

Title (en)
Reversible guideless rolling mill

Title (de)
Führungsloses Umkehrwalzwerk

Title (fr)
Laminoir réversible sans guidage

Publication
EP 1181990 A3 20041117 (EN)

Application
EP 01115102 A 20010621

Priority
• JP 2000250228 A 20000821
• JP 2000251329 A 20000822

Abstract (en)
[origin: EP1181990A2] A pair of rolling machines 12 and 13 are arranged in series in alignment with a pass line PL along which a workpiece 11 to be rolled is passed. The center distance P between the first rolls 17 of the first rolling machine 12 and second rolls 19 of the second rolling machine 13 is designed to be not more than 1.5 times the roll diameter R. The rotational axes of the first rolls 17 are displaced by an angle of 90 DEG from those of the second rolls 19 and are inclined at an angle of 45 DEG respectively with respect to the horizontal plane. A plurality of dual-purpose calibers 21/23 are defined between the rolls 17/19 of the rolling machines 12/13 to be arranged in the axial direction, respectively. The rolls 17 and 19 are shifted in crossing directions to the pass line PL respectively so as to bring desired dual-purpose calibers 21 and 23 in alignment with the pass line PL. <IMAGE>

IPC 1-7
B21B 13/12

IPC 8 full level
B21B 1/32 (2006.01); **B21B 13/12** (2006.01); **B21B 1/16** (2006.01); **B21B 27/02** (2006.01); **B21B 31/02** (2006.01); **B21B 31/26** (2006.01); **B21B 35/12** (2006.01)

CPC (source: EP KR US)
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Citation (search report)
• [A] DE 39668 C
• [A] EP 0768124 A2 19970416 - DAIDO STEEL CO LTD [JP]
• [A] US 6035685 A 20000314 - TAKAI YOSHIKAZU [JP], et al
• [Y] PATENT ABSTRACTS OF JAPAN vol. 1997, no. 11 28 November 1997 (1997-11-28)
• [YA] PATENT ABSTRACTS OF JAPAN vol. 1999, no. 13 30 November 1999 (1999-11-30)
• [A] PATENT ABSTRACTS OF JAPAN vol. 0174, no. 90 (M - 1474) 6 September 1993 (1993-09-06)

Cited by
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