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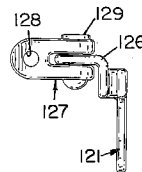


FIG.12

(57) Abstract: A swivel connector includes a first flange portion with a first flange aperture. A swivel portion has first and second leg portions, each with an aperture, extending outward from a second flange portion with an aperture. The first and second leg portions define a first opening that receives the first flange portion. The first flange aperture, the first leg aperture, and the second leg aperture align and the first fastener extends therethrough. The swivel portion pivots about the first fastener in a first direction.



**INTERNATIONAL SEARCH REPORT**

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A. CLASSIFICATION OF SUBJECT MATTER  
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ADD.  
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)  
A62B F16B  
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)  
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 2013/063384 A2 (D B IND LLC) 2 May 2013 (2013-05-02) the whole document -----	1
X	DE 33 00 266 A1 (HOELTER HEINZ [DE]) 12 July 1984 (1984-07-12) the whole document -----	1
X	GB 2 466 460 A (CENTRAL HIGH RISE LTD [GB]) 23 June 2010 (2010-06-23) the whole document -----	1
A	US 6 070 308 A (ROHLF BRADLEY A [US]) 6 June 2000 (2000-06-06) the whole document -----	1-8
A,P	US 8 424 638 B1 (GUTHRIE KARL [US] ET AL) 23 April 2013 (2013-04-23) the whole document -----	1

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2013063384 A2	02-05-2013	AU 2012328663 A1 CA 2846390 A1 CN 103874529 A US 2013104351 A1 WO 2013063384 A2	13-03-2014 02-05-2013 18-06-2014 02-05-2013 02-05-2013
-----			
DE 3300266 A1	12-07-1984	NONE	
-----			
GB 2466460 A	23-06-2010	EP 2361121 A2 GB 2466460 A WO 2010072525 A2	31-08-2011 23-06-2010 01-07-2010
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US 6070308 A	06-06-2000	NONE	
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US 8424638 B1	23-04-2013	NONE	
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