

Title (en)

Method and device for forming bulges on elements

Title (de)

Verfahren und Vorrichtung zur Herstellung von Nebenformelementen

Title (fr)

Méthode et dispositif de formage de bosselages sur des éléments

Publication

EP 0894548 B1 20010829 (DE)

Application

EP 98113616 A 19980722

Priority

DE 19733474 A 19970802

Abstract (en)

[origin: EP0894548A2] The method concerns production of lateral form elements (bulges, shoulders, elongate flats etc.) on an elongate, circumferentially closed hollow article (1). The elements are produced by internal high pressure forming in a tool which has top and bottom halves. The article is dented in the region of the proposed lateral form element using a punch (13). Subsequently during the forming process, while the punch is being retracted, the material of article is pressed against the punch face and side surfaces by high internal fluid pressure. There is a fixed element which has a stop surface and an opening for passage and guidance of the punch (13).

IPC 1-7

B21C 37/29; **B21D 26/02**

IPC 8 full level

B21C 37/29 (2006.01); **B21D 26/02** (2011.01); **B21D 26/037** (2011.01)

CPC (source: EP US)

B21C 37/294 (2013.01 - EP US); **B21D 26/037** (2013.01 - EP US)

Cited by

US9090007B2; WO2008125232A3

Designated contracting state (EPC)

DE ES FR GB IT SE

DOCDB simple family (publication)

EP 0894548 A2 19990203; **EP 0894548 A3 20000419**; **EP 0894548 B1 20010829**; DE 19733474 A1 19990218; DE 19733474 C2 19991209; DE 59801292 D1 20011004; ES 2162376 T3 20011216; US 6143235 A 20001107

DOCDB simple family (application)

EP 98113616 A 19980722; DE 19733474 A 19970802; DE 59801292 T 19980722; ES 98113616 T 19980722; US 12783098 A 19980803