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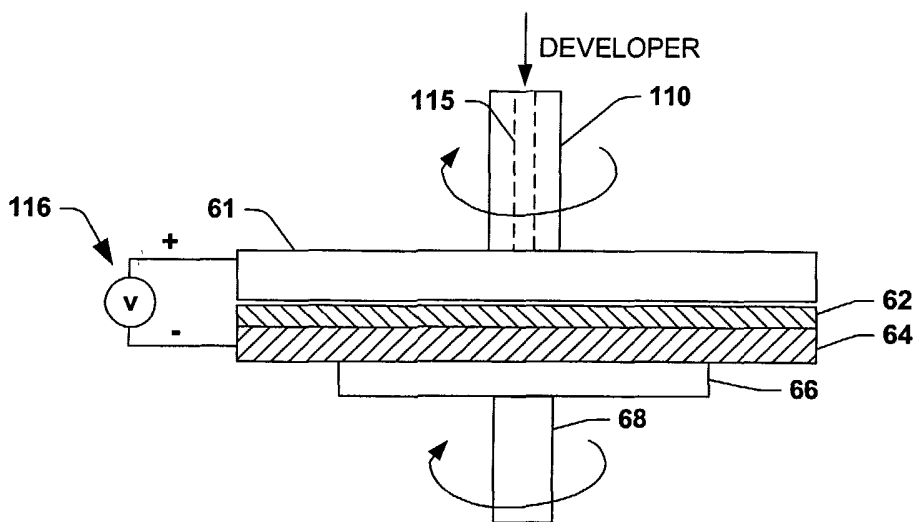
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(54) Title: PARALLEL PLATE DEVELOPMENT WITH THE APPLICATION OF A DIFFERENTIAL VOLTAGE



(57) Abstract: A system and method is provided for applying a developer to a photoresist layer (42, 62) disposed on a substrate (44, 64). The developer system and method employ a developer plate (41, 61) having a plurality of apertures (47, 67) for dispensing developer. The developer plate (41, 61) is disposed above the substrate (44, 64) and substantially and/or completely surrounds the top surface of the substrate (44, 64) during application of the developer. A small gap (50, 69) is formed between the substrate (44, 64) and the bottom surface of the developer plate (41, 61). The substrate (44, 64) and the developer plate (41, 61) form a parallel plate pair, such that the gap (50, 69) can be made small enough so that the developer fluid quickly fills the gap (50, 69). A differential voltage is applied to the developer plate (41, 61) and the substrate (44, 64) causing an electric field (118) to be formed in the gap (50, 69), which facilitates transportation of negatively charged photoresist material during the development process.



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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)

IPC 7 H01L

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 <sup>o</sup>	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 292 384 A (STRAUGHAN VIRGIL E ET AL) 29 September 1981 (1981-09-29) figure 1 column 1, line 10 - line 28 column 6, line 1 - line 40 column 7, line 53 - line 54 ---	1-4
Y	US 5 720 814 A (TAKAGI MOTOSHI ET AL) 24 February 1998 (1998-02-24) abstract column 1, line 5 - line 10 column 3, line 15 - line 24 figure 1 --- -/--	1-10

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.<sup>o</sup> Special categories of cited documents:

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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Y	EP 1 009 018 A (NIPPON ELECTRIC CO) 14 June 2000 (2000-06-14) abstract column 9, paragraph 78 column 11, paragraph 96 claim 1 -----	1-10

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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