United States Patent [19]

Freeman et al.

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[54] **WATER DETECTION AND REMOVAL FOR INSTRUMENTS**

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[*] Notice: The portion of the term of this patent subsequent to May 31, 2005 has been disclaimed.

[21] Appl. No.: **352,662**

[22] Filed: **May 9, 1989**

Related U.S. Application Data

[63] Continuation of Ser. No. 173,304, Mar. 25, 1988, abandoned, which is a continuation-in-part of Ser. No. 735,792, May 17, 1985, Pat. No. 4,747,960.

[51] **Int. Cl.**[5] **B01D 15/00;** B01D 53/14

[52] **U.S. Cl.** **210/689;** 55/35; 210/282

[58] **Field of Search** ..... 55/29–35; 174/14 R; 210/689, 282

[56] **References Cited**

U.S. PATENT DOCUMENTS

1,475,548	11/1923	Hunt	252/194
2,214,925	9/1940	Guthrie	252/2
2,352,158	6/1944	Bishop	174/14
2,578,324	12/1951	Southwick	183/4.8
3,272,742	9/1966	Polishuk	252/28
3,539,364	6/1971	Dean et al.	162/146
3,661,815	5/1972	Smith	260/17.4
3,830,752	4/1975	Premo	210/54
3,990,872	11/1976	Cullen	55/274
4,036,360	7/1977	Deffeyes	206/204
4,124,116	11/1978	McCabe	206/204
4,242,206	12/1980	Estabrooke	210/489
4,295,987	10/1981	Parks	252/194
4,419,236	12/1983	Hsu	210/689
4,437,082	3/1984	Walsh et al.	336/58
4,454,055	6/1984	Richman et al.	252/194
4,588,505	5/1986	Walley et al.	210/502.1
4,594,082	6/1986	Catherwood	55/316
4,747,960	5/1988	Freeman et al.	210/689
4,758,350	7/1988	Pitts et al.	210/484

OTHER PUBLICATIONS

Diagnetics Technical Bulletin Insulgard TB/1G 84–5.
Diagnetics Technical Bulletin Hydrolock TB/HL 84–5.

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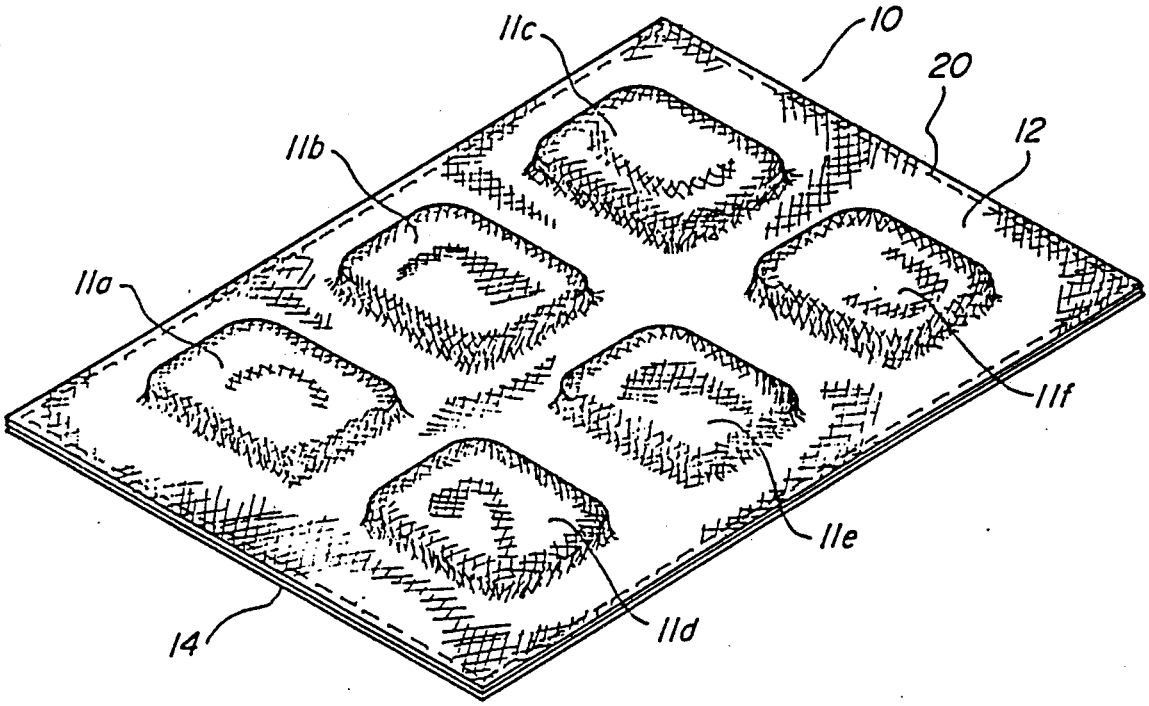
[57] **ABSTRACT**

A bonded woven fabric compartment containing a super absorbent polymer which absorbs atmospheric water, condensate and water in oil for use in enclosures containing instrumentation and electronic equipment. The polymer is a granular form that when it absorbs water swells and does not migrate out of the compartment.

15 Claims, 1 Drawing Sheet