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[Continued on next page]

(54) Title: CABLE ENTRY SEAL FOR PASSING A CABLE THROUGH A STRUCTURE

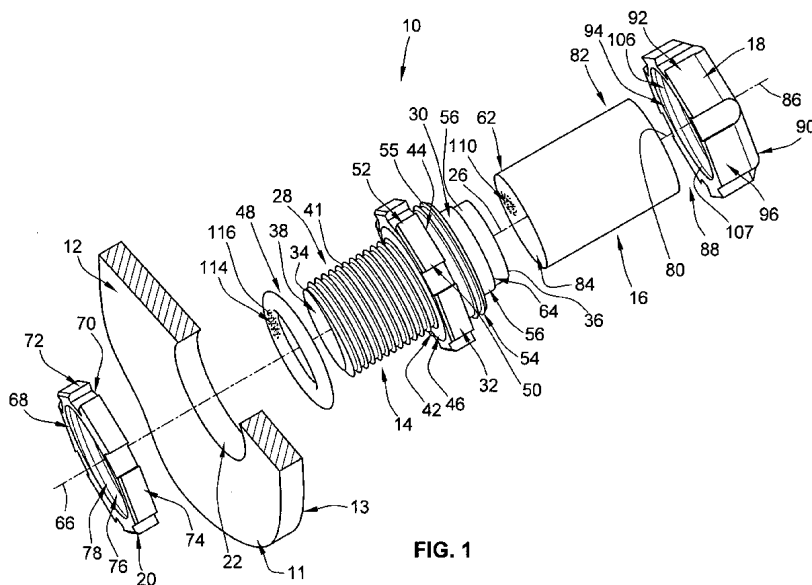


FIG. 1

(57) Abstract: A cable entry seal (10) is provided for passing a cable (24) through an opening within a structure. The cable entry seal includes a body (14) extending a length. A passageway extends (38) through the length of the body. The passageway is configured to receive the cable therethrough. The body includes a flange (32) and a seal fitting (30) extending outwardly from the flange along the length of the body. The seal fitting includes an exterior sealing surface (56). The cable entry seal includes a seal conduit (16) having a sealing end (62) surrounding and sealingly engaged with the exterior sealing surface of the seal fitting. The seal conduit is configured to surround the cable when the cable is received through the passageway of the body. The cable entry seal includes a lock ring (18) connected to the body. The lock ring surrounds and sealingly engages with the sealing end of the seal conduit such that the sealing end is held between the exterior sealing surface of the seal fitting and the lock ring.



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A. CLASSIFICATION OF SUBJECT MATTER  
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
 F16B H02G

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 practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 900 068 A (LAW JOSEPH P [US]) 13 February 1990 (1990-02-13)	1-5,7,8
Y	the whole document	6
X	US 4 842 548 A (BOLANTE JAY J [US]) 27 June 1989 (1989-06-27)	1-5,7,8
Y	the whole document	6
Y	US 5 051 541 A (BAWA JASPAL S [US] ET AL) 24 September 1991 (1991-09-24) abstract; figure 3	9
Y	US 2 017 421 A (POST LAWRENCE M) 15 October 1935 (1935-10-15) abstract; figure 13	6,9
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Further documents are listed in the continuation of Box C.

See patent family annex.

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## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 7 048 561 B1 (ELBAZ SHIMON [US]) 23 May 2006 (2006-05-23) the whole document -----	10
Y	US 3 931 451 A (DURSCHNER ROLF ET AL) 6 January 1976 (1976-01-06) abstract -----	10
X	US 3 603 912 A (KELLY WILLIAM E) 7 September 1971 (1971-09-07) the whole document -----	1
X	CH 184 711 A (BOSCH ROBERT AG [DE]) 15 June 1936 (1936-06-15) the whole document -----	1

}

Patent document cited in search report		Publication date	Patent family member(s)	Publication date	
US 4900068	A	13-02-1990	CA	1279672 C	29-01-1991
			CN	1043779 A	11-07-1990
			DE	3933115 A1	21-06-1990
			GB	2226094 A	20-06-1990
			IT	1237889 B	18-06-1993
			JP	1879682 C	21-10-1994
			JP	2217685 A	30-08-1990
			JP	5079876 B	05-11-1993
-----					
US 4842548	A	27-06-1989	NONE		
-----					
US 5051541	A	24-09-1991	CA	2038459 A1	24-09-1991
-----					
US 2017421	A	15-10-1935	NONE		
-----					
US 7048561	B1	23-05-2006	NONE		
-----					
US 3931451	A	06-01-1976	CA	1020643 A1	08-11-1977
			CH	574664 A5	15-04-1976
			CS	186262 B2	30-11-1978
			DD	109772 A5	12-11-1974
			FR	2217839 A1	06-09-1974
			GB	1445517 A	11-08-1976
			IT	1007280 B	30-10-1976
			NL	7401446 A	16-08-1974
			SE	393229 B	02-05-1977
			SU	575049 A3	30-09-1977
-----					
US 3603912	A	07-09-1971	NONE		
-----					
CH 184711	A	15-06-1936	NONE		
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