

Title (en)  
Combination of bolt and loop.

Title (de)  
Verbindung aus einem Bolzen und einer Schlaufe.

Title (fr)  
Combinaison d'un boulon et d'une boucle.

Publication  
**EP 0143163 A1 19850605 (DE)**

Application  
**EP 84107953 A 19840706**

Priority  
DE 3338654 A 19831025

Abstract (en)  
[origin: US4715589A] A connecting device has at least one bolt and a loop of unidirectional fibers bound by or embedded in a synthetic matrix material looping around the bolt to form a looping range extending around the bolt. The resistance of the matrix material in the looping range against squeeze-out is improved by reinforcing fiber layers located in the looping range of the loop around the bolt. The fibers of these reinforcing layers are also bound by the matrix of the synthetic material. The reinforcing fibers form insert and/or cover layers having at least one main fiber orientation which extends at least approximately in the direction of the longitudinal bolt axis whereas the unidirectional fibers forming the loop extend approximately tangentially to the bolt in the looping range.

Abstract (de)  
Bei einer Verbindung aus einem Bolzen (1) und einer Schlaufe (2) aus unidirektionalen Fasersträngen in einer Kunststoffmatrix ist zur Vermeidung von Matrixbrüchen im (Bolzen-)Umschlingungsbereich die Schlaufe (2) mit von der Kunststoffmatrix gebundenen Faserdeck- und/oder Fasereinlagen (3 bzw. 4) versehen jeweils zumindest mit einer hauptsächlichen Faserorientierung wenigstens annähernd in Bolzenerstreckungsrichtung.

IPC 1-7  
**B66C 1/18**

IPC 8 full level  
**F16C 7/00** (2006.01); **B66C 1/18** (2006.01)

CPC (source: EP US)  
**B66C 1/18** (2013.01 - EP US); **Y10T 403/54** (2015.01 - EP US)

Citation (search report)  
• [Y] US 4200325 A 19800429 - JOHNSON CHARLES E [US]  
• [Y] GB 755633 A 19560822 - WILLIAM COOKE & COMPANY LTD  
• [A] DE 1900962 A1 19690731 - GOETEBORGS BANDVAEVERI AKTIEBO

Cited by  
DE102015220581A1; US11396138B2; US8844256B2; WO2012031972A1; EP3162546A1

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DE FR GB IT

DOCDB simple family (publication)  
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DOCDB simple family (application)  
**EP 84107953 A 19840706**; DE 3338654 A 19831025; DE 3461453 T 19840706; JP 22311984 A 19841025; US 1408187 A 19870202