May 3, 1932. S. S. GREEN 1,856,098

NOVELTY LAMP

Filed May 29, 1930

Fig. 1.

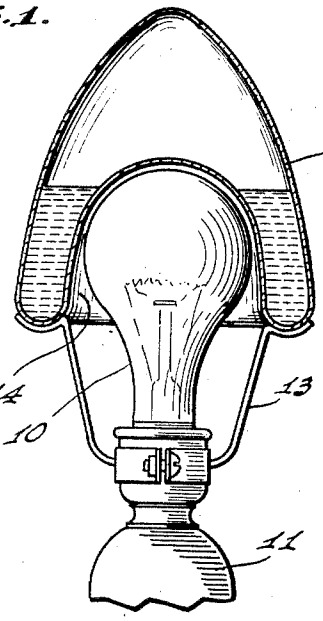


Fig. 3.

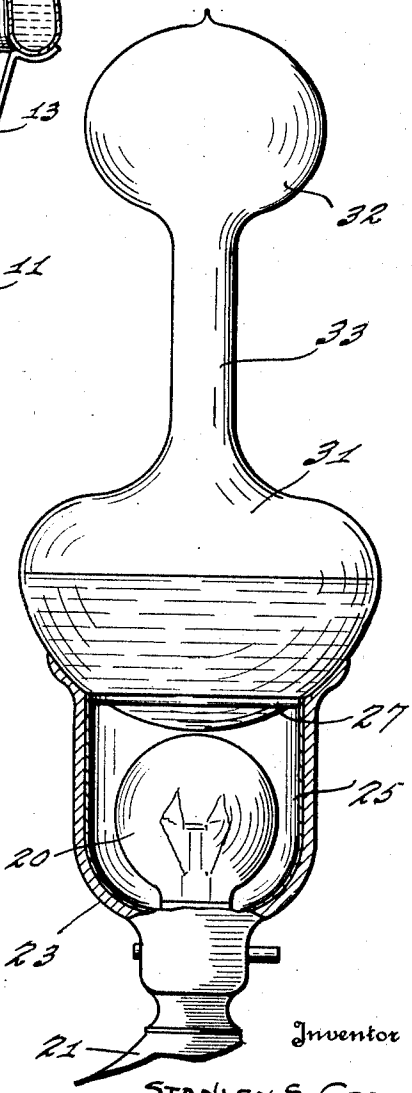
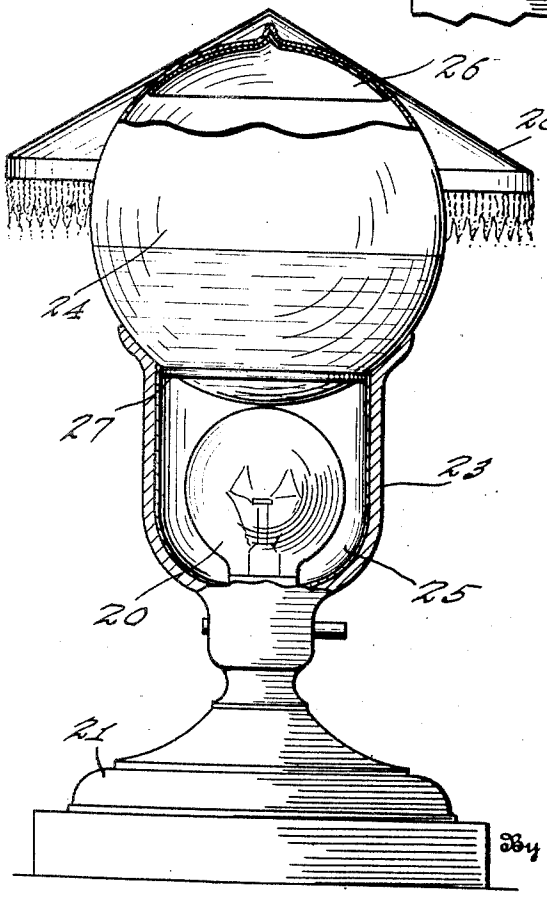


Fig. 2.



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1,856,098

UNITED STATES PATENT OFFICE

STANLEY S. GREEN, OF LA FAYETTE, INDIANA

NOVELTY LAMP

Application filed May 29, 1930. Serial No. 456,844.

It is the object of my invention to produce a novelty lamp which will have an unusual and attractive appearance.

In carrying out my invention, I associate with a source of light and heat a vessel having light-transmitting walls and containing a supply of liquid, the vessel being disposed in such a position relative to the light-source that light emanating therefrom will pass through the vessel, while the heat which the vessel receives will raise the temperature of the liquid to the boiling point. Conveniently, the liquid within the vessel is water and the vessel is sealed and evacuated to a point where the water will boil at the temperature to which the liquid is raised by heat from the light-source. The liquid in the vessel may be clear or colored; and if desired, it may contain granules or flakes of insoluble material which will be agitated by the ebullition of the liquid.

The accompanying drawings illustrate my invention, all the three figures being side elevations of three different lamp-constructions in which my invention is embodied.

The construction illustrated in Fig. 1 embodies an electric lamp-bulb 10 mounted in a suitable base 11, which base may be of any desired form. The closed liquid-containing vessel 12 in this construction resembles in outward appearance a not unusual type of lamp shade, the vessel being supported from the lamp base 11 by any suitable supporting means such as the spaced fingers 13.

The bottom wall of the vessel 12 is provided with a re-entrant portion 14 forming a pocket for the reception of the upper end of the lamp bulb 10. The vessel 12, after having had a supply of liquid introduced into it, is evacuated if necessary and sealed.

In the lamp illustrated in Fig. 2, a lamp bulb 20 is mounted in a base 21 which, at its upper end, is provided with a cup 23 the side walls of which extend upwardly beyond the top of the lamp bulb 20. The liquid-containing vessel 24 is shown as of spherical shape. Like the vessel 12 shown in Fig. 1, the vessel 24 contains a supply of liquid and is partially evacuated, if necessary, and sealed.

If desired, the cup 23 may be provided with a light-reflecting lining 25, and the upper portion of the inner surface of the vessel 24 may also be provided with a coating 26 of light-reflecting material. For the purpose of maintaining the vessel 24 with the reflecting material 26 at its top, the vessel may be provided with a bead 27 which fits closely within the upper edge of the cup 23. If desired, the lamp illustrated in Fig. 2 may be provided with a shade 28.

In the lamp shown in Fig. 3, the same lamp-bulb 20, base 21, and cup 23 embodied in the lamp of Fig. 2 may be used. The liquid-containing vessel, however, is of a different shape, as it comprises an enlarged bottom portion 31 and an enlarged top portion 32 which are connected by a restricted, vertically extending neck 33. As in the previous instances, the vessel contains a supply of liquid which, when the lamp is not in use, occupies a part of the lower portion 31 of the liquid-containing vessel.

The lamps described are but three of many forms which my invention may take. In each lamp, a vessel with light-transmitting walls and containing a supply of liquid is mounted in association with a lamp-bulb in such a manner that light from the lamp-bulb will pass through the vessel and liquid while the liquid is heated to the boiling point by heat derived from the lamp-bulb. In order to prevent the occurrence of an equilibrium condition within the sealed vessel it is necessary that the vessel have sufficient heat-radiating surface above the normal liquid level to create in the upper part of the vessel a temperature lower than the boiling point of the liquid at the pressure to which it is subjected.

When the lamp is not in operation, the fluid within it is in liquid form and collects at the bottom of the vessel. When the lamp-bulb is lighted, however, the temperature of the liquid is increased to the boiling point. When this occurs, the body of the liquid becomes ebullient, and vapor rises to the upper part of the vessel where it is condensed and returned to the lower part. The light, or at least part of the light, issuing from the lamp-

bulb passes through the ebullient liquid, illuminates it, and produces a very novel and pleasing appearance.

As previously stated, the liquid may be clear or colored; and it may, if desired, have suspended in it particles of insoluble material the agitation of which in the ebullient liquid adds to the unusual and attractive appearance of the lamp. Like the liquid, the walls of the containing vessel may be clear or colored.

The pressure obtaining within the liquid-containing vessel of the lamp will depend upon the boiling point of the liquid, upon the quantity of liquid in the vessel, and upon the temperature to which the liquid is raised by heat emanating from the lamp bulb. It is practical to use water as the liquid in the sealed vessel; but if liquid of a lower boiling point is used, the vessel need not be evacuated to so great an extent.

In referring to the liquid-containing vessel as having been exhausted or evacuated, I have in mind the removal from it of a sufficient portion of any gas such as air which is non-condensable at the normal operating temperature of the lamp.

It will be appreciated that through the use of an ordinary electric lamp-bulb I have provided a single source for both the light and heat necessary in carrying out my invention; but it will also be apparent that the necessary light and heat need not emanate from a common source, and I therefore do not restrict my invention to a single source of light and heat.

I claim as my invention:

1. A novelty lamp, comprising a source of heat and light, a closed vessel having light-transmitting wall portions and in proximity to said source arranged to receive heat and to intercept at least part of the light emanating therefrom, and a supply of liquid within said vessel, said vessel being at least partially exhausted to reduce the gas pressure therein to a point such that the heat received by the liquid from said source will cause ebullition of the liquid.

2. A novelty lamp, comprising a source of heat and light, a closed vessel having light-transmitting wall portions and in proximity to said source arranged to receive heat and to intercept at least part of the light emanating therefrom, and a supply of liquid within said vessel, said liquid having a boiling point such that it will boil at the temperature and pressure conditions obtaining within said vessel.

3. A novelty lamp as set forth in claim 1 with the addition that said vessel has a heat-radiating condensing surface above the normal liquid level.

4. A novelty lamp as set forth in claim 2 with the addition that said vessel has a heat-radiating condensing surface above the normal liquid level.

5. A novelty lamp, comprising a source of light, a source of heat, a closed vessel having light-transmitting wall portions and arranged to receive heat from said source of heat and to intercept at least part of the light emanating from said source of light, and a supply of liquid within said vessel, said vessel being at least partially exhausted to reduce the gas pressure therein to a point such that the heat received by the liquid from said source of heat will cause ebullition of the liquid.

6. A novelty lamp, comprising a source of light, a source of heat, a closed vessel having light-transmitting wall portions and arranged to receive heat from said source of heat and to intercept at least part of the light emanating from said source of light and a supply of liquid within said vessel, said liquid having a boiling point such that it will boil at the temperature and pressure conditions obtaining within said vessel.

7. A novelty lamp, comprising a source of heat and light, a casing for said source, said casing having a light-transmitting opening and a light-reflecting inner surface, a vessel having light-transmitting wall portions, said vessel being mounted adjacent said opening to receive heat and light from said source, and a supply of liquid within said vessel, said liquid having a boiling point such that it will boil at the temperature and pressure conditions obtaining within said vessel.

8. A novelty lamp as set forth in claim 2 with the addition that said vessel is provided with a re-entrant portion in which the source of heat and light is located.

9. A novelty lamp as set forth in claim 7 with the addition that said vessel is formed to provide a lower liquid-containing chamber located adjacent said opening, an upper condensing chamber, and a restricted neck connecting said two chambers.

In witness whereof, I STANLEY GREEN have hereunto set my hand at La Fayette, Indiana, this 20th day of May, A. D. one thousand nine hundred and thirty.

STANLEY S. GREEN.