

Title (en)
Process for improving the gloss and/or smoothness of a web

Title (de)
Verfahren zum Erhöhen von Glanz und/oder Glätte einer Materialbahn

Title (fr)
Procédé pour améliorer la brillance et/ou le lissé d'une bande

Publication
EP 0609544 B2 20070418 (DE)

Application
EP 93120500 A 19931220

Priority
DE 4301023 A 19930116

Abstract (en)
[origin: EP0609544A1] A process and apparatus are specified for improving the gloss and/or smoothness of a material web, a material web (5) being guided through a roll nip and being acted on there by pressure. For this purpose, a steam emitting device (7) is provided before the roll nip in the running direction (9) of the material web (5). The improvement of gloss and/or smoothness is intended to be carried out with low energy costs. For this purpose, the steam is condensed on the material web and the material web (5) is guided through the roll nip, before the increase in moisture of the surface produced by the steam treatment has fallen below a predetermined value. The steam emitting device (7) has a steam blowing chamber (13) for this purpose, which is surrounded completely by a free housing wall (14) having a number of steam exit apertures (20) and further chamber walls (15-19), and has a steam valve (21) for the inlet of steam into the steam blowing chamber (13), at least one wall of the steam blowing chamber (13), especially the free housing wall (14), being heated. <IMAGE>

IPC 8 full level
D06B 1/14 (2006.01); **D21G 1/00** (2006.01); **D21F 7/00** (2006.01); **D21G 7/00** (2006.01)

CPC (source: EP US)
D21F 7/008 (2013.01 - EP US); **D21G 1/0093** (2013.01 - EP US)

Citation (opposition)
Opponent :

- DE 3545123 A1 19860703 - VALMET OY [FI]
- DE 4112537 A1 19921022 - ESCHER WYSS GMBH [DE]
- DE 3741680 A1 19890622 - PAGENDARM GMBH [DE]
- B.Krenkel: "Glättwerksuntersuchungen, Zusammenhänge zwischen Glättparametern und Messgrößen", Dissertation an der technischen Hochschule Graz, Heidenheim 1975
- R.H. Crotofino: "Temperature-grdient calendering", TAPPI Journal, Oktober 1982
- Diagram: HMT-Verfahren (High moisture & temperature calendering)

Cited by
EP1336686A1; EP0960978A3; US6989077B2; US6190505B1

Designated contracting state (EPC)
FR GB IT SE

DOCDB simple family (publication)
DE 4301023 A1 19940721; DE 4301023 C2 19960822; DE 4301023 C3 20010726; CA 2110786 A1 19940717; CA 2110786 C 19970916; DE 9320455 U1 19940825; EP 0609544 A1 19940810; EP 0609544 B1 19970416; EP 0609544 B2 20070418; FI 100671 B 19980130; FI 940102 A0 19940110; FI 940102 A 19940717; JP 2672256 B2 19971105; JP H06235187 A 19940823; US 5914008 A 19990622; US 6260481 B1 20010717

DOCDB simple family (application)
DE 4301023 A 19930116; CA 2110786 A 19931206; DE 9320455 U 19930116; EP 93120500 A 19931220; FI 940102 A 19940110; JP 150294 A 19940112; US 73519496 A 19961021; US 89114897 A 19970710