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(54) Title: METHOD AND APPARATUS FOR CONTROLLING THE LOADING ELEMENT AND LOAD OF A CRANE

(57) Abstract

A method and apparatus for controlling a loading element (3) suspended from lifting drums (8, 9) of a crane (1) by lifting ropes (4-7), and a load (2) attached to said loading element (3), said controlling referring to damping horizontal (X, X', Z, Z') sway and skew of the loading element (3) and precision positioning the same in the horizontal direction and in the direction of skew (CW, CCW) by the use of a control apparatus comprising control mechanisms (19-22) mounted in the crane and provided with motors (25), and four auxiliary ropes (26-29) between the control mechanisms and the loading element (3), said method comprising controlling the loading element (3) by moving the auxiliary ropes by means of the control mechanisms. The control is implemented by four identical mechanisms (19-22) provided with rope drums (23), devices (34) for weighing the rope force and/or tachometers (35) and motor control devices (36), each of said four mechanisms being connected to one auxiliary rope (26-29), and four identical control logic circuits (C) connected to each mechanism for controlling by motors (25) the forces (F) exerted on the auxiliary ropes to prevent the loading element (3) from swaying.

