

J. J. WOOLFENDEN.
ADVERTISING DEVICE.
APPLICATION FILED AUG. 14, 1911.

1,034,182.

Patented July 30, 1912.

2 SHEETS-SHEET 1.

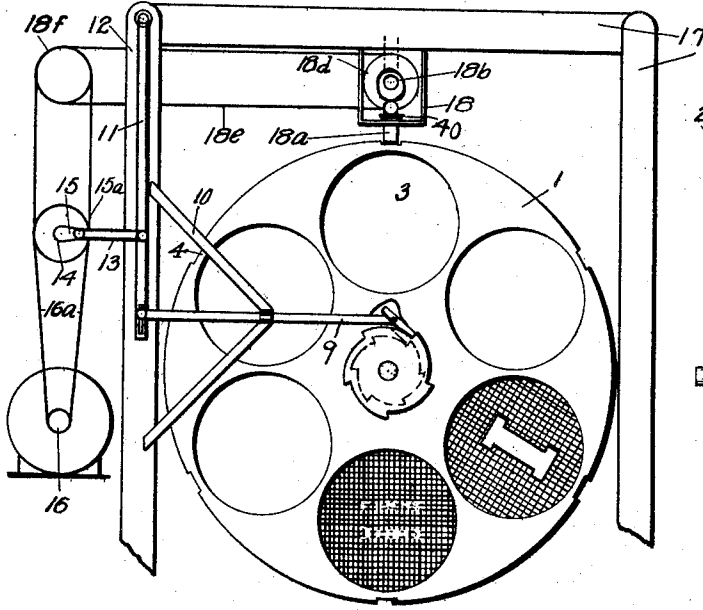


FIG. 1.

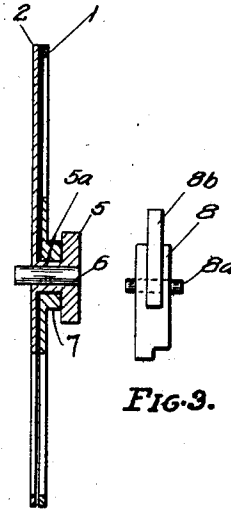


FIG. 2.

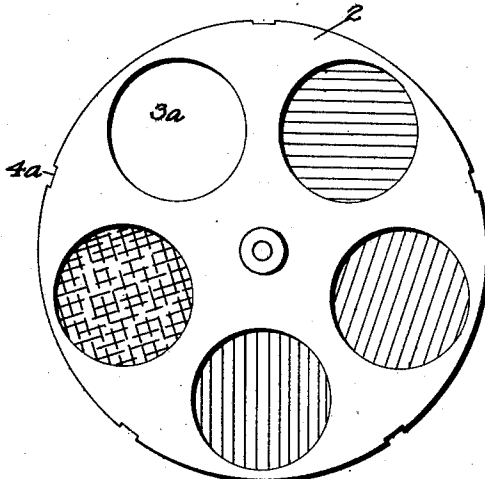


FIG. 4.

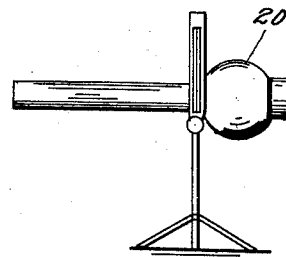


FIG. 5.

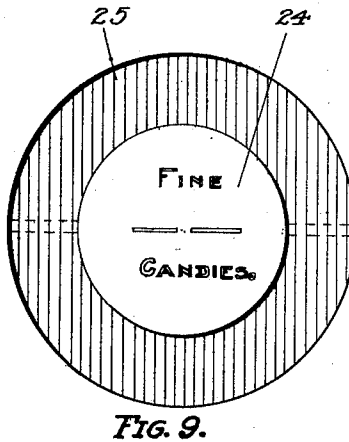
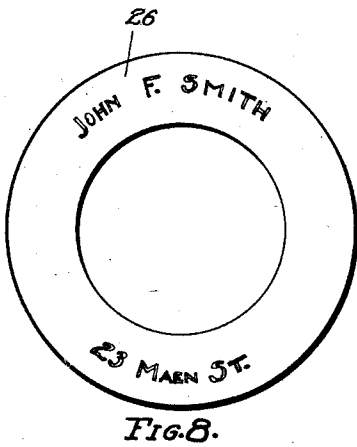
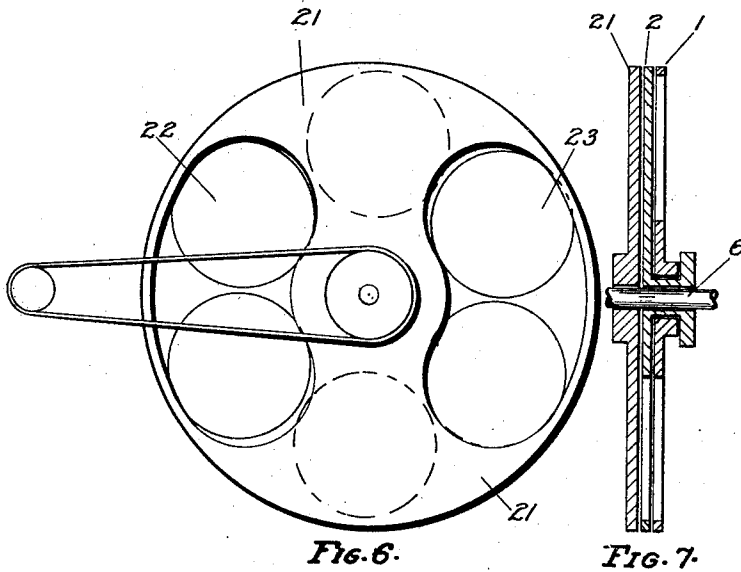
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UNITED STATES PATENT OFFICE.

JOHN J. WOOLFENDEN, OF DETROIT, MICHIGAN.

ADVERTISING DEVICE.

1,034,182.

Specification of Letters Patent.

Patented July 30, 1912.

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To all whom it may concern:

Be it known that I, JOHN J. WOOLFENDEN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Advertising Devices, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to advertising devices operated by the use of light; it has for its object an advertising device which will throw the display letters or symbols upon a surface and which automatically changes the colors of the light forming the letters or symbols.

In the drawings:—Figure 1, is a front elevation of the device with the shutter removed. Fig. 2, is a cross section through the revolving disks of Fig. 1. Fig. 3, is a detail of the pawl. Fig. 4, is a front elevation of the color carrying disk. Fig. 5, shows the apparatus in place on a lantern. Fig. 6, is a rear elevation of the shutter. Fig. 7, is a cross section showing the shutter and the revolving disks. Fig. 8, is a view of a stencil used in the front disk aperture. Fig. 9, is a view of a stencil used in a rear disk aperture. The two latter figures are modified forms.

The apparatus consists of two revolving disks 1 and 2; the disk 1 has six apertures 3, and the disk 2 has five apertures 3^a. Above each one of the apertures 3 of the disk 1 which I prefer to make circular, is a notch 4. On the periphery of the disk 2 opposite the circular apertures 3^a are the notches 4^a; these notches 4^a are located by a line drawn through the center of the aperture 3^a and the center of the disk intersecting the periphery of the disk at the opposite side of its center from the aperture 3^a. A five toothed ratchet wheel 5 is attached to a sleeve 5^a which rotates on the shaft 6, that supports the disks. The sleeve 5^a is attached to the rear disk 2. A six toothed ratchet wheel 7 is attached to the front disk 1 and the two are rotatable on the sleeve 5^a. A pawl 8 pressed into engagement by the spring 8^b is pivoted on a pivot 8^a carried in the bifurcated end of the connecting rod 9 which is held in place and guided by the

bracket 10, engages the ratchet teeth of both ratchet wheels; for this purpose, the tip of the pawl has one side extended farther than the other. The connecting rod 9 is pivoted to the rocking rod 11 which is pivotally hung from the standard 12. A connecting rod 13 is pivoted to the rocking rod 11 and also to the crank 14 which is revolved by the shaft 15. The shaft 15 is rotated by the pulley 15^a connected with a power shaft 16 by a belt 16^a. The upright 17 suspends over the top of the disks a bracket 18 in which a plunger 18^a is guided. At the upper end of this plunger a cam 18^b is attached to a pulley 18^d which is driven by the belt 18^e connecting with the pulley 18^c, which in turn has a belt connection with the shaft 14. The pulleys are arranged to drive the cam one revolution while the pawl is making one complete oscillation. It is thus seen that when the cam passes the head of the plunger that the plunger is drawn up by the spring 40 surrounding the same and fastened to the bracket 18. It is then free from the disk peripheries. When the cam again contacts the plunger-head, the plunger 18^a is forced down against the disk periphery and engages in the notches 4 and 4^a, thus holding the disks.

The apertures in the disks may be used to obtain a variety of results by using colored glass, colored mica, stencils and other light affecting mediums, but the result which is most particularly intended by this apparatus is an advertising device; to that end, I provide the apertures of one of the disks, say, the front disk 1 with stencils in which letters or symbols are cut for advertising display. The apertures of the rear disk 2 I provide with mica or colored glass, different colors for each aperture. It will be seen that, as the rocking rod 11 is oscillated and the pawl caused to engage the ratchet teeth, that the pawl pushes two ratchet teeth, one of each ratchet wheel at each oscillation and that at each oscillation, an aperture of the front disk travels to the position directly below the shaft 6 where the light streams through, and it will also be seen that at each oscillation of the pawl an aperture 3^a of the rear disk 2 travels to the position directly below the shaft 6 and registers with the aperture 3 of the front disk 1. This registry is brought about by the aforementioned notches 4 and 4^a and

the action of the plunger 18^a. It is obvious that at each revolution of the two disks that the disk with the five apertures gains one aperture on the six apertured disk. It being assumed that each one of the apertures of the front disk carries a different arrangement of letters or advertising signs, it is clear that the same letters or the same advertising sign will not be displayed twice with the same colors until thirty combinations of letters and colors have been thrown upon the surfaces to be illuminated. The light is thrown through the lower registering aperture by a lantern or an electric light 20.

Fig. 6 shows a shutter which may be used in connection with the apparatus so that the light may be shut off during the changes in the registering apertures. A number of forms of shutters may be used and the one shown in Figs. 6 and 7 is quite useful in this connection. It consists of a disk 21 mounted on the shaft 6 behind the disks 1 and 2. In its face are cut a pair of elongated apertures 22 and 23 which are spaced by the web portion of the disk. By properly calculating the gearing adapted to drive the shutter so that the shutter revolves one-half revolution for every complete oscillation of the pawl, the web portion of the shutter disk may be brought in front of the light stream during the period that the apertures of the disks 1 and 2 are changing.

The symbols in combination may be varied, and also the color of the light thrown through the combination, by the stencils and glass or mica disks shown in Figs. 8 and 9; thus, in Fig. 8 the stencil is in form of a ring 26, while the inclosed circular portion leaves the glass or mica unobstructed. In Fig. 9 the stencil is in the center in circular form and fastened to the colored glass or mica which transmits its color through the stencil 24. This leaves the outer ring 25 of colored glass or mica unobstructed. It will, therefore, be seen that if these translucent plates shown in Figs 8 and 9 are mounted in the apertures of the disks 1 and 2 and revolved by the mechanism shown in the preceding figures, that there will be the varied combinations of symbols by reason of the circular stencil combining with different ring stencils at successive appearances within the light zone and that there will be successive colors for the ring stencil at successive appearances within the light zone by reason of a different ring 25 being behind this stencil, it being assumed that the plate shown in Fig. 9 is carried by the rear disk and the plate shown in Fig. 8 is carried by the front disk.

It is apparent that many changes may be made with respect to this aperture without departing from the spirit of my invention, for instance, it is not necessary that the ratios of apertures be 5 to 6 but any other convenient ratio may be used and the position of the stencils and colors may be altered as may also the number of disks used to form a multiplicity of colors.

What I claim is:—

1. In an advertising device, the combination of a plurality of stencils having letters or advertising symbols cut therein, means for throwing light through the said stencils successively, and means for changing the color of said light and for varying the combination of color and stencil at each appearance of said stencil in the light zone.

2. In an advertising device, the combination of a plurality of rotatable disks, the disks varying in the number of apertures, means for causing the apertures, one from each disk to register at a predetermined point, means for throwing light through the apertures at such point, and means for revolving the disks whereby the same set of apertures of the disks do not register until a predetermined number of revolutions have been made, substantially as described.

3. In an advertising device, the combination of a plurality of stencils bearing different symbols, a number of the stencils being combinable into one display and means for varying both the combination of the stencils and the light thrown through the stencils, substantially as described.

4. An advertising device having in combination means for successively throwing on a surface a series of advertising symbols with one color, means for successively throwing on a surface a second series of advertising symbols, and means for varying the combinations of symbols of the two series, substantially as described.

5. An advertising device having in combination means for successively throwing on a surface a series of advertising symbols with one color, means for successively throwing on said surface a second series of symbols, and means for varying the combinations of symbols of the two series and the color of each symbol of said second series of symbols, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

JOHN J. WOOLFENDEN.

Witnesses:

STUART C. BARNES,
HUBERT E. SLOMAN.