

Title (en)  
VALVE SPRING RETAINER CAP AND METHOD FOR ITS MANUFACTURE

Publication  
**EP 0176688 B1 19881207 (DE)**

Application  
**EP 85109291 A 19850724**

Priority  
DE 3436193 A 19841003

Abstract (en)  
[origin: US4665869A] In order to adjust the fiber orientation of a valve spring retainer made of carbon fiber reinforced synthetic material to the stresses appearing in practical operation, it is suggested that several stacked carbon fiber tissue layers be bedded into the valve spring retainer, that a conical opening run vertical to the tissue layers through these, that the weft and warp threads of the tissue layers are displaced from the cross section of the opening to the outside and each project over a part of the perimeter of the opening and that in the edge area of the opening the displaced weft and warp threads have a greater thickness than in the areas farther away from the opening. Furthermore, a process for the production of such a valve spring retainer is discussed.

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**F01L 3/10**

IPC 8 full level  
**F01L 3/10** (2006.01); **F16F 1/12** (2006.01)

CPC (source: EP US)  
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Cited by  
CN109312801A; DE10335273B4; FR2843631A1

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**EP 0176688 A2 19860409; EP 0176688 A3 19870422; EP 0176688 B1 19881207**; DE 3436193 A1 19860403; DE 3436193 C2 19870409; JP S6189914 A 19860508; US 4665869 A 19870519

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**EP 85109291 A 19850724**; DE 3436193 A 19841003; JP 19326485 A 19850903; US 78243885 A 19851001