Title (en)

MANIPULATOR FOR SHEET METAL PIECES WHICH ARE TO BE SHAPED IN A SHEET METAL WORKING MACHINE

Publication

EP 0250803 A3 19890412 (DE)

Application

EP 87106930 A 19870513

Priority

- AT 105387 A 19870428
- AT 146286 A 19860530

Abstract (en)

[origin: US4842473A] The manipulator for sheet-metal pieces is used in conjunction with a sheet-metal working machine and has two rotatable holding members (20) displaceable in three dimensions. The holding members (20) each have both clamping tongs (22), which act on the surface of the sheet-metal piece (24) to be worked, and a clamping strip (23) exerting pressure parallel to the sheet surface. It thereby becomes possible for the sheet-metal piece to be worked, in a first working phase when it is still plane, to be grasped along two parallel edges by means of tongs and, after the first working, to be held only by means of the clamping strips.

IPC 1-7

B21D 43/10

IPC 8 full level

B21D 43/10 (2006.01)

CPC (source: EP US)

B21D 43/105 (2013.01 - EP US); Y10S 294/902 (2013.01 - EP US)

Citation (search report)

- [X] WO 8602589 A1 19860509 AMP INC [US]
- [A] FR 2455931 A1 19801205 SAUNIER DUVAL
- [A] EP 0022331 A1 19810114 FUJITSU FANUC LTD [JP]

Cited by

AT397625B; AT399303B; ITRA20100018A1

Designated contracting state (EPC)

BE CH DE ES FR GB IT LI NL SE

DOCDB simple family (publication)

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EP 87106930 A 19870513; US 5660387 A 19870529