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(71) Applicant(s):  
**Faro Technologies, Inc.**  
**125 Technology Park, Lake Mary 32746-6204, Florida,**  
**United States of America**

(72) Inventor(s):  
**Lawrence B Brown**  
**Jonathan Robert Day**

(74) Agent and/or Address for Service:  
**Marks & Clerk LLP**  
**Fletcher House, Heatley Road,**  
**The Oxford Science Park, OXFORD, OX4 4GE,**  
**United Kingdom**

(54) Title of the Invention: **Enhanced position detector in laser tracker**  
Abstract Title: **Enhanced position detector in laser tracker**

(57) A coordinate measurement device sends a first beam of light to a retroreflector target which returns a portion of the first beam as a second beam. The device includes first and second motors that direct the first beam of light to a first direction determined by first and second angles of rotation about first and second axes, first and second angle measuring devices that measure the first and second angles of rotation, respectively. A distance meter measures a first distance from the device to the target. The device also includes a position detector and a diffuser, a second portion of the second beam passing through the diffuser and onto the position detector, the position detector configured to produce a first signal in response to a position of the second portion on the position detector. A control system sends a second signal to the first motor and a third signal to the second motor, the second and third signals based at least in part on the first signal, the control system configured to adjust the first direction of the first beam to the position of the target. A processor provides a 3D coordinate of the target.

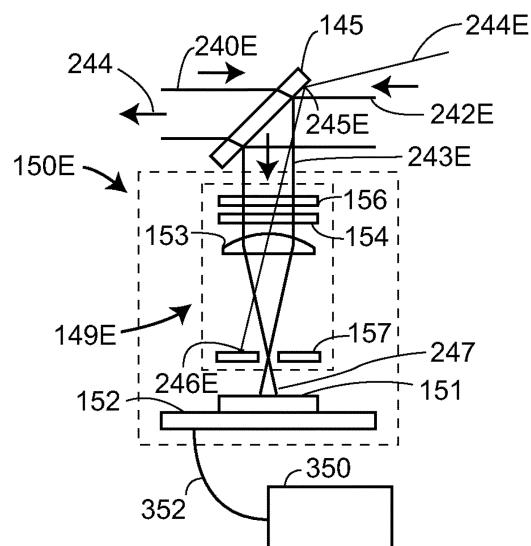


FIG. 6E

GB 2504890 A