

Title (en)
Variable-angle connection means for protection bars or handrails

Title (de)
Verbindungsmittel mit verstellbarem Winkel für Handläufe

Title (fr)
Moyens de connection à angle variable pour mains courantes

Publication
EP 2210523 A1 20100728 (EN)

Application
EP 10151094 A 20100119

Priority
IT MI20090072 A 20090123

Abstract (en)
The angular connection means (10) for tubular protection bars (12.1, 12.2) or handrails, comprises: two elements (14.1, 14.2) each comprising an expandable part (13.1, 13.2) insertable, before expansion, into the open end of a relative bar (12.1, 12.2), the expandable element (14.1, 14.2) remaining locked within the bar (12.1, 12.2) following expansion, each expandable element (14.1, 14.2) also comprising a part (22.1, 22.2) intended to project from the end of the relative bar (12.1, 12.2) and comprising a coaxial head; an angular connection element (24) comprising two superposable angular half-elements (24s, 24i), each provided with corresponding half-seats (34.1, 34.2) adapted to receive the head (20.1, 20.2) of each of the two expandable elements (14.1, 14.2) to establish a connection between these latter when the two half-elements (24s, 24i) are superposed and joined together by connection means (26, 28). The head (22.1, 22.2) of each of the two expandable elements (14.1, 14.2) is a spherical head, the half-seats (34.1, 34.2) having a spherical surface shape (34.1, 34.2) mateable with the spherical surface of the relative spherical head (22.1, 22.2) to form a ball joint.

IPC 8 full level
A47B 47/00 (2006.01)

CPC (source: EP)
E04F 11/184 (2013.01)

Citation (applicant)
FR 2750588 A1 19980109 - MAPAL SA [FR]

Citation (search report)
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• [A] GB 1016582 A 19660112 - METLEX IND LTD
• [A] WO 03059120 A1 20030724 - MEP S P A [IT], et al
• [A] US 5095677 A 19920317 - GODBOUT CHARLES [CA], et al

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Designated contracting state (EPC)
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