

Title (en)

Device for unstacking and conveying printed circuits.

Title (de)

Vorrichtung zum Entstapeln und Weiterfördern von Platinen.

Title (fr)

Dispositif pour déempiler et déplacer des circuits intégrés.

Publication

**EP 0406608 B1 19940202 (DE)**

Application

**EP 90111413 A 19900618**

Priority

CH 251389 A 19890706

Abstract (en)

[origin: JPH0342431A] PURPOSE: To convey thin plates quickly and accurately to conveying members almost without causing vibration by providing one snaking guide cam with sections laterally extending to a plane of a thin plate through which both cam following members pass in sequence. CONSTITUTION: A support 38 is set at a terminal position with the drive of a rotating motor 50, wherein the lowest thin plate 10 in a pile 12 is attracted by an attracting member 66. Then, the rotating motor 50 is further driven to pull the support 38 downward at a angle with a connecting rod 42. In this case, cam following members 34, 36 are guided in a snaking guide groove 22 at the same time and in the same direction. The guide cam 22 is provided with sections 26 laterally extending to a plane of the thin plate through which the cam following members 34, 36 pass in sequence. The cam 22 causes the support 38 to be guided without being inclined and the thin plate 10 itself attracted by the attracting member 66 to be kept parallel, or horizontal, and then conveyed to conveying members 68, 70.

IPC 1-7

**B65H 3/08**; **B65H 3/38**; **B65H 5/08**; **B21D 43/24**

IPC 8 full level

**B65G 59/06** (2006.01); **B21D 43/24** (2006.01); **B65H 3/08** (2006.01); **B65H 3/38** (2006.01); **B65H 5/08** (2006.01)

CPC (source: EP KR US)

**B21D 43/24** (2013.01 - EP US); **B65H 3/08** (2013.01 - KR); **B65H 3/085** (2013.01 - EP US); **B65H 3/38** (2013.01 - EP US); **B65H 5/08** (2013.01 - EP US); **Y10T 74/18888** (2015.01 - EP US)

Cited by

EP0714839A1

Designated contracting state (EPC)

CH DE ES FR GB GR IT LI NL SE

DOCDB simple family (publication)

**DE 3929358 C1 19901025**; BR 9003191 A 19910827; CA 2020284 A1 19910107; CA 2020284 C 19940531; CH 679219 A5 19920115; CN 1015161 B 19911225; CN 1048529 A 19910116; CS 9003279 A2 19911015; CZ 279106 B6 19941215; DE 59004479 D1 19940317; DK 164290 A 19910107; DK 164290 D0 19900706; DK 169990 B1 19950424; EP 0406608 A1 19910109; EP 0406608 B1 19940202; ES 2049863 T3 19940501; JP H0342431 A 19910222; JP H075196 B2 19950125; KR 910002686 A 19910226; KR 940003413 B1 19940422; RU 2004484 C1 19931215; US 5031892 A 19910716

DOCDB simple family (application)

**DE 3929358 A 19890904**; BR 9003191 A 19900705; CA 2020284 A 19900703; CH 251389 A 19890706; CN 90103397 A 19900706; CS 327990 A 19900702; DE 59004479 T 19900618; DK 164290 A 19900706; EP 90111413 A 19900618; ES 90111413 T 19900618; JP 17547790 A 19900704; KR 900009793 A 19900629; SU 4830361 A 19900705; US 54171690 A 19900621