June 15, 1948. R. A. McCALLUM 2,443,510

COLOR-PATTERN GENERATING DEVICE

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Fig. 1.

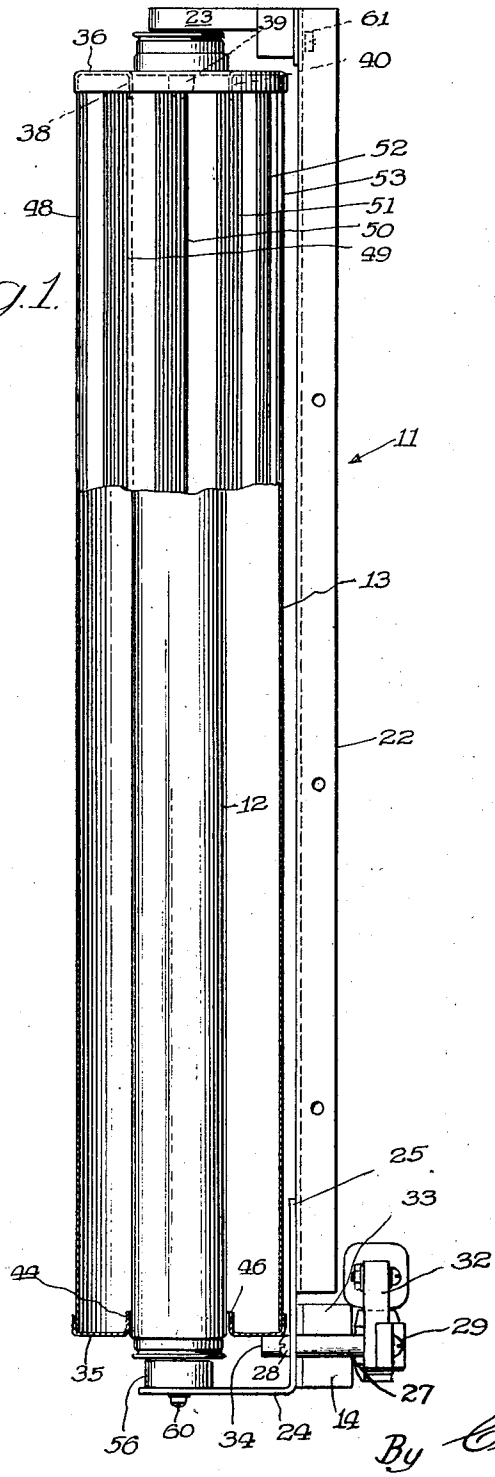
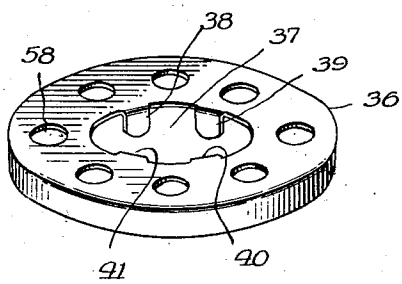


Fig. 2.



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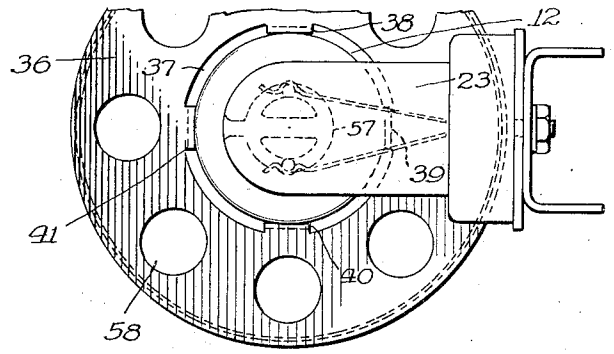


Fig. 3.

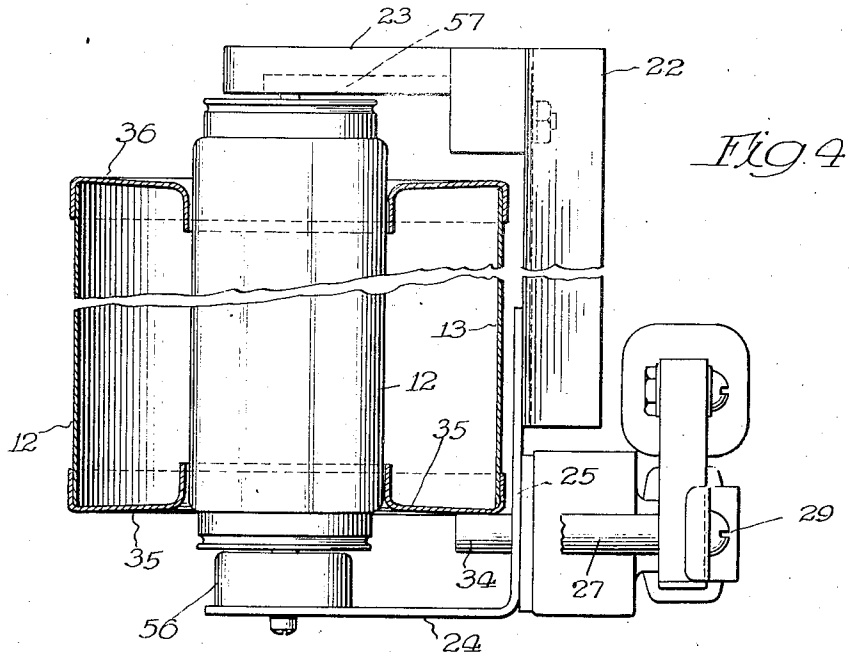


Fig. 4

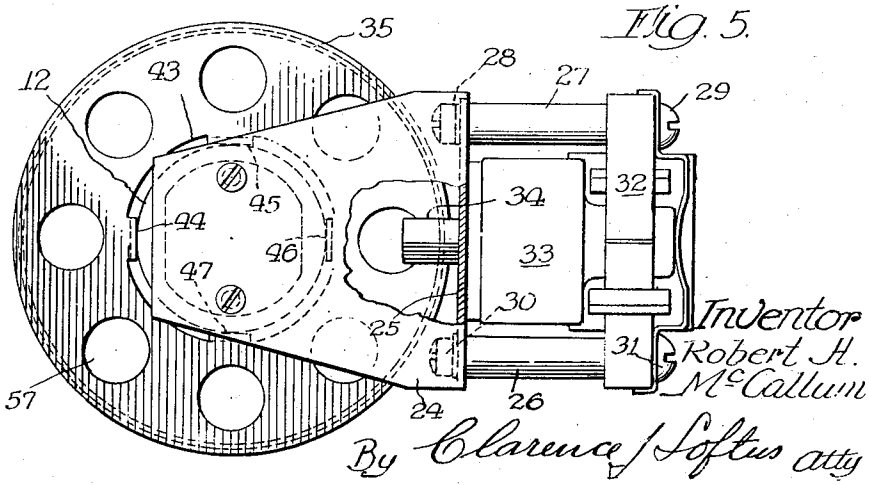


Fig. 5.

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UNITED STATES PATENT OFFICE

2,443,510

COLOR-PATTERN GENERATING DEVICE

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2 Claims. (Cl. 240—10.1)

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The present invention relates to color-pattern generating machines for producing variegated rotating color patterns.

Color wheels are used in connection with devices and displays for arresting and attracting the attention of the public.

Color-pattern generators of the prior art generally comprise a fluorescent tube lamp, a rotating transparent barrel on which various colors are painted, a separate mounting on which the barrel is rotatably secured, a speed reducer, a driving motor and a mounting for the lamp. Such generators suffer from three major limitations: First, separate mountings must be provided for the barrel and the lamp, with resulting complexity in the arrangement of the parts; second, the lamp and barrel are so arranged that the barrel must be removed from its mounting before a lamp can be replaced; third, the tube leads are brought out through apertures in the top and bottom members of the rotating barrel, thereby presenting an unsightly appearance and creating all the hazards attendant on proximity of flexible leads to moving parts.

An object of the present invention is to provide a color-pattern generating machine or color wheel which has such arrangement that the lamp may be easily removed or replaced.

Another object of the invention is to provide a very simple, inexpensive, easily assembled and installed color wheel.

A further object of the invention is to provide a color wheel which requires only one mounting for both the tube and the barrel.

It is also an object of the present invention to provide a color wheel having no exposed flexible electrical leads and no complicated arrangements for bringing the leads out from the lamp to the power supply.

Other advantages and capabilities of the invention will become apparent as the following description of the accompanying drawings, in which there is disclosed one illustrative embodiment of the invention, proceeds.

In the drawings:

Fig. 1 is a front view of a preferred form of color wheel in accordance with the invention, certain parts being broken away to show the barrel interior;

Fig. 2 is a perspective view of the top end member of the barrel;

Fig. 3 is a top view of the novel color wheel provided in accordance with the invention;

Fig. 4 is a front view showing the interior construction in detail; and

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Fig. 5 is a bottom view of the Fig. 1 color wheel.

As clearly shown in Fig. 1, there are provided in accordance with the invention a mounting 11 for detachably holding a fluorescent lamp 12, a transparent cylinder 13 rotatably and concentrically mounted on the lamp, on which cylinder one or more colors are painted or dyed, and a friction drive 14.

The outstanding advantages of the construction provided in accordance with the invention are as follows: First, only one mounting is required and the separate barrel mounting is dispensed with; second, lamp replacement or barrel replacement is readily and quickly accomplished; third, electrical leads are not brought out in proximity to moving parts; fourth, the novel construction is very cheap.

Specifically, mounting 11 consists of a vertically extending member 22, an upper tube supporting bracket 23, including a socket 57 and a lower tube supporting bracket 24 including a socket 56. Members 22, 23, 24, 55, 56 essentially comprise a standard fluorescent tube mounting and further description thereof is deemed unnecessary. Secured to an upstanding side 25 of lower member 24 by spacers 26, 27 and screws 28, 29, 30 and 31 is a mounting 32 for driving motor 33. Motor 33 may be of any suitable type such as a clock motor. The motor has a shaft 34 which projects through an aperture in side 25 and frictionally abuts the bottom member 35 which is rigidly secured to and carries barrel 13, whereby the rotation of shaft 34 causes the barrel to rotate about lamp 12. Secured to the other or top end of the barrel is a top member 36.

Member 36 has a concentric aperture 37 formed with integral downwardly projecting tongues 38, 39, 40 and 41, the free ends of which tongues rotatably embrace tube 12. Similarly, barrel end member 35 is formed with a central aperture 43 and integral upwardly projecting tongues 44, 45, 46 and 47, the latter tongues also rotatably embracing tube 12. By these expedients the barrel is rotatably mounted on the tube 12 itself and the necessity for a separate barrel mounting is disposed with.

Various colors indicated at 48, 49, 50, 51, 52 and 53 are painted on or dyed in the barrel, which barrel may be made of any suitable material, preferably a transparent plastic material. Members 35 and 36 are suitably apertured as indicated at 57 and 58 to provide for circulation of air within the interior of the barrel and removal of heat generated by lamp 12.

The color wheel is set up for operation by slid-

ably placing the subassembly of members **13, 35, 36** on tube **12** and then inserting the tube in the mounting **24, 22, 23**, in the usual manner. Upon starting of motor **33** barrel **13** rotates and produces variable pleasing and attractive color effects as the light shines through the various color patterns in succession. Shaft **34** not only causes the barrel to rotate but also restrains it against downward motion. The leads are brought out through the members **23** and **24** and thus the problem of bringing them out through the ends of the barrel is avoided.

While there has been shown and described what is at present considered to be the preferred embodiment of my invention, it will be obvious to those skilled in the art that various changes and substitutions of equivalents may be made without departing from the true scope of the invention and it is accordingly intended in the appended claims to cover all such changes and modifications as fall within the true and proper scope of the invention.

Having thus described my invention, I claim:

1. A color pattern generating device for producing variegated rotating color patterns from an electric lighting source, comprising a vertically extending member having an upper tube supporting bracket including an electrical socket, and a lower tube supporting bracket including a mating socket; a fluorescent lamp tube extending between the upper and lower sockets, and a color wheel consisting of a translucent colored sleeve of substantially greater diameter than the fluorescent lamp tube and substantially co-extensive therewith, said colored sleeve being rotatably mounted on the fluorescent lamp tube by a pair of identical but oppositely disposed fittings, each having a flange surrounding and closely engaging one end of the colored sleeve, and an aperture closely surrounding the fluorescent lamp; together with a driving motor having a shaft extending under the edge of the lower fitting of the color wheel whereby the entire weight of the color wheel is supported on the motor driving shaft, whereby frictional engagement between the lower fitting and the shaft will rotate the color wheel about the lamp.

2. A color pattern generator according to claim 1, wherein each of the end fittings of the color wheel engage the surface of the fluorescent lamp only by the free ends of a plurality of projecting tongues; and wherein the end fittings are additionally perforated so that air heated within the color wheel may flow outwardly through the upper fitting to admit cool air through the lower fitting and effect continuous circulation of air through the wheel to dissipate the heat of the lamps by convection.

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