

Title (en)
Water mist fire suppression device

Title (de)
Feuerunterdrückungsvorrichtung mit Wassernebel

Title (fr)
Dispositif de suppression d'incendie à brouillard d'eau

Publication
EP 0784998 A2 19970723 (EN)

Application
EP 97300195 A 19970114

Priority
US 58761896 A 19960117

Abstract (en)
A fire suppression device (210) includes an enclosure (212) having opposite end walls (214, 216) and a side wall (218) joining the end walls to define a hollow chamber (220) within the enclosure. An atomizing nozzle (222) is operatively coupled to a first of the end walls and has an entrance portion (224) adjacent the chamber and an exit (225) in communication with the atmosphere outside of the enclosure. A frangible barrier (226) is interposed between the nozzle entrance portion (224) and the chamber and is responsive to a predetermined pressure for fracturing to permit communication between the nozzle and the chamber. A piston (232) is located between the end walls and engaged about an inner periphery of the side wall (218) to divide the chamber into two sections. A first of these sections (228), between the piston and the first end wall (214), is filled with a quantity of water and comprises a major fractional portion of the volume of the chamber. The piston is slidably moveable relative to the side wall (218) in the direction of the first end wall (214) in response to a force exerted upon the piston for exerting pressure upon the quantity of water for initially fracturing the frangible barrier and for thereafter delivering a water mist through the atomizing nozzle. A gas generator (240) communicates with the second section (230) for delivering high pressure gas to exert the force upon the piston, causing a fine mist to flow from the nozzle. As a variation, a conduit (250) may extend from the nozzle to the second section, and the nozzle may include venturis (252, 254) extending between the first section and the conduit. The generated gas will flow through the conduit to further draw the water via venturi effect. <IMAGE>

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IPC 8 full level
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A62C 31/02 (2013.01 - KR); **A62C 35/023** (2013.01 - EP); **A62C 99/0072** (2013.01 - EP); **A62C 31/28** (2013.01 - KR)

Citation (applicant)
• US 5230531 A 19930727 - HAMILTON BRIAN K [US], et al
• US 25203694 A 19940531

Cited by
GB2370769A; CN113941111A; GB2337700A; GB2337700B; FR2936715A1; GB2324466A; GB2324466B; FR2922972A1; CN110270031A; GB2587274A; GB2587274B; FR2992575A1; CN104540555A; GB2542580A; GB2542580B; US10159861B2; US8499560B2; US1129702B2; AU2011311943B2; EP2625074A4; CN111319894A; WO2014001722A1; WO2012048112A3; WO2009056574A1; WO9847572A1; US8783372B2; US9322625B1; US8662192B2; US9750965B2; US9682259B2; US9919173B2; EP1224014B2

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