

Title (en)  
PNEUMATIC STRUCTURAL ELEMENT

Title (de)  
PNEUMATISCHES BAUELEMENT

Title (fr)  
ELEMENT CONSTITUTIF PNEUMATIQUE

Publication  
**EP 1210489 A1 20020605 (DE)**

Application  
**EP 01903559 A 20010219**

Priority  
• CH 0100107 W 20010219  
• CH 5832000 A 20000327

Abstract (en)  
[origin: WO0173245A1] The invention relates to a pneumatic structural element comprised of an essentially cylindrical air-tight hollow body (1) having a radius  $r_h$  and length  $L_h$  and two caps (5), which is manufactured from a preferably textile material that is flexible but has limited stretchability. The side of the hollow body placed under load is provided with a push rod (2) having a length  $L_h$ , which is prevented from laterally buckling on the hollow body (1), and both ends of the hollow body are provided with a knob (3). Inside the knobs (3), at least one pair of traction elements (4) is joined in a non-positive manner to the push rod (2). The traction elements (4) extend in a helicoidal and opposed manner while revolving around the hollow body (1) with a whole number of revolutions, and they intersect one another at points (8), which are located on a surface line (7) of the hollow body (1) opposite the push rod (2). The push rod (2), the surface line (7) and the longitudinal axis  $A$  of the hollow body (1) define a plane  $E$  in which the exerted loads and forces are located.

IPC 1-7  
**E04H 15/20**

IPC 8 full level  
**E04C 3/00** (2006.01); **E04H 15/20** (2006.01)

CPC (source: EP US)  
**E04H 15/20** (2013.01 - EP US); **E04H 2015/203** (2013.01 - EP US); **E04H 2015/205** (2013.01 - EP US)

Citation (search report)  
See references of WO 0173245A1

Cited by  
US8161687B2; US7926225B2; US8822024B2

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)  
**WO 0173245 A1 20011004**; AT E299549 T1 20050715; AU 3147101 A 20011008; AU 777055 B2 20040930; BR 0105386 A 20020226; BR 0105386 B1 20090113; CA 2374645 A1 20011004; CA 2374645 C 20090526; CN 1145733 C 20040414; CN 1365416 A 20020821; DE 50106726 D1 20050818; EP 1210489 A1 20020605; EP 1210489 B1 20050713; ES 2245348 T3 20060101; HK 1048835 A1 20030417; HK 1048835 B 20050218; JP 2003529006 A 20030930; JP 3906079 B2 20070418; NZ 515020 A 20021025; PT 1210489 E 20051130; US 2002157322 A1 20021031; US 6543730 B2 20030408; ZA 200108237 B 20020612

DOCDB simple family (application)  
**CH 0100107 W 20010219**; AT 01903559 T 20010219; AU 3147101 A 20010219; BR 0105386 A 20010219; CA 2374645 A 20010219; CN 01800683 A 20010219; DE 50106726 T 20010219; EP 01903559 A 20010219; ES 01903559 T 20010219; HK 03100921 A 20030207; JP 2001570943 A 20010219; NZ 51502001 A 20010219; PT 01903559 T 20010219; US 97964702 A 20020208; ZA 200108237 A 20011008