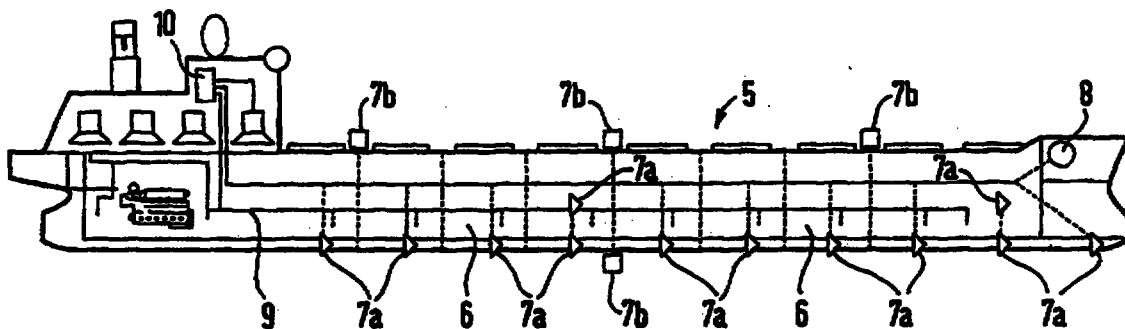




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(54) Title: A METHOD AND DEVICE FOR CONTINUOUS MONITORING OF DYNAMIC LOADS**(57) Abstract**

For continuous monitoring of dynamic loads, including stresses and strains in large hull structures for vessels (5), a strain measurement system (2) is employed with fibre optic cables which connect optical strain sensors (7; 16) at different points in the hull structure. Optical signals for detection of stresses and strains are distributed to the strain sensors (7; 16) from an optical transmitter (11). The strain measurement system (2) is connected via a central monitoring unit (10) to a computer-implemented control system (1) which in turn is connected to a display and data presentation unit (4) and possibly other measurement systems (3). In a first operating mode in this method strain values during loading and unloading of the vessel (5) are detected by means of the strain sensors (7; 16). By means of the control system (1) a curve is generated which shows an average strain, and an alarm signal if the average strain exceeds a predetermined threshold which indicates an unacceptable level of strain. In a second operating mode when the vessel (5) is underway, strains are continuously detected by means of the strain sensors (7; 16). An alarm signal is generated if the average strain exceeds a predetermined threshold which indicates an unacceptable level of strain. A strain measurement system and a fibre optic strain sensor (16) for use with this method are also described.

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