

Title (en)  
Manufacturing profiles having a cross-section varying in longitudinal direction

Title (de)  
Herstellung von Profilen mit einem sich in Längsrichtung verändernden Querschnitt

Title (fr)  
Fabrication de profilés avec une section variable dans la direction longitudinale

Publication  
**EP 1537922 A1 20050608 (EN)**

Application  
**EP 03027867 A 20031204**

Priority  
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Abstract (en)

The present invention relates to an apparatus for manufacturing a profile (2;2''), the profile (2;2'') being made of a single sheet metal (1;1''), the apparatus comprising transport means (11) for moving the sheet metal (1) into its longitudinal direction and bending means for bending the sheet metal (1;1'') in a bending direction other than the moving direction of the sheet metal (1;1''), the bending means comprising at least two opposing moulded forming rollers (3,3',3'',3''',4,4',4'',4''';7,7',7'',7''',8,8',8'',8''',9,9') contacting an upper and lower side of the sheet metal (1;1'') directed in-between the opposing moulded forming rollers (3,3',3'',3''',4,4',4'',4''';7,7',7'',7''',8,8',8'',8''',9,9') to perform bending operation based on a respective mould of the moulded forming rollers (3,3',3'',3''',4,4',4'',4''';7,7',7'',7''',8,8',8'',8''',9,9'), wherein the rotary axis of the moulded forming rollers (3,3',3'',3''',4,4',4'',4''';7,7',7'',7''',8,8',8'',8''',9,9') has a constant orientation. <??>According to the present invention the bending means further comprises at least two opposing transforming rollers (5,5',5'',6,6',6''), said transforming rollers (5,5',5'',6,6',6'') being variably adjustable in the bending direction during bending operation and contacting an upper and lower side of the sheet metal (1') directed in-between the opposing transforming rollers to perform bending operation, and transforming roller orientating means (13) which guarantee a tangential contact between the transforming rollers (5,5',5'',6,6',6'') and the sheet metal (1') directed in-between the opposing transforming rollers (5,5',5'',6,6',6'') during bending operation to allow manufacturing of a closed profile (2;2'') having a cross section varying in longitudinal direction and consisting of a single sheet metal. <IMAGE>

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IPC 8 full level  
**B21D 5/08** (2006.01)

CPC (source: EP)  
**B21D 5/083** (2013.01)

Citation (search report)

- [X] US 4558577 A 19851217 - TRISHEVSKY IGOR S [SU], et al
- [X] US 5722278 A 19980303 - HORINO KATUYOSHI [JP], et al
- [DAX] DE 10011755 A1 20010920 - GROCHE PTU TU DARMSTADT PETER [DE]
- [X] PATENT ABSTRACTS OF JAPAN vol. 008, no. 124 (M - 301) 9 June 1984 (1984-06-09)

Cited by  
DE102013018581B4; EP3579988A4; CN105312378A; EP1792670A1; CN105665487A; US2015027192A1; US9878357B2; DE102008050366A1; DE102008050366B4; EP2875877A1; EP3299090A1; WO2018147773A1; US11351586B2; WO2008110561A1; WO2008092424A3; WO2008129654A1; WO2015123799A1; EP3034191B2

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