

Title (en)  
Improvements for joining metal parts

Title (de)  
Verbesserungen zum Verbinden metallischer Platten

Title (fr)  
Améliorations pour l'assemblage de plaques métalliques

Publication  
**EP 1214993 A2 20020619 (EN)**

Application  
**EP 01500285 A 20011213**

Priority  
ES 200003023 A 20001218

Abstract (en)  
The pre-flanging and final flanging operations achieve the folding of the flange (3) provided on the contour of an exterior plate or panel (4) on the edge of another interior plate or panel (5) by plastic deformation. The raising and lowering of the flanging tools (1, 2) is obtained with a servo-controlled electric drive (8) which acts by means of a transmission by belt (9) on a ball spindle (12) that acts on its corresponding nut (13). There are mechanical stops (15) for the proper positioning of the tools or cutters (1, 2). The pre-flanging tool (1) is located under the final flanging tool (2) and is pneumatically retractile. There is also a pneumatic holding-down plate (30) for the parts or plates, assembled on the tools or cutters (1, 2), kept continuously activated throughout the double flanging cycle. <IMAGE>

IPC 1-7  
**B21D 39/03**

IPC 8 full level  
**B21D 39/02** (2006.01)

CPC (source: EP)  
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Cited by  
CN106216509A; CN107206463A; CN106311884A; CN105945144A

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**EP 01500285 A 20011213**; AR P010105832 A 20011217; BR 0107021 A 20011218; CZ 20014569 A 20011218; MX PA01013189 A 20011218; PL 35123701 A 20011218