Jan. 1, 1935. D. S. GUSTIN ET AL 1,986,474

DEVICE FOR OPERATING PHOTOFLASH LAMPS

Filed Oct. 29, 1932 2 Sheets-Sheet 1

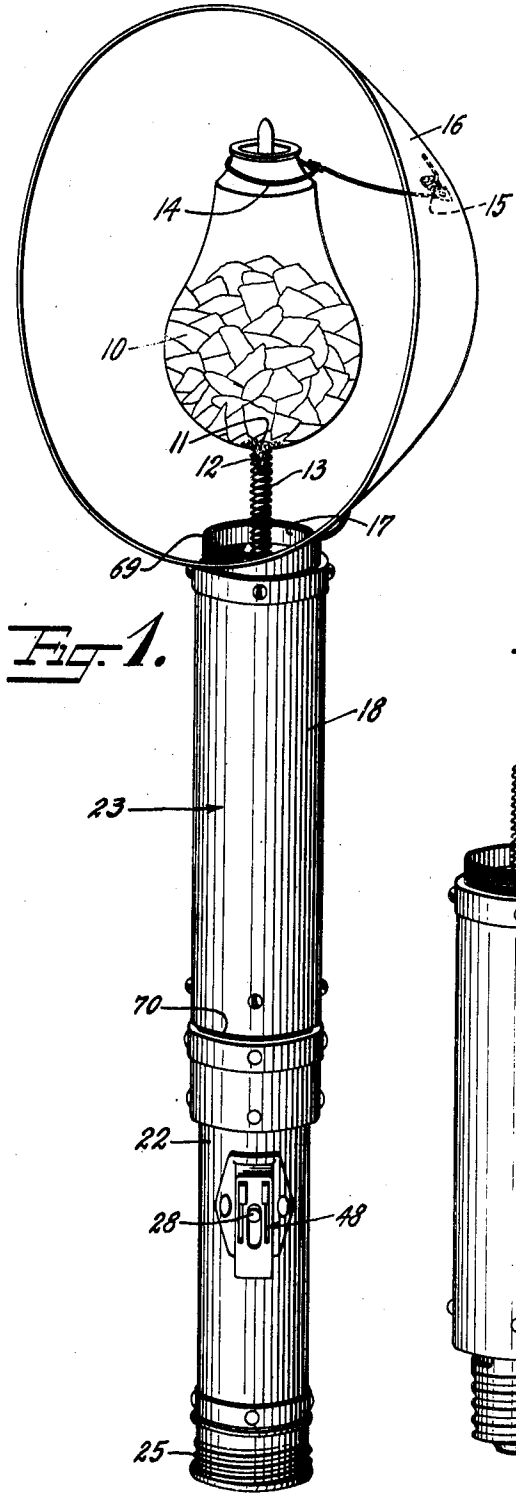


Fig. 1.

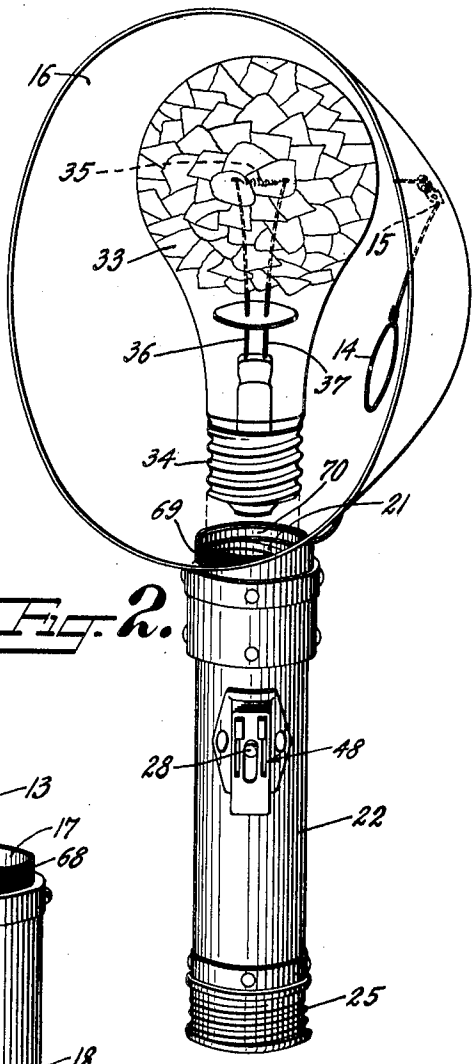


Fig. 2.

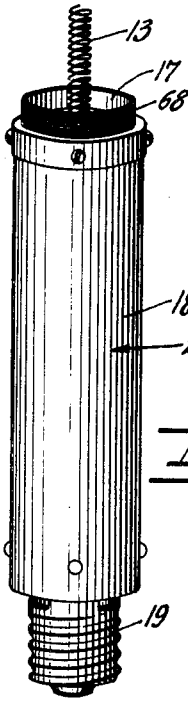


Fig. 3.

INVENTORS
D. S. GUSTIN
J. M. FAGAN
BY M. F. Regan
ATTORNEY

Jan. 1, 1935. D. S. GUSTIN ET AL 1,986,474

DEVICE FOR OPERATING PHOTOFLASH LAMPS

Filed Oct. 29, 1932 2 Sheets-Sheet 2

Fig. 4.

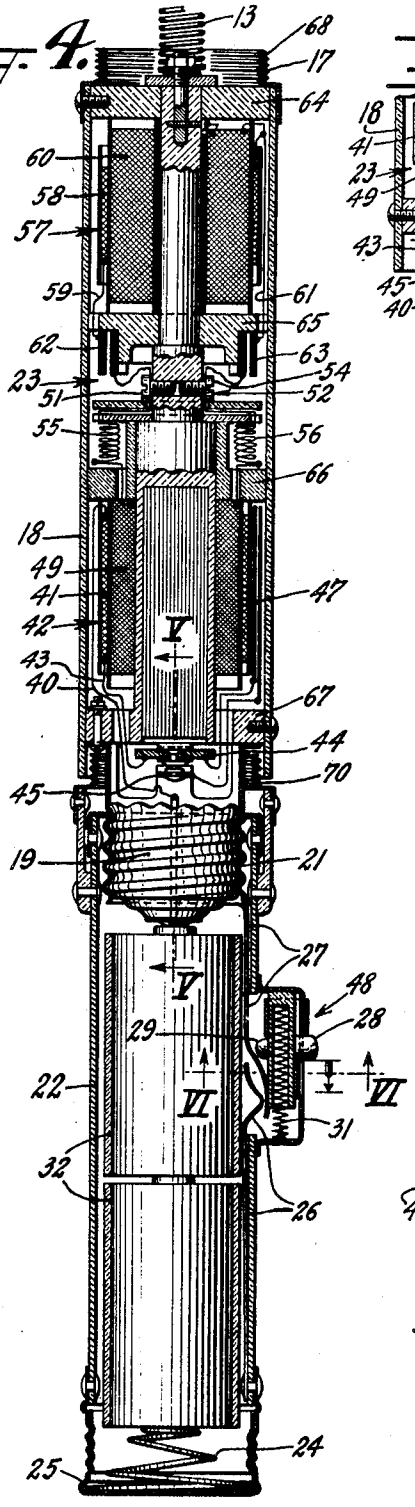


Fig. 5.

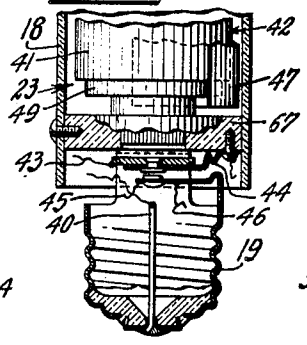


Fig. 6.

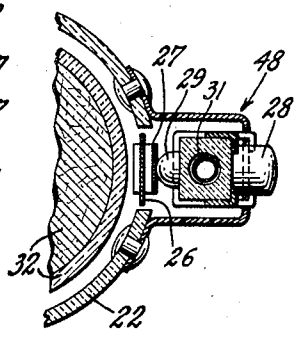
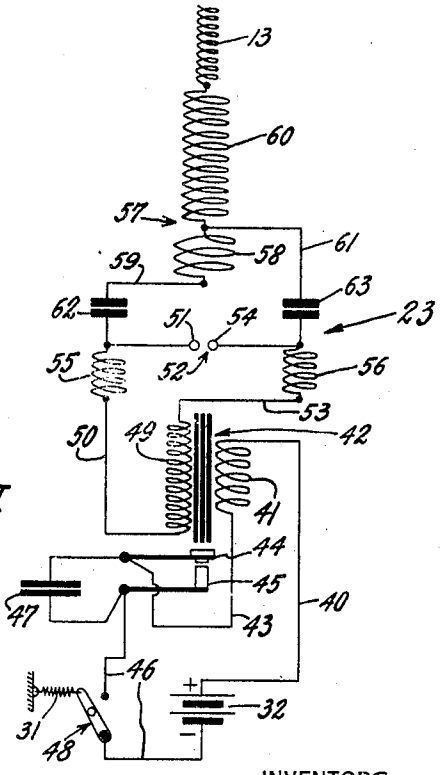


Fig. 7.



INVENTORS
D. S. GUSTIN
J. M. FAGAN
BY M. F. Reger
ATTORNEY

Patented Jan. 1, 1935 1,986,474

UNITED STATES PATENT OFFICE

1,986,474

DEVICE FOR OPERATING PHOTOFLASH LAMPS

Daniel S. Gustin, Bloomfield, and James M. Fagan, Maplewood, N. J., assignors to Westinghouse Lamp Company, a corporation of Pennsylvania

Application October 29, 1932, Serial No. 640,196

7 Claims. (Cl. 67—31)

This invention relates to photoflash lamps and relates more particularly to a device for the convenient operation of such lamps.

The present invention is applicable to photoflash lamps of the character described and shown in copending application Serial No. 635,784 filed October 1, 1932 and assigned to the present assignee, and also to lamps such as shown and described in Patent 1,776,637 issued September 23, 1930.

These lamps consist of a sealed glass bulb in which a quantity of aluminum foil is disposed in an environment of pure oxygen. Within the bulb is a primer or ignition material which when energized causes a combustion of the flash light material. In the construction shown in the patent the primer or ignition material is disposed on a resistance element similar to a lamp filament and electrical conductors are provided for passing a current through the filament to heat and ignite the primer.

In the construction shown in the copending application the filament is eliminated and the priming or fulminating composition is deposited in a pocket on the interior wall of the bulb to receive heat transmitted through the bulb wall for energizing the primer to operate the lamp. In photoflash lamps provided with a filament it is the practice to employ a battery for the passage of electrical energy through the filament and a battery casing with a socket is usually provided for this purpose.

In the case of the photoflash lamp having the primer deposited on the bulb wall it is possible to flash the lamp by the application of heat as by means of a flame, but for the purpose of making the use of such a lamp more practical the present invention provides a device whereby such a lamp is held in position so that the primer may be subjected to a high frequency discharge. It provides an apparatus for operating a lamp by means of a discharge and so arranged that the source of potential may be used directly to operate a lamp.

In accomplishing the above we have constructed a unit for creating a discharge. This unit is in the form of a casing containing a source of direct current such as a dry cell and the necessary circuit for converting the direct electrical energy into a high frequency discharge. The high frequency unit is preferably constructed with one end equipped with a suitably threaded metal base for insertion into a socket of a power compact or holder which may contain standard dry cell batteries. The other end of the unit may be provided with a reflector adjacent a contact member provided for the flow of electrical energy into a positioned photoflash lamp.

It is an object of the invention, therefore, to provide a device for supporting and conveniently operating a photoflash lamp.

Another object of the invention is to provide a photoflash lamp holder containing means for producing a high frequency discharge.

Another object of the invention is to provide a holder containing means for producing a high frequency discharge and a casing for the battery for supplying a source of electrical energy, the said battery casing serving as a holder for a photoflash lamp to be operated by direct current from the battery.

Another object of the invention is to provide a combined high frequency unit and photoflash lamp holder.

Other objects and advantages of the invention will be understood by reference to the following description together with the accompanying drawings in which,

Fig. 1 is a side elevational view of a photoflash lamp in position to be operated by a high frequency discharge;

Fig. 2 is a side elevational view showing a battery casing adapted to receive a lamp to be flashed by direct current from the battery;

Fig. 3 is a perspective view of the high frequency unit employed for operation of a photoflash lamp by means of a discharge;

Fig. 4 is an enlarged cross sectional view of a photoflash lamp operating unit;

Fig. 5 is a view taken on line V—V in Fig. 4;

Fig. 6 is a view taken on line VI—VI in Fig. 4; and

Fig. 7 is a diagrammatic view of the circuit for producing a high frequency discharge.

As shown in Fig. 1, the invention is particularly adapted for the operation of a photoflash lamp 10 of the type wherein a priming material 11 is disposed within the bulb in a pocket or tip 12. The priming material may be of any suitable combustible substance, for example zirconium metal powder and lead peroxide in suitable proportions.

The flashlight or light-giving material may be aluminum foil in an oxygen environment or it may be a combustible gaseous filling such as carbon bi-sulphite and nitric oxide. It has been found that a lamp so constructed may be operated by means of a discharge from a suitable contact as for example a helical spring 13