E. J. KNAPP.

SANCTUARY LAMP.

APPLICATION FILED OCT. 17, 1917.

1,255,614. Patented Feb. 5, 1918.

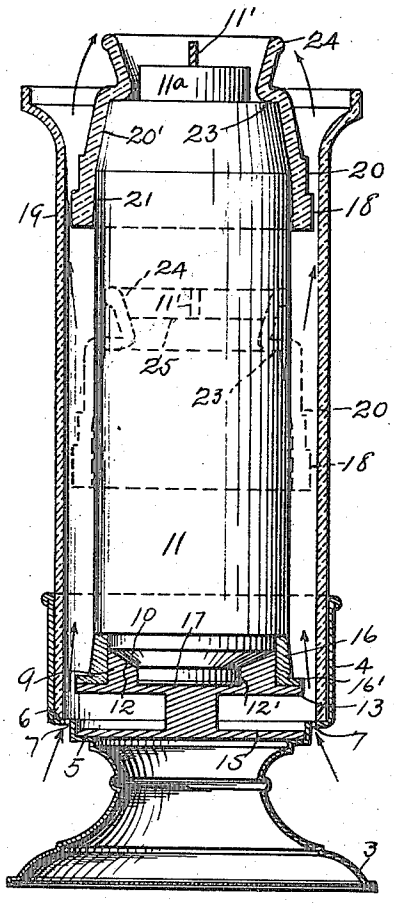

FIG. 1.

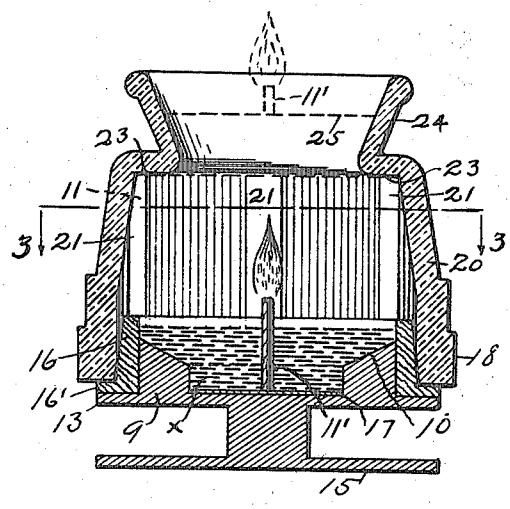

FIG. 2.

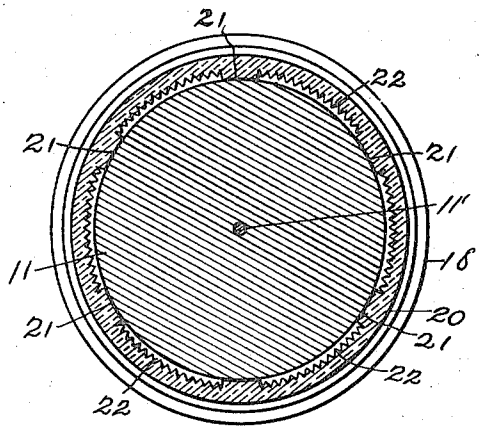

FIG. 3.

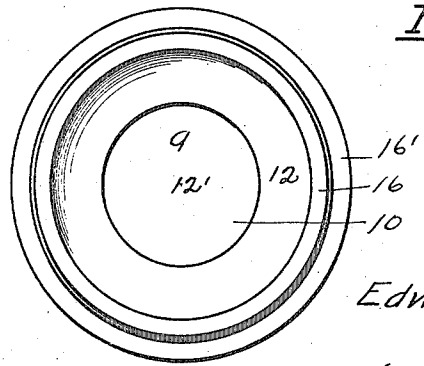

FIG. 4.

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SANCTUARY-LAMP.

1,255,614. Specification of Letters Patent. Patented Feb. 5, 1918.

Application filed October 17, 1917. Serial No. 197,155.

To all whom it may concern:

Be it known that I, EDWARD J. KNAPP, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Sanctuary-Lamps, of which the following is a specification.

This invention relates to improvements in sanctuary lamps, and has for its object to provide a novel, simple, convenient and economical fixture, designed particularly for use in churches and other religious places where lamps of the class are used. A further object is to provide a sanctuary lamp, where a candle of relatively large size and composed of a suitable slow burning wax is employed instead of the various oils heretofore used as the fuel for such lamps. A further object is to provide novel and simple means comprising a low conductor of heat for protecting and steadying the top of the candle and for conserving the fuel of the lamp, for prolonging the lighting intervals, as well as for preventing the waste usually attending the burning of wax-candles. A further object is to provide novel and simple means for preventing the loss or escape of the melted wax after the last of the solid candle has been reduced to oil. And a further object is to reduce the number of parts and to lessen the cost of producing lamps of the class.

The invention relates particularly to an improvement in the sanctuary lamps shown and described in my United States Patent No. 1,200,121, dated October 3, 1916.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section, through the complete lamp. Fig. 2 is a central vertical section; showing the transparent cap in engagement with the candle support, during the final consumption of the candle. Fig. 3 is a horizontal section, taken on line 3—3 of Fig. 2; showing the plain bearing surfaces of the cap in engagement with the outer surface of the candle. Fig. 4 is a top plan view of the removable candle support; showing the rubber or other packing engaged by the bottom of the cap.

In my former patent referred to, the removable support for the candle is disposed in a pan, which in turn is suspended in the hollow main base. This support is fitted with guide-rods, which extend upwardly at the opposite sides of the candle, and the top of the candle is surmounted by a heavy metal ring or cap, which is movable vertically on said guide-rods, as the candle wastes or burns away. The heavy metal cap referred to, follows the wasting candle until it comes to rest upon the upturned mouth of the movable support, where it remains until the last of the candle is consumed. In practice it has been found that the heavy metal cap-ring of the former patent frequently becomes canted on the guide-rods, and also the said rods sometimes become coated with the wax to such extent that the cap fails to descend truly and freely, as intended, and thus when the said cap makes contact with the top surface of the candle support, it fails to tightly seal the joint therebetween, and more or less of the wax-oil escapes. This occasions the frequent cleaning of the support and adjacent parts. Furthermore, the amount of melted wax which escapes, as explained, greatly shortens the lighting period and therefore increases the operating cost of the lamp.

It is a particular object of the present invention to eliminate the heavy metal ring or weight, the guide-rods and the pan of the former device, and to substitute therefor a transparent vitreous cap having certain peculiarities of construction, which enables the said cap to gravitate with the burning candle, without any guiding means, and when it comes to rest upon the candle support, it telescopes a rubber or similar packing ring carried by the support, and effectually seals the joint between the said parts, with the result that practically every drop of the wax-oil is consumed, thereby prolonging the lighting period many hours. The detailed description of my invention follows:

In the drawing, 2 represents the main base of the lamp, preferably hollow and made of suitable sheet metal, which is usually spun so as to present an ornamental appearance and yet be adequately strong. The bottom of the base comprises a relatively broad circular flange 3, while the top 4 is formed cylindrical. Between the top 4 and the bottom 3 of the base is an annular shoulder or ledge 5, and a little higher up is a larger ledge 6, which is preferably perforated at 7, for the admission of air. The

candle support is removable, and comprises a circular part 9, having an upwardly facing cavity or socket 10, in which the bottom of the candle 11 is disposed, the said cavity having an annular bevel surface 12, which causes the melted wax, during the final consumption of the candle, to gravitate into the comparatively narrow bottom space 12'. The part 9 of the support also has a circumferential flange 13. The support 9 is joined by a narrow neck to a disk-like base 15, which rests upon the ledge 5. A rubber or other suitable packing ring 16 is disposed around the part 9 and has a flange 16', which corresponds to and rests upon the flange 13, as best seen in Figs. 1 and 2. The top end of the ring 16 preferably extends some distance above the top of the part 9, and thus increases the depth and capacity of the cavity 10.

The candle 11 is provided with the usual wick 11', to the lower end of which is secured a thin metal disk or part 17, which protects the lower reduced end of the candle while being handled, but mainly serves to support the wick in erect position, after the wax has all become melted, until the light finally dies out (see Fig. 2).

In assembling the lamp ready for use, the support 9 is first placed in the base 2; the candle 11 is next mounted on the said support, and partially rests upon the ring 16. A cap 18, preferably made of glass or other non-metallic substance, having a lower conductivity of heat than ordinary metal, is next mounted on top of the candle, after which a relatively large transparent cylindrical globe or part 19 (preferably red glass), is disposed outside of the candle, the cap, and the support 9. The bottom end of the globe 19 telescopes into the cylindrical portion 4 of the base, and its weight is supported by the ledge 6, just outside of the circle of air-holes 7. The cap 18 has a relatively large cylindrical portion 20, having a thickened lower end for increasing its weight. The portion 20 is hollow, and at intervals around its interior, it is provided with longitudinal smooth bearing surfaces 21, which engage and slide on the outer surface of the candle. The lower end of the part 20 preferably fits the candle loosely, and its hollow inside tapers or diminishes in diameter throughout its length, as best seen in Figs. 1 and 2. The top portion of the candle is also tapered, as at 20', in Fig. 1, and preferably snugly fits into the tapering top of the part 20, when the cap is first applied. The tapering of the candle and also of the part 20, together with the bearings 21, all tend to hold the cap truly concentric to the candle during the operation of the lamp. The bearings 21 are relatively narrow, so as to offer the least resistance to the gravitation of the cap, as the candle melts away. Between the several bearings 21, the interior of the cap is fluted, as at 22, and the fluted portions preferably do not contact with the sides of the candle, except at the portion of the candle which is tapered (20'). The flutes are provided particularly for reducing the friction, which otherwise would retard the gravitation of the cap. At the top of the cylindrical portion 20, the cap is contracted to provide a rather abrupt and prominent shoulder 23, which rests firmly upon the top of the candle 11, and above the annular shoulder 23 the cap flares outwardly and upwardly, as at 24, for providing a hopper-like well or cup, in which the unmelted tip 11^a of the candle and the wick 11' project. The whole cap 18 is preferably made of transparent material, so that the flame of the wick 11' may show through the flaring part 24. After the candle has burned for a time, the tip 11^a melts or is reduced to wax-oil, and thereafter until the final consumption of the candle, the flaring cup 24 is more or less filled with melted wax, as indicated by the dotted line 25 in Fig. 1. The presence of the warm melted wax in the vicinity of the shoulder 23, tends to soften the body of the candle below that point sufficiently to allow the tapering interior of the cap to continually remold and maintain the aforesaid taper of the candle and thereby effectually prevents the escape of any of the melted wax from the cup 24 during the wearing away of the candle.

As the candle 11 melts and wastes away by the heat of the burning wick, the cap 18 gravitates with the candle, as explained, until nearly all of the solid wax is melted. But before the final reduction of the solid candle, the lower end of the cap 18—20 reaches and telescopes the rubber ring 16, and finally comes to rest firmly seated upon the flange 16'. When these parts come together, as shown in Fig. 2, the ring 16 being tapered to correspond to the shape and size of the cap, an oil-tight seal is effected, and none of the melted wax can escape. Owing to the peculiar shape of the cavity 10—12', and the position of the wick 11', practically all of the wax-oil ω, which is retained in the support 9, is capillarily attracted and consumed simultaneously with the final destruction of the wick.

The usual ornamental wire-cage screen 26 is disposed in the slightly flaring top-end of the globe 19, for excluding insects and for otherwise protecting the top of the lamp.

The candles 11 are made of slow burning wax and are usually provided in sizes which will burn continuously for eight to ten days without renewal.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. In a sanctuary lamp, the combination

with the candle and the base, of a support for the candle located in the base, a rubber packing ring surrounding the support, a transparent cap mounted on the candle adapted when the candle melts away to telescope said packing ring for preventing escape of the melted wax from a cavity in said support.

2. A sanctuary lamp, including a wax candle, a support for said candle, and a transparent hollow cap telescoping the top end of the candle and closely engaging a tapering part of the candle, adapted to gravitate as the candle melts away, said cap having a flaring cup-shaped portion surrounding the tip and wick of the candle adapted to retain the wax-oil during the burning of the candle.

3. A sanctuary lamp, including a candle, a support for the candle, a tapering rubber ring surrounding said support, a cap, said cap having a tapering hollow cylindrical portion telescoping the tapering top-end of the candle adapted to gravitate toward said support as the candle melts and wastes away, the lower end of said portion adapted to partially telescope said rubber ring for sealing the joint between said cap and said support.

4. A sanctuary lamp including a candle, a support having a cavity therein to receive the bottom end of the candle, a tapering packing ring surrounding a portion of the support containing said cavity, and a transparent cap having a hollow fluted interior adapted to gravitate by the melting of the candle and to telescope said support and said packing ring for sealing the joint between the cap and support.

5. In a sanctuary lamp, a candle having a taper near its top, a support for said candle, a gravitative cap telescoping the top of the candle, said cap being tapered interiorly to conform to the taper of the candle, and a packing ring carried by the support, and telescoped by said cap when the latter completes its gravitative movement.

6. In a sanctuary lamp, the combination with a candle having a tapering top and a taper at its bottom, of a support for said candle having a tapering cavity to receive the bottom end of the candle, a follower having a tapering interior telescoping the top of the candle adapted to telescope a portion of said support when the candle is partially consumed, and a flange-packing ring interposed between said follower and said support for sealing the joint therebetween.

7. A sanctuary lamp including a base, a candle support disposed concentrically in said base, a packing-ring surrounding a portion of said support, a candle, the lower end of said candle partially received by a socket in said support and partially supported by said packing ring, a vitreous cap having a tapering interior engaging a tapered portion of the candle and gravitative as the candle melts away, adapted to telescope said packing ring for preventing the escape of the melted wax during the final consumption of the candle.

8. A sanctuary lamp comprising a candle, a base, a removable support for the candle disposed in the base, said support having a cavity to receive the bottom end of the candle and to retain the wax-oil resulting from the final melting of the candle, and a transparent cap telescoping the top end of the candle having an oil-cup for retaining the wax-oil while the candle remains solid, the interior of said cap being tapered and provided with smooth bearings which contact the outer surface of the candle, said cap adapted to telescope said support at the end of its gravitative movement.

In testimony whereof I affix my signature.

EDWARD J. KNAPP.