

Joint press release

Federal Institute for Materials Research and Testing (BAM)

Federal Institute for Risk Assessment (BfR)

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Child-safe oil lamps are possible!

Appendix 2: Design idea for an indoor oil lamp in regard to DIN EN 14059

DIN EN 14059 (Decorative Oil Lamps) specifies safety requirements and test methods for oil lamps which are used for decorative purposes in households, restaurants, leisure facilities and similar fields.

The idea is a special burner design. A simple wick protection should prevent infants from pulling out the wick or suck the paraffin oil from the wick. Existing, non child-safe indoor oil lamps can be re-equipped with such a burner.

The design idea is outlined in the following pictures. A 3D program is available on request in which sections, trimming and rotations can be implemented.



Fig.1: Example of a decorative and child-safe indoor oil lamp

The oil lamp consists of a fuel tank (yellowish green grey), which is also the lamp body in this case, a seal (black), a wick support (orange), a wick protection (violet) and a wick (brown).

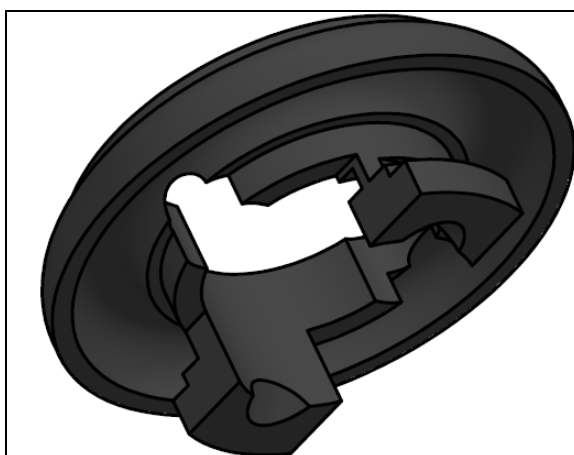


Fig. 2: Seal

The seal is made of oil resistant soft polymer. The seal is locked by two claws on the inside of the lamp body. It seals the lamp body to the wick support.

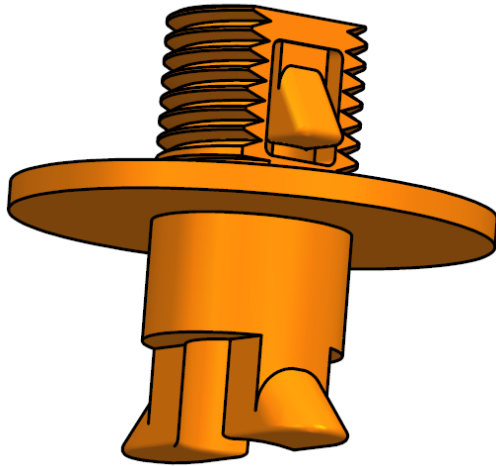


Fig. 3: Wick support

The wick support has two lugs which fit exactly into the recesses of the seal in the lower part. As with a bayonet fixing, a 90° turn using light pressure until the lugs of the wick support engage with the claws of the seal. The wick support can be made of heat-resistant plastic with a high filler content.

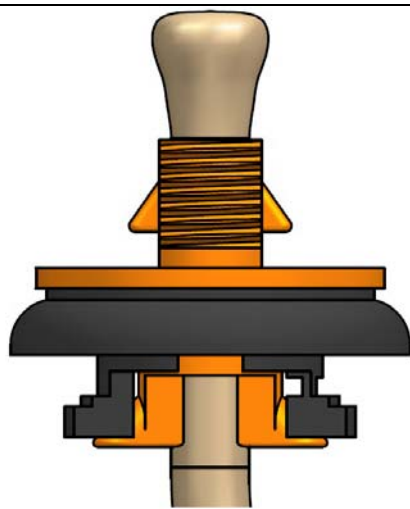


Fig. 4 Burner (without a nut)

The thread at the wick support has two lateral latches which fix the wick and temporarily protect the fuel supply from running out.

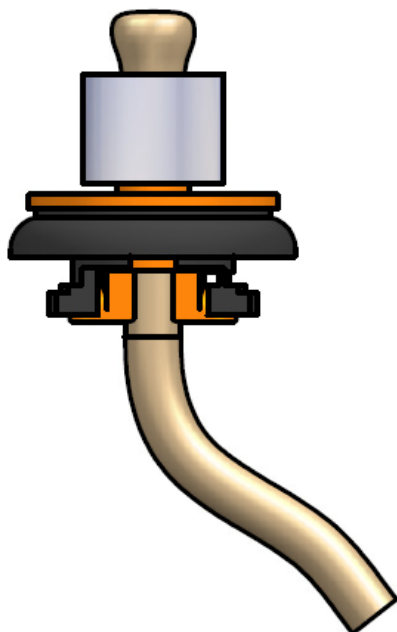


Fig. 5 Burner (with a nut)

The nut screwed on the thread of the wick support presses on the two lateral wick latches. Thus the wick can be fixed more firmly without preventing fuel from being drawn from the tank and the fuel supply can be better protected from running out than in the version without a tightening nut. If the height of the nut is adequate, children can be simultaneously prevented from sucking oil from the wick. The nut should be made of metal because it is positioned very close to the flame.