Title: ALUMINUM CLAD ZINC BIMETALLIC COIN PLANCHET

Abstract: A composite metal laminate coin planchet (5) comprises commercially pure aluminum cladding layers (15, 20) metallurgically bonded to a zinc alloy core (10). The zinc alloy core (10) may contain a hardening agent, such as copper or titanium, used to increase the hardness of the alloy above that of pure zinc. Trace amounts of other elements may also be present in the zinc alloy core (10) or in the commercially pure aluminum cladding layers (15, 20) which do not affect their pertinent properties. The coin planchet (5) is produced by a process comprising providing a strip or sheet of a zinc alloy coer and creating a strip or sheet of composite material by metallurgically bonding commercially pure aluminum cladding layers to the zinc alloy. The coin planchets (5) are then removed from the strip or sheet of composite material, and the remaining composite material is heated above its melting point to produce a zinc-aluminum alloy useful in die-casting.
Declarations under Rule 4.17:

— as to applicant’s entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations: AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, IK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPA patent (GH, GM, KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— as to the applicant’s entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations: AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, IK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPA patent (GH, GM, KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

(88) Date of publication of the international search report: 22 August 2002

For two-letter codes and other abbreviations, refer to the “Guidance Notes on Codes and Abbreviations” appearing at the beginning of each regular issue of the PCT Gazette.
### INTERNATIONAL SEARCH REPORT

**International application No.**
PCT/US01/45811

---

#### A. CLASSIFICATION OF SUBJECT MATTER

**IPC(1)**: B25B 15/14, 15/20
US CL.: 424/570, 650, 658, 40/25.5, 285/255.2

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)

- U.S.: 428/670, 650, 658, 40/25.5, 285/255.2

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

Electronic data have been consulted during the international search (name of data base and, where practicable, search terms used)

---

#### C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 2,102,869 A (WINTER) 21 December 1937, see table in right hand column of page 1.</td>
<td>4, 5, 15, 16, 28, 29</td>
</tr>
<tr>
<td>A</td>
<td>US 3,607,147 A (HARRISON) 21 September 1971, see figures 1-2 and claim 1.</td>
<td>1-30</td>
</tr>
<tr>
<td>A</td>
<td>US 3,798,028 A (GERVAIS et al) 19 March 1974, see Table 1.</td>
<td>4, 5, 15, 16, 28, 29</td>
</tr>
</tbody>
</table>

---

**Date of the actual completion of the international search**

**18 APRIL 2002**

---

**Date of mailing of the international search report**

**15 MAY 2002**

---

**Name and mailing address of the ISA/US Commissioner of Patents and Trademarks**

Box PCT
Washington, D.C. 20231

**Facsimile No.** (703) 305-9280

**Authorized officer**

**JOHN ZIMMERMAN**

**Telephone No.** (703) 305-0661

---

*Further documents are listed in the continuation of Box C.*

---

* See patent family annex.

---

* Special category of cited documents:

- **A** document defining the general state of the art which is not considered to be of particular relevance.
- **B** earlier document published or after the international filing date or the priority date of the International Application, or the priority date of a design registration application or of an earlier international filing date.
- **C** document which may throw doubts on the novelty, inventive step, or industrial applicability of the invention described in the International Application, or the priority date of a design registration application or of an earlier international filing date (as specified).
- **D** document relating to an oral disclosure, use, exhibition or other means.
- **E** document published prior to the international filing date but later than the priority date claimed.

---

* Code letters:

- **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.
- **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.
- **Y** document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other documents, such combination being obvious to a person skilled in the art.
- **A** document member of the same patent family.
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 3,940,254 A (MCMULLEN et al) 24 February 1976, see claims 1-3.</td>
<td>1-30</td>
</tr>
<tr>
<td>A</td>
<td>US 4,330,599 A (WINTER et al) 18 March 1982, see abstract and claims 1-12.</td>
<td>1-30</td>
</tr>
<tr>
<td>A</td>
<td>US 4,401,488 A (PRINZ et al) 30 August 1983, see abstract and claims 1-5.</td>
<td>1-30</td>
</tr>
<tr>
<td>A</td>
<td>US 4,579,761 A (RUSCOE et al) 01 April 1986, see claims 1-15.</td>
<td>1-30</td>
</tr>
<tr>
<td>A</td>
<td>US 4,599,279 A (MIRRA et al) 08 July 1986, see abstract and claims 1-13.</td>
<td>1-30</td>
</tr>
<tr>
<td>A</td>
<td>US 5,472,796 A (BREEDIS et al) 05 December 1995, see abstract and claims 1-22.</td>
<td>1-30</td>
</tr>
<tr>
<td>A</td>
<td>JP 52-129628 A (TOBA KOSAN) 31 October 1977, see abstract.</td>
<td>1-30</td>
</tr>
</tbody>
</table>