

Title (en)  
METHOD AND APPARATUS FOR SHAPING VARIOUS CROSS-SECTIONS ON METAL PIPES

Title (de)  
VERFAHREN UND VORRICHTUNG ZUM FORMEN VERSCHIEDENER QUERSCHNITTE AN METALLROHREN

Title (fr)  
PROCÉDÉ ET APPAREIL DE FORMAGE DE DIFFÉRENTES SECTIONS TRANSVERSALES SUR DES TUYAUX DE MÉTAL

Publication  
**EP 1922159 A1 20080521 (EN)**

Application  
**EP 06716821 A 20060213**

Priority  
• PL 2006000010 W 20060213  
• PL 37571905 A 20050615

Abstract (en)  
[origin: WO2006135266A1] The method of shaping various cross-sections on metal pipes, especially those used for lighting posts, wherein the pipe of uniform original diameter all over its original length is mounted in apparatus so, that its middle part is placed in two sleeve supports (3) and one of its faces rests against a thrust element (4) of the apparatus, whereas the other end of that pipe is subjected to expanding operation with external axial compressing force, the pipe with its one end expanded to larger diameter being then removed from the apparatus and put again into the apparatus in sleeve supports (3) of the apparatus with the face of expanded end rested against the thrust element (4) of the apparatus and the free end of the pipe having the original diameter being formed to cylindrical-and-conical shape with the use of the die (7) of the apparatus while exerting the compressing force, and then a cylindrical-and-conical head (16) of the draw unit (8) is inserted into this end and it is fixed to the walls of previously formed cylindrical-and-conical part of the pipe and an external tensile force is exerted onto said head, so that the end of the pipe is subjected to drawing through the drawhole of the reducing die (9) of the apparatus until it acquires the required diameter, smaller than the original diameter, wherein the process of expanding one end of the pipe of original diameter ( $d_{SUB>w</SUB>}$ ) to required diameter ( $d_{SUB>1</SUB>}$ ) is carried out in additional mounting in forming clamp (5) of the same diameter ( $d_{SUB>1</SUB>}$ ), whereas, prior to forming the other end of the pipe of the original diameter ( $d_{SUB>w</SUB>}$ ) to cylindrical-and-conical shape several cutouts of preferably triangular-like profile are made at equal space on pipe face and circumference and the process of drawing the other end of the pipe of original diameter ( $d_{SUB>w</SUB>}$ ) to required diameter ( $d_{SUB>2</SUB>}$ ) is carried out while clamping the cylindrical-and-conical end of the pipe between goffered surfaces of the external side of the conical-and-cylindrical head (16) and the internal side of the pressing sleeve (18) of the draw unit (8) of the multifunctional apparatus.

IPC 8 full level  
**B21C 1/00** (2006.01); **B21C 37/16** (2006.01); **B21D 41/02** (2006.01)

CPC (source: EP)  
**B21C 1/00** (2013.01); **B21C 37/16** (2013.01)

Citation (search report)  
See references of WO 2006135266A1

Designated contracting state (EPC)  
BE CZ DK FR GB LU NL PL SK

DOCDB simple family (publication)  
**WO 2006135266 A1 20061221**; EP 1922159 A1 20080521; EP 1922159 B1 20090408; PL 209625 B1 20110930; PL 375719 A1 20061227

DOCDB simple family (application)  
**PL 2006000010 W 20060213**; EP 06716821 A 20060213; PL 37571905 A 20050615