

Title (en)

Method and apparatus for automatic bending of metal sheets

Title (de)

Verfahren und Maschine zum automatischen Biegen von Blechteilen

Title (fr)

Procédé et machine pour le cintrage automatique de tôles métalliques

Publication

EP 0914879 B1 20040512 (EN)

Application

EP 98119190 A 19981012

Priority

IT MI972453 A 19971031

Abstract (en)

[origin: EP0914879A1] A method and apparatus for automatic bending of metal sheets. The apparatus comprises a support frame (23) provided with longitudinal guides (21) parallel to the front side of a bending press (10) for relative movement of a first and second manipulators (19, 20). By means of the first manipulator (19) a metal sheet (50) is taken from a loading zone (36), and positioned between the mould members (13, 14) of the press (10). A first step of the bending cycle is performed on the sheet (50) by means of the first manipulator (19), while the second manipulator (20) remains on stand-by. After the first bending step has been performed, the partially bent sheet (50) is taken by the second manipulator (20) to complete the bending operations on the same sheet (50) which at the end of the working is released in an unloading zone (37), while the first manipulator (19) picks up a new sheet (51) to be bent. Dead times for the press (10) are in this way eliminated in that the operations for picking up and releasing a bent sheet by the two manipulators (19, 20) take place in a masked fashion. <IMAGE>

IPC 1-7

B21D 5/02; B21D 43/10

IPC 8 full level

B21D 5/02 (2006.01); **B21D 43/02** (2006.01); **B21D 43/10** (2006.01)

CPC (source: EP)

B21D 5/02 (2013.01); **B21D 43/026** (2013.01); **B21D 43/105** (2013.01)

Cited by

CN110167718A; EP1681111A1; NL1028129C2; US11278951B2; US6938454B2; CN114206522A; US2022314298A1; JP2022543096A; CN114502295A; JP2023502316A; WO2018121838A1; WO03095125A3; WO2012019220A1; WO2021016646A1

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

EP 0914879 A1 19990512; EP 0914879 B1 20040512; DE 69823773 D1 20040617; DE 69823773 T2 20050512; ES 2218742 T3 20041116; IT 1295906 B1 19990528; IT MI972453 A1 19990501

DOCDB simple family (application)

EP 98119190 A 19981012; DE 69823773 T 19981012; ES 98119190 T 19981012; IT MI972453 A 19971031