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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF MAKING GRAYSCALE MASK FOR GRAYSCALE DOE PRODUCTION BY USING AN ABSORBER LAYER

(57) Abstract: The present invention relates to manufacturing grayscale masks that are used for mass-producing grayscale DOEs. More specifically, the present invention provides a method whereby a grayscale mask is fabricated by using an absorber layer and a photoresist with a laser writer. The method of the present invention includes the steps of providing a substrate with a known layer of absorber and a layer of photoresist, exposing the photoresist to a grayscale pattern from a laser writer, developing the photoresist into variable thickness, and transferring the surface relief pattern from the photoresist layer onto the absorber layer by etching.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/20723

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **G03F 1/00**(2006.01);**G03C 5/00**(2006.01)

USPC: 430/5,7,321,322

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. : 430/5,7,321,322

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.
A	US 6,071,652 A (FELDMAN et al.) 6 June 2000 (06.06.2000)	1-25
A	US 5,310,623 A (GAL) 10 May 1994 (10.05.1994)	1-25

Further documents are listed in the continuation of Box C.

See patent family annex.

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