

[54] **PROCESS FOR POSITIONING OF A MASK RELATIVE TO ANOTHER MASK, OR MASKS RELATIVE TO A WORKPIECE AND DEVICE FOR EXECUTING THE PROCESS**

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[57] **ABSTRACT**

A process for positioning, in which a dummy is not used, in which multichromatic light can be used as the light source for purposes of alignment, and in which aberration correction is unnecessary, and a device for executing the process is achieved according to the invention by executing projection onto a first mask by projection lenses in which at least the workpiece facing sides of the lenses are telecentric. In a state in which a workpiece is remote, light with exposure wavelengths is emitted from a light irradiation part onto a second mask. The first mask (or second mask) is moved such that the projected images of the alignment marks of the second mask and the alignment marks of the first mask come to lie on top of one another. Furthermore, the irradiation light is branched off by beam splitters and positions of the alignment marks of the second mask are stored. Next, emission of the light with exposure wavelengths is stopped, a workpiece is inserted into a predetermined position, from another light irradiation part light multichrome with nonexposure wavelengths is emitted, positions of the alignment marks of the workpiece are determined and the workpiece is moved to bring these alignment marks into position on top of the stored position of the alignment marks of the second mask.

[73] Assignee: **Ushiodenki Kabushiki Kaisha**, Tokyo, Japan

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[30] **Foreign Application Priority Data**

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[51] Int. Cl.⁶ **G06K 9/00**

[52] U.S. Cl. **382/151; 382/145**

[58] Field of Search 382/151, 152, 382/153; 356/139.04, 139.05, 399, 400, 401; 430/22, 5; 359/754, 760

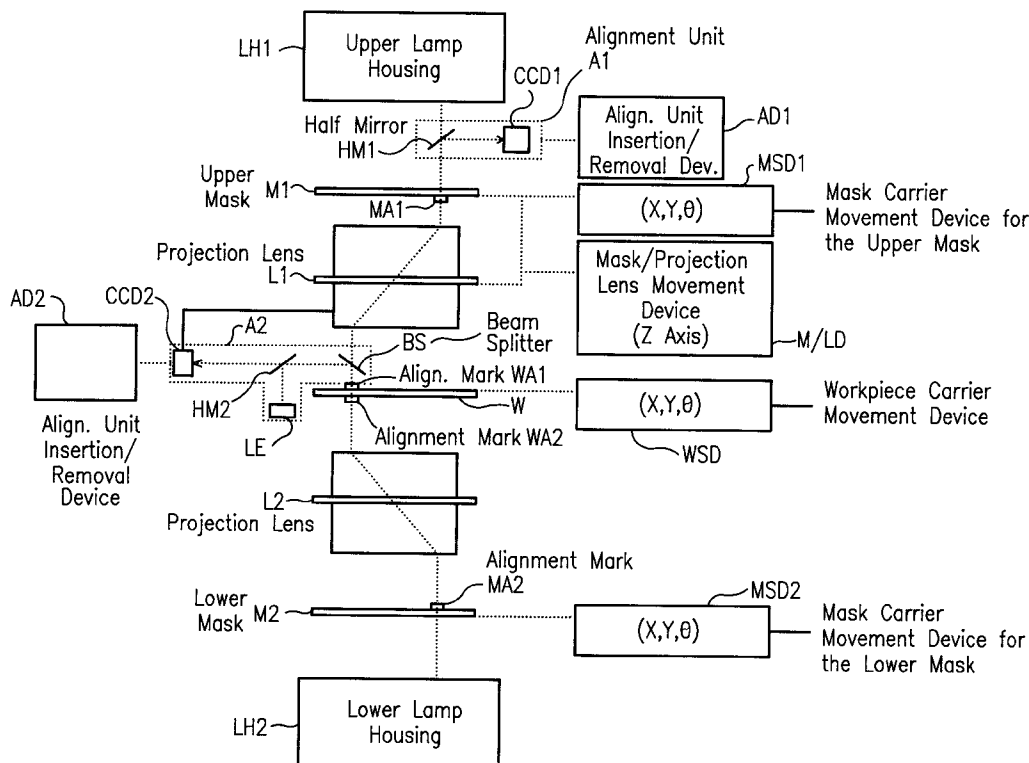
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5 Claims, 7 Drawing Sheets



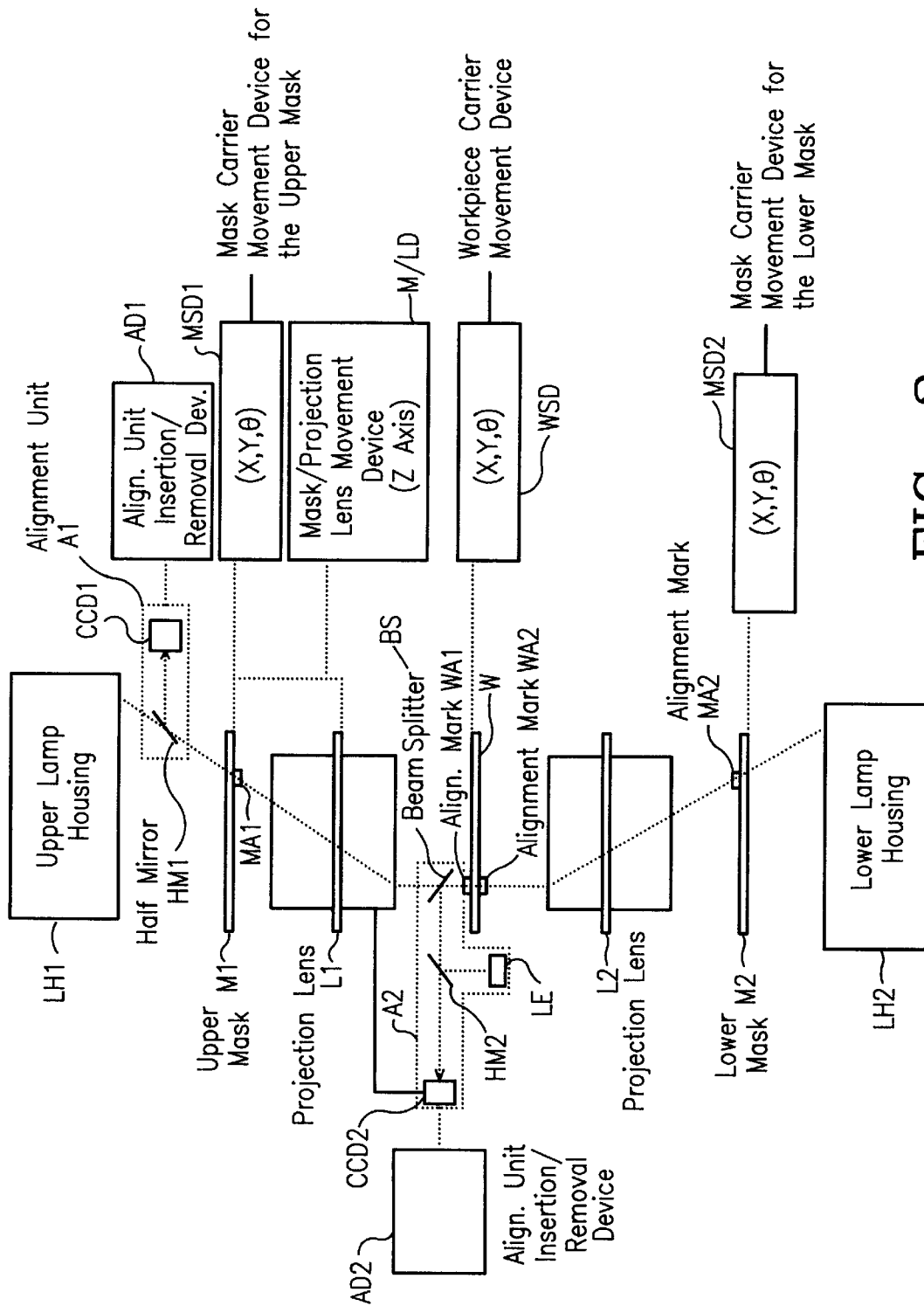


FIG. 2

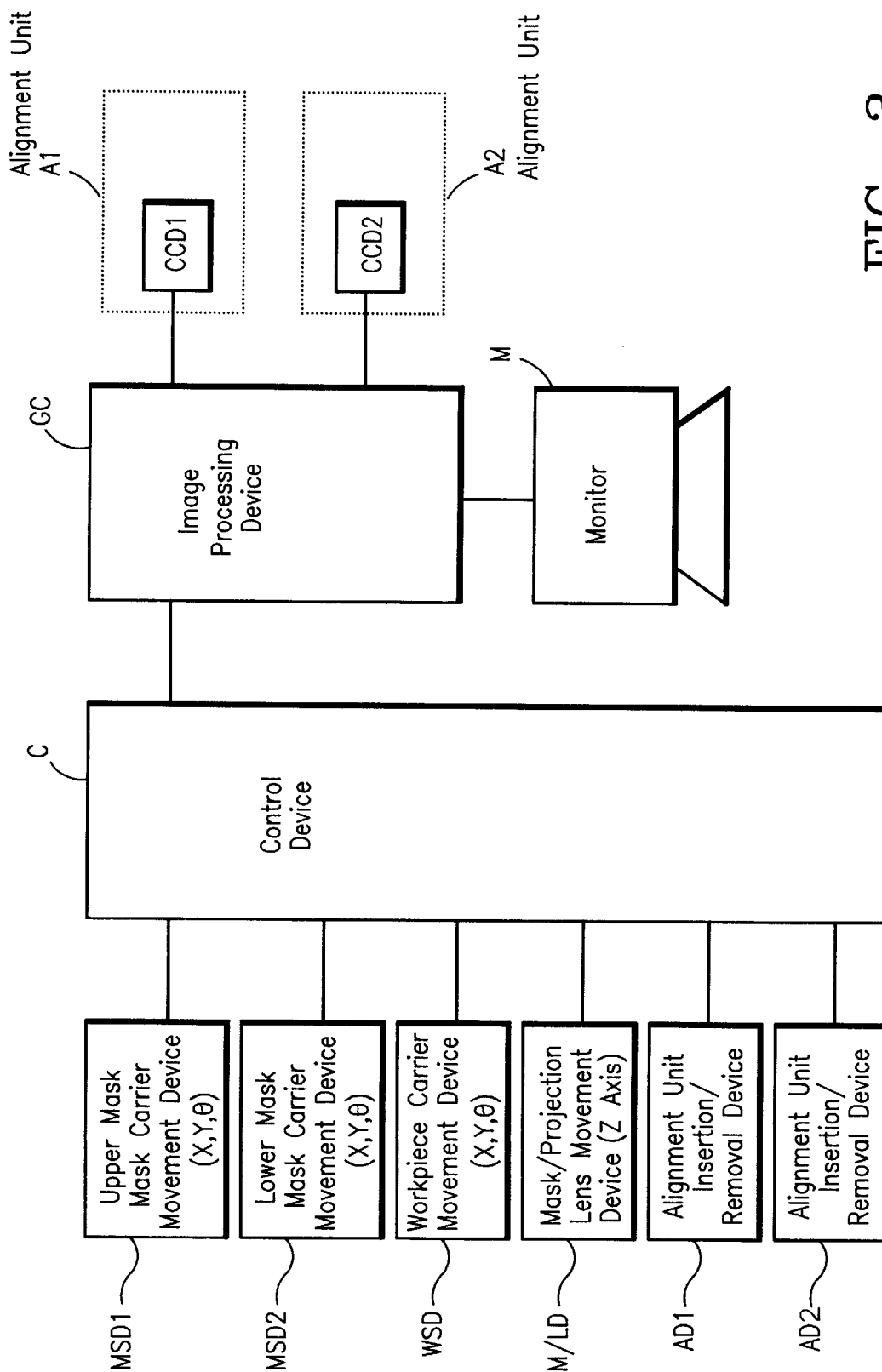


FIG. 3

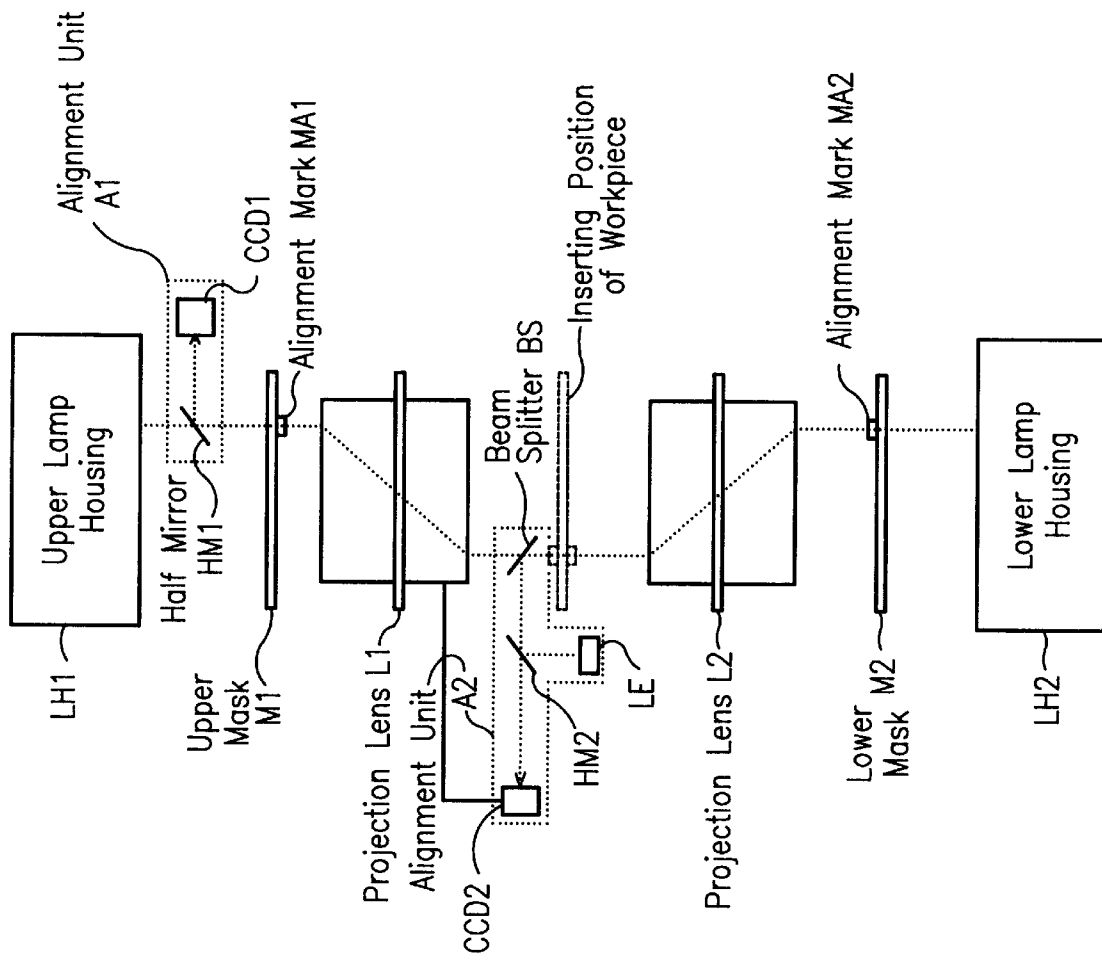


FIG. 4

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