

12 **EUROPEAN PATENT APPLICATION**

21 Application number: **89308668.6**

51 Int. Cl.⁵: **E03C 1/308, E04H 4/12,
A47L 7/00, B08B 9/02**

22 Date of filing: **25.08.89**

30 Priority: **10.04.89 US 335761**

43 Date of publication of application:
17.10.90 Bulletin 90/42

84 Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

88 Date of deferred publication of the search report:
27.12.90 Bulletin 90/52

71 Applicant: **LEMAKS INDUSTRIES, INC.**
38 Benstone Road
Stamford Connecticut 06905(US)

72 Inventor: **Brzoska, Henry G.**
38 Benstone Road
Stamford Connecticut 06905(US)

74 Representative: **Beresford, Keith Denis Lewis**
et al
BERESFORD & Co. 2-5 Warwick Court High
Holborn
London WC1R 5DJ(GB)

54 **Apparatus for clearing obstructed fluid passageways.**

57 Apparatus for clearing obstructed fluid passageways has a control manifold (10) with first and second inlets (28, 24) to a pressure source and a vacuum source and an inlet/outlet port (42) for connection to the obstructed passageway. An interior chamber (40) is divided into a pressure chamber (34) communicating with the first inlet (28) and a vacuum chamber (32) communicating with the second inlet (24). A displaceable member (62) in alternate positions thereof communicates between the

vacuum chamber (32) and said inlet/outlet port (42), and between the pressure chamber (34) and said inlet/outlet port (42). Displacing means (52) moves the displaceable member (62) between its positions thereby connecting the port (42) sequentially to either the pressure chamber (34) or the vacuum chamber (32). This displacing means (52) also simultaneously connects the other of the pressure chamber (34) and vacuum chamber (32) to atmosphere via a porting means (50, 48).

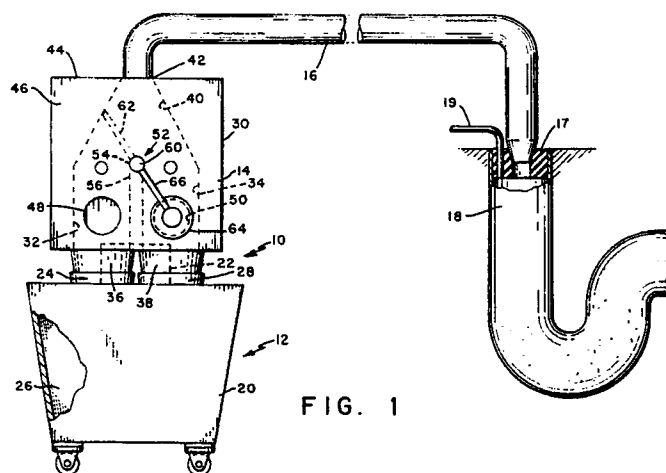


FIG. 1



DOCUMENTS CONSIDERED TO BE RELEVANT					
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)		
A	CH-A- 150 274 (INVENTIA) * Page 2, right-hand column, lines 3-9; figures * ---	1-4,6,8 -10	E 03 C 1/308 E 04 H 4/12 A 47 L 7/00 B 08 B 9/02		
A	US-A-3 619 851 (BOLZAN) * Claim 1 * ---	1-4,6- 11			
A,D	US-A-3 238 556 (MARTIN) * Figures * ---	1-2,4			
A	US-A-2 673 986 (SCHAEFER) * Page 1, column 1, lines 7-18 * -----	1,5			
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)		
			E 03 C E 03 F A 47 L B 08 B		
The present search report has been drawn up for all claims					
Place of search THE HAGUE		Date of completion of the search 14-09-1990	Examiner VAN BEURDEN J.J.C.A.		
<table border="0"><tr><td>CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</td><td>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</td></tr></table>				CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document				