

## Title (en)

Method and apparatus for capturing and carrying away the heat produced by an ultraviolet ray source

## Title (de)

Verfahren und Vorrichtung zur Ableitung der Wärme produziert von einer Quelle ultravioletter Strahlen

## Title (fr)

Procédé et appareil pour emporter la chaleur produite par une source de rayons ultraviolets

## Publication

**EP 1862731 A1 20071205 (EN)**

## Application

**EP 06114748 A 20060531**

## Priority

EP 06114748 A 20060531

## Abstract (en)

A hollow lenticular filter (D, D') of very pure quartz, within which a liquid which carries away the heat irradiated by the lamp, which has the property of high permeability to UV and which maintains this property over time, such as for example distilled or otherwise purified water, is circulated continuously and over the shortest route, is located between the source (L) emitting the UV rays and the substrate (S) being irradiated. A further filter (20) manufactured using an interferometry technique through vacuum plasma deposition of suitable materials in ultrathin layers on the external surface of the quartz filter may be provided on the said surface of the lenticular filter facing the substrate (S) being irradiated, it being provided that this additional filter has transparency characteristics which differ with the frequencies involved so as to be highly permeable to UV radiation and instead reflect towards the cooling liquid a considerable part of the residual infrared radiation which would otherwise escape from the said cooling liquid.

## IPC 8 full level

**F26B 3/28** (2006.01); **B41F 23/04** (2006.01); **F21V 9/04** (2006.01); **F21V 19/00** (2006.01); **H01J 61/00** (2006.01)

## CPC (source: EP)

**F26B 3/28** (2013.01)

## Citation (applicant)

- US 5321595 A 19940614 - JACOBI LESTER B [US], et al
- US 4000407 A 19761228 - KELLER CHARLES H, et al

## Citation (search report)

- [X] US 5321595 A 19940614 - JACOBI LESTER B [US], et al
- [X] US 4000407 A 19761228 - KELLER CHARLES H, et al
- [X] US 2002190225 A1 20021219 - BURGIO JOSEPH T [US]
- [X] US 5722761 A 19980303 - KNIGHT RONALD EDWARD [GB]
- [A] US 4100418 A 19780711 - BROWN JR GEORGE EMMETT
- [A] DE 19651977 A1 19980618 - BISGES MICHAEL [DE]
- [A] PATENT ABSTRACTS OF JAPAN vol. 007, no. 140 (E - 182) 18 June 1983 (1983-06-18)
- [A] PATENT ABSTRACTS OF JAPAN vol. 018, no. 672 (E - 1646) 19 December 1994 (1994-12-19)

## Cited by

JP2011245479A; CN107351533A; WO2016132324A1

## Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

## Designated extension state (EPC)

AL BA HR MK YU

## DOCDB simple family (publication)

**EP 1862731 A1 20071205**

## DOCDB simple family (application)

**EP 06114748 A 20060531**