J. REICHER.

NIGHT LIGHT.

APPLICATION FILED MAY 7, 1919.

1,309,545.

Patented July 8, 1919.

FIG. 7.

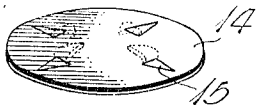


FIG. 1.

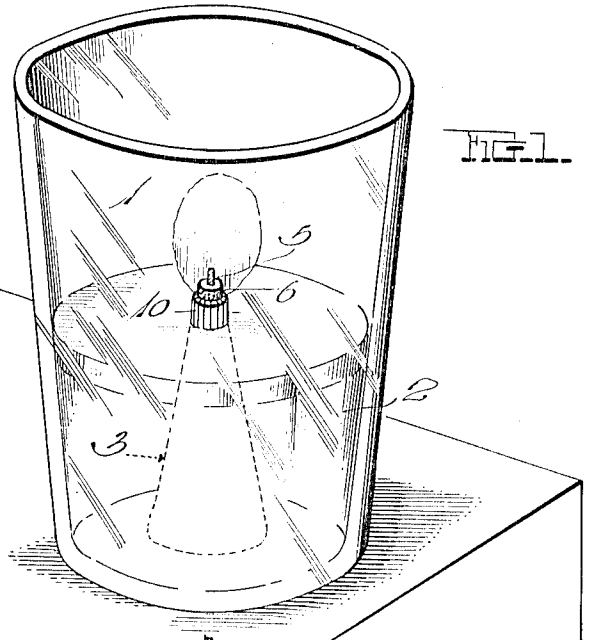


FIG. 6.

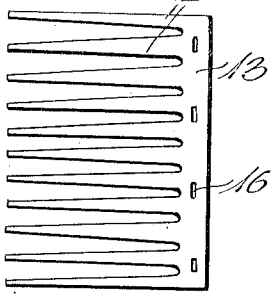


FIG. 2.

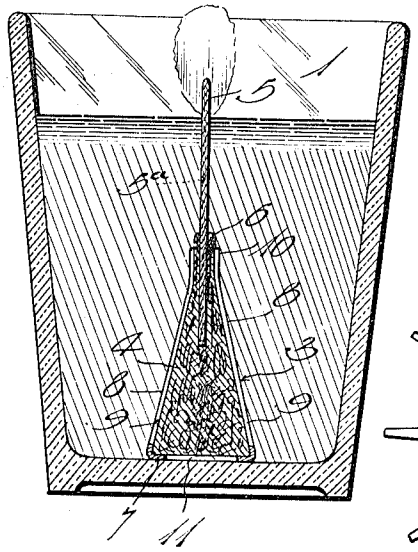


FIG. 5.

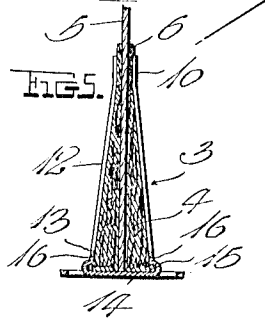
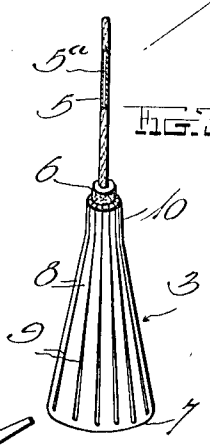


FIG. 3.



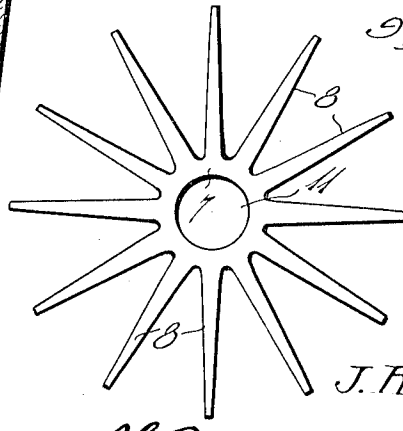


FIG. 4.

Witness

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UNITED STATES PATENT OFFICE.

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NIGHT-LIGHT.

1,309,545. Specification of Letters Patent. Patented July 8, 1919.

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To all whom it may concern:

Be it known that I, JACOB REICHER, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Night-Lights; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in night lights of the type usually employing a glass receptacle containing paraffin or other fuel, and a wick in the fuel for feeding the same to the flame by capillarity. In lights of this character, the flame often cracks the receptacle after the fuel has burned approximately half way down to the receptacle bottom, and the principal object of my invention is to provide a novel construction and arrangement of parts to retain the flame above the point at which cracking is liable to take place.

A further object is to provide a night light of simple and inexpensive nature, yet one which will be highly desirable in all respects and will effectively melt paraffin or other fusible fuel, even in extremely cold weather.

With the foregoing in view, the invention resides in the novel construction and association of parts hereinafter described and claimed, reference being made to the accompanying drawing.

Figure 1 is a perspective view of a night light constructed in accordance with my invention.

Fig. 2 is a vertical section of the device seen in Fig. 1.

Fig. 3 is a perspective view of the cage for holding the wick and a mass of absorbent material associated therewith.

Fig. 4 is a plan view of the metal blank from which the cage shown in the preceding figures is formed.

Fig. 5 is a vertical section showing a different form of cage.

Fig. 6 is an elevation of the metal blank forming the wall of the cage shown in Fig. 5.

Fig. 7 is a perspective view of the base which coöperates with the construction of Fig. 6 in forming a complete cage.

In the drawing above briefly described, the numeral 1 designates a suitable receptacle which is commonly formed of glass and contains a quantity of fuel 2, which is usually in the form of paraffin or other fusible fuel. Heretofore, wicks and tapers of numerous kinds have been embedded or molded in the fuel 2 to feed the latter to the flame as it is melted by the heat from such flame, but it has been found, particularly in the smaller types of night lights, that after the fuel level and flame have lowered to a point of approximately midway between the top and bottom of the receptacle, cracking of the latter often takes place. Furthermore, most forms of night lights do not effectively melt the fusible fuel in cold weather. Due to the novel construction hereinafter described, however, these difficulties are overcome.

A metal cage 3 is positioned in the fuel 2 and extends from the bottom of the receptacle to a point above the danger point, that is, the point at which the flame from the night light endangers the receptacle 1 by having a tendency to crack the same. The cage 3 contains a quantity of absorbent material 4 and a wick 5 rises from said material 4 to a point above the surface of the fuel. The wick may extend entirely through the body of absorbent material, as indicated in Fig. 5, or it may extend only a short distance into the same, as indicated in Fig. 2. The wick 5 is also preferably stiffened by a fine wire of fusible metal such as lead which will melt in the flame. This stiffened wire 5^a is shown in Fig. 3 and the wick material 5 is preferably, but not necessarily, woven around it in tubular form. If it is desired, the wick may be saturated in paraffin before being placed in the torch, although that is not necessary, since the wire 5^a will hold the wick in an upright position while the hot paraffin is poured around it and while the latter is setting.

When the wick 5 is lighted, the flame will melt the surface portion of the fuel and such fuel will be consumed by the flame to which it is fed by capillarity. When the fuel burns to an extent sufficient to expose the upper end 6 of the material 4, this material forms a torch which is supplied with the melted fuel by capillary attraction and the construction is such that this torch will burn only at its upper end. It is thus insured that the flame shall not lower to an extent sufficient to crack the receptacle 1.

The cage 3 might well be constructed in any adequate manner but I have illustrated

two constructions in the drawing. In Figs. 2, 3 and 4, the cage is shown as stamped from a single metal blank which is detailed in the last named view, said blank being so bent as to form a base ring 7 and a plurality of fingers 8 rising therefrom and preferably converging in the form of a cone. The lower ends of the fingers 8 are spaced apart at 9 to allow the melted fuel to enter the cage and saturate the material 4, but the upper ends 10 of said fingers are disposed in close relation to prevent fuel from leaking from the interior to the exterior of the cage and igniting from the flame. The opening 11 in the base 7 permits the absorbent material 4 and the wick 5 to be inserted into said cage from the lower end of the latter, but this method of assembly is not essential since the fingers might well be bent up around the material 4 as will be clearly understood, and in some cases it may be well to confine the upper ends of the fingers together by a wire or the like. The base of this substantially cone-shaped cage is made of sufficient size or diameter to provide a base that will not permit the torch to topple over when nearly all of the fuel has been consumed and only liquid paraffin or fuel is in the glass. The bottom of the cage may be of this desired width or diameter or the lower end of the body may be made smaller and a suitable surrounding flange provided, as indicated in Fig. 5. Figs. 5, 6 and 7 disclose a different construction of cage in which fingers 12 and a base strip 13 are stamped from sheet metal and suitably bent to form the side wall of the cage, the fingers 12 being associated in the same manner as the fingers 8. The base strip 13 rests on a base disk 14 and is held thereon by tongues 15 stamped upwardly from the disk through slots 16 in said strip 13. It will be understood that this base flange or disk 14 may be constructed in any desired manner and formed integrally with or separate from and suitably secured to the lower end of the cage.

In making the night light cotton or other absorbent material is wrapped around one end of the stiffened wick 5 and the latter, with the absorbent material, is then inserted in the cage from its larger end. When paraffin or fusible fuel is used, a small quantity of it is poured in the glass or other receptacle and after it has started to harden the cage is pressed down into it until its base flange rests on the bottom of the glass. More paraffin or oil is then poured into the glass until it reaches the desired level which is slightly below the upper extremity of the wick 5. Where paraffin or the like is used, it will harden and will effectively retain the cage and associated parts in proper place for subsequent use, forming a unitary article which may be shipped and marketed to advantage since no loose parts exist to be assembled when the device is sold or when it is to be used. The night light will be much more desirable than those now commonly used, since it will more effectively melt the paraffn or the fuel and will have no tendency to crack the receptacle.

Since probably the best results may be obtained from the details disclosed, they may well be followed, but within the scope of the invention as claimed, numerous minor changes may well be made and obviously the device may be constructed in all sizes desired and of any appropriate materials.

I claim:

1. In a night light, a receptacle containing fuel, an openwork cage in said fuel extending from the receptacle bottom to a point approximately midway between the ends of the receptacle, a mass of absorbent material confined in said cage, and a wick rising from said absorbent material to a point above the surface of the fuel.

2. In a night light, a receptacle containing fuel, an openwork cage in said fuel extending from the receptacle bottom to a point approximately midway between the ends of the receptacle, a mass of absorbent material confined in said cage, and a wick rising from said absorbent material to a point above the surface of the fuel, said cage having an open upper end through which said absorbent material protrudes; the side wall of the cage being substantially imperforate at its upper end to prevent fuel from reaching the exterior of the cage from the interior thereof and igniting from the flame of the wick.

3. In a night light, a receptacle containing fuel, an openwork cage in said fuel extending from the receptacle bottom to a point approximately midway between the ends of the receptacle, said cage consisting of a base and a plurality of spaced fingers rising therefrom, a mass of absorbent material confined in said cage and terminating adjacent the upper end thereof, and a wick rising from said absorbent material to a point above the surface of the fuel.

4. In a night light, a receptacle containing fuel, an openwork cage in said fuel extending from the receptacle bottom to a point approximately midway between the ends of the receptacle, said cage consisting of a base and a plurality of fingers rising therefrom the lower portions of said fingers being spaced apart to allow fuel to enter the cage, while the upper ends of said fingers are disposed in close relation with each other to prevent leakage of fuel from the interior to the exterior of the cage at its upper end, a mass of absorbent material confined in said cage and exposed at the upper end thereof, and a wick rising from

said absorbent material to a point above the surface of the fuel.

5. In a night light, a cage for disposition in a receptacle containing fuel, said cage having an open upper end, a mass of absorbent material in said cage and protruding through said open end thereof, and a wick rising from said absorbent material.

6. In a night light, a cage for disposition in a receptacle containing fuel, the wall of said cage being substantially imperforate at its upper end to prevent fuel from leaking from the interior to the exterior of the cage and igniting from the flame of the wick.

7. In a night light, a cage for disposition in a receptacle containing fuel, said cage consisting of a base and a plurality of spaced fingers rising therefrom, a mass of absorbent material in said cage, and a wick rising from said absorbent material.

8. In a night light, a cage for disposition in a receptacle containing fuel, said cage consisting of a base and a plurality of fingers rising therefrom with their upper ends in close relation with each other to prevent leakage of fuel from the interior to the exterior of said cage at its upper end, a mass of absorbent material in said cage and exposed at its upper end, and a wick rising from said absorbent material.

In testimony whereof I have hereunto set my hand.

JACOB REICHER.