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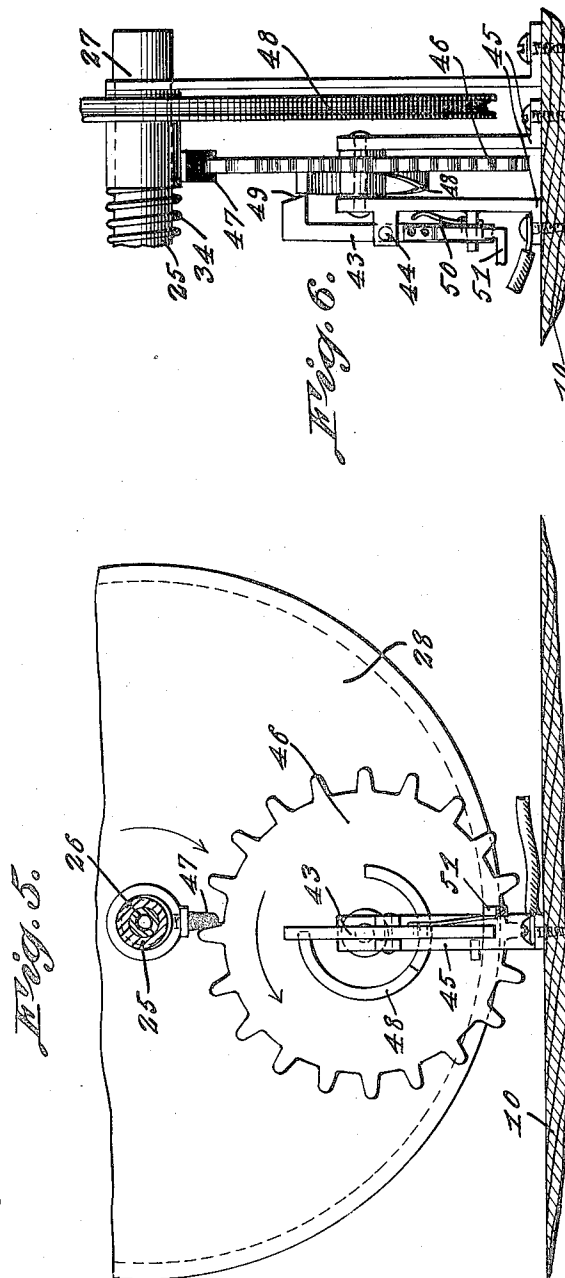
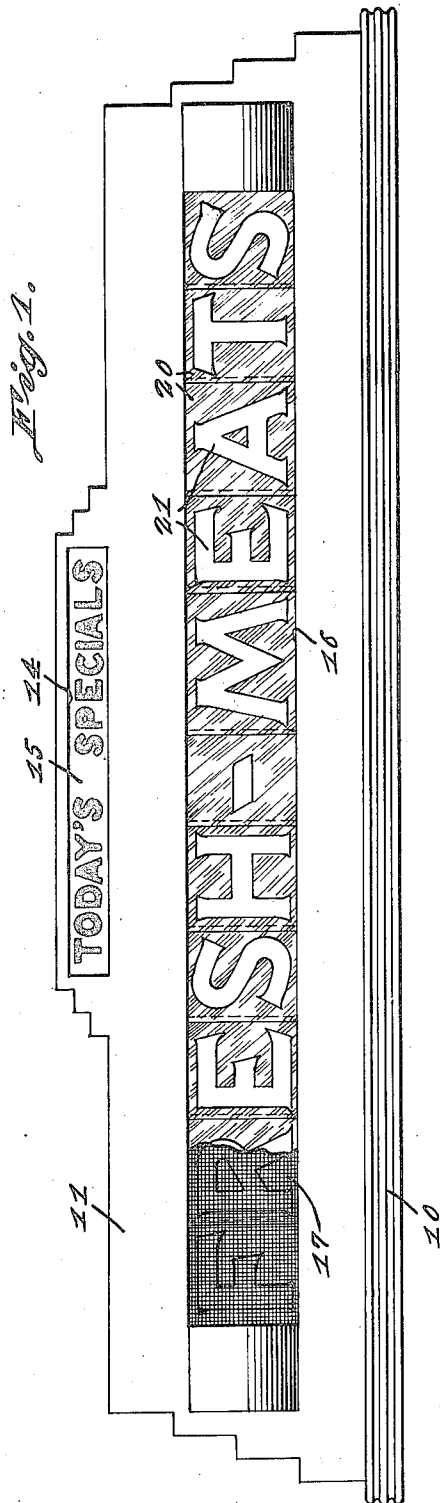
B. SCHLACHMAN

2,049,929

ELECTRIC CHANGEABLE EXHIBITOR SIGN

Filed Feb. 6, 1935

4 Sheets-Sheet 1



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Aug. 4, 1936.

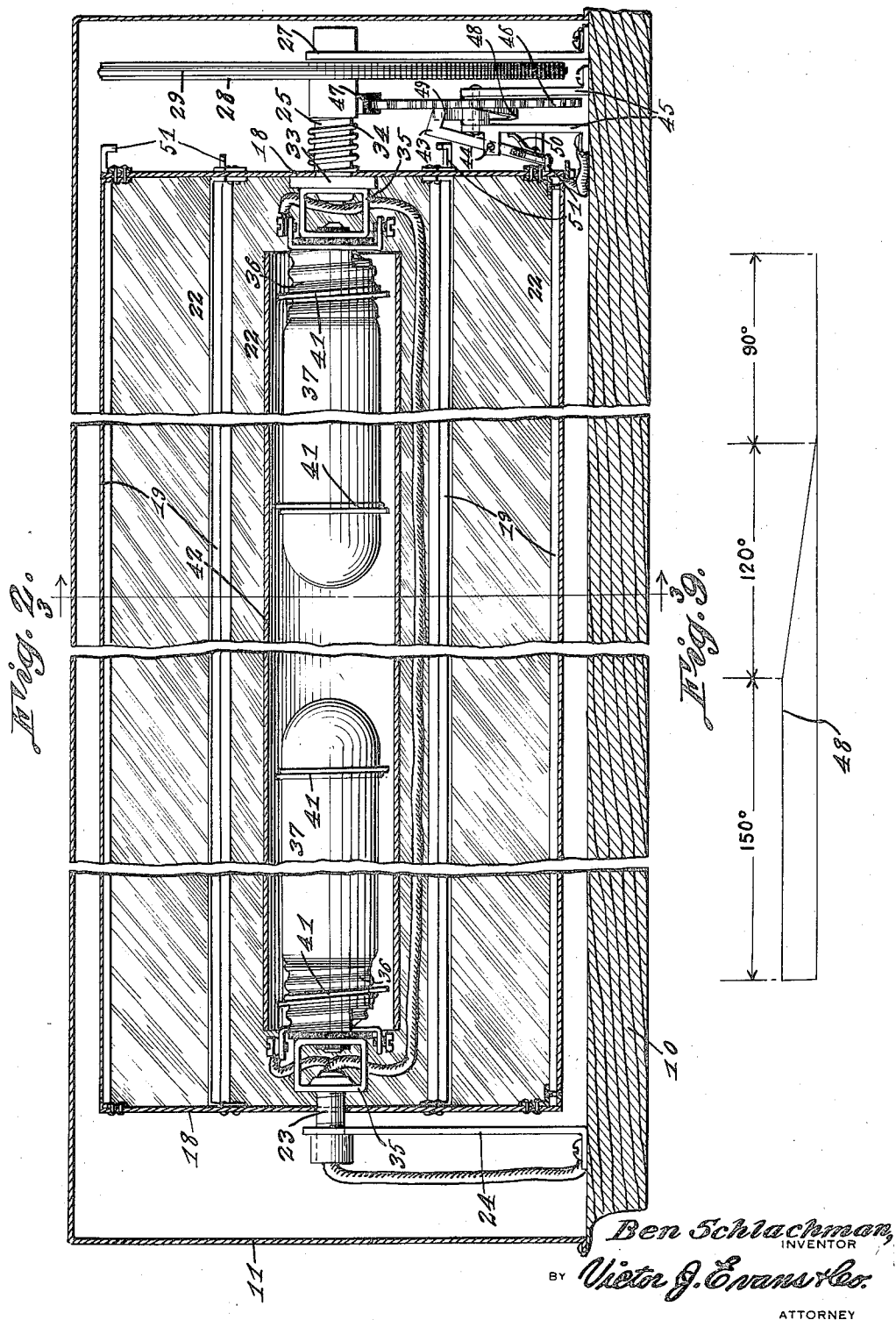
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ELECTRIC CHANGEABLE EXHIBITOR SIGN

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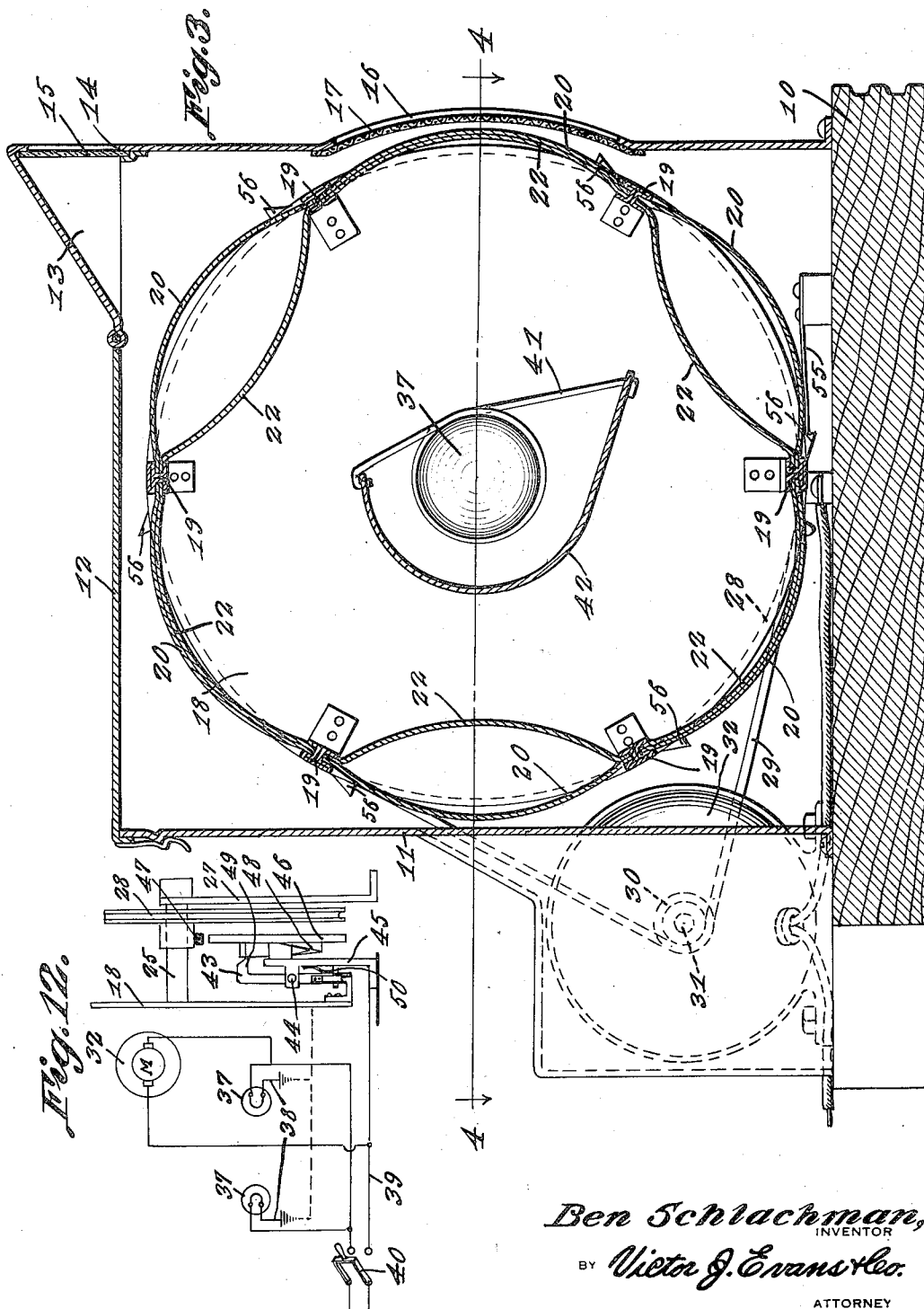
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ELECTRIC CHANGEABLE EXHIBITOR SIGN

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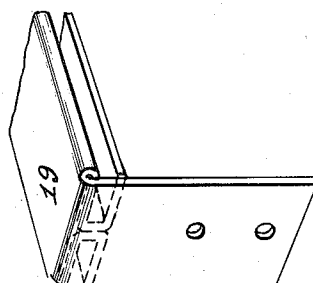
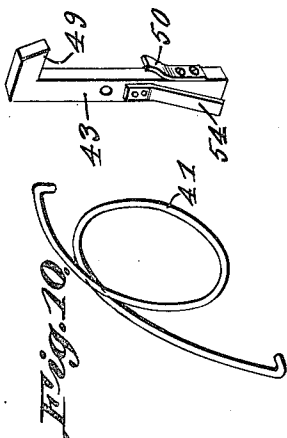
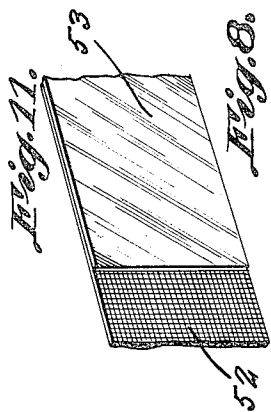
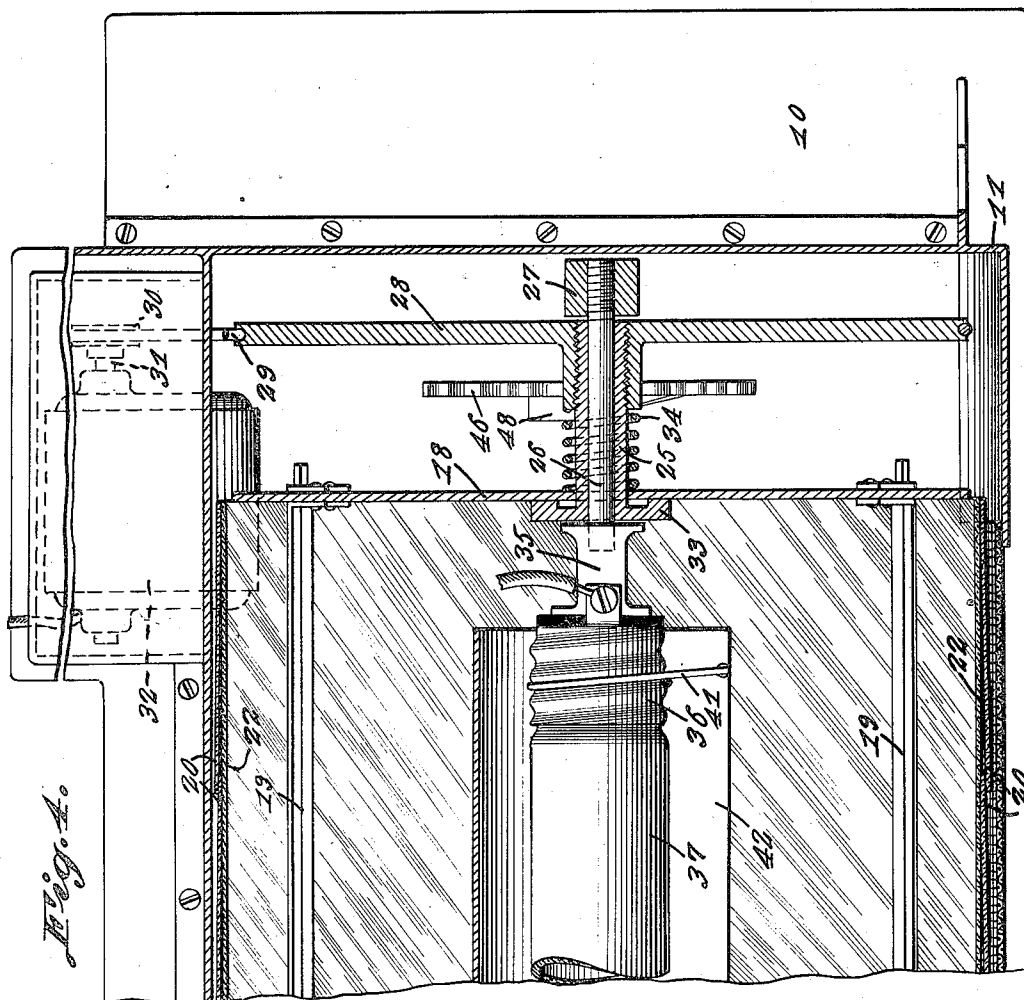
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4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE

2,049,929

ELECTRIC CHANGEABLE EXHIBITOR SIGN

Ben Schlachman, Baltimore, Md., assignor of
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Application February 6, 1935, Serial No. 5,293

12 Claims. (Cl. 40—77)

The invention relates to an illuminated exhibitor and more especially to electric changeable exhibitor signs.

The primary object of the invention is the provision of a sign of this character, wherein variable colored exhibitors will display advertising matter automatically and intermittently at intervals with a continued changing of signs clearly visible by day and night.

Another object of the invention is the provision of a sign of this character, wherein the display made will be illuminated and the color effect varied with the exhibiting of the varying signs when changed in the automatic operation of the machine so as to afford attraction to the exhibited matter and to have the same clearly visible.

A still further object of the invention is the provision of a sign of this character, wherein the same is of novel construction and is automatic in its operation, being electrically controlled and will enable the exhibiting of changeable signs in the working thereof.

A still further object of the invention is the provision of a sign of this character, which is comparatively simple in its construction, thoroughly reliable and efficient in its operation, compact, attractive in appearance, strong, durable, portable and inexpensive to manufacture.

With these and other objects in view the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention and pointed out in the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a front elevation of a sign constructed in accordance with the invention, a portion of the same being broken away.

Figure 2 is an enlarged fragmentary vertical longitudinal sectional view through the sign.

Figure 3 is an enlarged vertical transverse sectional view taken on the line 3—3 of Figure 2 looking in the direction of the arrows.

Figure 4 is a fragmentary sectional view on the line 4—4 of Figure 3 looking in the direction of the arrows.

Figure 5 is a fragmentary end elevation partly in section of the rotor exhibitor.

Figure 6 is a fragmentary detailed elevation of the switch and cooperating cam.

Figure 7 is a fragmentary perspective view of a sign rack.

Figure 8 is a perspective view of the switch.

Figure 9 is a diagrammatic plan view of the cam pattern.

Figure 10 is a perspective view of one of the reflector clips.

Figure 11 is a fragmentary perspective view of a modified form of window covering.

Figure 12 is a diagrammatic plan view of the circuit layout for the machine.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, the machine comprises a base 10 preferably a flat wood piece supporting a casing 11 of sheet metal being of the required length and height and having at its top a hinged door 12 so that access may be had to the interior when the occasion requires. This casing or housing 11 at the front thereof is provided with a crown portion 13 having the front window 14 covered by a transparent exhibitor 15 affording a permanent intermittently illuminated sign visible at the front of the casing or housing. In the front of the casing or housing 11 beneath the window 14 is a window 16 which in this instance is covered by a wire mesh screen 17 preferably painted black at the outer side thereof and having aluminum at its inner side. This window 16 extends longitudinally for a major portion of the length of the casing or housing 11.

Arranged interiorly of the casing or housing 11 is a rotor including the disk like ends 18 to which are secured at equidistances apart peripherally thereof the channeled racks 19 for exhibitor mediums including letter bearing cards 20, the letters 21 being transparent while the card area about the same being opaque and a color strip 22, these cards 20 and the strip being of a size that when fitted in the racks 19 for the holding thereof the same will bulge both in an outward direction or the cards in an outward direction and the strip in an inward direction, this altered arrangement being alternately effected as shown in Figure 3 of the drawings. The cards 20 are in groups with the letters 21 thereof arranged when the cards are within the racks 19 for the spelling of certain commodities or displaying advertising matter by illumination and made visible through the screen 17 at the window 16. The cards 20 when fitting the racks 19 are disposed so that the edges adjacent to each other will overlap to avoid light passing between the cards on illumination of the sign. The rotor at one end has its end disk 18 turning upon a hollow stationary journal 23 carried by a bearing 24 fixed to and rising from

the base 19 interiorly of the casing or housing 11 while the other end of this rotor has its end disk 18 loosely fitted with a journal hub 25 upon a stationary journal 26 carried by the bearing 27 fixed to and rising from the base 10 within the casing or housing 11. This hub 25 has fixed thereto a pulley 28 over which is trained an endless belt 29 the same being trained over a driving pulley 30 on the power shaft 31 of the electric motor 32 suitably confined within the casing or housing 11. The hub has formed therewith a friction clutch 33 which engages the end disk 18 next thereto so that the rotor will be frictionally driven through the medium of this clutch 33 from the motor 32. Surrounding the hub 25 is a coiled expansion spring 34 which maintains the clutch 33 frictionally engaged with the rotor.

Carried by the journals 23 and 26 are suitable hangers 35, these supporting lamp sockets 36 suitably insulated therefrom, the sockets being fitted with removable electric light bulbs 37 in parallel with a circuit 38 connected with an electric current feed line 39 which also has the motor 32 in parallel therewith, the line being provided with a hand switch 40 for the opening and closing of said line.

Engaged with the sockets 36 and with the bulbs 37 are spring hangers or clips 41 for a reflector 42 common to the said bulbs 37 for the projecting of light from these bulbs through the windows 14 and 16 and such bulbs illuminate the exhibitors for the display of the advertising matter on visibility thereof through the windows 14 and 16, respectively.

Included in the circuit 38 is an automatic switch including a trigger 43 pivoted at 44 for rocking movement upon a support 45 stationarily mounted upon the base 10 and this support has journaled therein a toothed tripping gear 46 for coaction with a tripping lug 47 carried by and insulated from the hub 25 so that the said gear 46 will be intermittently moved and in this manner driven from the motor 32. The gear 46 concentric of its axis is formed with a cam 48 the pattern thereof being shown diagrammatically in Figure 9 of the drawings and coacting with this cam is the riding nose 49 of the trigger 43 which latter carries the spring 50 for urging riding contact of the nose 49 upon the cam 48.

On the rotor at the end next to the switch constituted by the trigger 43 peripherally of the disk 18 at this end are abutments 51, these being spaced at the proper intervals from each other and are grouped into varying lengths so that when the trigger 43 is shifted by the cam 48 certain of the abutments 51 will be engaged by opposite ends of the trigger in alternate fashion and when so engaged the rotor will be brought to a standstill and held for a determined period and thereafter when release takes place by the trigger 43 the said rotor becomes active by rotation. The clutch 33 allows slippage between the rotor and the hub 25 which latter is constantly rotated on standstill of the rotor.

When the trigger is engaged with any of the abutments 51 the same acts as a switch and closes the circuit to the bulbs 37 for the illumination thereof. When the rotor is turning the switch is open and the circuit is shut off from the lamp bulbs 37 and thus visibility of rotation of the rotor can not be had as such rotor is operating in darkness unaffected by light exteriorly of the casing or housing 11. The abutments 51 stop the rotor to have the exhibitors in confronting relation to the window 16 and by illumination such exhibitors are

clearly visible for the display thereof and the color strips 22, they being of different hues effect variable color schemes of the exhibitors on illumination of the same.

In Figure 11 of the drawings there is shown a slight modification of the covering for the window 16 wherein it includes a wire mesh black coated section 52 having superimposed over the outer face thereof a clear celluloid section 53 so that light rays will be projected from without the casing or housing 11 while from the outside of the latter visibility of the rotor and the exhibitors carried thereby can not be visible when the bulbs 37 are not lighted.

It will be apparent that the rotor is automatically controlled by the switch for intermittent stopping of said rotor to allow sign display. This switch constituted by the trigger 43 carries a spring buffer 54 for engagement with the abutments 51. Upon the base is mounted a spring ratchet dog 55 cooperating with ratchet teeth 56 on the rotor to prevent retrograde movement of said rotor, the same being driven in a clockwise direction by the motor 32.

It will be apparent that the permanent exhibitors or signs 15 will be subjected to varying colored effects as created by the colored sections or strips 22 which control the coloring effect of the exhibitors carried by the rotor.

What is claimed is:

1. A structure of the kind described, comprising a rotor having exhibitor racks, display mediums within the racks, color sections associated with said mediums and supported in the racks, an enclosure for the rotor and having an opening forming a window for making visible the display mediums, means for driving the rotor and having frictional clutch connection therewith, electric lighting means within the rotor and intermittently controlled by the latter for illumination of said mediums at determined intervals and when the same confront the window, and a stationary exhibitor for cooperation with the rotor and intermittently illuminated when confronted by the display mediums of said rotor.

2. A structure of the kind described, comprising a rotor having exhibitor racks, display mediums within the racks, color sections associated with said mediums and supported in the racks, an enclosure for the rotor and having an opening forming a window for making visible the display mediums, means for driving the rotor and having frictional clutch connection therewith, electric lighting means within the rotor and intermittently controlled by the latter for illumination of said mediums at determined intervals and when the same confront the window, a stationary exhibitor for coaction with the rotor and illuminated when confronted by the display mediums carried by said rotor and a reflector coacting with said electric lighting means and within the rotor.

3. A structure of the kind described, comprising a rotor having exhibitor racks, display mediums within the racks, color sections associated with said mediums and supported in the racks, an enclosure for the rotor and having an opening forming a window for making visible the display mediums, means for driving the rotor and having frictional clutch connection therewith, electric lighting means within the rotor and intermittently controlled by the latter for illumination of said mediums at determined intervals and when the same confront the window, a sta-

tionary exhibitor for coaction with the rotor and illuminated when confronted by the display mediums carried by said rotor, a reflector coacting with said electric lighting means and within the rotor and a stationary exhibitor included with said enclosure and illuminated by the said lighting means.

4. A structure of the kind described, comprising a rotor having exhibitor racks, display mediums within the racks, color sections associated with said mediums and supported in the racks, an enclosure for the rotor and having an opening forming a window for making visible the display mediums, means for driving the rotor and having frictional clutch connection therewith, electric lighting means within the rotor and intermittently controlled by the latter for illumination of said mediums at determined intervals and when the same confront the window, a reflector coacting with said electric lighting means and within the rotor, a stationary exhibitor included with said enclosure and intermittently illuminated by the said lighting means when confronted by the display mediums on the turning of the rotor and a light screen covering said window.

5. A structure of the kind described, comprising a base, a casing on said base and having windows, a permanent exhibitor at one of the windows, a rotor within said casing and having racks, exhibitors arranged in said racks, coloring sections arranged in the racks for varying the colors of the exhibitors, electric lighting means within the rotor for illuminating the exhibitors when confronting the other window, driving motor connections with said rotor and having frictional clutch engagement therewith, a gear intermittently operated by said rotor, an electric circuit including said lighting means and motor, a switch included in said circuit for controlling the lighting means, a cam on said gear and operating said switch, and contacts on the rotor and engageable with the switch for the closing of the circuit to the lighting means and stopping the rotor when the switch is closed.

6. A structure of the kind described, comprising a base, a casing on said base and having windows, a permanent exhibitor at one of the windows, a rotor within said casing and having racks, exhibitors arranged in said racks, coloring sections arranged in the racks for varying the colors of the exhibitors, electric lighting means within the rotor for illuminating the exhibitors when confronting the other window, driving motor connections with said rotor and having frictional clutch engagement therewith, a gear intermittently operated by said rotor, an electric circuit including said lighting means and motor, a switch included in said circuit for controlling the lighting means, a cam on said gear and operating said switch, contacts on the rotor and engageable with the switch for the closing of the circuit to the lighting means and stopping the rotor when the switch is closed and a reflector associated with said lighting means for directing light in the direction of the windows and through the exhibitors.

7. A structure of the kind described, comprising a base, a casing on said base and having windows, a permanent exhibitor at one of the windows, a rotor within said casing and having racks, exhibitors arranged in said racks, coloring sections arranged in the racks for varying the colors of the exhibitors, electric lighting means within the rotor for illuminating the exhibitors

when confronting the other window, driving motor connections with said rotor and having frictional clutch engagement therewith, a gear intermittently operated by said rotor, an electric circuit including said lighting means and motor, a switch included in said circuit for controlling the lighting means, a cam on said gear and operating said switch, contacts on the rotor and engageable with the switch for the closing of the circuit to the lighting means and stopping the rotor when the switch is closed, a reflector associated with said lighting means for directing light in the direction of the windows and through the exhibitors and means coacting with the rotor to permit rotation thereof in one direction.

8. A structure of the kind described, comprising a base, a casing on said base and having windows, a permanent exhibitor at one of the windows, a rotor within said casing and having racks, exhibitors arranged in said racks, coloring sections arranged in the racks for varying the colors of the exhibitors, electric lighting means within the rotor for illuminating the exhibitors when confronting the other window, driving motor connections with said rotor and having frictional clutch engagement therewith, a gear intermittently operated by said rotor, an electric circuit including said lighting means and motor, a switch included in said circuit for controlling the lighting means, a cam on said gear and operating said switch, contacts on the rotor and engageable with the switch for the closing of the circuit to the lighting means and stopping the rotor when the switch is closed, a reflector associated with said lighting means for directing light in the direction of the windows and through the exhibitors and means for permitting buffer action between the contacts and said switch.

9. A structure of the kind described, comprising a base, a casing on said base and having windows, a permanent exhibitor at one of the windows, a rotor within said casing and having racks, exhibitors arranged in said racks, coloring sections arranged in the racks for varying the colors of the exhibitors, electric lighting means within the rotor for illuminating the exhibitors when confronting the other window, driving motor connections with said rotor and having frictional clutch engagement therewith, a gear intermittently operated by said rotor, an electric circuit including said lighting means and motor, a switch included in said circuit for controlling the lighting means, a cam on said gear and operating said switch, contacts on the rotor and engageable with the switch for the closing of the circuit to the lighting means and stopping the rotor when the switch is closed, a reflector associated with said lighting means for directing light in the direction of the windows and through the exhibitors, means for permitting buffer action between the contacts and said switch and a light screen covering the said other window.

10. A structure of the kind described comprising a windowed casing, a stationary exhibitor visible through one of the windows of the casing, a rotor having a plurality of exhibitors visible through the other window of said casing, and illuminating means associated with the said exhibitors for illuminating the same and directing light intermittently through the stationary exhibitor when confronted by the exhibitors of the rotor.

11. A structure of the kind described comprising a windowed casing, a stationary exhibitor visible through one of the windows of the cas-

ing, a rotor having a plurality of exhibitors visible through the other window of said casing, illuminating means associated with the said exhibitors for illuminating the same and directing light intermittently through the stationary exhibitor when confronted by the exhibitors of the rotor, and means for extinguishing the illuminating means at determined intervals and regulated by the rotor.

10 12. A structure of the kind described comprising a windowed casing, a stationary exhibitor

visible through one of the windows of the casing, a rotor having a plurality of exhibitors visible through the other window of said casing, illuminating means associated with the said exhibitors for illuminating the same and directing light intermittently through the stationary exhibitor when confronted by the exhibitors of the rotor, means for extinguishing the illuminating means at determined intervals and regulated by the rotor, and a motor for operating said rotor.

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