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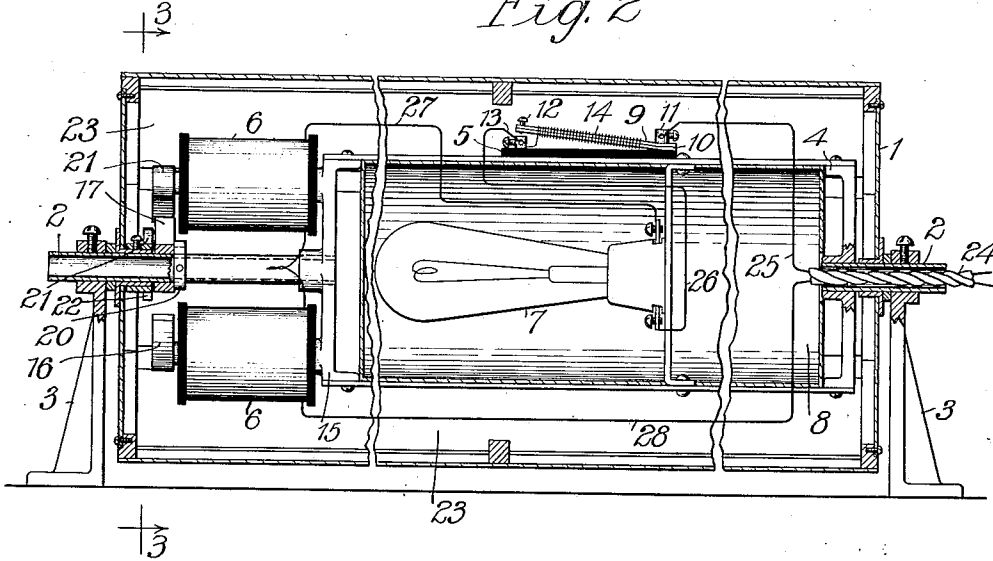
Patented June 27, 1911.

3 SHEETS—SHEET 1.

Fig. 1.



Fig. 2.



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ADVERTISING SIGN.
APPLICATION FILED JUNE 26, 1909.

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3 SHEETS—SHEET 2.

Fig. 3.

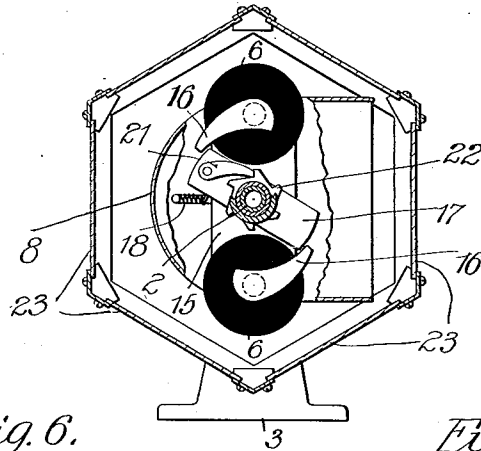


Fig. 6.

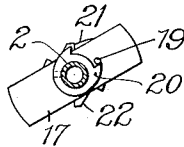


Fig. 5.

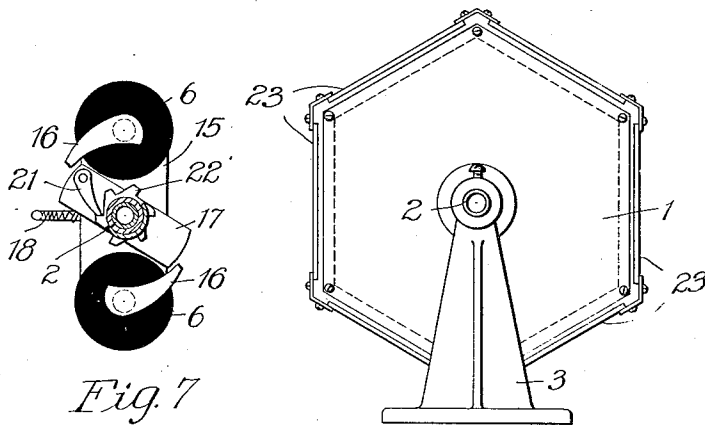


Fig. 7.

Fig. 4.

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3 SHEETS—SHEET 3.

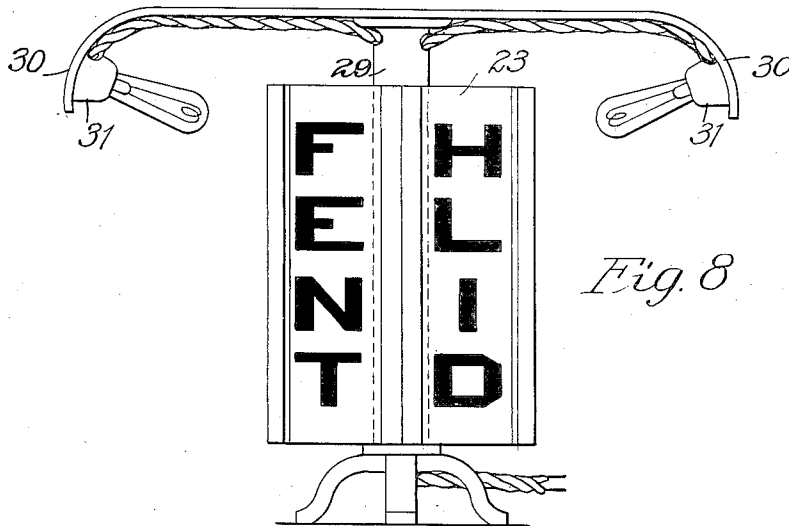


Fig. 8

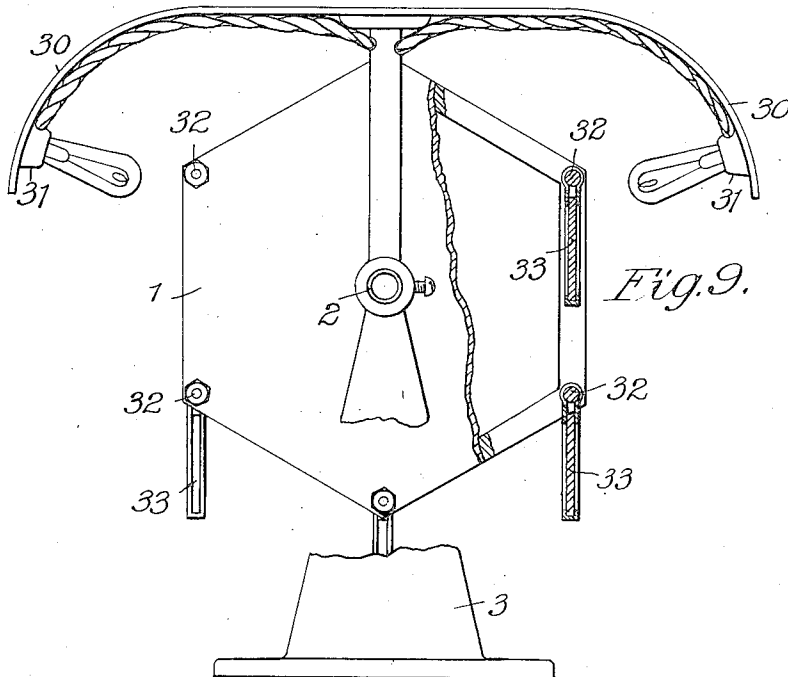


Fig. 9.

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ADVERTISING-SIGN.

996,224.

Specification of Letters Patent. Patented June 27, 1911.

Application filed June 26, 1909. Serial No. 504,421.

To all whom it may concern:

Be it known that I, OLIVER C. DENNIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Advertising-Signs, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a construction of advertising sign in which a plurality of display surfaces is successively brought into an illuminated field by means of mechanism automatically actuated by intermittent current caused to illuminate the display sign or stand. The intermittent current may be produced in any suitable way, but is most conveniently caused by means of so-called "flashers" used for this purpose.

My advertising device may consist either in a drum horizontally disposed, or a stand or drum vertically disposed and adapted to be periodically rotated, each motion causing the drum or stand to rotate but a part of a revolution. The means used to illuminate the display sign or stand may be either outside of the sign, or inside, as desired.

The several drawings illustrating my invention are as follows:

Figure 1 is a side view of that form of my invention in which the illuminating and controlling means are entirely inclosed in the rotary drum; Fig. 2 is a vertical longitudinal sectional view of the parts shown in Fig. 1, and shows the operating mechanism for lighting and rotating the drum; Fig. 3 is a vertical transverse sectional view taken along the line 3-3 in Fig. 2; Fig. 4 is an end view from the left of the parts shown in Fig. 1; Fig. 5 is a detail view of the reflector used in connection with the parts shown in Figs. 1 and 2; Fig. 6 is a detail view showing a stop for limiting the motion of the armature used to rotate the drum shown in Figs. 1 and 2; Fig. 7 is a modified form of ratchet mechanism adapted to advance the drum simultaneously with the operation of the flasher to put out the lamp used to illuminate the drum; Fig. 8 is a side view of a display stand that may be operated in a manner similar to the drum shown in Figs. 1 to 4, inclusive, which stand is illuminated from the outside and is adapted to be rotated in a manner similar

to the drum shown in Figs. 1 to 4 inclusive; Fig. 9 is an end view of a modified form of display rack in which a plurality of signs is arranged to hang vertically upon pivotal supports, as the framework carrying them is rotated. The signs shown in this modification are adapted to be illuminated by means of lights placed outside of the supporting framework of the signs.

As shown in Figs. 1 to 4, inclusive, the framework 1 of the rotary drum is supported upon bearings 2, 2 carried by the brackets 3, 3. The bearings 2, 2 are hollow and rigidly secured to the brackets 3, 3, the framework 1 being adapted to rotate upon them. The bearings 2, 2 upon their inner ends carry a rigid framework 4, adapted to support an electric flasher 5, magnet coils 6, 6 an electric lamp 7 and a reflector 8. The flasher 5 is made in the usual manner for this class of apparatus, and consists of two bars 9 and 10 of material having dissimilar heat co-efficients, which bars are riveted together in such a manner that when heated they are bent downward relatively to the fixed support 11 at their right hand end to bring the movable contact 12 against the fixed post 13. A heating coil 14 is wound around and insulated from the bars 9 and 10, the ends of such heating coil being connected to the support 11 and post 13. The magnet coils 6, 6 are connected together by a yoke 15 supported by the left hand bearing member 2, and each magnet has connected to the outer end of its core a curved pole piece 16, within which an armature 17 rotatably mounted upon the bearing 2 is adapted to swing. A spring 18 normally maintains the armature 17 in the position indicated in Fig. 3, and it is prevented from being moved beyond this position by means of a pin 19 carried thereby engaging a stop 20 secured to the left hand bearing 2. The pole pieces 16 are so conformed that when a current is passed through the windings 6, 6, the armature 17 is rotated around to the right, as shown in Fig. 3, to a vertical position, and in so moving, the pawl 21, by its engagement with the ratchet wheel 22 secured to the framework of the drum 1, advances such drum an amount sufficient to move the next sign or indication into view. In order to accomplish this, the ratchet wheel 22 is provided with the same number of teeth that the drum has advertising or

display faces. In this arrangement of my invention, the advertising signs 23 consist of transparent or translucent sheets of material, upon which the advertising matter is
 5 printed or painted, and to illuminate these as they are successively brought into view, the reflector 8 is so conformed, as shown in Figs. 3 and 5, that the light from the lamp 7 is projected against only one of such signs
 10 23. The reflector 8 serves thus the double purpose of directing the light against a desired sign, and preventing it from illuminating the other signs carried by the drum.

The electrical connection used to control
 15 the operation of the apparatus above described is effected by means of a conductor cord 24, extending from the machine to any suitable source of power, not shown. In practice, it will be found convenient to
 20 secure to the conductor cord a regular plug, adapted to engage the ordinary light socket used in connection with incandescent lighting. Within the drum 1, one conductor 25
 25 11 of the flasher, the other terminal 13 of which is connected by wire 26 with the lamp 7. The other terminal of the lamp 7 is connected by wire 27 with one terminal
 30 of the magnet windings 6. These windings are connected together, and the other terminal of the pair is connected to the other conductor 28 of the cord. From the circuit
 35 just traced, it follows that when the cord 24 is connected to a suitable source of power, the heating coil 14 operates to bring the
 40 contact 12 into engagement with the terminal 13, thus causing the illumination of the lamp 7 and the actuation of the magnet armature 17. This condition continues until
 45 the bars 9 and 10 have cooled, due to the shunting of the current directly through the bars instead of through the heating coil 14. When a certain degree of cooling has
 50 been effected, the bars 9 and 10 spring away from the post 13, and the resistance 14 introduced into the circuit is sufficient to prevent the illumination of the lamp 7 and also
 55 sufficient to prevent the motion of the armature 17 against the action of the spring 18, which for this condition moves the armature 17 around to the left, as indicated in Fig. 3, so that the pawl 21 engages the next tooth
 60 on the ratchet wheel 22. In this way, the several advertising faces of the drum are successively brought into range with the
 65 open side of the reflector 8, and are thus displayed to view.

As shown in Fig. 7, the ratchet mechanism used to operate the drum may be reversed, if desired, so that the energization of the electromagnet moves the armature 17
 60 against the action of the spring 18 to cause the pawl 21 to engage the next tooth of the ratchet wheel 22, in which position the armature and pawl are held against the action

of the spring 18 until the flasher 5 operates to put out the lamp 7. At the instant that this takes place, the electromagnet is de-energized and the spring 18 operates to advance the drum 1 one step. It is to be
 70 understood that for either modification, the magnetization of the magnet produced by the current flowing through the heating coil 14 is not sufficient to move the armature 17 from the position indicated in Fig. 3.

As shown in Fig. 8, the drum is disposed in vertical position and adapted to rotate
 75 intermittently about a column 29, from the top of which brackets 30 may project as desired, such brackets serving to support
 80 lamps 31 in a position to illuminate the outer faces of the sides of the display rack or stand 1, and at the same time screen the light so that it cannot pass directly to the
 85 observer from the lamps 31. The operating mechanism used in connection with this arrangement is the same as that shown and described in connection with Figs. 1 to 4, inclusive. It is to be pointed out that a display
 90 stand constructed as shown in Fig. 8 may be used to support articles of merchandise, as well as advertising signs.

In the modification shown in Fig. 9, the drum 1 is supported in a manner similar to
 95 that shown in Figs. 1 to 4, inclusive, but is adapted in this modification to support, by means of the rods 32 extending longitudinally of the drum, a plurality of swing-
 100 ing signs 33, which are adapted to always remain in vertical position as the drum 1 rotates. In this modification, the brackets 3 used to support the bearings of the drum
 105 1 are extended upward, and have secured at their upper ends the brackets 30 adapted to support and screen the lamps 31, as in the modification shown and described in Fig. 8. The operating mechanism employed in connection with the modification shown in Fig. 9 is the same as that shown and described in
 110 Figs. 1 to 4, inclusive.

While I have shown my invention in the particular embodiments herein described, I do not, however, limit myself to these arrangements, but desire to claim any modifications that may suggest themselves to those
 115 skilled in the art.

What I claim is:

1. In an advertising device, the combination of a rotatable display drum, a framework within such drum, an electromagnet
 120 carried by said framework, an armature for said electromagnet mounted to operate about the axis of the drum, a rotary member secured to the inside of said drum upon the axis thereof, said rotary member having a plurality of engaging surfaces, and a
 125 pawl on said armature for engaging with said engaging surfaces.

2. In an advertising device, the combination of a rotatable display drum, a stationary
 130

framework within such drum, an electro-
magnet secured upon said framework, an
armature for said electromagnet mounted
upon and being capable of oscillation on the
5 axis of said drum, a ratchet carried by said
drum on the inside thereof upon its own
axis, and a pawl carried by said armature in
engagement with said ratchet whereby in-
termittent energization of said electromag-

net will result in progressive rotation of 10
said drum.

In witness whereof, I hereunto subscribe
my name this 18th day of June A. D. 1909.

OLIVER C. DENNIS.

Witnesses:

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LEONARD E. BOGUE.