

Title (en)

DEVICE FOR THE AUTOMATIC CONVEYANCE OF WORKPIECES ON A MULTISTAGE METAL-FORMING MACHINE TOOL

Title (de)

VORRICHTUNG ZUM AUTOMATISCHEN TRANSPORT VON WERKSTÜCKEN AN EINER MEHRSTUFIGEN UMFORMMASCHINE

Title (fr)

DISPOSITIF POUR LE TRANSPORT AUTOMATIQUE DE PIECES SUR UNE MACHINE DE FORMAGE A ETAGES MULTIPLES

Publication

EP 0929370 A1 19990721 (DE)

Application

EP 97918875 A 19970929

Priority

- CH 9700366 W 19970929
- CH 241096 A 19961003

Abstract (en)

[origin: WO9814289A1] A device for the automatic conveyance of workpieces on a multistage metal-forming machine tool with a tong case (1) located on a cross conveyor tube (2). Tong case (1) comprises a base body (10) on which interchangeable tong cartridges (12a, 12b, 12c), each with a pair of tongs enabling workpiece (W2,W3) to be gripped laterally from above, are placed. Each pair of tongs is connected via a coupling point (19) to means of transmission associated thereto. Said means interact with a control shaft (3) which is placed rotatably in the cross conveyor tube (2) to control opening and closing movement of tongs. Conveyance of a workpiece (W2, W3), grasped by one pair of tongs with twin interacting grippers (130, 140), from one metal-forming station (U1,U2,U3) to a neighbouring metal-forming station (U2,U3,U4) and the return movement of the tongs occur when the cross conveyor tube (2) moves back and forth. Tong travel can be adapted to workpieces by using tong cartridges (12a,12b, 12c) with tongs having appropriate lever ratios.

IPC 1-7

B21K 27/04

IPC 8 full level

B21K 27/00 (2006.01); **B21K 27/04** (2006.01)

CPC (source: EP KR US)

B21K 27/00 (2013.01 - KR); **B21K 27/04** (2013.01 - EP US)

Citation (search report)

See references of WO 9814289A1

Designated contracting state (EPC)

BE CH DE ES FR GB IT LI NL

DOCDB simple family (publication)

WO 9814289 A1 19980409; AU 4293597 A 19980424; CN 1072045 C 20011003; CN 1228723 A 19990915; CZ 111399 A3 20000712; CZ 288949 B6 20011017; DE 59703614 D1 20010628; EA 000551 B1 19991028; EA 199900076 A1 19990826; EP 0929370 A1 19990721; EP 0929370 B1 20010523; ES 2157069 T3 20010801; JP 2000507509 A 20000620; JP 3397327 B2 20030414; KR 100322945 B1 20021025; KR 20000022397 A 20000425; TW 378163 B 20000101; UA 49038 C2 20020916; US 6247578 B1 20010619

DOCDB simple family (application)

CH 9700366 W 19970929; AU 4293597 A 19970929; CN 97197507 A 19970929; CZ 111399 A 19970929; DE 59703614 T 19970929; EA 199900076 A 19970929; EP 97918875 A 19970929; ES 97918875 T 19970929; JP 51608298 A 19970929; KR 19980710828 A 19981230; TW 86114368 A 19971002; UA 99041884 A 19970929; US 21497999 A 19990115