



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
07.09.2016 Bulletin 2016/36

(51) Int Cl.:
B21D 22/02 (2006.01) **B21D 22/04** (2006.01)
B21D 53/06 (2006.01) **B21D 37/02** (2006.01)
B21D 37/04 (2006.01) **B21D 43/00** (2006.01)

(43) Date of publication A2:
16.04.2014 Bulletin 2014/16

(21) Application number: **13156543.4**

(22) Date of filing: **25.02.2013**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

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(30) Priority: **10.10.2012 CZ 20120689**

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(54) **Forming device for deforming tubes of heat exchangers**

(57) The present invention relates to the forming device for carrying out controlled deformation of tubes, especially tubes (4) of heat exchangers, which are placeable between the table and pressure bar of the mechanical press, whereby it comprises a lower forming plate (1) and an upper forming plate (2) that are coupled by guide devices. It further comprises die elements (12) arranged on mutually counter surfaces (11, 24) of the lower forming plate (1) and the upper forming plate (2). The die

elements (12) are connected to a corresponding forming plate (1, 2) in a demountable and adjustable, whereas the forming plates (1, 2) being coupled to devices for adjusting the position of the processed tube (4) with respect to the forming plates (1, 2) along the longitudinal axis of the tube (4) and in the direction of shifting the tube (4) round its longitudinal axis, and to means which secures the tube (4) in the set position.

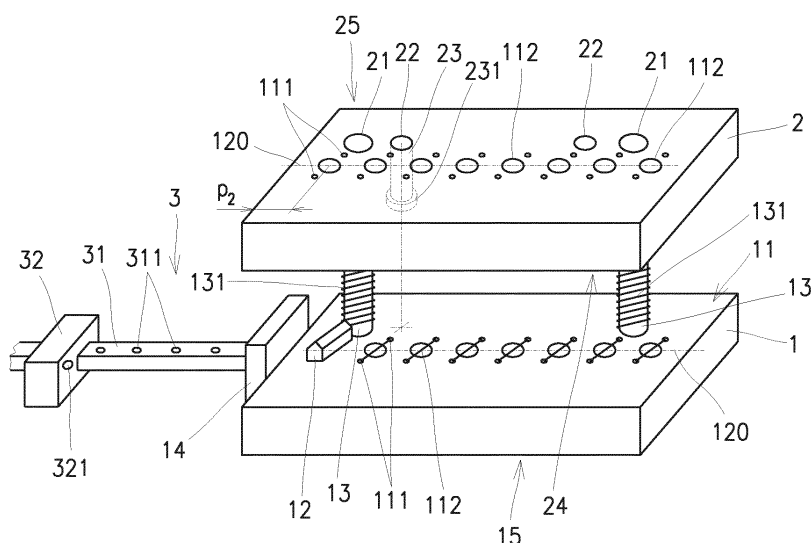


Fig. 4



EUROPEAN SEARCH REPORT

Application Number
EP 13 15 6543

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 0 174 758 A2 (HOBART CORP [US]) 19 March 1986 (1986-03-19) * abstract; figures 4-10 * -----	1-9	INV. B21D22/02 B21D22/04 B21D53/06
X	EP 0 097 750 A2 (COMMISSARIAT ENERGIE ATOMIQUE [FR]) 11 January 1984 (1984-01-11) * abstract; figure 2 * -----	1,2,4	B21D37/02 B21D37/04 B21D43/00
A		3,5-9	
A,D	DE 10 2008 031158 A1 (BEHR GMBH & CO KG [DE]) 7 January 2010 (2010-01-07) * the whole document * -----	1-9	
			TECHNICAL FIELDS SEARCHED (IPC)
			B21D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 1 August 2016	Examiner Cano Palmero, A
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03.02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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01-08-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0174758 A2	19-03-1986	CA 1258027 A	01-08-1989
		DE 3582637 D1	29-05-1991
		EP 0174758 A2	19-03-1986
		US 4582259 A	15-04-1986

EP 0097750 A2	11-01-1984	NONE	

DE 102008031158 A1	07-01-2010	NONE	
