

Sept. 13, 1938.

J. BAUGHMAN ET AL

2,129,641

LIGHTING DEVICE

Filed Sept. 25, 1935

2 Sheets-Sheet 1

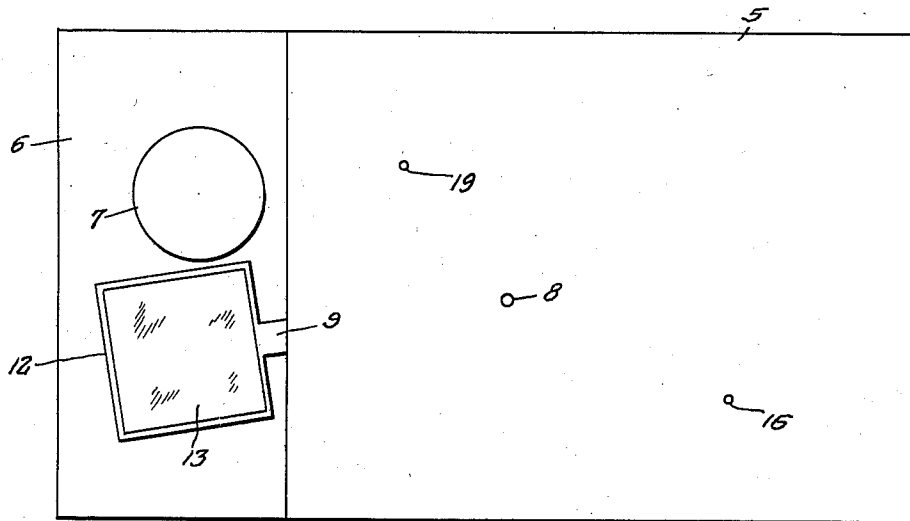


Fig. 1.

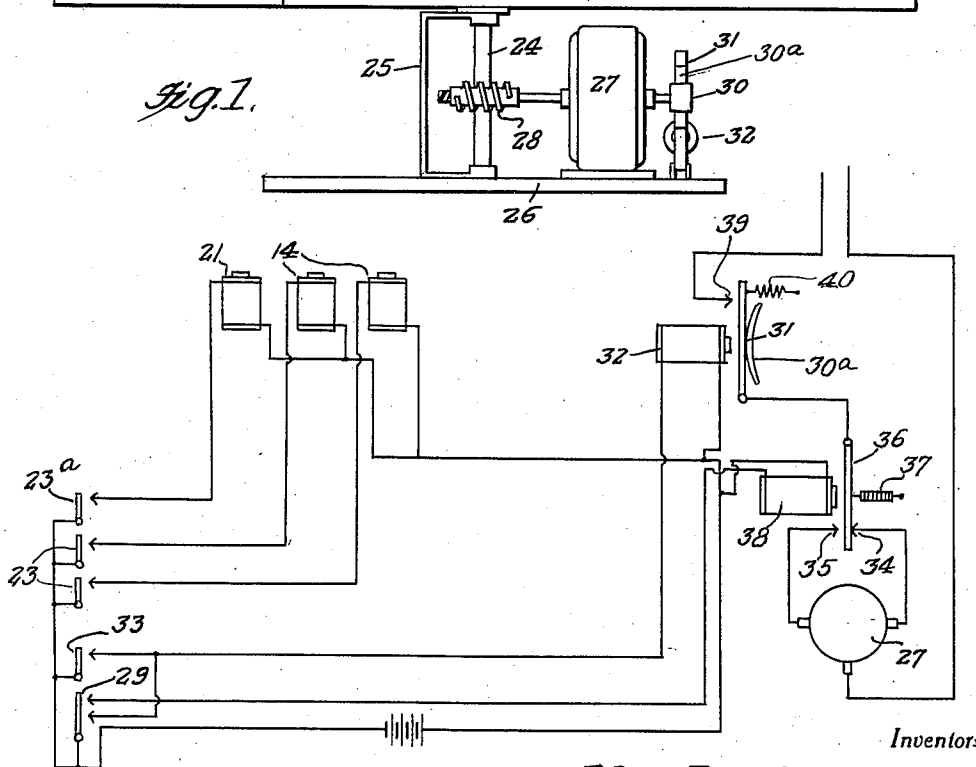


Fig. 4.

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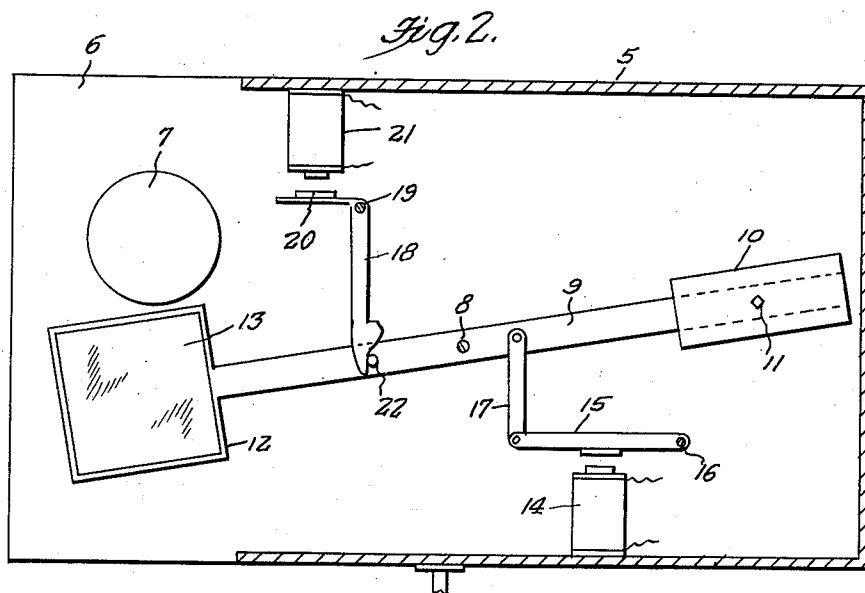
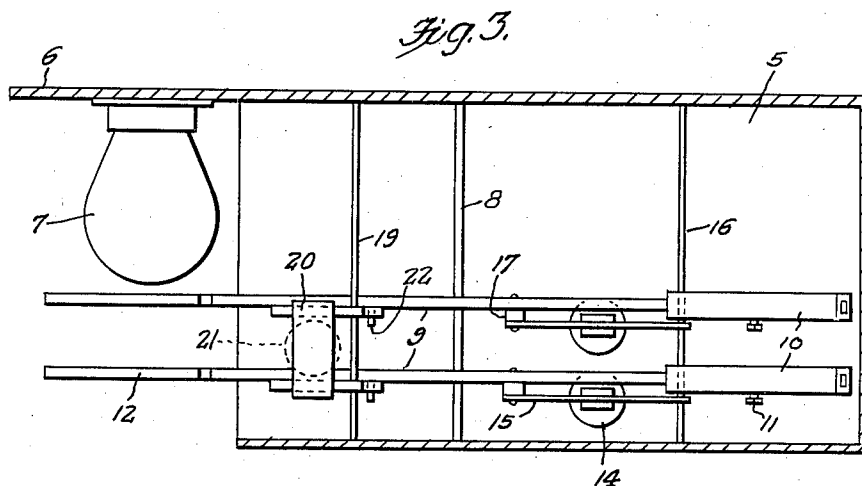
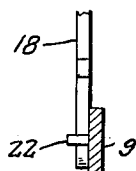
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2,129,641

LIGHTING DEVICE

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Application September 25, 1935, Serial No. 42,098

1 Claim. (Cl. 240—3.1)

This invention relates to devices for casting colored lights upon a stage scenery or the like and the object of the invention is to provide a device of this character characterized by the simplicity of construction and operation as well as efficiency.

Briefly the invention consists in the provision of a light source and a plurality of colored transparencies which may be individually and selectively placed between the light source and the scene upon which the light is to be cast so that first one color and then another color light may be cast upon the scene, stage or the like.

Further in accordance with the present invention a plurality of pivotally mounted arms are provided, and each arm is equipped with a colored transparency, and can be readily swung into alinement with the light source for quickly changing the color of the light beams being cast upon the object to be illuminated.

The invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawings wherein:

Figure 1 is an elevational view of a device embodying the features of the present invention.

Figure 2 is a vertical sectional view through a casing illustrating certain details hereinafter more fully referred to.

Figure 3 is a horizontal sectional view through the casing.

Figure 4 is a wiring diagram and

Figure 5 is a fragmentary detail sectional view of the latch means for holding an arm in a raised position.

Referring to the drawings by reference numerals it will be seen that the device comprises a casing 5 having a side wall extension 6 in which is suitably mounted an incandescent lamp 7.

Supported between opposed walls of the casing 5 is a pivot shaft 8 upon which are mounted two or more arms 9 for swinging movement about the shaft 8 as a pivot. On one end the arms 9 are provided with adjustable weights 10 secured at the desired adjustment by set screws 11. On the opposite or free end thereof the arms 9 are provided with frames 12 in which are suitably secured transparencies 13 of glass, paper or other suitable material. The frames 12 are so arranged that when an arm 9 is swung upwardly the transparency 13 will be placed in alinement with the incandescent lamp 7 so that the rays of light will in color correspond to the color of the transparency 13.

For each arm 9 there is provided and suitably

mounted in the bottom of the casing 5 an electro-magnet 14 and an armature 15. The armatures 15 are pivoted on a common shaft 16 and are connected with the respective arms 9 through the medium of links 17. It will thus be seen that when the circuit through the selected magnet 14 is completed the associated armature 15 will be caused to move downwardly thus causing the proper arm 9 to swing vertically upwardly to place the transparency 13 associated therewith in line with the light bulb 7. Obviously when the circuit through the magnet 14 is interrupted the weight of the arm 9 and the frame equipped end 12 thereof will overcome the action of the weight 10 so that the arm 9 will swing vertically downwardly to the position shown in Figure 2.

Also for each arm 9 there is provided a latch member 18 and the latch members 18 are pivoted on a common shaft 19 and are equipped at their pivoted ends with lateral projections connected together by an armature 20 controlled by a single electromagnet 21 mounted in the top of the casing 5.

The latches 18 are provided with suitable heads with which are engageable lateral pins 22 pivoted on the arms 9.

From the description of the invention thus far, it will be apparent that to raise a selected arm 9 for aligning the transparency 13 associated therewith with the bulb 7, the circuit through the proper magnet 14 is closed. As the arm 9 swings upwardly its latch pin 22 will engage with its complemental latch member 18 and the arm will thus be held in raised position.

When it is desired to change the colors of the light beam the second arm 9 is raised in identically the same manner as that described with regard to the first arm 9 and obviously as the second arm 9 moves to raised position its latch pin 22 riding over the irregular edge of the head of the associated latch member 18 will cause the latch members 18 as a unit to swing in a clockwise direction thus releasing the first arm 9 as the second arm 9 moves into its fully raised position. Thus it will be seen that as one arm is raised, the previously raised arm will be released to return to its normal position.

When it is desired to release the raised arm 9 without effecting a raising of the other of the arms 9, the circuit through the magnet 21 is completed for attracting the armature 20 resulting in a swinging movement of the latch members 18 in a clockwise direction for releasing the pin 22 of the raised arm thus permitting the latter to swing to its lowered position.

For controlling the circuits through the magnets 14 there are provided suitable switches 23 while a switch 23a is provided for controlling the circuit through the magnet 21. Obviously, by manipulating the proper switches 23 and switch 23a the above operations are effected for varying the colors of the light beams cast on the stage or other objects to be illuminated.

Further in accordance with the present invention, the casing 5 is mounted for rotation in a horizontal plane on the upper end of a shaft 24 journaled in a suitable bracket 25 mounted on a platform 26. For driving the shaft 24 there is provided an electric motor 27 in driving engagement with the shaft 24 through the medium of suitable gearing 28.

The electric motor 27 is of the reversible type and for reversing the motor 27 there is provided, in circuit with the motor, a pair of contacts 34, 35 between which operate one end of a suitably and pivotally mounted armature 36 biased to engage the contact 34 through the medium of a spring 37. The armature 36 is controlled by a magnet 38 arranged in the magnetic circuits hereinbefore referred to and controllable by a switch 29.

The armature 36 is also electrically connected with an armature 31 that is pivotally mounted on the platform 26 at one end of the armature shaft of the motor 27. The armature 30 is cooperable with a contact 39 arranged in the main supply circuit for completing the circuit through the motor 27. The armature 31 is also controlled by a magnet 32 arranged in the aforementioned magnetic circuit and is controlled by a switch 33.

The armature 31 is normally biased out of engagement with the contact 39 through the medium of a spring 40, and on one side thereof the armature 31 is provided with a brake shoe 30a that is normally urged into engagement with a brake wheel 30 on the last mentioned end of the armature shaft of the motor 27 for applying a braking action thereto.

It will thus be seen that to cause a rotation of the housing 5 switch 33 is closed for completing the circuit through the magnet 32. The magnet 32 being thus energized attracts the armature 31 against the action of spring 40 for engaging the armature with the contact 39 thus completing the circuit to the motor thru the inter-engagement of the armature 31 and contact 39 and through the interengagement of the armature 36 with the contact 34 so that the motor 27 is driven in one direc-

tion. In this connection it will be noted that the movement of the armature 31 under the influence of the magnet 32 and against the action of spring 40 will move the brake shoe 30a out of engagement with the brake wheel 30 thus relieving any braking action on the motor 27.

When it is desired to reverse the direction of swinging movement of the housing 5 switch 29 is closed subsequent to an opening of the switch 33. Upon closure of switch 29 the circuit is completed through the magnet 32 for again releasing the motor 27, and the circuit is at the same time completed through the magnet 38 for attracting the armature 36 moving the latter out of engagement with the contact 34 and into engagement with the contact 35 so that the circuit to the motor 27 is completed through the contact 39, armature 31, armature 36 and contact 35 for driving the motor 27 in a reverse direction.

It will thus be seen that by a manipulation of the switches 29 and 33 the casing 5 may be caused to oscillate for casting the light beam across the stage or objects to be illuminated, first in one direction and then in a reverse direction.

From the above it will be apparent that a device of this character will be especially adapted for use in theaters and the like as illuminating means for stages, etc.

Having thus described our invention, what we claim as new is:

A device of the class described comprising a casing having an open part, a lamp supported by the casing and having its rays passing through said open part, an elongated lever pivoted intermediate its ends in the casing, a screen at one end of the casing which in one position of the lever will extend in front of the lamp, a weight on the opposite end of the lever, means for adjusting the same, a horizontally arranged member pivoted at one end in the casing, a link connecting the other end of the member to the lever between the pivotal point thereof and the weight, an armature carried by the member, a magnet located below the armature for attracting the member to move the lever to a position where the screen will come in front of the lamp, a latch member pivoted in the casing, a projection on the lever in front of the pivotal point engaged by the latch to hold the lever in screening position and magnetic means for moving the latch to releasing position.

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