

Title (en)  
Multi-roll rolling stand

Title (de)  
Mehrwalzengerüst

Title (fr)  
Cage de laminoir à plusieurs cylindres

Publication  
**EP 0791410 B1 20011219 (DE)**

Application  
**EP 97102574 A 19970218**

Priority  
• DE 29603117 U 19960223  
• DE 19620704 A 19960523

Abstract (en)  
[origin: US5842368A] A six-high multi-roll stand (1), has one top and one bottom work roll (2, 3) which are supported in chocks (4, 5), with one top and one bottom intermediate roll (6, 7) which are supported in chocks (8, 9), and with one top and one bottom back-up roll (10, 11) with bearings located in one top and one bottom chock (12, 13). Two functional units are integrated into windows (16) of two roll housings (14, 15) with four each hydraulic operating cylinder units (18, 18, 19, 19) located symmetrically and parallel to roll axis plan 17-17), each operating cylinder unit (18, 19) consisting of top operating cylinder (18a, 19a) with top actuating piston (20a, 21a) which acts on chock (12) of top back-up roll (10) and bottom operating cylinder (18b, 19b) with bottom actuating piston 20b, 21b) which acts on chock (13) of bottom back-up roll (11) for counterbalancing back-up roll (10), and two operating cylinders (18a, 18b; 19a, 19b) of each operating cylinder unit (18, 19) in common cylinder housing (22, 23). Double-acting actuating sleeves (24a, 24b; 25a, 25b) cause bending of intermediate rolls (6, 7) and work rolls (2, 3) and engage chocks (8, 9; 4, 5) of intermediate rolls (6, 7) and work rolls (2, 3) by means of projections (26).

IPC 1-7  
**B21B 31/10**; **B21B 29/00**; **B21B 31/20**

IPC 8 full level  
**B21B 13/14** (2006.01); **B21B 29/00** (2006.01); **B21B 31/10** (2006.01); **B21B 31/20** (2006.01); **B21B 31/32** (2006.01); **B21B 13/02** (2006.01)

CPC (source: EP US)  
**B21B 29/00** (2013.01 - EP US); **B21B 31/10** (2013.01 - EP US); **B21B 31/203** (2013.01 - EP US); **B21B 2013/025** (2013.01 - EP US); **B21B 2013/028** (2013.01 - EP US); **B21B 2031/206** (2013.01 - EP US)

Cited by  
CN113498364A; US11779973B2; US8042371B2; WO2020173614A1; WO2008006571A1

Designated contracting state (EPC)  
DE ES FR GB IT

DOCDB simple family (publication)  
**US 5842368 A 19981201**; EP 0791410 A2 19970827; EP 0791410 A3 19981028; EP 0791410 B1 20011219; ES 2167629 T3 20020516; JP 3950193 B2 20070725; JP H1015602 A 19980120

DOCDB simple family (application)  
**US 80074997 A 19970214**; EP 97102574 A 19970218; ES 97102574 T 19970218; JP 3892297 A 19970224