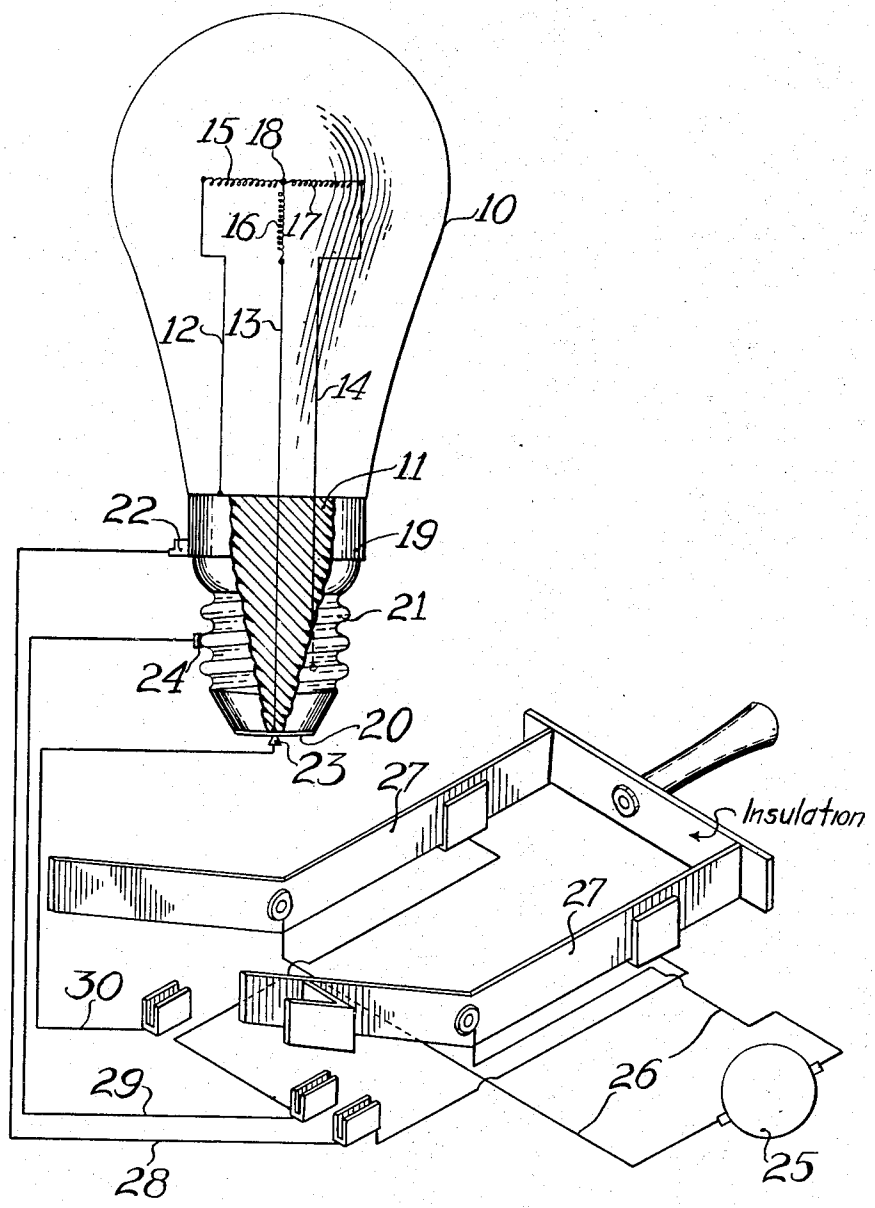
June 9, 1936. R. W. WENGEL 2,043,913

PHOTOGRAPHIC LAMP

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PHOTOGRAPHIC LAMP

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1 Claim. (Cl. 176—26)

My invention relates to electric lamps and particularly to lamps for use in taking photographs where it is desired to operate them at very high intensity for short periods of time.

Lamps for this purpose are generally referred to as photoflood lamps and in use are operated at normal or relatively low intensities during the time consumed in making preliminary arrangements and are then overloaded for a very short period of time during which an exposure may be made. This overloading has been accomplished in many ways, usually with the aid of an external rheostat or by switching two or more lamps from series to parallel relation in a circuit. The use of a rheostat entails expense in construction, adds weight to the apparatus and over long periods wastes much current. A switching arrangement involving two or more lamps often is awkward in application, as for instance, in the lamp house of an enlarger. Also, two photoflood lamps in series produce considerably less light than might be obtained, without materially reducing the filament life, by a more suitable adjustment of filament voltage.

It is an object of the present invention to provide a photoflood lamp whereby the brilliance of a single lamp may be altered from normal to photoflood brilliance without the aid of external resistances or transformers, i. e. the voltage impressed on the lamp is the same in each instance.

Another object of the invention is to provide a photoflood lamp whereby an operator by means of a simple external switch may select either normal incandescent lamp intensity or photoflood intensity.

Other objects and advantages of my invention will be understood from the following description taken in connection with the accompanying drawing, and its scope will be pointed out in the appended claim.

While my invention may assume any one of several forms, I have illustrated, by way of example, in the single figure of the drawing one suitable form as comprising a glass bulb or envelope 10 having a suitable base 11 of insulating material through which pass lead in wires 12, 13 and 14 to three star connected filaments 15, 16 and 17 having a common terminal 18. The base 11 is provided with three electrically separated terminals 19, 20 and 21, to which are connected the lead in wires 12, 13 and 14 respectively.

The filaments 15 and 17 are preferably identical so that the voltage drops across them are equal when the line voltage is impressed across the terminals 19 and 21, and their resistances are so chosen that this voltage produces normal brilliance or, of course, any other desired brilliance. The third filament 16 is given a resistance value which is less than that of either the filaments 15 and 17 so that when one side of the line is connected to terminal 20 and the other side to both the terminals 19 and 21, the filaments 15 and 17 will be in parallel in series with the filament 16 and the voltage drops across the filaments 15 and 17 will be more than half the line voltage. Thus the three filaments will be energized above normal brilliance any desired amount depending upon the magnitude of the resistance of the third filament 16.

The lamp may be mounted in any well known triple contact socket which is here represented by three contacts 22, 23 and 24 adapted to engage the lamp terminals 19, 20, and 21, respectively. The two filaments 15 and 17 are shown connected to an electric current source 25 through lines 26, two blades 27 of a double throw knife switch, leads 28 and 29 and the contacts 22 and 24. When thus connected, the two filaments 15 and 17 are in series across the lines 26 and the lamp operates at normal intensity.

When it is desired to energize the lamp to photoflood intensity the switch is thrown to its other closed position in which one of the blades 27 connects one side of the line 26 to the contact 23 through a lead 30. The other blade 27 is forked as shown and connects the other side of the line 26 to both of the contacts 22 and 24 through the leads 28 and 29. When thus connected, the two filaments 15 and 17 are in parallel in series with the filament 16 and the lamp operates at photoflood intensity.

In order to adapt the lamp for use as an ordinary photoflood lamp utilizing an ordinary house socket, a strip of conducting material may be impermanently secured across the lamp terminals 19 and 21. This strip may be removed by any user having available a triple contact socket.

It will be noted that no external resistances or transformers are employed and that the third filament 16 emits light when the lamp is operating at photoflood intensity. In this connection it hardly needs to be pointed out that, if desired, the third filament 16 may consist of a simple resistance in which event the energy consumed thereby would not add to the light intensity.

The form of my invention which I have shown and described is merely illustrative and various modifications may be made without departing

from the spirit and scope of my invention, which modifications I am to cover by the appended claim.

What I claim as new and desire to secure by Letters Patent of the United States, is:

An electric lamp having a translucent envelope and a base, three filaments within the envelope each having one end connected to one end of each of the others, and an individual lead from the free end of each filament to a separate external contact, the magnitude of the individual resistances of two of said filaments being equal and substantially greater than the magnitude of the resistance of the third of said filaments.

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