

Title (en)

MINIATURE UNIVERSAL PUMP AND VALVE FOR INFLATABLE LININGS

Title (de)

UNIVERSIELLE MINIATURPUMPE UND VENTIL FÜR AUFBLASBARE AUSKLEIDUNGEN

Title (fr)

POMPE ET SOUPAPE MINIATURES UNIVERSELLES POUR DOUBLURES GONFLABLES

Publication

**EP 0918935 A1 19990602 (EN)**

Application

**EP 97951479 A 19971128**

Priority

- US 9721676 W 19971128
- US 3215596 P 19961129
- US 78153197 A 19970109

Abstract (en)

[origin: WO9823863A1] There is disclosed a preform for a miniature air pump and relief valve assembly (1020) with a substantially flat bottom and a bulbous extremity (1022) on one end and a relief valve (1035) in a recess at the opposite ends. The miniature air pump and relief valve assembly (1020) is applied to linings for items such as insoles (810, 1010, 1100, 1170, 1200), bicycle seat (1218), seat and seat backs (1250), helmets (1280, 1310, 1283, 1285, 1330, 1400) and a multipurpose pad (1370).

IPC 1-7

**F04B 41/00**; **A43B 13/20**; **A42B 3/00**; **A47C 27/10**; **B62J 1/26**

IPC 8 full level

**A41D 19/00** (2006.01); **A42B 3/12** (2006.01); **A43B 13/20** (2006.01); **A43B 17/03** (2006.01); **B62J 1/26** (2006.01)

CPC (source: EP)

**A42B 3/122** (2013.01); **A43B 5/0439** (2013.01); **A43B 13/203** (2013.01); **A43B 17/035** (2013.01); **B62J 1/26** (2013.01); **A41D 19/0055** (2013.01)

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

**WO 9823863 A1 19980604**; EP 0918935 A1 19990602; EP 0918935 A4 20010912

DOCDB simple family (application)

**US 9721676 W 19971128**; EP 97951479 A 19971128