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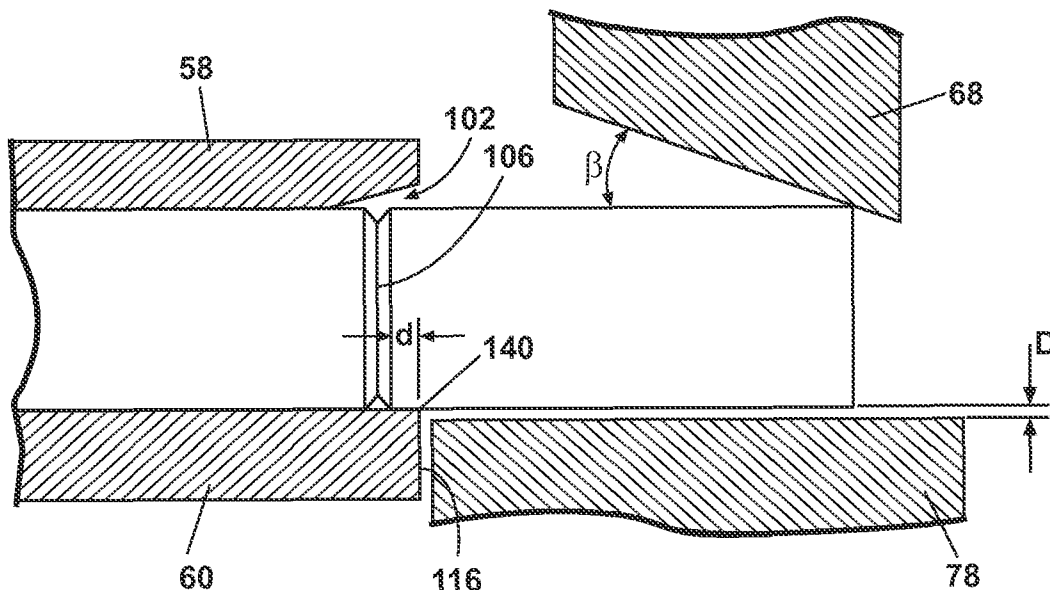
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(54) Title: PROCESS AND APPARATUS FOR SCORING AND BREAKING INGOTS



(57) Abstract: An apparatus for scoring and breaking ingots (100) into charges (150) comprises a scoring station (12) and a breaking station (14). The scoring station (12) includes a lathe that makes a shallow, circumferential groove (102, 104) in the ingot at a desired charge length. The breaking station (16) includes a hydraulic press (64) that impacts a charge portion (110) of the ingot to break a charge (150) from the ingot at a scoring line (106). The apparatus can further include a control system to automate the process and to weigh an ingot at different points along the length of the ingot, calculating the density of the ingot, and using the information to determine a desired charge length needed for a given weight of material.

WO 2007/098439 A3

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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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)
 EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,407,116 A (NISHISHITA et al.) 18 April 1995 (18.04.1995), Figs. 1-4.	10, 12-14, 16-17 and 20-21 ----- 1-3, 5-9, 11 and 18-19
A	US 3,958,732 A (AOYAMA et al.) 25 May 1976 (25.05.1976), Figs. 1-3.	1-21
A	US 3,910,474 A (KING, Jr.) 07 October 1975 (07.10.1975), Figs. 1-4.	1-21
A	US 5,918,587 A (HASEGAWA et al.) 06 July 1999 (06.07.1999), Figs. 1-2.	1-21

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

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