

Title (en)
Rolling method and rolling machine.

Title (de)
Walzverfahren und Walzwerk.

Title (fr)
Procédé de laminage et train de laminage.

Publication
EP 0342408 A1 19891123 (EN)

Application
EP 89107705 A 19890427

Priority
JP 11931388 A 19880518

Abstract (en)
A workpiece to be rolled is formed in its surface with a large number of recesses for retaining a lubricating fluid therein, and then the workpiece is rolled while the lubricating fluid is confined in the recesses. A rolling machine comprising a rolling mill further includes a recess impressing unit for forming a large number of recesses in the surface of the workpiece, which is provided on the inlet side of the rolling mill. The recess impressing unit includes a pair of pinch rolls formed with a large number of projections. The rolling machine further includes a nozzle for spraying the lubricating fluid which is provided on the inlet side of work rolls for rolling.

IPC 1-7
B21B 15/00; B21B 27/00; B21B 45/02; B21H 7/00; B21H 8/00

IPC 8 full level
B21B 39/08 (2006.01); **B21B 1/22** (2006.01); **B21B 15/00** (2006.01); **B21B 27/00** (2006.01); **B21B 45/02** (2006.01); **B21H 7/00** (2006.01)

CPC (source: EP KR)
B21B 15/00 (2013.01 - EP); **B21B 27/00** (2013.01 - KR); **B21B 27/005** (2013.01 - EP); **B21B 45/0251** (2013.01 - EP); **B21H 8/00** (2013.01 - EP); **B21B 45/0242** (2013.01 - EP)

Citation (search report)

- [X] WO 8203575 A1 19821028 - BADGER PHILIP O
- [Y] DE 635220 C 19360912 - C T PETZOLD & CO
- [Y] FR 2290623 A1 19760604 - LORRAINE LAMINAGE [FR]
- [A] US 1960958 A 19340529 - SARGENT JAMES A
- [A] US 2361039 A 19441024 - LANGE ADRIEN L
- [A] US 1490944 A 19240422 - SIMPSON ROBERT W

Cited by
RU2757089C2; EP0456162A3; EP0908248A3

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
EP 0342408 A1 19891123; EP 0342408 B1 19930811; BR 8902304 A 19900109; CN 1020552 C 19930512; CN 1038601 A 19900110; DE 68908264 D1 19930916; DE 68908264 T2 19931216; JP 2563478 B2 19961211; JP H01289503 A 19891121; KR 900017674 A 19901219; KR 930008326 B1 19930830

DOCDB simple family (application)
EP 89107705 A 19890427; BR 8902304 A 19890517; CN 89103335 A 19890515; DE 68908264 T 19890427; JP 11931388 A 19880518; KR 890006654 A 19890518