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(54) Title: ADAPTIVE SHAPE SUBSTRATE SUPPORT SYSTEM AND METHOD

(57) Abstract: The present method and system features an active compliant pin chuck to hold a substrate, having opposed first and second surfaces, and compensates for non-planarity in one of the surfaces of the substrate. To that end, the method includes creating a point contact on the first surface to generate a change in shape of the second surface to obtain a desired shape of the second surface. The desired shape may be smooth, if not substantially planar or any other shape desired within the operational parameters of the chuck and the substrate. For example, the method may compensate for non-planarity due to particular matter on the first surface and substrate topography. To that end, the support system includes a piezo pins being coupled to piezo actuators to undergo relative movement with respect to said reference pins. These and other embodiments are discussed more fully below.

INTERNATIONAL SEARCH REPORT

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PCT/US05/18281

A. CLASSIFICATION OF SUBJECT MATTER
IPC: **G03C 1/76**(2006.01);**G03F 7/00**(2006.01);**B41M 5/00**(2006.01)

USPC: 430/272.1,275.1,302,320;438/758
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)
U.S. : 430/272.1,275.1,302,320;438/758

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)
WEST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,696,220 A (BAILEY et al) 24 February 2004 (24.02.2004), columns 31-32.	1-5 and 7-9

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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