

Sept. 19, 1933.

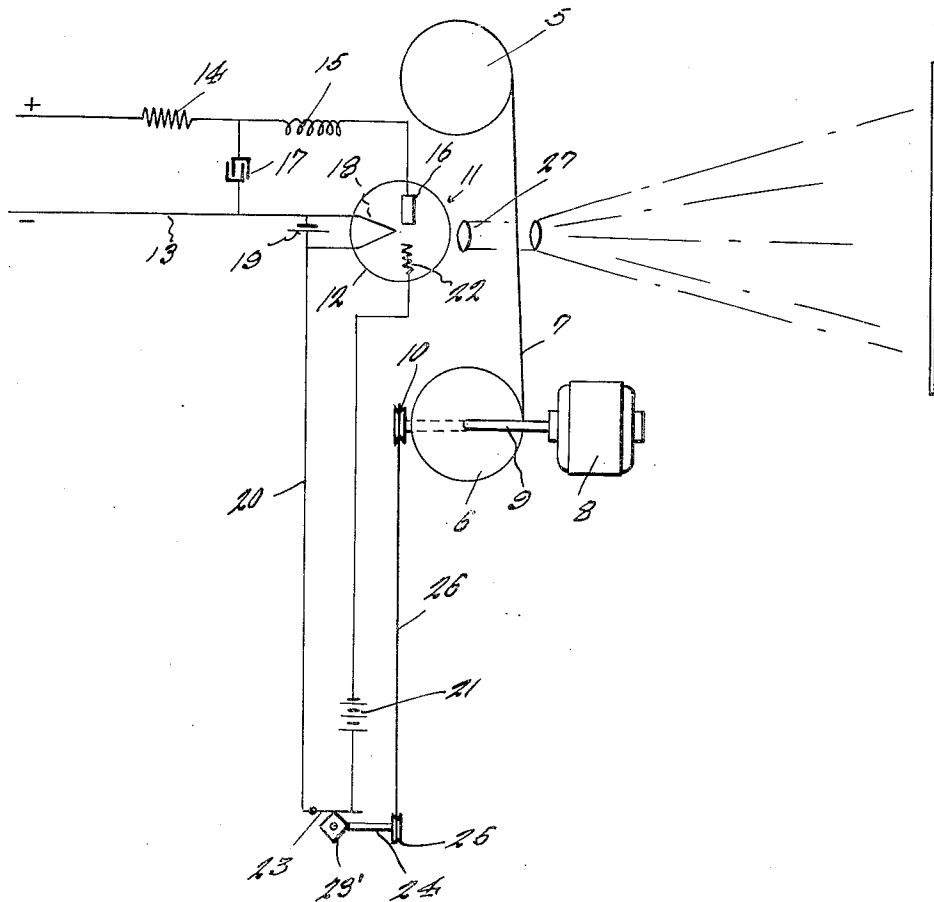
R. TRUCKSESS

1,927,474

LAMP CIRCUIT

Filed July 3, 1931

Fig. 1.



Robert Trucksess Inventor

By *Clarence A. O'Brien*
Attorney

UNITED STATES PATENT OFFICE

1,927,474

LAMP CIRCUIT

Robert Trucksess, Norristown, Pa.

Application July 3, 1931. Serial No. 548,672

1 Claim. (Cl. 176—124)

This invention appertains to new and useful improvements in the art of motion picture projection, and the principal object of the invention is to provide means whereby the usual revolving shutter and its consequent flicker on the screen is eliminated.

Another important object of the invention is to provide means for producing a clear, life-like reproduction of human intelligence on a screen without the usual flickering.

Other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawing:—

The figure represents a diagrammatic view disclosing the novel system.

Referring to the drawing wherein like numerals designate like parts, it can be seen that numeral 5 represents the usual upper film reel and numeral 6 represents the lower drive reel for the film strip 7. A motor 8 is used to drive the lower reel 6 by way of the shaft 9 and this shaft 9 is equipped with a pulley 10. Numeral 11 generally refers to a light source which includes in its construction a cathode, anode, and grid.

The container 12 of this tube is to enclose a volume of mercury vapor. Numeral 13 represents a current supply circuit which includes the resistance 14 and inductance 15 in series with the plate 16, and shunting this is the condenser 17. The opposite side of the circuit 13 is in connection with the filament 18 and numeral 19 represents a battery or other source of current for the filament 18. Numeral 20 represents the switching circuit which includes the source of current 21 for the grid 22.

In this switching circuit 20 is the circuit breaker 23 which may be of any suitable type but preferably of a type that can be operated by a cam 23'. This cam 23' is driven by the shaft 24 which has a pulley 25 thereon, and as is clearly shown in Fig. 1, a belt or any other endless drive element 26 is trained over these pulleys 10 and 25, so that the rotation of the shaft 9 will drive the shaft 24 at the same rate of speed. Thus, each

time a picture on the film 7 arrives in focus with the tube 11 the lenses 27, the cam 23' will break the circuit 20 so that the charge on the condenser 17 can dissipate in the mercury arc between the anode 16 and filament 18. In this type of tube, the filament serves only as a means to excite the tube and does not furnish any light, the mercury arc between the filament and anode is what causes the light and this arc is instantaneously created and shut off under control of the grid 22.

In other words, the very moment that the circuit 20 is broken, the arc is created in the gaseous container 12 and as soon as the charge is shut off, this arc will disappear.

The purpose of the resistance in the current supply circuit is to limit the current that will flow from this circuit during the time that the lamp is furnishing light. The purpose of the inductance in this same circuit is to control the speed at which the condenser discharges into the tube, or, in other words, to control the time intensity of the light emitted from the lamp.

With such a system, the usual conventional shutter is completely eliminated with the resultant flicker on the screen.

The excitation in mechanical coupling of this generator to the machine may be done in many ways known to the art.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having thus described my invention, what I claim as new is:—

A switching system of the character described comprising a lamp having an anode, a cathode and a grid; a current supply circuit interrupted by the said cathode and anode, a capacity across the anode and cathode, and a breaker circuit interrupted by the grid and cathode and including a source of current.

ROBERT TRUCKSESS.