US005080400A

United States Patent [19]

Adamek et al.

[11] Patent Number: 5,080,400

[45] Date of Patent: Jan. 14, 1992

[54] DOUBLE LOBE TUBULAR CONNECTOR CLAMP

[75] Inventors: **Frank C. Adamek**, Pasadena, Calif.; **Dag H. Zeiner-Gundersen**, Houston, Tex.

[73] Assignee: **ABB Vetro Gray Inc.**, Houston, Tex.

[21] Appl. No.: **516,725**

[22] Filed: **Apr. 30, 1990**

[51] **Int. Cl.**[5] **F16L 57/07**

[52] **U.S. Cl.** **285/23**; 285/334.2; 285/367

[58] **Field of Search** 285/367, 334.2, 23, 285/373, 410, 112, 365, 366, 407, 408, 409, 411

[56] **References Cited**

U.S. PATENT DOCUMENTS

1,227,187	5/1917	Olcott .	
1,839,761	1/1932	Hutton .	
1,931,694	10/1933	Hall .	
2,488,470	11/1949	Gerweck et al.	285/23 X
2,766,998	10/1956	Watts et al. .	
2,768,841	10/1956	Allen	285/23
3,006,663	10/1961	Bowne	285/367 X
3,216,746	11/1965	Watts .	
3,393,927	7/1968	Kelly et al.	285/23
3,404,902	10/1968	Latham et al. .	
3,554,581	1/1971	Mason et al. .	
3,680,188	8/1972	Mason et al. .	
3,687,487	8/1972	Lindholm	285/373 X
4,059,288	11/1977	Mohr	285/23 X
4,248,307	2/1981	Silberman et al.	285/23 X
4,311,248	1/1982	Westerlund et al.	285/365 X
4,522,434	6/1985	Webb .	
4,601,495	7/1986	Webb .	

FOREIGN PATENT DOCUMENTS

0511690	12/1953	Belgium	285/407
0013074	9/1925	Netherlands	285/365
0370439	4/1932	United Kingdom	285/367
0840696	7/1960	United Kingdom	285/367

Primary Examiner—Dave W. Arola
Assistant Examiner—Heather Chun
Attorney, Agent, or Firm—James E. Bradley

[57] **ABSTRACT**

A hub clamp will be used to connect two conduits together in end-to-end relationship. Each conduit has a pair of generally parallel load shoulders that extend around the conduit and are axially spaced from each other. The clamp has two sets of load shoulders, one for engaging each set of load shoulders on each end of the conduit. The clamp is in two halves, and when bolted together, draws the ends of the conduits toward each other. Each load shoulder is separated by a flank. The two flanks of the mating load shoulders are separated by a gap when fully made up. The first load shoulder of each conduit has multiple angled sections. The lead section is at a greater angle than the load section relative to a plane perpendicular to the longitudinal axis of the conduit. The clamp will be mounted releasably to an upper conduit so that it can slide inward and outward, for vertical conduit applications.

8 Claims, 7 Drawing Sheets