

Title (en)  
TUBULAR METAL JOINT ASSEMBLY AND MANUFACTURING TOOL THEREFOR

Title (de)  
ROHRFÖRMIGE METALLVERBINDUNGSANORDNUNG UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
ASSEMBLAGE PAR JOINTS TUBULAIRES METALLIQUES ET OUTIL POUR FORMER CES JOINTS

Publication  
**EP 1011890 A4 20000628 (EN)**

Application  
**EP 97909078 A 19971104**

Priority  
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Abstract (en)  
[origin: WO9819806A1] An expansion tool (10) for forming at least one toroidal deformation (21) in a tubular metal element (20), including: a shank (12) mountable in a driving machine for rotary movement; a toolbar or workhead (11) on the shank and co-axial therewith; a pair of diametrically spaced, circumferentially extending, grooves or slots in the toolbar or workhead, each groove having an inclined floor or ramp; and a respective expansion ball (14) in each groove, each ball being movable from a respective retracted position to a respective extended position, so arranged that: on insertion of the toolbar or workhead in the tubular element (20), and on rotation of the shank in one direction by the driving machine, the expansion balls move from their retracted positions to their extended positions to progressively form at least one toroidal deformation in the tubular element.

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IPC 8 full level  
**B21D 39/04** (2006.01)

CPC (source: EP)  
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Citation (search report)  
• [X] US 2183921 A 19391219 - REUTER RENE L E, et al  
• [X] US 3820370 A 19740628 - DUFFY E  
• [X] US 2122725 A 19380705 - SCHOLTES ALBERT J  
• See references of WO 9819806A1

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