

Title (en)

APPARATUS FOR ACCURATELY ATTACHING SEVERAL COMPONENTS TO A HOLLOW BODY

Publication

EP 0331938 B1 19920715 (DE)

Application

EP 89102668 A 19890216

Priority

DE 3807817 A 19880310

Abstract (en)

[origin: EP0331938A2] The invention relates to an apparatus for the positionally accurate attachment of several components (2,3), each provided with an opening, to a hollow body (1), the opening in the components (2,3) being larger in the initial condition than their respective attachment point on the hollow body (1), and the components (2,3) being brought into the predetermined position on the hollow body (1) before the attachment operation is carried out by expanding the hollow body (1), at least in the region of the attachment points. For this purpose, the components (2,3) to be attached are inserted in recesses in a mould divided into at least two parts in the axial direction, the hollow body (1) is inserted into the openings of the components (2,3) and the mould parts are aligned and held relative to one another by a housing (6) which surrounds them. The mould itself is divided into a plurality of axial mould sections (4), which are designed with frontal bearing faces (4a), axially extending guide faces (4b) effecting an alignment in the circumferential direction, and a conical lateral surface (4c). A housing (6) provided with a conical centring surface (6a) can be pushed onto the conical lateral surface (4c) for the purpose of centring the mould sections (4). <IMAGE>

IPC 1-7

B21D 26/02; **B21D 53/84**; **F01L 1/04**

IPC 8 full level

B21D 39/04 (2006.01); **B21D 26/02** (2006.01); **B21D 39/20** (2006.01); **B21D 53/84** (2006.01); **F01L 1/04** (2006.01); **F01L 1/047** (2006.01)

CPC (source: EP KR)

B21D 26/033 (2013.01 - KR); **B21D 39/203** (2013.01 - EP); **B21D 53/84** (2013.01 - EP); **B21D 53/845** (2013.01 - EP); **F01L 1/047** (2013.01 - EP)

Cited by

DE102017004570A1; JP4758994B2; CN105149427A; US7845075B2; WO2006015570A1; JP2008509013A

Designated contracting state (EPC)

AT BE CH DE ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)

EP 0331938 A2 19890913; **EP 0331938 A3 19900829**; **EP 0331938 B1 19920715**; AT E78200 T1 19920815; DD 285937 A5 19910110; DE 3807817 C1 19890309; DE 58901825 D1 19920820; ES 2033472 T3 19930316; GR 3005759 T3 19930607; KR 890014903 A 19891025; KR 950000066 B1 19950109; RU 1782183 C 19921215

DOCDB simple family (application)

EP 89102668 A 19890216; AT 89102668 T 19890216; DD 32637089 A 19890308; DE 3807817 A 19880310; DE 58901825 T 19890216; ES 89102668 T 19890216; GR 920402090 T 19920923; KR 890002998 A 19890310; SU 4613622 A 19890309