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(54) **ALIGNMENT METHOD FOR SOLAR COLLECTOR ARRAYS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 266 days.

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This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

Primary Examiner — Tarifur Chowdhury

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(51) **Int. Cl.**
G01B 11/26 (2006.01)

(57) **ABSTRACT**

(52) **U.S. Cl.** **356/138**

The present invention is directed to an improved method for establishing camera fixture location for aligning mirrors on a solar collector array (SCA) comprising multiple mirror modules. The method aligns the mirrors on a module by comparing the location of the receiver image in photographs with the predicted theoretical receiver image location. To accurately align an entire SCA, a common reference is used for all of the individual module images within the SCA. The improved method can use relative pixel location information in digital photographs along with alignment fixture inclinometer data to calculate relative locations of the fixture between modules. The absolute locations are determined by minimizing alignment asymmetry for the SCA. The method inherently aligns all of the mirrors in an SCA to the receiver, even with receiver position and module-to-module alignment errors.

(58) **Field of Classification Search** 356/152.2, 356/138; 136/246; 126/602; 372/9
See application file for complete search history.

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15 Claims, 3 Drawing Sheets

