



US 20050225739A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2005/0225739 A1**
Hiura (43) **Pub. Date: Oct. 13, 2005**

(54) **EXPOSURE APPARATUS AND DEVICE FABRICATION METHOD USING THE SAME**

(52) **U.S. Cl.** 355/67; 355/53

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(57) **ABSTRACT**

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An exposure apparatus that irradiates excitation laser onto a target, and generates from generated plasma a light source for generating illumination light of an extreme ultraviolet region or an X-ray region includes an illumination optical system that uses the illumination light to illuminate a catoptric reticle that forms a pattern to be transferred, the illumination optical system including a first mirror closest to the light source, an ellipsoidal mirror for condensing the illumination light in front of the first mirror in the illumination optical system, and a projection optical system that reduces and projects the pattern reflected on the reticle onto an object to be exposed, wherein light where an optical-axis direction of the excitation laser proceeds beyond a position that generates the plasma by the excitation laser does not interfere with components in the exposure apparatus including the illumination and projection optical systems, and the ellipsoidal mirror.

(21) **Appl. No.: 10/512,312**

(22) **PCT Filed: Apr. 11, 2003**

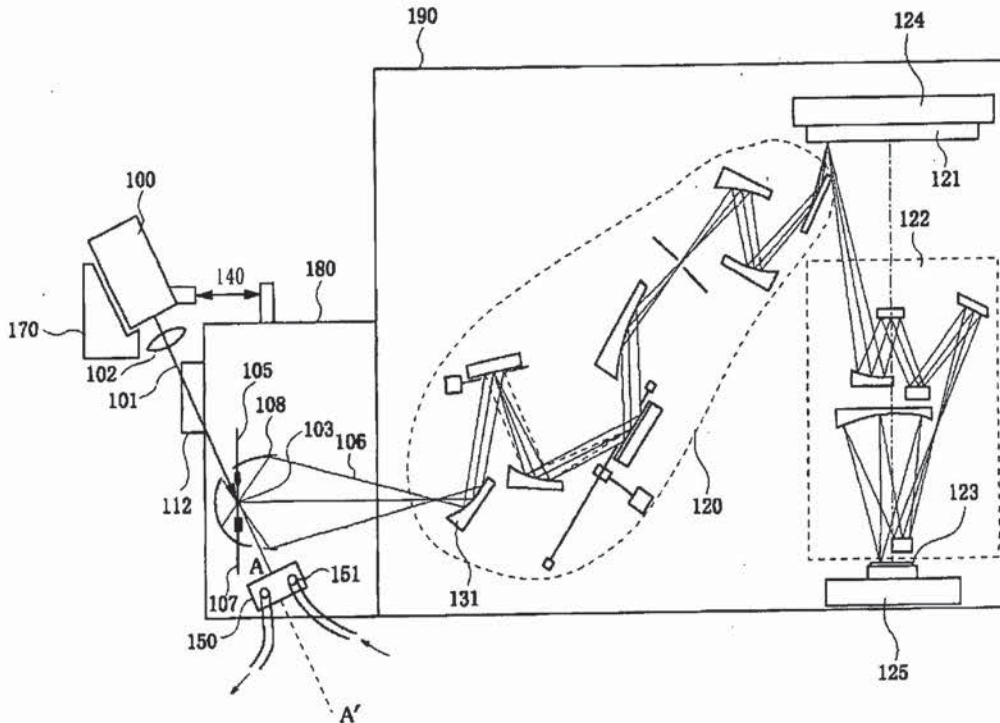
(86) **PCT No.: PCT/JP03/04644**

(30) **Foreign Application Priority Data**

Apr. 26, 2002 (JP) 2002-127343

Publication Classification

(51) **Int. Cl.⁷** G03B 27/54



ASMT 1204

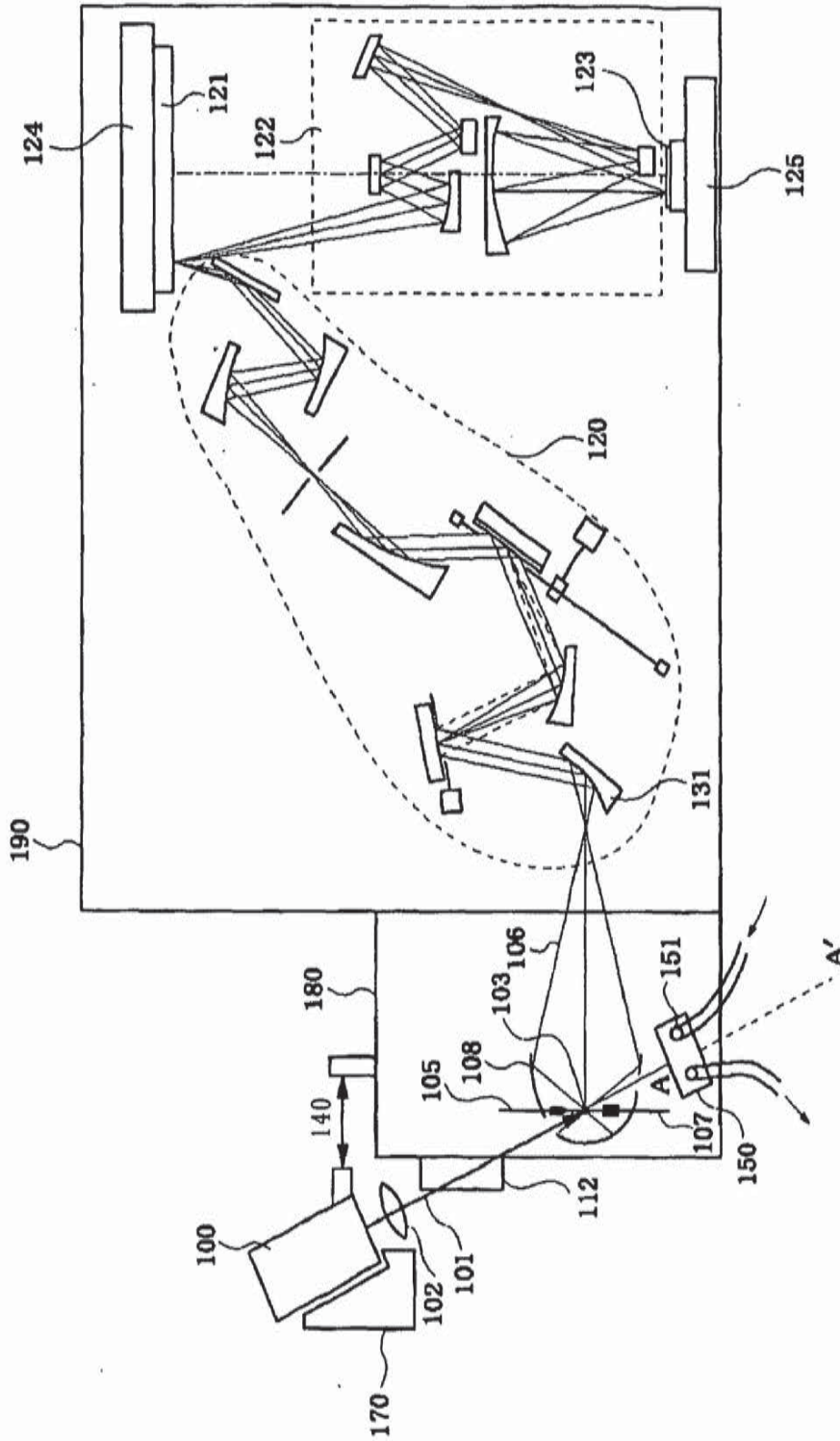


FIG. 1

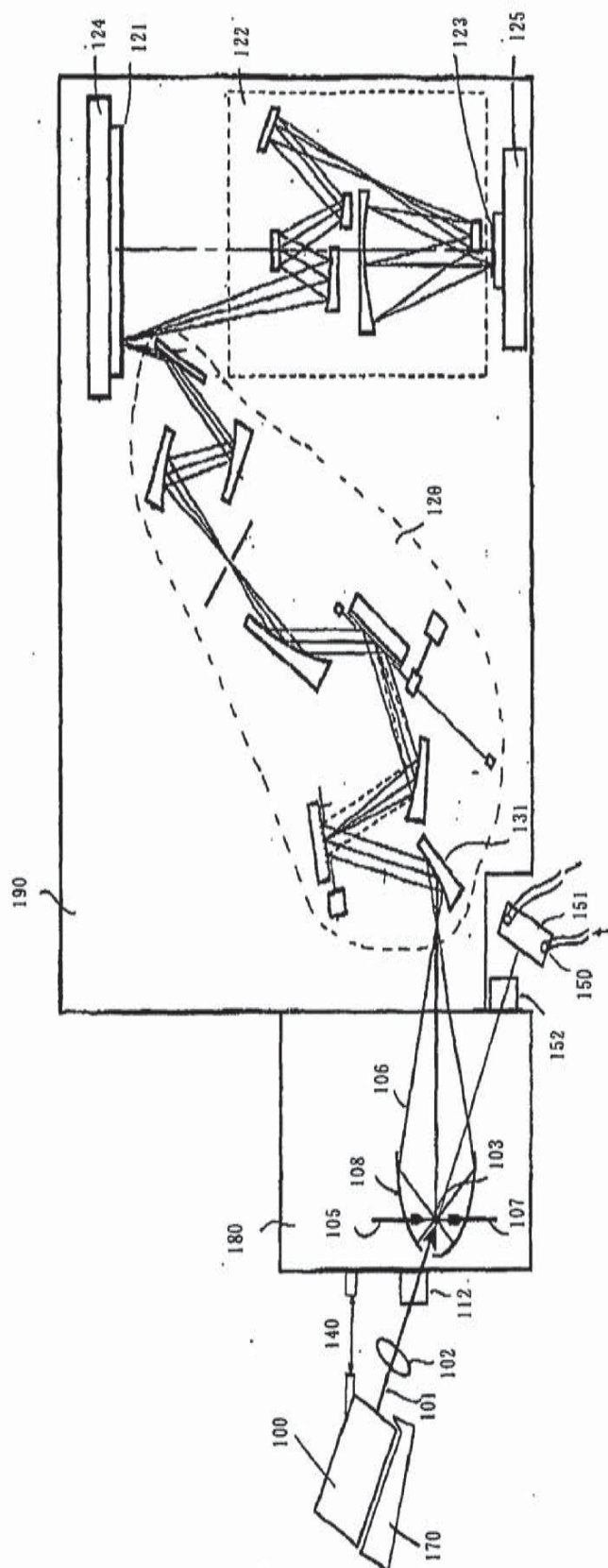


FIG. 4

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