

Title (en)
LATERAL-EXPANSION DEVICE

Publication
EP 0225988 B1 19890222 (DE)

Application
EP 86114332 A 19861016

Priority
DE 3545270 A 19851220

Abstract (en)
[origin: US4748909A] To simplify a transverse stretching apparatus and provide rollers which do not require a change in the respective axes of rotation, two rollers are located adjacent, parallel, and spaced from each other, in which each of the rollers have outer cylindrical sections of respectively different diameters, with an intermediate essentially conical section, merging smoothly with the outer cylindrical section. The rollers are so located that the smaller diameter circumferential section of one of the rollers (4) is opposite the larger circumferential section of the other roller (5), and, when in essentially axial alignment, define a neutral position in which the sums of the diameters of the rollers at any axial plane passing transversely through the axes of rotation, will be the same. Upon relatively axially shifting the rollers with respect to each other (compare FIGS. 1 and 3), the sums of the diameters of the rollers at the still transversely aligned cylindrical portions will remain the same, but the sum of the diameters at the shifted intermediate portions will either increase or decrease, in dependence on the direction of shift, thereby providing increased or decreased stretching force to the intermediate range of the web looped about said rollers.

IPC 1-7
B65H 23/34; **B65H 23/025**; **B65H 27/00**

IPC 8 full level
B41F 13/02 (2006.01); **B41J 15/16** (2006.01); **B65H 23/025** (2006.01); **B65H 23/34** (2006.01); **B65H 27/00** (2006.01); **D21F 1/40** (2006.01)

CPC (source: EP US)
B41F 13/02 (2013.01 - EP US); **B65H 23/0251** (2013.01 - EP US); **B65H 23/34** (2013.01 - EP US); **D21F 1/40** (2013.01 - EP US)

Cited by
US6494823B2; WO9833734A1

Designated contracting state (EPC)
CH DE FR GB IT LI SE

DOCDB simple family (publication)
DE 3545270 C1 19870423; DE 3662135 D1 19890330; EP 0225988 A1 19870624; EP 0225988 B1 19890222; JP S62161661 A 19870717; US 4748909 A 19880607

DOCDB simple family (application)
DE 3545270 A 19851220; DE 3662135 T 19861016; EP 86114332 A 19861016; JP 30189186 A 19861219; US 93033786 A 19861112