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61/161,858 20 March 2009 (20.03.2009) US(71) Applicant (for all designated States except US): **ITT MANUFACTURING ENTERPRISES, INC.** [US/US]; 1105 North Market Street, Suite 1217, Wilmington, Delaware 19801 (US).

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(54) Title: HIGH PRESSURE DUCKBILL VALVE AND INSERT

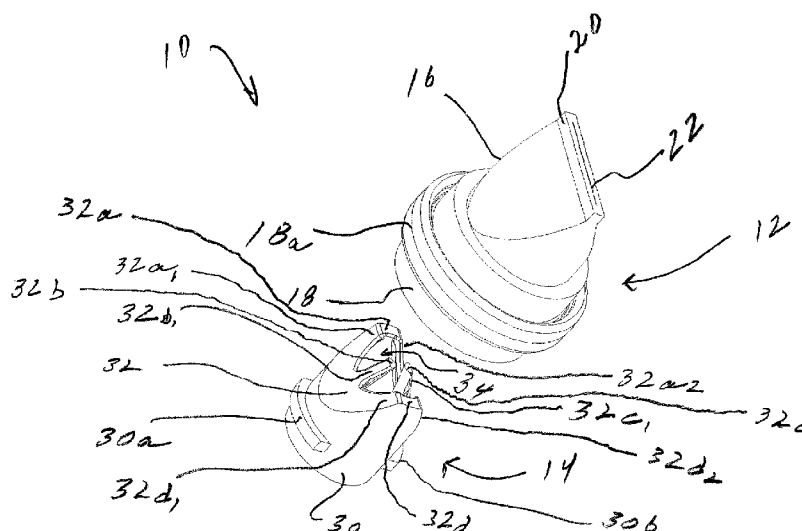


Figure 1a: Exploded view of duckbill check valve assembly

(57) Abstract: The present invention provides apparatus featuring a check valve featuring a duckbill valve configured to provide fluid and particulate; and an insert having a base portion configured to seat the insert inside the duckbill valve, and a W-shaped portion configured with an opening to pass the fluid and particulate through the duckbill valve and also configured to provide support for walls of the duckbill valve in response to back pressure caused by the fluid and particulate.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/027377

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - F16K 15/00 (2010.01)

USPC - 137/849

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - F16K 15/00 (2010.01)

USPC - 137/846, 847, 849; 524/all; 528/all

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MicroPatent

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,010,925 A (ATKINSON et al) 30 April 1991 (30.04.1991) entire document	1, 2, 5-7, 10-12, 15-18
Y		3, 4, 8, 9, 13, 14
Y	US 7,296,782 B2 (ENERSON et al) 20 November 2007 (20.11.2007) entire document	3, 8, 13
Y	US 4,566,493 A (EDWARDS et al) 28 January 1986 (28.01.1986) entire document	4, 9, 14

☐ Further documents are listed in the continuation of Box C.

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