

Title (en)
COMPOUND NEEDLE

Title (de)
COMPOUNDNADEL

Title (fr)
AIGUILLE COMPOUND

Publication
EP 1640489 B1 20081001 (EN)

Application
EP 04745753 A 20040610

Priority
• JP 2004008123 W 20040610
• JP 2003180861 A 20030625

Abstract (en)
[origin: EP1640489A1] A needle member 3 has a branch portion 10 at its central position in the longitudinal direction. Further, the needle member 3 has a first fork 12, a second fork 14, and a third fork 16. The first fork 12 protrudes toward a hook 8 from the branch portion 10, and the second fork 14 protrudes backward from the branch portion 10. The third fork 16 faces the second fork 14. Tongues 32 are provided at the front end of a slider 30. A first fork contact cam surface 39 is provided in a front solid portion 80 of the slider 30 such that vertical movement of the slider 30 is limited by the first fork 12. Further, second and third fork contact surfaces 44, 46 are provided on the front side and the back side of a back solid portion 40 such that vertical movement of the slider 30 is limited by the second and third forks 14, 16.

IPC 8 full level
D04B 35/06 (2006.01)

CPC (source: EP)
D04B 35/06 (2013.01)

Cited by
CN105209677A; EP3779009A1; DE102007039973C5; CN102535001A; CN109137250A; KR20220130238A; US2023122532A1; US11891734B2; US9670607B2; WO2014187872A1; EP2031108A1

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EP 1640489 A1 20060329; EP 1640489 A4 20060719; EP 1640489 B1 20081001; AT E409770 T1 20081015; DE 602004016849 D1 20081113; JP 2005015945 A 20050120; JP 3983720 B2 20070926; WO 2005001186 A1 20050106

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