

Title (en)  
WINDING-ON MACHINE

Publication  
**EP 0248856 B1 19890510 (DE)**

Application  
**EP 87900095 A 19861202**

Priority  
DE 3543565 A 19851210

Abstract (en)  
[origin: WO8703569A1] A machine for winding simultaneously at least two threads on to as many winding points arranged in sequence, one next to the other, is equipped with a belt-driven cross-winding device. Cross-winding is performed by counter-rotating entrainment pieces (28a-28d) which are located at regular intervals (y) on a rotating toothed belt (20) and seize, in an alternating manner, the threads (8a-8d). The reversal points of the cross-winding regions of the individual winding points are marked by deflectors (47a-47d; 51a-51d). The effective distance (2) between two corresponding deflectors (47a-51a; 47b-51b; 47c-51c; 47d-51d), which determines the cross-winding stroke, is smaller than the centre-to-centre distance (x) of two cross-winding regions. This is exactly half the size of the distance (y) between two adjacent drive elements (28a-28d).

IPC 1-7  
**B65H 54/32**; **B65H 54/28**

IPC 8 full level  
**B65H 54/28** (2006.01); **B65H 54/32** (2006.01)

CPC (source: EP US)  
**B65H 54/2821** (2013.01 - EP US); **B65H 54/325** (2013.01 - EP US); **B65H 2701/31** (2013.01 - EP US)

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

DOCDB simple family (publication)  
**EP 0226786 A1 19870701**; **EP 0226786 B1 19890118**; DE 3543565 A1 19870611; DE 3661816 D1 19890223; DE 3663248 D1 19890615; EP 0248856 A1 19871216; EP 0248856 B1 19890510; JP H0236501 B2 19900817; JP S62140976 A 19870624; JP S63501710 A 19880714; US 4723721 A 19880209; US 4817879 A 19890404; WO 8703569 A1 19870618

DOCDB simple family (application)  
**EP 86115512 A 19861108**; DE 3543565 A 19851210; DE 3661816 T 19861108; DE 3663248 T 19861202; EP 8600697 W 19861202; EP 87900095 A 19861202; JP 23698186 A 19861004; JP 50047686 A 19861202; US 93805486 A 19861117; US 9515487 A 19870904