

Title (en)

APPARATUS AND METHOD FOR FORMING A PIPE WITH INCREASED WALL-THICKNESS AT ITS ENDS

Title (de)

VORRICHTUNG UND VERFAHREN ZUR HERSTELLUNG EINES ROHRES MIT VERGRÖßERTEN WANDDICKEN AN SEINEN ENDEN

Title (fr)

DISPOSITIF ET PROCEDE DE FABRICATION D'UN TUYAU AVEC SUREPAISSEUR DES PAROIS AUX EXTREMITES

Publication

EP 1121209 B1 20030507 (EN)

Application

EP 99954830 A 19991008

Priority

- US 9923618 W 19991008
- US 10379898 P 19981009

Abstract (en)

[origin: CA2346705A1] Apparatus for and method of extruding a metal pipe having a uniform inner diameter, and forward and rearward end sections (62, 66) which are thicker than the middle section (64) of the pipe. A metal billet (54) having a bore (56) is inserted into an open ended cylindrical bore of a stationary container (12). The billet (54) is moved axially within the bore of the container (12) by a press (13) which includes a pressing surface (38, 39) and a mandrel (44) extending forwardly from the pressing surface through the bore of toward the billet (54). The mandrel (44) has a cylindrical large diameter rearward portion (48), a cylindrical small diameter middle portion (50) and a forwardly and outwardly tapering forward portion (52). Metal from the billet (54) is forced through the small diameter bore of a two part removable first die (20) around the middle portion (50) of the mandrel (44) by moving the press forwardly for a first distance to form a preliminary forward end section (62) of pipe. The press is moved forwardly for a second distance for forcing metal from the billet through the bore of the first die (51) around the rearward portion (48) of the mandrel for extruding the middle section (64) of pipe and causing the preliminary forward end section (62) of pipe to pass over the tapered forward portion (52) of the mandrel to form the forward end section (62) of pipe. The press is moved forwardly for a third distance for forcing metal from the billet through the relatively large bore of a second die (53) around the rearward portion (48) of the mandrel to form the rearward end section (66) of pipe.

IPC 1-7

B21C 23/08; **B21C 25/08**; **B21C 37/16**

IPC 8 full level

B21C 25/08 (2006.01); **B21C 23/08** (2006.01); **B21C 37/16** (2006.01)

IPC 8 main group level

B21C (2006.01)

CPC (source: EP)

B21C 23/085 (2013.01); **B21C 25/08** (2013.01)

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

OA 11911 A 20060410; AT E239562 T1 20030515; AU 1108600 A 20000501; BR 9914346 A 20020115; CA 2346705 A1 20000420; CN 1326387 A 20011212; CZ 20011246 A3 20020213; DE 69907711 D1 20030612; EP 1121209 A1 20010808; EP 1121209 B1 20030507; JP 2002527241 A 20020827; MX PA01003613 A 20020918; NO 20011682 D0 20010404; NO 20011682 L 20010516

DOCDB simple family (application)

OA 00100091 A 19991008; AT 99954830 T 19991008; AU 1108600 A 19991008; BR 9914346 A 19991008; CA 2346705 A 19991008; CN 99813407 A 19991008; CZ 20011246 A 19991008; DE 69907711 T 19991008; EP 99954830 A 19991008; JP 2000575648 A 19991008; MX PA01003613 A 19991008; NO 20011682 A 20010404