

Title (en)  
Torchon lace machine

Title (de)  
Spitzenklöppelmaschine

Title (fr)  
Machine à dentelle torchon

Publication  
**EP 1486601 B1 20070905 (EN)**

Application  
**EP 04011294 A 20040512**

Priority  
JP 2003165745 A 20030610

Abstract (en)  
[origin: EP1486601A1] A novel torchon lace machine is provided, whereby rotor metals (1) moving spindle runners (5) can be mechanically driven to rotate alternately in forward and reverse directions. The torchon lace machine includes a vertical shaft (1') supported by a fixed shaft to be rotatable integrally with a rotor metal, a drive shaft (12) supported to be slidable orthogonally to the vertical shaft and driving the vertical shaft to rotate forwardly or reversely from neutral position according to a sliding position thereof, slide biasing means for sliding the drive shaft, and stopper means forcibly stopping the rotor metal when the slide biasing means holds the drive shaft in neutral position relative to the vertical shaft. The machine is capable of controlling forward and reverse rotations of the rotor metals, moving a spindle runner (5) rapidly by a short stroke to a target position several steps ahead, and facilitating production of complicated laces with embossed patterns and braid over braid. <IMAGE>

IPC 8 full level  
**D04C 3/24** (2006.01); **D04C 3/38** (2006.01)

CPC (source: EP KR)  
**D04C 3/24** (2013.01 - KR); **D04C 3/38** (2013.01 - EP)

Cited by  
US10555581B2; US11103028B2; US11219266B2; WO2016191476A1; US9920462B2; US10060057B2; US10238176B2; WO2018222705A1; US11457685B2; WO2018222878A1; WO2018222703A1; WO2018222885A1; US11051573B2; WO2019099816A1; US10674791B2; EP4085780A1; WO2016191477A1; WO2018222893A1; US10743618B2; EP4008821A1; US10280538B2; US10863794B2; US10870933B2; US11339513B2; EP4019684A1; WO2018222888A1; WO2018222881A1; US10806210B2; US11202483B2; EP4050142A1; US11425956B2; US9839253B2; WO2018222721A1; US10299544B2; WO2019236945A1; US10932528B2; EP3987969A1; US11540596B2; US11547171B2; US11877617B2; US12042022B2

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DE IT

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**EP 04011294 A 20040512**; CN 200410049276 A 20040609; DE 602004008699 T 20040512; HK 05106599 A 20050802; JP 2003165745 A 20030610; KR 20040033313 A 20040512