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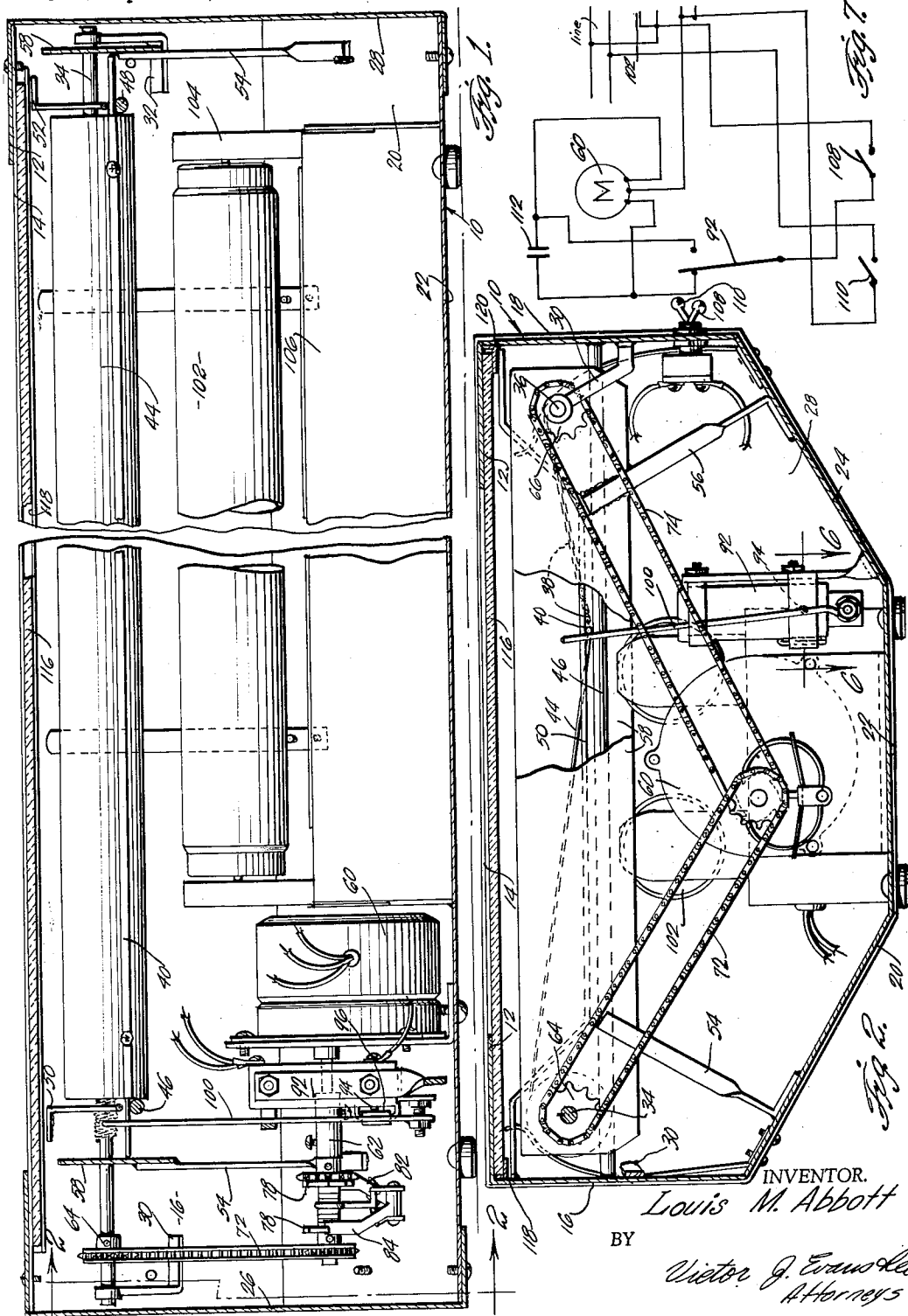
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COLOR ILLUMINATING DEVICE

Filed April 18, 1962

2 Sheets-Sheet 1



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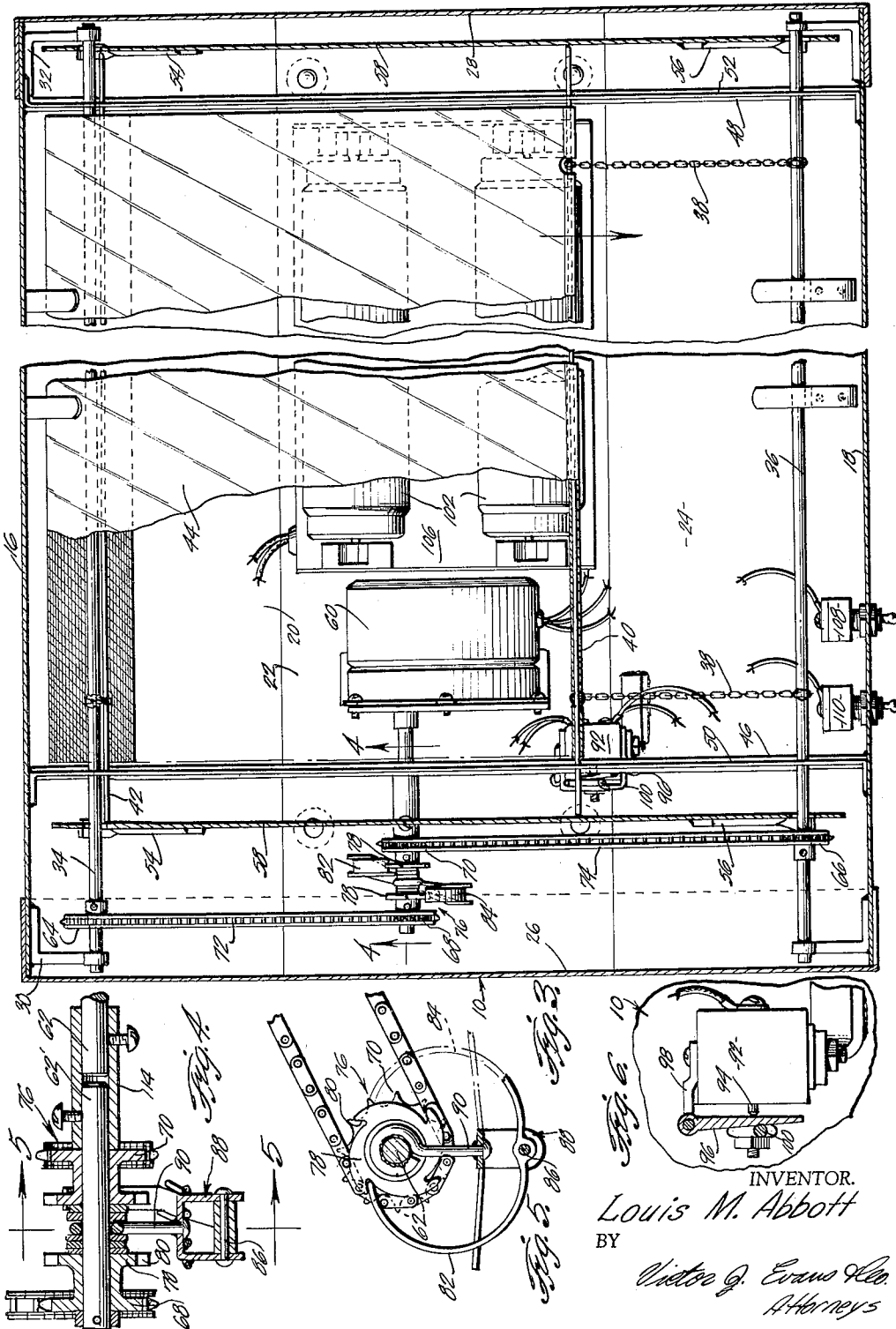
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1

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COLOR ILLUMINATING DEVICE

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1 Claim. (Cl. 240—3.1)

The present invention relates to a color illuminating device for illuminating in color rooms, theaters, skating rinks, swimming pools, and the like.

An object of the present invention is to provide a device for providing colored illumination in any area such as a residence, theater, swimming pool, gymnasium, or the like which is automatic in operation, one which may be employed to repeatedly change the color of the illumination in cycles, one which may be employed to illuminate an area in any particular color desired, and one which is highly effective in action.

Another object of the present invention is to provide an illuminating device which lends itself to either use with fluorescent tubes or incandescent bulbs, one which may be employed to rapidly change the color or to have a slow change from one color to another, one which may be manufactured in quantity at reasonable cost, and one which is foolproof in operation.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawings, in which:

FIGURE 1 is an elevational view of the device of the present invention with the case thereof broken away to show the interior of the case,

FIGURE 2 is a view taken on the line 2—2 of FIGURE 1,

FIGURE 3 is a plan view with portions broken away, FIGURE 4 is a detail view taken on the line 4—4 of FIGURE 3 and on an enlarged scale,

FIGURE 5 is a view taken on the line 5—5 of FIGURE 4,

FIGURE 6 is a view on an enlarged scale, taken on the line 6—6 of FIGURE 1, and

FIGURE 7 is a schematic view showing the electrical circuit employed in the present invention.

Referring in detail to the drawings, in which like numerals indicate like parts throughout the several views, a casing or case 10 is shown in section in FIGURE 1 and in FIGURE 2 and it comprises a front wall 12 having an opening 14 therein, side walls 16 and 18, and back walls 20, 22 and 24, as shown most clearly in FIGURE 2.

In FIGURE 1, end walls 26 and 28 are shown joining the adjacent ends of the side walls 16 and 18 together.

Carried on the side walls 16 and 18 are pairs of brackets 30 and 32 with the brackets 30 adjacent the end wall 26 and the brackets 32 adjacent the end wall 28.

Rotatably supported in one pair of brackets 30 and 32 is a rotatable shaft 34 and rotatably supported in the other pair of brackets is another shaft 36.

As shown in FIGURE 3, with reference to the shaft 36, there is a chain 38 secured by one end to each of the shafts 34 and 36 inwardly of each end of the latter. The other end of each chain 38 associated with each shaft 34 or 36 is secured to a bar 40, 42 between which is stretched a sheet of transparent colored material as at 44. The sheet 44 is shown wound upon the shaft 34 for most of its length in FIGURE 3. Adjacent the side edges of the sheet 44 and having their ends secured in the side walls 16 and 18 are support rods 46 and 48 along which slide the bars 40 and 42 as the sheet 44 is unrolled from one shaft 34 to the other shaft 36 and reversed.

Above and spaced from the rods 46 and 48 are other

2

hold down rods 50 and 52 also having their ends anchored in the side walls 16 and 18, as shown in FIGURE 3.

Upwardly sloping posts 54 and 56, adjacent each end of the bars 40 and 42 support on their upper ends plates 58 which serve as stops for the bars 40 and 42 and prevent their moving longitudinally with respect to the associated shafts 34 and 36.

A motor with a built-in speed reducer is indicated by the numeral 60 and it has its drive shaft 62 operatively connected to the shafts 34 and 36. The means of connection of the shaft 62 to the shafts 34 and 36 includes sprockets 64 and 66 on the shafts 34 and 36, respectively, and sprockets 68 and 70 which are freely rotatable on the shaft 62. A chain 72 joins the sprockets 64 and 68 and another chain 74 joins the sprockets 66 and 70.

An important feature of the invention resides in a reversing clutch arrangement or assembly 76 by means of which the shaft 62 drives either the shaft 34 or the shaft 36.

The drive means for the shafts 34 and 36 includes a disc 78 secured to the inner face of each of the sprockets 68 and 70, as shown in FIGURE 4. Each disc 78 has tangentially facing notches 80 which are engaged by the ends of springs 82 and 84 which have their other ends formed integrally and connected to a pin 86 extending between the legs of a U-shaped bracket 88. The bight of the bracket 88 is secured to one end of a bar 90 which is formed to an eye formation at its other end and is circumposed about the shaft 62 and fixedly secured thereto by soldering or other conventional means, as shown in FIGURES 4 and 5.

The notches 80 of the discs 78 face in opposite directions and rotation of the shaft 62 in one direction will result in either the spring 82 or the spring 84 having its free end received in the notch 80 of the associated disc 78 to thereby drive the associated sprocket 68 or 70.

The motor 60 is reversible and means is provided operatively connected to the sheet 44 for periodically reversing the direction of travel of the sheet 44 by reversing the motor 60.

This means includes a single-throw double-pole switch 92 (FIGURE 6) having an operating button 94. A tapering arm 96 is mounted on a bracket 98 carried by the switch 92 and is movable toward and away from the button 94. An upright arm 100 is pivotally connected to the lower end of the switch 92, as shown in FIGURE 1, and is engageable with the arm 96 and effective to move the arm 96 responsive to movement of the arm 100 toward and away from the side wall 16.

The arm 100 has its upper end portion in the line of travel of the bars 40 and 42 and engaged by the bars 40 and 42 when the sheet 44 travels to first wind itself on the shaft 34 and then travels in the other direction to wind itself on the shaft 36.

A source of illumination is provided for the device of the present invention and in the preferred form this consists in a pair of fluorescent tubes 102 mounted in the conventional fluorescent tube sockets 104 which project from the ballast shielding casings 106, all of conventional construction.

Carried on the outside of the case 10 are switches 108 and 110 which are shown in FIGURE 7 to be in circuit with the motor 60 and the tubes 102.

In operation, the switch 110 may be closed to light the tubes 102 without energizing the motor 60. When the switch 108 is closed the motor 60 and the tubes are both energized and the motor will travel first in one direction and then in the other responsive to the actuation of the switch 92 by the arm 100. The bars 40 and 42 being at the ends of the sheet 44, which may be of any length, operate the switch 92 to reverse the motor 60 when the sheet

3

has traveled completely over the tubes 102 from one end to the other of the sheet 44.

It is intended that the sheet 44 be made up of panels of different colors with each of them transparent so that the area to be illuminated may be bathed with colored lights as desired.

In FIGURE 4 the shaft 62 is shown to be composed of the motor shaft 62 and extension shaft 62' secured together by a sleeve 114. This may be changed by extending the shaft 62 by any means desirable. Other changes may include other clutch arrangements and other switch arrangements as long as the sheet 44 may be automatically reversed when it reaches the end of its travel in either direction.

A glass or transparent plastic cover 116 extends over the upper open face of the case 10 and is supported by angle brackets 118 and 120 on the upper ends of the side walls 16 and 18, respectively. This permits the device to be used in a swimming pool wall or adjacent a water fall for decorative purposes.

The case 10 may be formed in various shapes such as triangular so as to fill a corner if desired or it may take any shape found practical for the purpose intended. Also, size may be varied so that the device of the present invention can cover large areas as well as small areas. Other changes and modifications in the device are contemplated and while only a preferred embodiment of the invention is herein shown, other embodiments are contemplated within the terms of the invention as set forth in the appended claim.

What is claimed is:

In an illuminating device including a casing, a source of illumination within said casing, a pair of rotatable shafts disposed one on each side of said source, a reversible motor mounted within said casing, a drive shaft projecting from said motor, a single-throw double-pole switch electrically connected to said motor, and an elongated sheet having the portion adjacent one end wound on one of said shafts and having the other end connected to

4

the other shaft for winding thereon responsive to rotation of said other shaft, a sprocket fixedly secured to each of said rotatable shafts, a pair of sprockets arranged in spaced relation and freely rotatable on said drive shaft, a chain drivably connecting each of said rotatable shaft sprockets to one of said drive shaft sprockets, a disc carried by each of said drive shaft sprockets, each of said discs being provided with tangentially facing notches, the notches of one of said discs facing in the opposite direction to the notches of the other of said discs, a U-shaped bracket connected to the portion of said drive shaft between said discs for rotation therewith, a pin extending between the legs of said bracket and carried thereby, a pair of springs each having one end connected to said pin and each having the other end receivably engaged in the notches of the adjacent one of said discs, one of said springs being operable to drive one of said drive shaft sprockets in one direction responsive to rotation of said drive shaft in one direction and the other of said springs being operable to drive the other of said drive shaft sprockets in the other direction responsive to rotation of said drive shaft in the other direction, and means carried on each end of said sheet operatively connected to said switch operable to actuate said switch in one direction responsive to traveling movement of said sheet when wound upon one of said rotatable shafts and operable to actuate said switch in the other direction responsive to winding of said sheet upon the other of said rotatable shafts.

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