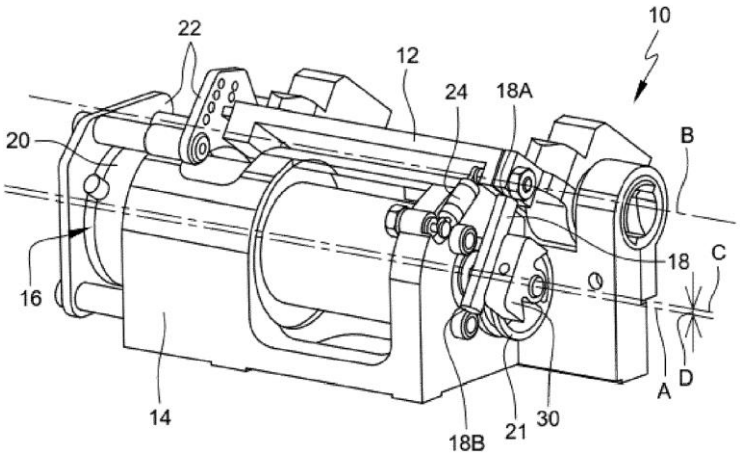
IMPROVED OFF-CENTRE SCANNING DEVICE

Technological advantages

- **More compact scanning system.**
- **High accuracy object positioning and orientation. No need for an optical encoder.**



Schematic view for this invention :

(10) Scanning device
(12) Object to be oriented (eg mirror)
(16) Eccentric system
(18) Lever arm
(18A) Proximal arm end attached to the object
(18B) Pivoting distal end
(20) Geared motor
(21) Eccentric
(22) Reference sensor for the object position

Invention synthesis

The invention deals with a step by step scanning device or continuous sweeping device configured to set an object in rotation (mirror, camera, antenna, …).
Presently, high accuracy optical scanning device (discrete or continuous modes) with a closed feedback loop are used to position an object in rotation (angular oscillatory motion). The use of a rotating eccentric actuator allows reducing the footprint.
The invention presents a system to further reduce the system footprint. The device uses an eccentric cylindrical system with a geared motor at the longitudinal tip; a lever arm and a unique reference sensor (positioning sensor with eddy current). The lever arm is held in contact with the eccentric using a preloading spring, or is kept away from the eccentric using a stopper.

Commercial benefits

- Reduced footprint while keeping a high positioning accuracy.

Potential applications

- Optical instruments in the space industry.

Patented invention - under license.

For more information :

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