing having a feed opening 82 formed therein and normally closed by a screw plug 83. The operating mechanism just described provides for the use of a very small motor 78 in view of the power-increasing and speed-controlling characteristics, dimensions and relationship of said gearing. Through the worm 76 and worm wheel 72 it will be understood that the power of the motor is relatively geared and the speed is governed by the proportionate dimensions of the beveled pinion 67 and ring gear 66, it being found in practice that the weight resistance of the body 5 of the sign together with the shaft 11 and the groups of lights with the other parts included in the body will be overcome and the said parts rotated as a unit at the desired speed by a motor of about one-fifteenth of a horsepower, which, through the mechanism above specified, will be sufficient to overcome five-hundred pounds of weight rotated at about three and one-half revolutions per minute. By this means the improved sign and its coordinated parts may be economically operated and all of the movable elements of the

sign are rendered easy in their rotation by the use of ball and roller bearings, the bearing 12 at the upper end of the shaft being in all respects similar to the lower gland 13 and ball bearing 57. These mechanisms, as hereinbefore stated, are capable of modification, but after due calculation and practical experiment, it has been found that the mechanism as shown is best adapted for operating the rotating parts of the sign and especially for economy in motive power and with material advantages in the running expense. It will be understood that the motor 78 will be supplied with current from any suitable source by means of proper connections, and in view of the easy running action of the several movable parts of the mechanism, noise will be reduced to a minimum.

The commutator brushes 28 and 29 will be supplied with electric current through the medium of connections 84 and 85 attached to the brush holders 29^a and these brushes will be held in position for continual contact with the segments 25. Between the carbon tips 27 and the boss of the segments small wire connecting loops 86 are applied so as to insure proper electrical transmission. Fig. 8 diagrammatically shows the connections between the segments 25 and the annulus 22 and the groups of lights 20^a in accordance with the arrangement particularly shown by Figs. 2 and 3, and it will be understood that as the commutator disk 24 rotates relatively to the non-rotating brushes 28 and 29, the said groups of lights 20^a will be regularly flashed or have distinctive operations in timed relation, owing to the circuit wires 87 and 88 respectively connected to the segments 25 and the annulus 22 of the commutator.

A modification of the lighting circuits and groups of lights is diagrammatically illustrated by Fig. 9, and in this instance the commutator embodies the same essential elements, or the annulus 22 and segments 25, as in the structure previously described, the difference in this modification being that the one brush 89 is mounted and the segments 25 so proportioned and gapped that the said brush 89 will close the gap and connect two segments so that the groups of lights 90 will glow or become active in combination series, or two of the groups will glow at one time, so that a multiplicity of light effects may be produced, for instance, by combining blue and red, green and amber, and white with either of the other colored groups, and within a comparatively small enclosure an extended variation of light effects may be derived from a comparatively small number of distinctive light groups. In this modified arrangement it will be seen that each group is connected by a wire 91 with a wire 92 common to all of the groups and having a connection 93 with the annulus 22, and that said wire 91 is also connected by distinct wires 94 with the independent segments 25, as clearly illustrated by Fig. 9. The remaining brush 95 as shown by Fig. 9 continually engages the annulus 22, as will be understood, and similar to the commutator shown by Fig. 8. In further explanation of the foregoing arrangement as shown in Figure 9 the brush holder is made with an opening to receive the brush in the shape of a cross or plus mark. The brush itself is oblong on the contact face and is just a fraction more in thickness than the space between the segments and placed in the opening of the brush holder in the position where the length of the brush face will run parallel between the space between the segments and each circuit will light consecutively as the segments pass over the brush. The jumper wire shown in Figure 8 from one segment to the other diametrically across the commutator shown that when either of these connected segments pass under the brush their particular circuit lights. It can be readily seen that the number of segments will be increased by sawing additional slots and separating the commutator into any number of segments, and these segments connected in such manner with the jumpers that the number of circuits would be a divisor to the number of segments, and in this manner the rapidity in which one color or circuit follows the other would be almost unlimited. If the brush is placed in the brush holder in such manner that the oblong contact face runs crosswise to the space between the segments, it will be readily seen that a portion of two segments will be under the brush at various times. The brush is fitted in the same brush holder as above noted, but it is turned in a cross position from the above first mentioned position. The length of the face of this brush would be about two-thirds of the distance between the slots on the commutator face. Hence, in the construction shown by Figure 9 where five colors are shown in five circuits it is possible to obtain an unlimited combination of color effects. As an example in explanation of the foregoing, let it be assumed that at the first circuit shown to the left with red at the top, green next, amber next, then blue and then white, are burning, with this segment only making contact with the brush. Let it now be assumed that the sign moves to a point where the second circuit will come in contact with the brush and it can readily be seen that the top colors red and blue at the same time will change the outward appearance of the translucent letters of the sign to appear purple and the colors of the second circuit next to the top being green and white will turn to a pale green. The next two colors amber and red will show another blend and so on for the next two colors. Of course this combination is only for a short duration, and the first

segment will pass out from under the circuit and the lamps in this circuit will become extinguished leaving the second circuit burning in its true colors blue, white, red, green and amber and as the colors continue to circuit the third segments starts under the brush and the third circuit is lighted and these colors burn in combination with the second circuit until the commutator has revolved beyond the second circuit and then the third circuit burns at its true colors amber, red, green, white and blue and so a like operation continues on around the commutator to the starting point and repeats continuously. The rapidity of these changes is only governed by the number of circuits of the commutator.

The foregoing electrically driven sign is exceptionally attractive as a night sign and is equally attractive by daylight, due to its rotation. In view of the arrangement and operation of the light groups as hereinbefore specified, the color effect at night is unlimited, being regulated solely by the number of circuits and segments installed in the sign. The sign is not only efficient as an advertising means but has in addition a light effect through the translucent letters, characters or symbols on the panels of the sign that will direct attention and observation with advantages in sign structures and especially the light-emitting openings or holes 36 and 37 in the hollow corners 35, which cause a twinkling or iridescent streak effect upon the eye of the observer, as the said holes or openings pass between the observer and the groups of lights or lighting devices. As a further explanation of this feature, as the sign rotates these openings or holes 36 and 37 forming the border of the sign and passing between the lamps in the center of the sign and the observer, the eye is caught by the sudden flash or twinkle as the sign changes its position relatively to the eye of the observer and it will be understood that when the filaments of the lamps is on a direct line with the holes and the eye the said flash or twinkle is distinctly seen. These bolens permit the projection of the colored glow of the lamps that are burning at all times, but the attractive twinkling streaks are observed only when the eye of the observer, the holes, and the lamps, are in straight alinement. It must be borne in mind that the metal tube or face of the sign travels between the observer and the interior lights, and since each face of the sign has two rows of holes and these faces are made of thin material it is possible and positive that the observer will see these twinkling streaks from any position though the observer may be looking into these holes from an angle. It must also be considered that the sign space and holes cover a greater distance in the same time than the lights in the center, and therefore the holes will always pass between the lights and the observer no matter where the observer may be and owing to the different colors of the lights an iridescence will be produced and the twinkling streak will be prolonged by the lighting of other lamps which is conducive to the iridescent character of the streaks an a result of the change of the colored lights that are presented to the observer. The parts of the sign are also associated in such manner as to reduce friction to a minimum, there being ample clearance between the caps 6 and 7 relatively to the ends of the body 5 to which said caps are applied to avoid the least interference or binding effect between these caps and the body. Another important feature is that the improved sign comprises metal panels with a dark background and these panels carry the sign letters, characters or symbols through which the light in its various changes clearly shows, and moreover, the improved sign rotates continuously. The sign matter in the improved sign is composed of translucent devices such as letters, characters or symbols, with material advantages relatively to those signs in which the letters, characters or symbols are painted on the sign panels. A still further advantage of the improved sign is its strength and durability and consequent resistance to wear.

Figs. 10, 11 and 12 show a modification of the improved sign, said modification relating to signs that may be provided for rental purposes and used by a company, corporation or other business house for a certain period of time and then returned to the owner of the sign. This modified form of the sign embodies removable letter, character or symbol means whereby the sign may have the sign matter thereon readily changed for re-rental purposes.

The modified form of the sign as shown by Figs. 10, 11 and 12 has the same form of tubular body 5 heretofore described and formed of sheet metal of suitable thickness. The body of the modified form of sign will also be provided with a number of faces or panels, as at 8^a, four being shown, as in the form of the sign heretofore described. The shaft 11 extends upwardly through the center of the body 5, as heretofore described, and will have suitable supports and be operated by mechanism similar to that disclosed by Figs. 4 and 5. Around the shaft 11 is wound a cable 20 carrying groups of incandescent electric lights 20^a having white and varying colored globes, and the ends of the cable 20^a in the modified structure will be electrically connected as also heretofore specified.

The panels 8^a in the present instance and in a manner similar to the structure heretofore described will be formed with diagonally arranged tubular corners 35 with opposite side members 34 having outer converging

sides 36 continuing from the sides 34 and provided with light-emitting openings 37 therein. The corners are fully open at their inner portions to the interior of the body 5, and the sides 34 are provided at their inner terminals with bends 34ª from which inwardly extending panel strips 96 project, the said panel strips forming opposed seat or holding means for translucent or opal glass plates having their edges engaging grooved strips 98 within the seat or holding means 96. Also mounted in the seats or holding means 96 against the outer sides of the translucent or opal glass plates 97 are sheet metal sections 98, which are of a yielding or spring character and have their opposite side edges removably sprung into the said seats 96 and bear closely against the outer sides of the plates 97. The sections 98 each have a letter, character or symbol 99 cut therethrough and all of the sections are assembled in alinement to produce a sign or indication as may be desired to be produced. Between the sections 98 a spacer 100 will be introduced, to divide the indicating letters, characters or symbols, each spacer being of yielding or similar material and removably sprung into the seats or holding means 96. The bottom edges of the sections 98 and each spacer 100 is struck or bent outwardly, as at 101, to provide an overlapping water-tight joint between the upper and lower edges of the said sections and spacers. The sections 98 are very similar to stencil plates or stencil members and the letters, characters or symbols thereof will be cut completely through the said sections so as to permit the light to show through the plates 97 and the open portion of the letters, characters or symbols formed with the sections 98.

When it is desired to modify the form of sign shown by Figs. 10, 11 and 12, the sections 98 are removed from the seats or holding means 96 and the letters, characters or symbols re-arranged as desired, and by this means the same body 5 can be used for various signs or indicating means. In all other respects the modified form of the sign is the same as that heretofore described.

It will be understood that the sign proportions, dimensions as well as minor details of structure may be varied, and when such changes are adopted, the mechanism and actuating mediums as well as the removable sections 98 disclosed by Figs. 10, 11 and 12 may be correspondingly modified.

What is claimed as new is:

1. In a sign of the class specified, the combination of a hollow body having opaque panels with translucent advertising devices therein and outwardly projecting hollow corners with openings in sides thereof, the corners being open to the interior of the body, a shaft extending axially within the body and connected to the latter, groups of lighting devices arranged around the shaft, the body with its corners and the shaft and groups of lighting devices all rotating as a unit, and means for operating the body, shaft and groups of lighting devices, the lighting devices being of white and varying color characteristics and the light being emitted through the openings in the corners to produce twinkling streaks of light.

2. An electric sign of the class specified comprising a body with hollow corners formed with openings therein, the body having opaque panels with transulcent advertising devices applied thereto, and means for rotating the body and lighting devices as a unit, the light of the groups of lighting devices showing through the transulcent advertising devices and also as twinkling streaks through the openings of the hollow corners.

3. In an electric sign of the class specified, a rotary body having hollow corners with openings in portions thereof and electric lighting devices of white and varying colors within the body and rotatable with the latter, the body being of opaque material and carrying translucent advertising devices, means for intermittently energizing the lighting devices, and a revolving shaft for rotating the body and lighting devices as a unit, the hollow corners being fully open to the interior of the body and the openings of the corners producing the appearance of twinkling streaks of light of varying colors as the body and lighting devices rotate and the lighting devices are intermittently energized.

4. In an electric sign of the class specified, a rotary body having hollow corners projecting outwardly therefrom with opaque panels between the corners carrying translucent advertising devices, portions of the corners having vertically alined openings therein, lighting devices of white and varying colors arranged in groups within the body, means for intermittently energizing the lighting devices to provide a flashing effect, the body and lighting devices and corners being rotatable as a unit and effecting the observer with the appearance of twinkling streaks of light as the body rotates, and mechanism for operating the body and lighting devices.

5. In an electric sign of the class specified, a rotary body having hollow corners projecting outwardly therefrom with opaque panels between the corners carrying translucent advertising devices, portions of the corners having vertically alined openings therein, lighting devices of white and varying colors arranged in groups within the body, the body and lighting devices and corners being rotatable as a unit, means for causing the lighting devices to have a flashing action, and mechanism for operating the body and lighting devices.

6. In an electric sign of the class specified, the combination of a rotary body having

panels of opaque material provided with translucent lighting devices arranged therein at intervals, a shaft extending axially through the body, groups of white and varicolored lighting devices around the shaft, the shaft being connected to the body and with the groups of lighting devices all rotating as a unit, the body having means for effecting a twinkling light appearance of the groups of lighting devices and comprising circuits, segments and brushes, the brush engaging the segments being arranged to contact with two segments at a time to effect a joint cooperation of two groups of the lighting devices simultaneously in succession to increase the variation in color effect from the interior of the body through the advertising devices, and mechanism for operating the shaft, body and lighting and flashing means.

7. In an electric sign of the class specified, a body formed of opaque material and having translucent advertising devices mounted therein, a shaft extending axially within the body and connected to the latter, groups of lighting devices disposed around the shaft, the body, shaft and groups of lighting devices being rotatable as a unit, and mechanism for operating the body, shaft and lighting devices and including means for effecting a glowing of at least two groups of the lighting devices having different circuits at one time, the body also having projecting means communicating therewith formed with vertically alined openings to produce twinkling streaks of light as the body rotates.

In testimony whereof I have hereunto set my hand.

GEORGE C. CANNON.