

Title (en)

Nozzle for generating bubbles.

Title (de)

Düse zur Erzeugung von Blasen.

Title (fr)

Buse pour la production de bulles.

Publication

**EP 0596155 A1 19940511 (DE)**

Application

**EP 92119077 A 19921106**

Priority

- EP 92119077 A 19921106
- CA 2081392 A 19921026
- US 96633192 A 19921026

Abstract (en)

A nozzle (10) for continuously generating a number of bubbles is practicably used for the purpose of bathing, cleaning, fire extinguishing, sterilizing or the like. The nozzle (10) includes as essential components a chemical agent mixture liquid preparing unit (5), a cylindrical holder (11) to be seized with a user's hand, an injection nozzle (13) attached to the foremost end of the holder (11) for injecting a chemical agent mixture liquid (A) in the form of a number of particles, a cylindrical sleeve (14) secured to the holder (11) with a diameter larger than that of the holder (11), air intake ports (17) formed through the cylindrical sleeve (14) for introducing environmental air into the hollow space of the cylindrical sleeve (14) therethrough, and a mesh-shaped screen (16) fixedly secured to the foremost end of the cylindrical sleeve (14) for allowing a mixture of the injected particles and the introduced air to collide therewith and then generate a number of bubbles each composed of the chemical agent mixture liquid (A). A distance between the injection nozzle (13) and the mesh-shaped screen (16) can be adjusted, and moreover, a flow rate of air to be introduced into the cylindrical sleeve (14) through the intake air ports (17) can be adjusted. To this end, the cylindrical sleeve (14) is displaceably threadably engaged with the holder (11) and an annular adjustment cover (18) is displaceably fitted around the cylindrical sleeve (14). The present injection nozzle (13) may be exchanged with another injection nozzle (22), if necessary. <IMAGE>

IPC 1-7

**B05B 7/04; B05B 7/00; A62C 5/02; A62C 31/12**

IPC 8 full level

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Citation (search report)

- [X] US 2645292 A 19530714 - CLIFFORD WILLIAMS EVAN
- [Y] US 5054688 A 19911008 - GRINDLEY JOHN R [US]
- [A] DE 17649 C
- [A] DE 3817489 A1 19881208 - MINE SAFETY APPLIANCES CO [US]
- [A] US 2894694 A 19590714 - HYMAN LACKS, et al

Cited by

WO2010086199A1; US6126089A; EP0719590A1; FR2728808A1; EP0714708A3; EP2210657A1; CN102300628A; WO9809739A1; US8641019B2

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