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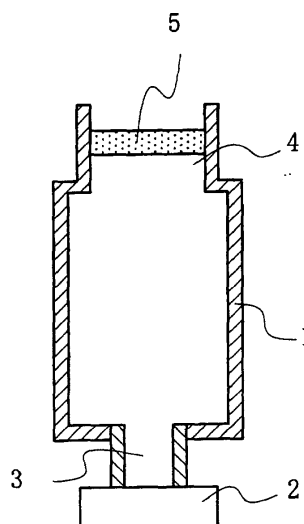
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(54) **A valve body and a liquid storage container for a liquid discharge device utilizing the valve body**

(57) A porous material such as polyurethane foam is compressed to form skeletal portions in a three-dimensional network and mutually communicated pores or passages. The passages are closed at the skeletal portions by contacting the skeletal portions with each other so that valve caps are formed for closing the passages. Thus formed valve body is applicable to pen tips for writing instruments and printer heads for ink jet printers.

FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 00 12 2336

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	MALBRANQUE SERSEG SA: "Catalogue N 75" 1975, MALBRANQUE SERSEG SA, FRANCE XP002224995 * page 54 * * page 130 * * page 146 *	1,2	B43K8/02 B41J27/20 B41J2/175
X	WO 95 11752 A (ANTSIFEROV VLADIMIR N ;MAKAROV ALEKSANDR M (RU); OVCHINNIKOVA VALE) 4 May 1995 (1995-05-04) * page 10, line 13 - line 15; figure 2 *	1-9	
X	US 4 211 849 A (KOLLMEIER HANS-JOACHIM ET AL) 8 July 1980 (1980-07-08) * column 4, line 61 - line 64 * * column 10 *	1-9	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B41J C08G
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 13 December 2002	Examiner Bridge, S
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 (03.02 (P04C01))



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-9



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-9

PROBLEM : materials for the valve cap; SOLUTION : "a resilient material having Young's modulus in the range of from 1 MPa, inclusive, to 5000 MPa, inclusive";

2. Claims: 10-27

PROBLEM : a liquid storage container for a liquid discharging device; SOLUTION : "a liquid passage connected with the liquid discharging device containing therein a predetermined liquid, an air passage for permitting air to pass through between an interior of the container and exterior of the container, and a valve means, adapted to the air passage, for temporarily opening the air passage in accordance with a change of pressure between the exterior and interior of the container to thereby permit the air through the air passage".

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 12 2336

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

13-12-2002

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82