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(54) **Title:** METHOD AND SYSTEM FOR INLINE CHEMICAL VAPOR DEPOSITION

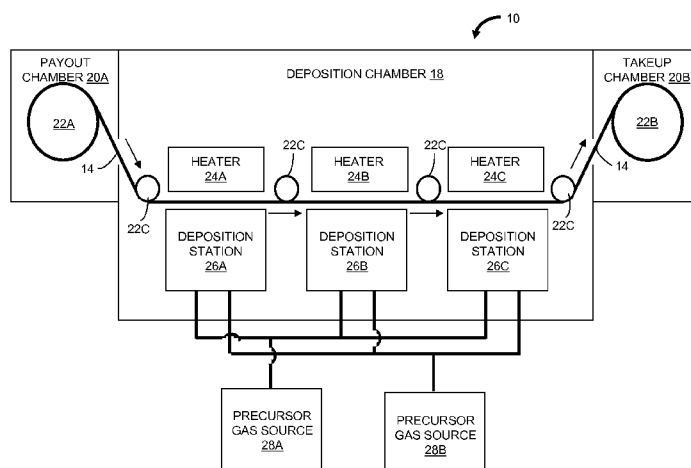


FIG. 1

(57) **Abstract:** Disclosed are an inline chemical vapor deposition method and system for fabricating a device. The method includes transporting a web or discrete substrate through a deposition chamber having a plurality of deposition modules. A buffer layer, a window layer and a transparent conductive layer are deposited onto the substrate during passage through a first deposition module, a second deposition module and a third deposition module, respectively. Advantageously, the steps for generating the buffer layer, window layer and transparent conductive layer are performed sequentially in a common vacuum environment of a single deposition chamber and the use of a conventional chemical bath deposition process to deposit the buffer layer is eliminated. The method is suitable for the manufacture of different types of devices including various types of solar cells such as copper indium gallium diselenide solar cells.

**A. CLASSIFICATION OF SUBJECT MATTER*****H01L 21/205(2006.01)i, C23C 16/44(2006.01)i***

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)

H01L 21/205; C23C 16/46; H01L 21/469; H01L 31/0248; C23C 16/44; H01L 31/18; H01L 31/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) &amp; Keywords: CVD,inline,continuous,multiple,single chamber,CIGS,thin film,solar,photovoltaic

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                          | Relevant to claim No. |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Y         | US 2010-0221426 A1 (SFERLAZZO PIERO) 02 September 2010<br>See abstract; figures 1-5; paragraphs [0014]-[0054]                               | 1-34                  |
| Y         | US 2008-0251120 A1 (MALMSTROM JONAS et al.) 16 October 2008<br>See abstract; figure 1; paragraph [0004]                                     | 1-34                  |
| A         | US 2004-0067641 A1 (JOSEPH YUDOVSKY) 08 April 2004<br>See abstract; figures 1-5; paragraphs [0024]-[0057]                                   | 1-34                  |
| A         | US 2006-0180200 A1 (CHARLOTTE PLATZER BJORKMAN et al.) 17 August 2006<br>See abstract; figures 1-5; paragraphs [0006]-[0008], [0031]-[0066] | 1-34                  |



Further documents are listed in the continuation of Box C.



See patent family annex.

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"&amp;" document member of the same patent family

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Information on patent family members

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| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s)                                                                                                                                       | Publication<br>date                                                                                                        |
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