# SELF-LEVELING APPARATUS

## ABSTRACT

A self-leveling apparatus, a tray table for use with a seat comprising such an apparatus, and a method of maintaining a horizontal level of a mounting member are provided. The self-leveling apparatus comprises: a gear train rotatable about a fixed reference point, the gear train comprising a first gear fixedly mounted to the reference point; a rotatable last gear; and an odd number of rotatable intermediate gears meshing between the first gear and the last gear; and a mounting member adapted to be coupled the last gear, the mounting member having a surface capable of being positioned horizontally; wherein the last gear is further adapted to rotate locally about its axis an equal and opposite amount to a system rotation by the gear train about the reference point, thereby maintaining the surface horizontal.

**FIG. 3b**