

Title (en)  
Turning device

Title (de)  
Wendeeinrichtung

Title (fr)  
Dispositif de retournement

Publication  
**EP 1170238 A3 20030115 (DE)**

Application  
**EP 01108977 A 20010411**

Priority  
• DE 10024091 A 20000518  
• DE 10059913 A 20001201

Abstract (en)  
[origin: US6626103B2] An inverter (1) for thin, flat products (2), especially printing substrates in a printing machine, with belts (7, 8) positioned over two deflection pulleys (3, 4, 5, 6) that are set together at 180° between the deflection pulleys (3, 4, 5, 6). Such inverter is configured so that the product (2) and the belts (7, 8) move precisely in their reference positions. This is achieved by the fact that, in the transport direction (9), after a setting region (10) at least three guide rolls (11, 12, 13) are mounted on the supporting strand sides (7', 8') of belts (7, 8) in alternating arrangement and at least one of the guide rolls (11, 12 13) has a retaining collar (14) on at least one side and at least one guide roll (18) is arranged before the setting region (10). Further, at least one guide device (19, 20, 21) is arranged to guide product (2) to facilitate inversion.

IPC 1-7  
**B65H 15/00**

IPC 8 full level  
**B65H 5/02** (2006.01); **B65H 15/00** (2006.01); **G03G 15/23** (2006.01)

CPC (source: EP US)  
**B65H 15/012** (2020.08 - EP US); **G03G 15/234** (2013.01 - EP US); **B65H 2301/33212** (2013.01 - EP US); **B65H 2301/33224** (2013.01 - EP US); **B65H 2404/2691** (2013.01 - EP US); **G03G 2215/00438** (2013.01 - EP US)

Citation (search report)  
• [A] DE 1181721 B 19641119 - PITNEY BOWES INC  
• [A] EP 0160739 A1 19851113 - ROCKWELL INTERNATIONAL CORP [US]  
• [A] US 1688459 A 19281023 - MORTON FORWARD WILLIAM  
• [A] US 4690268 A 19870901 - UESHIN AKITO [JP]  
• [DA] DE 2907110 A1 19791025 - POLYGRAPH LEIPZIG

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Designated contracting state (EPC)  
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