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AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

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(54) Title: METHOD OF MANUFACTURE OF ALUMINIUM ALLOYS

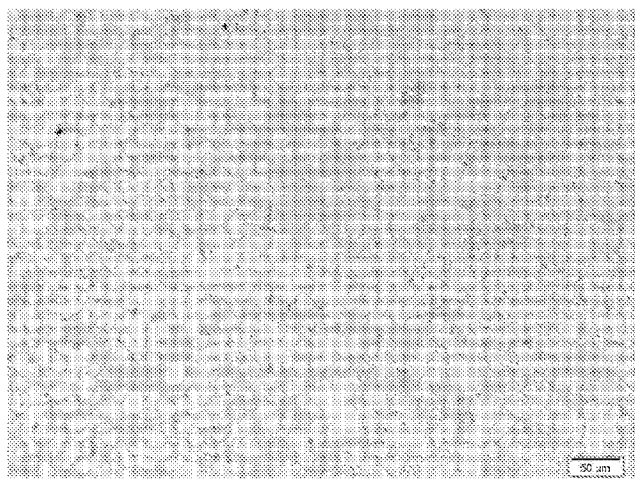


Figure 1

(57) Abstract: The present invention provides a method of manufacture of a structural aluminium alloy having a desired composition, the method comprising blending secondary aluminium obtained from one or more sources with primary aluminium and, optionally, one or more additional refining and/or alloying elements, in order to obtain the desired composition. To be accompanied when published by figure 1 of the drawings.



INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2015/050278

A. CLASSIFICATION OF SUBJECT MATTER
 INV. C22C21/02 B22D18/00 C22B21/00 C22C1/02 C22C21/04
 ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 C22C B22D C22B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BARRAND, P.; GADEAU, M., Ingénieurs du Groupe Pechiney: "L'ALUMINIUM, Tome 2, Mise en oeuvre et utilisation de l'aluminium et de ses alliages", 1 January 1964 (1964-01-01), ÉDITIONS EYROLLES, PARIS, XP002739040, vol. 2, pages 3-5, page 4	1
X	----- EP 1 101 830 A1 (PECHINEY RHENALU [FR]) 23 May 2001 (2001-05-23) paragraphs [0023], [0024]; claim 8 ----- -/--	1,2, 14-19

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 19 June 2015	Date of mailing of the international search report 15/09/2015
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer González Junquera, J
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2015/050278

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1, 2(completely); 14-19(partially)

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2015/050278

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>HIROKI HATAYAMA ET AL: "Evolution of aluminum recycling initiated by the introduction of next-generation vehicles and scrap sorting technology", RESOURCES CONSERVATION AND RECYCLING, ELSEVIER SCIENCE PUBLISHER, AMSTERDAM, NL, vol. 66, 8 June 2012 (2012-06-08), pages 8-14, XP028424607, ISSN: 0921-3449, DOI: 10.1016/J.RESCONREC.2012.06.006 [retrieved on 2012-06-15] Right column, last paragraph of page 8 (first page of the article); page 8</p> <p style="text-align: center;">-----</p>	1,2, 14-19

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2015/050278

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1101830	A1	23-05-2001	
		DE 1101830 T1	17-01-2002
		DE 60020799 D1	21-07-2005
		DE 60020799 T2	11-05-2006
		EP 1101830 A1	23-05-2001
		FR 2801060 A1	18-05-2001
		US 6293990 B1	25-09-2001

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1, 2(completely); 14-19(partially)

Method of manufacture of a structural aluminium alloy having a desired composition, the method comprising blending secondary aluminium with primary aluminium and, optionally, refining and/or alloying elements, in order to obtain the desired composition.

Optionally comprising the features related to the recycled aluminium (secondary aluminium) used in the blend, as in claims 2, 14-20

2. claims: 3-13, 20-24(completely); 14-19(partially)

Method of manufacture of a structural aluminium alloy having a desired composition, the method comprising blending secondary aluminium with primary aluminium and, optionally, refining and/or alloying elements, in order to obtain the desired composition.

Optionally comprising the features related to the desired composition of the structural aluminium, as in claims 3-13

3. claim: 25

Die casting tool or machine according to claim 25
