

## Title (en)

Showerhead structure having functions of temperature sensing and micro-hydro-electric power generating

## Title (de)

Duschkopfstruktur mit Funktionen der Temperaturmessung und Erzeugung von mikro-hydroelektrischem Strom

## Title (fr)

Structure de pommeau de douche doté de fonctionnalités de détection de la température et de génération d'énergie micro-hydroélectrique

## Publication

**EP 2158972 A1 20100303 (EN)**

## Application

**EP 08165525 A 20080930**

## Priority

TW 97132473 A 20080826

## Abstract (en)

A the showerhead structure having functions of temperature sensing and micro-hydro-electric power generating includes a main body (1), a bearing seat (2), a power generating portion (3), an assembling seat cap (4), a circuit board (5), and a cover (6); when it comes to assembling, the power generating portion (3) is first placed in the fastening seat (21) of the bearing seat (2) making the shaft rod (3221) of the power generating portion (3) mount on the second shaft channels (212); afterwards, the fastening seat (21) is covered by the assembling seat cap (4) having the salient post (42) thereof plug in the open end of the second shaft channels (212) to secure the shaft rod (3221) mounting in the second shaft channels (212) in position, then place the whole thing into the containing space (10) of the main body (1) with the protuberant block (46) plugging in the channel seat (12) making the fastening portions (13) fasten to the corresponding lugs (41) by tightening the fastening elements (26) into the screw holes (211,411) to secure with the fastening portions (13); thereafter, the circuit board (5) is placed in and is electrically connected to the power generating portion (3) and the sensing element (47); finally, the cover (6) is covered and fastened by tightening the catching portions (62) and the catch channel (11) of the main body (1); by making use of the water-flow to drive the dynamic element (45), the showerhead structure of the invention is capable of generating electricity for making the light-emitting elements (51) illuminate, and in association with the sensing element (47) to drive the light-emitting elements (51) for illuminating different colors of light after sensing the water temperature; In this way, the showerhead structure of the invention is capable of achieving the objectives of having the functions of temperature warning and intensifying the visual effect.

## IPC 8 full level

**B05B 1/18** (2006.01); **E03C 1/04** (2006.01); **F21S 9/04** (2006.01); **F21V 33/00** (2006.01)

## CPC (source: EP US)

**B05B 1/18** (2013.01 - EP); **B05B 12/004** (2013.01 - EP); **E03C 1/0409** (2013.01 - EP US); **F21S 9/046** (2013.01 - EP); **F21V 23/0442** (2013.01 - EP); **F21V 33/004** (2013.01 - EP); **E03C 2001/0418** (2013.01 - EP); **F21Y 2115/10** (2016.07 - EP US)

## Citation (applicant)

- US 2008061557 A1 20080313 - BAARMAN DAVID W [US], et al
- US 2008061558 A1 20080313 - BAARMAN DAVID W [US], et al
- TW 95212225 U 20060712
- US 2008052820 A1 20080306 - LU CHING-HSIEN [TW]
- KR 0302747 W 20031215

## Citation (search report)

- [A] EP 1958700 A2 20080820 - POWER ELECTRONIC DI CARLUCCIO [IT]
- [A] EP 1531204 A1 20050518 - MODUS HIGH TECH ELECTRONICS GM [DE]
- [A] WO 2007129174 A1 20071115 - BLUE MAGIC S R L [IT], et al
- [A] DE 202007015029 U1 20080110 - WANG KAI [TW]
- [AP] DE 202008007597 U1 20080904 - HU WEI [CN]
- [E] US 2009121044 A1 20090514 - LO ROBER [TW], et al
- [E] DE 202009003820 U1 20090625 - AQUENIO AG [CH]
- [E] CN 201211505 Y 20090325 - ANLIANG XU [CN]
- [E] CN 101362121 A 20090211 - YONGJIN WANG [CN]
- [E] CN 201150886 Y 20081119 - ZHOU HUASONG [CN]

## Cited by

FR3019289A1; CN109747866A; US9927276B2; US10456793B2; WO2015150247A1; WO2021112589A1; US11028986B2

## Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

## Designated extension state (EPC)

AL BA MK RS

## DOCDB simple family (publication)

**EP 2158972 A1 20100303**; **EP 2158972 B1 20120411**; AT E552911 T1 20120415; PL 2158972 T3 20120928; TW 201008540 A 20100301; TW I346543 B 20110811

## DOCDB simple family (application)

**EP 08165525 A 20080930**; AT 08165525 T 20080930; PL 08165525 T 20080930; TW 97132473 A 20080826