

The Director of the United States Patent and Trademark Office

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

Michelle K. Lee

Director of the United States Patent and Trademark Office



(12) United States Patent Cardona

(54) HIGH-PRESSURE FLUID CONDUIT

(71) Applicant: Zena Associates, LLC, Folcroft, PA

(72) Inventor: Robert Cardona, Cinnaminson, NJ

(73) Assignee: Zena Associates, LLC, Folcroft, PA

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 296 days.

(21) Appl. No.: 13/922,794

(22) Filed: Jun. 20, 2013

Prior Publication Data US 2014/0373944 A1 Dec. 25, 2014

F16L 37/30 (2006.01)(2006.01) F16L 55/10

(52)U.S. Cl. F16L 37/30 (2013.01); F16L 55/1007 (2013.01); Y10T 137/7723 (2015.04)

Field of Classification Search CPC F16K 17/36; F16L 11/00; F16L 55/1007; F16L 55/1015; F16L 55/1022 137/68.14, 456, 614; 138/106, 109, 138/118.1, 155; 285/1

See application file for complete search history.

References Cited

U.S. PATENT DOCUMENTS

1,304,364	A	5/1919	Phillips
2,054,561	A	9/1936	Greenberg
2,165,640	Α	7/1939	
3,273,578	Α	9/1966	Clark
3,213,310	A	3/1300	Clark

(10) Patent No.: US 9,625,074 B2 (45) Date of Patent: Apr. 18, 2017

3,630,214	A		12/1971	Levering	
3,802,456	A		4/1974	Wittgenstein	
3,859,692	A		1/1975	Waterman	
3,907,336	A		9/1975	Siegmund	
3,913,603	A		10/1975	Torres	
4,023,584	A		5/1977	Rogers et al.	
4,098,438	A		7/1978	Taylor	
4,351,351	A		9/1982	Flory et al.	
4,509,558	A		4/1985	Slater	
4,614,201	A	*	9/1986	King et al 137/68.1	5
4,735,083	A		4/1988	Tenenbaum	
4,827,977	A		5/1989	Fink, Jr.	
			(Con	tinued)	

FOREIGN PATENT DOCUMENTS

WO 2005001327 A1 1/2005

OTHER PUBLICATIONS

Website for HPF, Inc., Breakaway Couplings, www.hpflap.com, HPF, Inc., 13450 Indian Creek, Cleveland, Ohio 44130, Tel: 440-816-2195, 1-800-445-1289, Fax: 440-816-2196, 2 pages, Copyright

(Continued)

Primary Examiner - Kevin Murphy Assistant Examiner - Daniel P Donegan (74) Attorney, Agent, or Firm — Barley Snyder

ABSTRACT

A high-pressure fluid conduit that conducts high-pressure fluid from a high-pressure fluid source to a high-pressure fluid container through a hose unit during open or normal operation. This high-pressure fluid conduit has a safety feature that is activated when the high-pressure fluid conduit fails due to exposure to a predetermined force. The safety feature closes off the flow of high-pressure fluid from the high-pressure fluid source and closes off the escape of high-pressure fluid from the hose unit that entered the hose unit during open or normal operation.

11 Claims, 4 Drawing Sheets

