

bly connected by a link 58 to a crank arm 60, each crank arm being fast to one of the shafts 30, 32, 34 or 36 as shown in Figs. 1, 3 and 4. Reference to Fig. 3 will show that if a plunger 56 be drawn down by energization of solenoid 52, crank 60, and the shaft to which the crank is attached, will be rotated counter-clockwise and the particular screen attached to the other end of that shaft will be moved to its operative position at the left, against stop 40.

Due to the fact that, as previously explained, the screen while in normal position is held in equilibrium by spring 48, the solenoid is enabled to start the screen in motion from normal position with very slight effort, thereby permitting a great saving in the amount of current required for the operation of the device, as compared to the amount necessary if the weight of the screen were not balanced by the tension of spring 48.

When a solenoid is energized to move a screen to its operative position at the left, as the screen approaches operative position the tension of the spring gradually increases with the result that the screen assumes its operative position very gently and is then retained in position by the solenoid, against the resistance of the spring, until the solenoid is deenergized.

The circuit diagram is shown in Fig. 5, in which 70 is the source of current, 72 is a common wire leading to all solenoids 52, 74 is a common wire leading to all switches 76. When the operator depresses any switch key 78 a circuit is closed through a solenoid 52 and the screen controlled by that solenoid is moved to operative position. When key 78 is released the screen is drawn back to normal position by spring 48, which was placed under tension, as above described, when the screen was moved to the left (Fig. 2). It will be evident that one or more screens may be in operative position at the same time, at the will of the operator, depending on how many keys 78 he holds down simultaneously.

Plates 80 serve as spacers between the screens and also add stiffness to the screen-supporting portion of the structure.

It will be noted that the complete electromagnetic mechanism is supported by the box-like frame 18 to form a unit, and that therefore a hand-operated spot light may be converted into an electrically controlled machine almost instantly by simply inserting the screws 16.

It is to be understood that the invention is not limited to the construction herein specifically illustrated but can be embodied in other forms without departure from its spirit as defined by the appended claim.

I claim—

A color control apparatus for a spot light, comprising in combination, a frame, a plurality of color screens movably mounted on

said frame, a plurality of electromagnetic devices mounted on said frame, a plurality of concentric shafts each operatively connecting one of said devices to one of said screens whereby each of said screens may be moved relatively to same frame by the device associated with said screen, said screens, devices, and shafts being arranged to form a unitary structure suitable for attachment to a spot light for the purpose set forth.

In testimony whereof I hereto affix my signature.

HERBERT A. KLIEGL.