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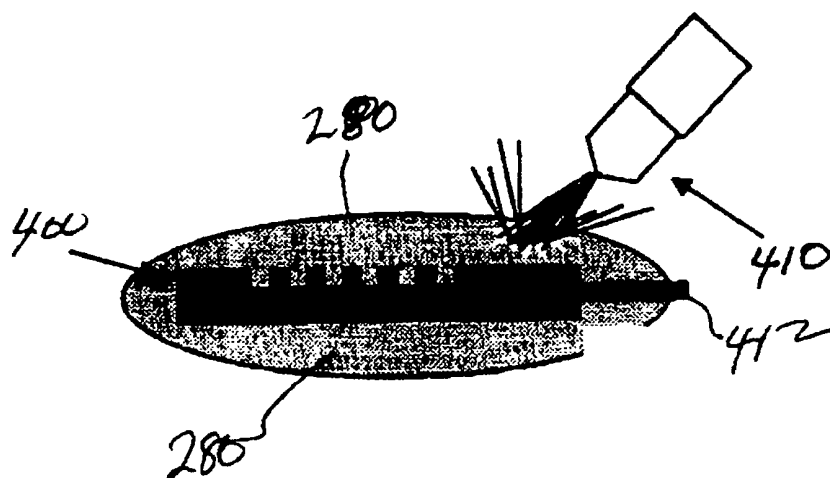
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(54) Title: DIRECT MARKING OF PARTS WITH ENCODED SYMBOLOGY METHOD, APPARATUS AND SYMBOLOGY



(57) Abstract: The present invention describes an automated method for creating impressions of machine-readable encoded symbology (70) using thermojet type solid object printing technology. This is accomplished by electronically transmitting a software file containing a part identification symbol representation in Computer Assisted Drawing (CAD) software format to a ThermoJet type solid object printer where tiny droplets of a wax like material (310) are deposited in successive layers to form a three-dimensional pattern insert containing representation of the encoded symbology for

combination with a pattern replica of a part to be encoded by the symbology. A cast mold (280) is thereafter formed from the combined pattern and a casting is made from the mold to result in a machine readable 2D Data Matrix type encoded (70), directly marked, part.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06K 19/06, 07/10

US CL :235/ 256, 494, 454, 462.01-462.40, 472.01

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. : 235/ 256, 494, 454, 462.01-462.40, 472.01

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

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

EAST - {D1:2}-dimensional, code\$1, bar\$1code\$1, 235/494.ccls.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,484,999 A (Priddy et al.) 16 January 1996 (16/01/96), the entire reference	1-16
Y	US 4,924,078 A (Sant' Anselmo et al.) 08 May 1990 (08/05/90), the entire reference	1-16
Y	US 5,343,031 A (Yoshida) 30 August 1994 (30/08/94), the entire reference	1-16

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

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier document published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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