July 24, 1928. 1,678,574

H. NIEMEYER

PHOTOGRAPHIC ELECTRIC LAMP

Filed May 12, 1927 2 Sheets-Sheet 1

Fig. 1.

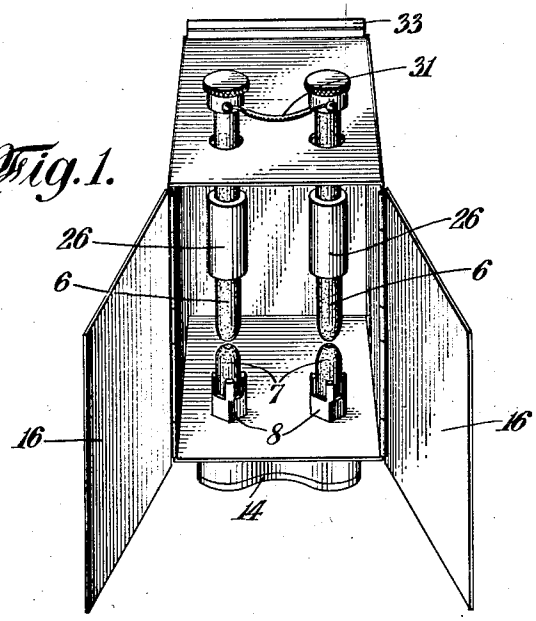
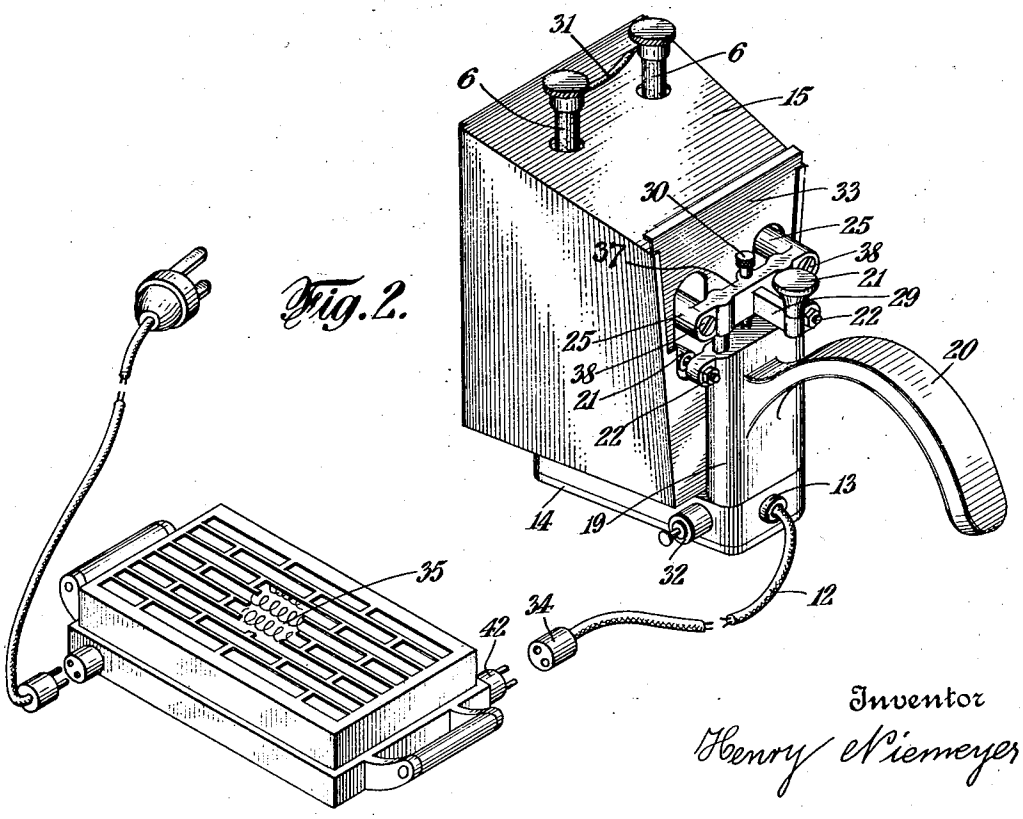


Fig. 2.



Inventor

Henry Niemeyer

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Fig. 4.

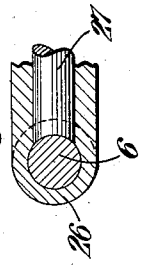


Fig. 3.

Inventor

Henry Niemeyer

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UNITED STATES PATENT OFFICE.

HENRY NIEMEYER, OF NEW YORK, N. Y.

PHOTOGRAPHIC ELECTRIC LAMP.

Application filed May 12, 1927. Serial No. 190,686.

The object of this invention is to provide an electric lamp for use in photographing objects at night time or when the light is poor.

Heretofore, when objects were to be photographed at night it has been necessary to resort to the use of flash light powders which frequently failed to ignite at the proper moment when the picture was to be taken. Also such flash light powders leave a malodorous and disagreeable smoke after being used, thus making flash light photography an unpleasant undertaking.

With this device an electric arc is employed which may be permanently connected with a source of power and capable of being instantly placed in operation. Consequently when it is desired to take a photograph at night all that is necessary is to connect the lamp to a proper source of power and depress a button on the lamp at the instant it is desired to take the photograph. The photographer is assured of proper operation of the lamp and there are no disagreeable after effects such as smoke and bad odors.

This object is accomplished by the novel construction and arrangement of parts hereinafter described and shown in the accompanying drawings forming a material part of this disclosure, and in which:—

Figure 1 is a perspective view showing the arrangement of carbon electrodes used in the lamp.

Figure 2 is a perspective view showing the general arrangement of the lamp from the rear.

Figure 3 is a longitudinal cross sectional view of the lamp.

Figure 4 is a cross-sectional view of one of the electrodes and a frictional plunger for holding the electrode in an adjusted position.

Referring to the drawing, Figure 1 shows a lamp casing 15 having two doors 16, each of the doors being the size of the opening of the lamp. Passing through the upper side of the casing are two carbon electrodes 6 electrically connected by wires 31 and adapted to contact with two carbon cathodes 7, the latter being mounted in brass holders 8 which have integral therewith threaded contacts 9 to which are connected wires 12, the part 9 being surrounded by an insulating bushing 11 and having a nut 10 threaded thereon for holding the electric wires securely against the contacts 9.

A lower casing 14 is shown which contains the electric wires 12 and a switch 32 for controlling the flow of current to the carbon electrodes.

The upper electrode 6 is mounted in a sleeve 26 which has a hollow portion 25 extending at right angles therefrom towards and passing through the rear side of the lamp casing.

Mounted in the hollow portion 25 is a cylindrical plunger 27 having one end resting against and shaped to fit the electrode 6, (see Figure 4) and the other end of the plunger having a groove into which a spring 28 is mounted for normally pressing the plunger against the carbon electrodes 6 to frictionally hold the electrode in an adjusted position.

The two hollow portions 25 are joined in the rear of the lamp casing by means of a bar 37, which bar has an extension 29 at its mid point to which is mounted a thumb piece 21. Passing through the bar 37 at each end thereof are screw threaded plugs 38 the same being grooved on the inner side to accommodate one end of the springs 28 and also providing means for adjusting the tension of the springs.

The plunger 27 has a threaded aperture 40 into which is threaded a pin 41, having a wedge-shaped portion 24 extending through a slot 39 in the hollow portion 25 and contacting against another wedge-shaped member 23 mounted on a support 21 which is threadedly mounted upon the rear wall of the casing.

At the rear of the lamp and integral with the lower casing 14 are two cylindrical casings 19 hollowed out to accommodate plungers 18 and having springs 17 at the bottom of the hollowed portions to repel the downward movement of the plungers.

The upper end of the plungers 18 are connected to the cross bar 37, and rigidly mounted upon the rear of the casing 19 is a carrying handle 20.

At one end of the casing 14 an insulating

bushing 13 is threadedly mounted and the electric wires 12 pass through this bushing and terminate in a plug 34 which accommodates a plug 42 of a suitable resistance 35, and from the resistance 35 proper connections are made to the source of electric energy.

In operation, when it is desired to take a photograph at night, the operator connects the lamp with a source of electric power through the resistance and closes the switch 32 so that current will flow to the electrodes 7 of the lamp. He then presses down upon the thumb piece 21 which forces the plungers 18 downwardly against the resistance of the springs 17 and at the same time causes the sleeve 26 and its portion 25 to move downwardly. During this downward movement the cam portion 24 engages the cam portion 23 and causes the plunger 27 to move rearwardly against the resistance of spring 28. This allows the electrodes 6 to freely fall into contact with the electrode 7 and when pressure is taken off of the thumb piece 21 the plunger 18 will rise causing the sleeve 26 to rise and the plunger 27 to grip the carbon electrode 6 to cause the electrode to be withdrawn with the electrode 7 thus striking an arc to produce the necessary light for taking the photograph.

In order to regulate the movement of the plungers 18 there is provided an adjusting screw 30 mounted in the cross piece 37.

In order to enable an operative to adjust plungers 27 and the associated mechanism a sliding door 33 is provided for the rear wall of the casing 15, this door being slotted to accommodate the hollow portions 25 etc.

From the above it will be seen an electric photograph lamp has been disclosed which is capable of instant and certain operation for use in photographing objects at night time or at other times when the light is poor.

From the foregoing it will be seen that a simple device for this purpose has been disclosed in the preferred form of its embodiment, but it is not desired to restrict the details to the exact instruction shown, it being obvious that changes, not involving the exercise of invention, may be made without conflicting with the scope of the appended claims.

I claim—

1. In an electric arc lamp having upper and lower carbon electrodes, a sleeve surrounding the upper electrode and having an integral hollow portion, a spring pressed plunger in the hollow portion for frictionally gripping the electrode, a cam member carried by the plunger, and means engaged by the cam member to withdraw the plunger from contact with the electrode when the sleeve is moved downward.

2. In an electric arc lamp having upper and lower carbon electrodes, a sleeve surrounding the upper electrode, spring pressed gripping means carried by the sleeve for frictionally holding the upper electrode in an adjusted position, and wedging means for releasing the gripping means when the sleeve is moved downwardly.

3. In an electric arc lamp having upper and lower carbon electrodes, a sleeve surrounding the upper electrode, spring pressed gripping means carried by the sleeve for frictionally holding the upper electrode in an adjusted position, and wedging means for releasing the gripping means when the sleeve is moved downwardly, and a spring pressed plunger for normally moving the sleeve upwardly.

4. In an electric arc lamp having carbon electrodes, a sleeve surrounding one of the electrodes, means carried by said sleeve for frictionally gripping the electrode, and cam means for releasing the gripping means when the sleeve is moved in a certain direction.

5. In an electric arc lamp having upper and lower carbon electrodes, a spring pressed plunger frictionally gripping the upper electrode to normally hold the electrode in a raised position, a cam carried by the plunger, means engaged by the cam to withdraw the plunger from contact with the electrode when the plunger is moved downwardly.

Signed at New York, in the county of New York and State of New York.

HENRY NIEMEYER.