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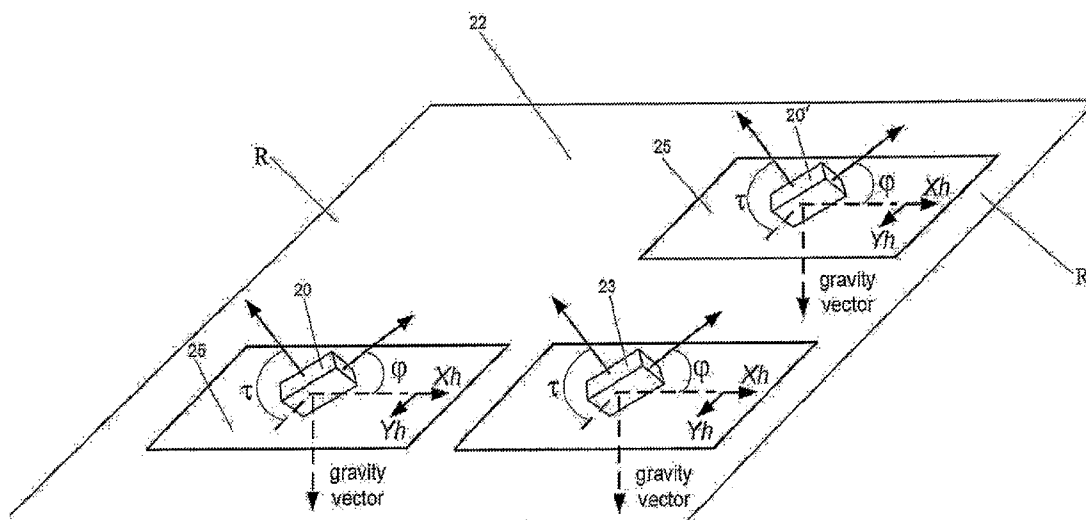
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
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(54) Title: SENSOR-BASED ORIENTATION SYSTEIM



(57) Abstract: A method for measuring positional changes of an object, including rotation about any or all of three axes, using linear accelemmeters. There is disclosed a method of using a linear acceierorrter to integrate two other 3D linear accelerometers in order to measure and supply for further use six-dimensional information, that is, translation in three dimensions and rotation about three axes. Two linear acceierometer sensors are used to determine all but one of the variables in the six degrees of freedom. Output from a third acceierometer generates the data need to determine a sixth, rotational, degree of freedom. The need for a gyroscope for detecting changes in heading (i.e., yaw or azimuth) may therefore be avoided.

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