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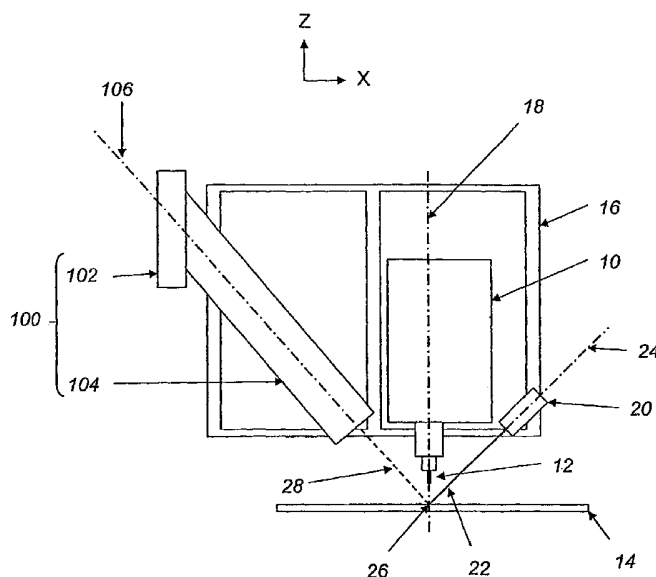
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ning of each regular issue of the PCT Gazette.

(54) Title: IMAGING AND INSPECTION SYSTEM FOR A DISPENSER AND METHOD FOR SAME



(57) Abstract: Aspects of the invention are directed to systems and methods for dispensing materials onto a substrate. In one aspect, a dispensing system includes a dispenser having a dispensing outlet positionable over a top surface of the substrate, the dispenser having a substantially vertical dispensing axis along which material from the dispenser is dispensed, and a vision system, coupled to the dispenser, the vision system being positionable to obtain images of the top surface of the substrate along an optical axis, wherein the vision system is constructed and arranged such that the optical axis intersects the dispensing axis.

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## INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER  
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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)  
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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 practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 91 10 924 U1 (SIEMENS AG, 8000 MUENCHEN, DE) 31 October 1991 (1991-10-31)	1-3, 16-29, 36-40
A	the whole document	41
X	EP 0 289 421 A (UNIVERSAL INSTRUMENTS CORPORATION; UNIVERSAL INSTRUMENTS CORPORATION) 2 November 1988 (1988-11-02)	1-3, 15-17, 21-24, 27-29, 36
	the whole document	
X	US 2002/020350 A1 (PRENTICE THOMAS C ET AL) 21 February 2002 (2002-02-21)	22, 25, 26
A	the whole document	1, 15, 16, 18-20, 27, 37-41
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☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	<p>EP 0 427 362 A (KLATT, HELMUTH, DIPL.-ING)  15 May 1991 (1991-05-15)</p> <p>the whole document</p> <p>-----</p>	<p>1-4,  16-20,  22-29,  36-41</p>

# INTERNATIONAL SEARCH REPORT

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 9110924	U1	31-10-1991	NONE	
EP 0289421	A	02-11-1988	CA 1296083 C JP 1105106 A US 4762578 A	18-02-1992 21-04-1989 09-08-1988
US 2002020350	A1	21-02-2002	AU 1458601 A WO 0133933 A1 US 6541063 B1	14-05-2001 10-05-2001 01-04-2003
EP 0427362	A	15-05-1991	DE 3937381 A1	08-05-1991