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(54) Title: METHODS OF AFFECTING MATERIAL PROPERTIES AND APPLICATIONS THEREFOR

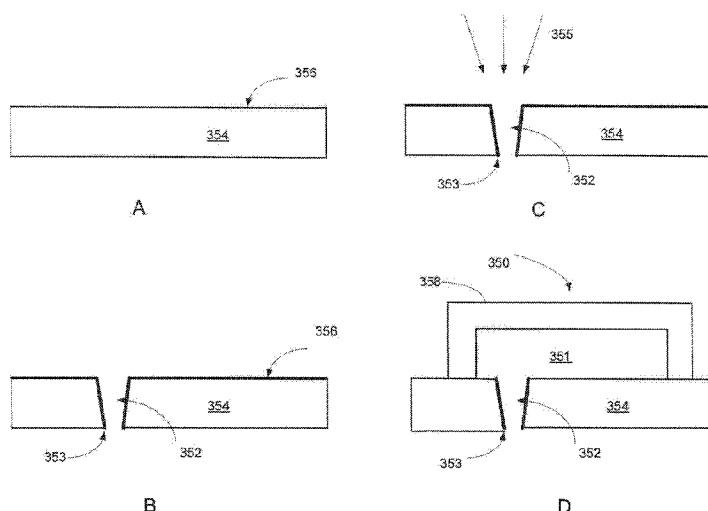


FIG. 9

(57) Abstract: Methods of affecting a material's properties through the Implantation of ions, such as by using a plasma processing apparatus with a plasma sheath modifier. In this way, properties such as resistance to chemicals, adhesiveness, hydrophobicity, and hydrophilicity, may be affected. These methods can be applied to a variety of technologies. In some cases, ion implantation is used in the manufacture of printer heads to reduce clogging by increasing the materials hydrophobicity. In other embodiments, MEMS and NEMS devices are produced using ion implantation to change the properties of fluid channels and other structures. In addition, ion implantation can be used to affect a material's resistance to chemicals, such as acids.



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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) H01J B41J C23C		
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) EPO-Internal, COMPENDEX, IBM-TDB, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
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* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "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) "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 "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 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 "&" document member of the same patent family		
Date of the actual completion of the international search 15 January 2013		Date of mailing of the international search report 22/01/2013
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Remy, Jérôme

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