April 5, 1932. E. G. ROWLEY 1,852,028

SIGN APPARATUS

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Fig. 1.

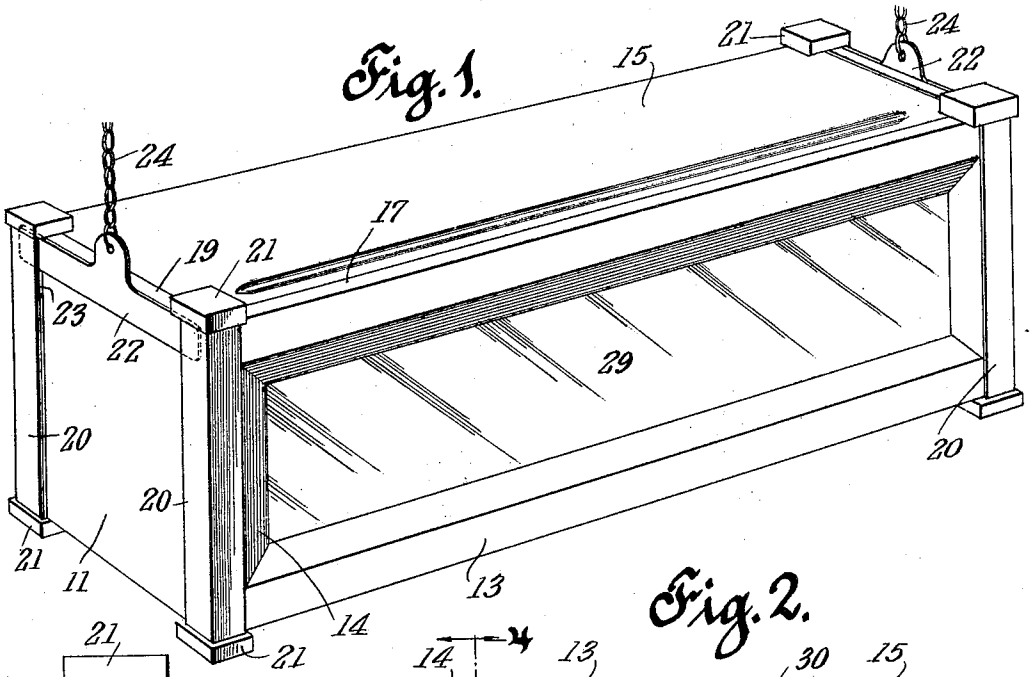


Fig. 2.

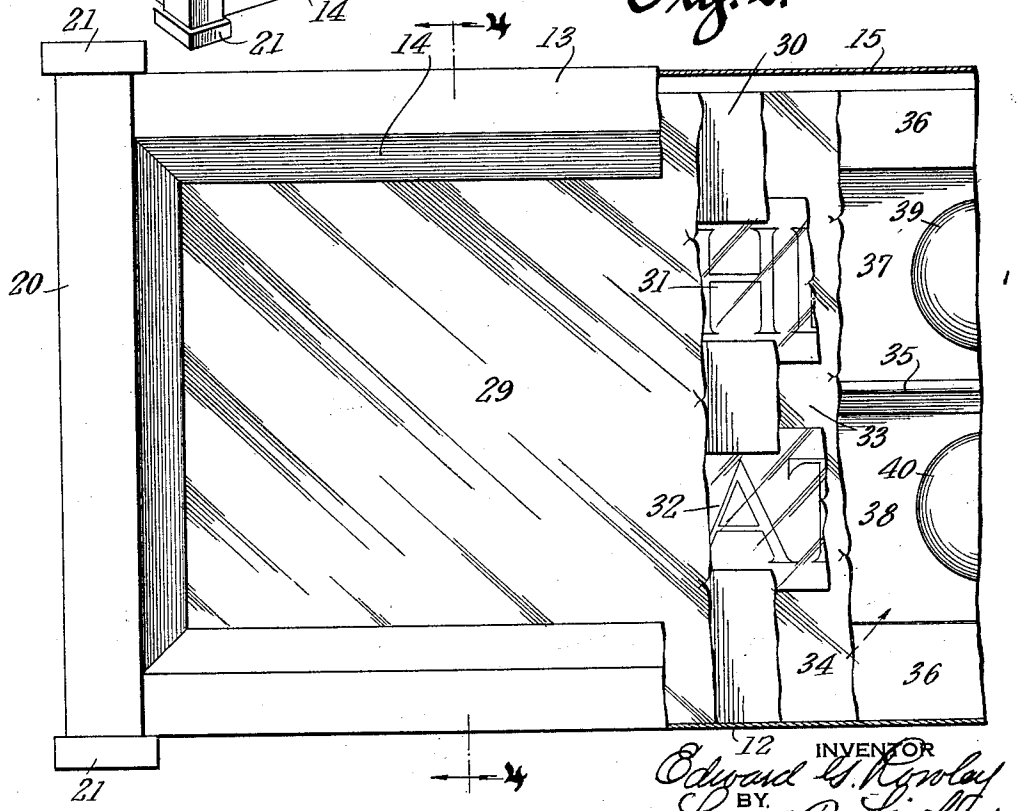


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Fig. 3.

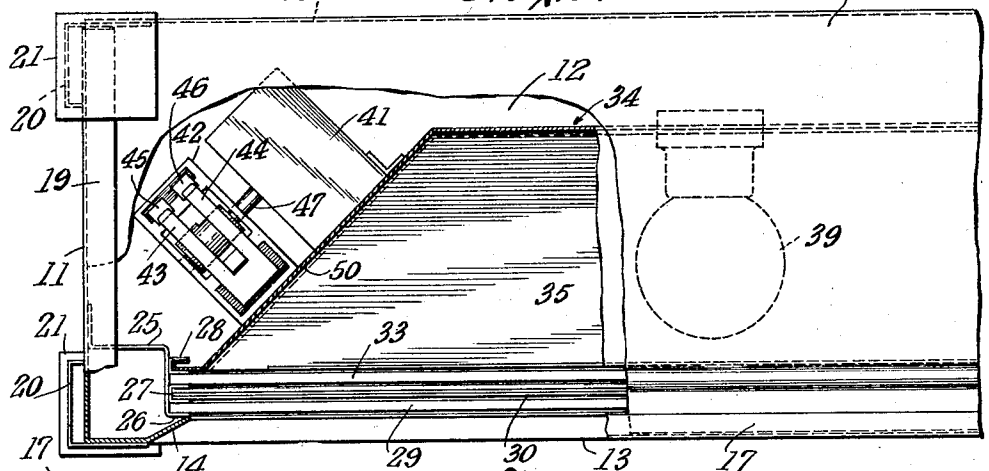



Fig. 4.

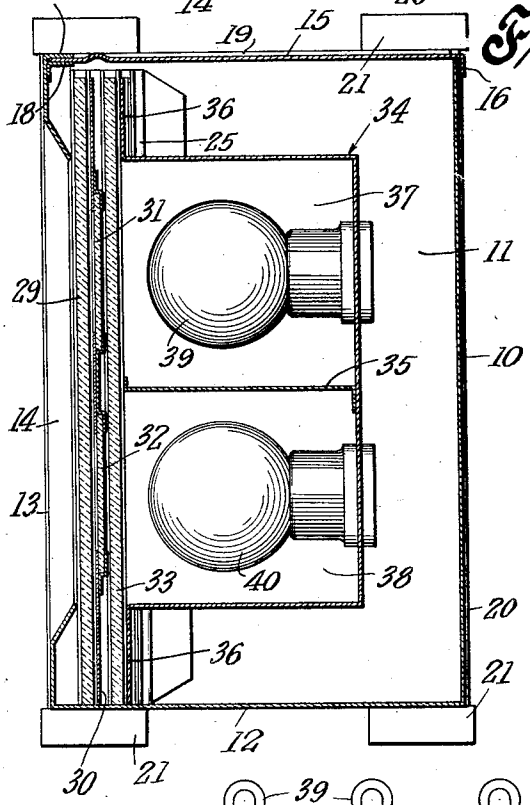



Fig. 5.

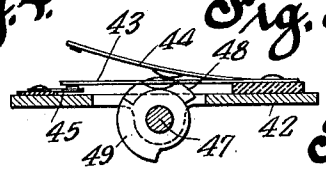
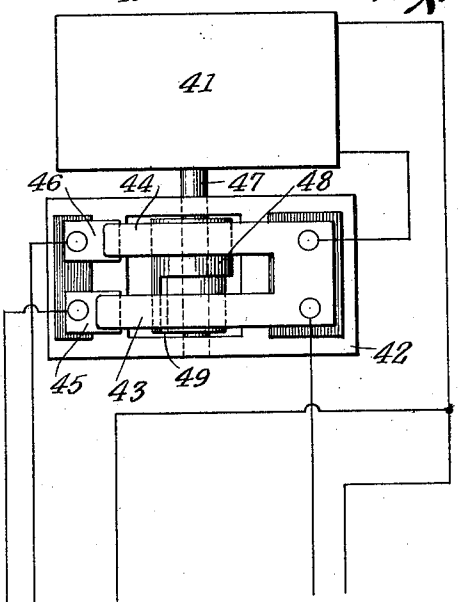



Fig. 6.

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# UNITED STATES PATENT OFFICE

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## SIGN APPARATUS

Application filed April 14, 1931. Serial No. 529,906.

This invention relates to advertising sign devices, and more particularly to improvements which facilitate the manufacture of animated sign devices and enable such devices to be more economically operated.

In the merchandising of commodities, advertising is an important and expensive item. Advertising by signs is very effective and popular, but such signs are expensive, because of the cost of manufacture and the cost of upkeep and operation.

It is an object of this invention to provide a sign which may be readily constructed and assembled at a low cost.

A further object is the provision of an animated sign which may be operated by a small synchronous motor of the type used for electric clocks and which consume an inappreciable amount of power, thus rendering the operation of the sign economical.

These and other advantageous objects, which will later appear, are accomplished by the simple and practical construction and arrangement of parts hereinafter described and exhibited in the accompanying drawings, forming part hereof, and in which:

Figure 1 represents a perspective view of the sign device.

Figure 2 represents a partial elevational view of the device, with parts broken away.

Figure 3 represents a top view of the device with a part of the cover removed.

Figure 4 represents a sectional view taken on line 4—4 of Figure 2.

Figure 5 represents a view showing details of a cam operated switch used in the device.

Figure 6 represents a wiring diagram of the electrical circuit used in the device, and showing details of the cam operated switch.

Referring to the drawings, the sign device is shown to include a casing having a rear wall 10, side walls 11, a bottom 12 and a front wall 13 having a portion cut out to provide a window, the front wall being bevelled at 14 adjacent the edges of the window.

At its upper edge the front wall has a right angled inwardly bent flange 17, which cooperates with a spaced angle 18, attached to the front wall to provide a support for the forward edge of a slidable cover 15, which has a downturned flange 16 at its rear edge to limit forward movement of the cover. The side walls 11 are similarly provided with inturned flanges 19 which assist in guiding the cover 15.

Columns 20 having heads 21 are mounted at the four corners of the casing. The columns 20 have slots 23 to receive the ends of bars 22 to which are attached a chain 24 to enable the casing to be suspended from above. The slots 23 are of greater length than the width of the bars 22, the latter being of greater length than the space between the columns, so that when the bars are inserted in the slots and engage the upper heads 21, they are securely held in position for the purpose of suspending the casing.

At opposite sides of the window, angles 25 are attached to the front and side walls, each angle having a flange 26 adjacent the bevelled portions 14. Attached to the angles are channels 27 and 28, spaced apart, so as to form with the flange 26, four guideways, (see Figure 3) to receive, respectively, a sheet of glass 29, and a frame 30 upon which the advertising matter is carried, a second sheet of transparent glass 33, and finally, in channel 28, is received the side edges of a chassis 34 which carries a plurality of incandescent lamps 39 and 40, and other structure hereinafter described.

The frame 30 is provided with guideways into which are slid strips 31 and 32 which bear the advertising matter. The strips 31 and 32 may be of opaque material with transparent figures thereon, or the strips may be of transparent material with opaque figures thereon as may be desired.

The chassis 34 is provided with a centrally positioned shelf 35, on top and bottom members, all being trapezoidal in shape and connected by side walls 50, as shown in Figure 3, the top and bottom members having outturned flanges 36 (see Figure 4).

The shelf 35 divides the chassis into two compartments 37 and 38, in which are carried respectively a plurality of incandescent lamps 39 and 40, connected in series and respectively to conductors 46 and 45 of a switch device, having spring fingers 44 and 43, normally in

contact with conductors 46 and 45. The fingers 44 and 43 are raised, respectively, by cams 48 and 49, the cams being so proportioned that a circuit will be made first through lamps 39, and after an interval, through lamps 40, the circuit being maintained through lamps 39.

After an interval when both sets of lamps are lighted, the cams move to simultaneously break the circuit through both sets of lamps. In this manner, reading matter on slide 31 is first displayed and will continue to be displayed during the displaying of the reading matter on slide 32, after which both displays simultaneously disappear.

The cams are fixed to a shaft 47, which is driven by a small synchronous motor 41 of the type commonly used for synchronous electric clocks and which consume an inappreciable amount of power. As far as I know, I am the first to adapt such a synchronous motor for use in electric sign apparatus and take advantage of the extremely low cost of operating such motors.

The switch and cam structure is mounted on a bracket 42, which together with the motor 41, is mounted on the side wall 50 of the chassis. It will be readily appreciated that this arrangement enables a convenient assembly of the sign devices as the motor and all operating parts are compactly carried by the chassis, and the latter is independent of the casing, it being only necessary to slide the chassis into position in the channels 28. Obviously, in quantity production, the casing and associated parts may be constructed independently of the chassis, and the sign device completely assembled progressively in the manner in which automobiles are assembled in quantity production.

It is obvious that while I have described the chassis as having but two compartments and two sets of incandescent lamps, it may be readily constructed with three, four or more compartments and sets of lamps, as may be desired without resort to invention, in order to illuminate three, four or more strips bearing advertising matter. The shelf 35 obviously, prevents illumination of the slide 32 until the lamps 40 are lighted.

From the above description, it is seen that I have provided a sign device which may be conveniently, readily and economically constructed, and which may be operated at an inappreciable cost.

The foregoing disclosure is to be regarded as descriptive and illustrative only, and not as restrictive or limitative of the invention, of which obviously an embodiment may be constructed including many modifications without departing from the general scope herein indicated and denoted in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a sign device, a casing, a plurality of guideways attached to the casing, a frame bearing a plurality of strips of advertising matter and slidably positioned in a pair of the guideways, a chassis having a plurality of compartments and having means to enable it to be slidably positioned in a pair of the guideways, incandescent lamps mounted in the compartments of the chassis, a switching device to periodically make and break an electrical circuit through the lamps, and a synchronous motor to actuate the switching device, said motor and switching device being mounted on the chassis.

2. In a sign device, a casing having a column at each of its four corners, slots in said columns, a cross bar slidably positioned in the slots in each pair of columns, means on the columns to limit upward movement of the cross bars, and a chain attached to the cross bars to enable the casing to be suspended from above.

3. In a sign device, a casing having a pair of guideways mounted therein, a chassis, incandescent lamps mounted on the chassis, means on the chassis to enable it to be slidably positioned in the guideways, and means mounted on the chassis to periodically make and break an electrical circuit through the lamps.

This specification signed this 13th day of April, 1931.

EDWARD G. ROWLEY.