

Title (en)  
APPARATUS AND METHOD FOR BENDING OF THIN SHEET METALS

Publication  
**EP 0418114 A3 19910417 (EN)**

Application  
**EP 90402411 A 19900831**

Priority  
FI 894259 A 19890911

Abstract (en)  
[origin: EP0418114A2] This invention concerns bending apparatus for thin sheet materials, which apparatus comprises a frame (11) and at least two facingly arranged bending units (1, 2), which are attached to the frame, equipped with bending members connected to drive means and complemented with a top and bottom push clamp (4, 5). At least one bending unit (2) is arranged transferrable in respect to a second bending unit (1), placed essentially perpendicular to the first unit, in order to align the sheet (10) to be bent to a desired bending position. Thereby the top and bottom push clamps (4, 5) act as sheet clamps serving to transfer the sheet during alignment and/or to determine the bending position of the sheet. Said transferrable bending unit (2) is mounted on guides (12) and the positioning of the unit is arranged controllable by digital means.

IPC 1-7  
**B21D 5/04**

IPC 8 full level  
**B21D 5/04** (2006.01)

CPC (source: EP)  
**B21D 5/042** (2013.01); **B21D 5/045** (2013.01)

Citation (search report)  
• [X] EP 0300137 A2 19890125 - NEUMEISTER GEB GMBH [DE]  
• [X] DD 229050 A1 19851030 - HOHENSTEIN VORRICHTUNGSBAU [DD]  
• [X] US 3786666 A 19740122 - YORK J  
• [A] EP 0039322 A1 19811104 - VOEST ALPINE AG [AT]  
• [A] US 3138192 A 19640623 - DOLNEY STANLEY M

Cited by  
US4552748A; CN101807418A; US7066001B2; WO0238300A1

Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)  
**EP 0418114 A2 19910320; EP 0418114 A3 19910417**; FI 85112 B 19911129; FI 85112 C 19920310; FI 894259 A0 19890911;  
FI 894259 A 19910312

DOCDB simple family (application)  
**EP 90402411 A 19900831**; FI 894259 A 19890911