

Title (en)

Speed control for a remotely controlled transporting device.

Title (de)

Geschwindigkeitssteuerung für eine fernsteuerbare Transportvorrichtung.

Title (fr)

Commande de vitesse pour dispositif de transport télécommandé.

Publication

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Application

EP 83102964 A 19830324

Priority

DE 3213321 A 19820406

Abstract (en)

1. A speed controller for a remotely-controlled transporting device, in particular an articulated ship-board crane (2), wherein a top control lever (6) is mounted on a base control lever (4) rotatable about a stationary swivel joint (3) by a swivel joint (5), and wherein respective drives (3a, 5a) are provided for the base control lever (4) and the top control lever (6), each equipped with a respective speed regulator and wherein a computer (12) supplied with control signals dependent upon the actual value (beta) of the angle of rotation between the top control lever and the base control lever and control signals (V1 ; V2) from a theoretical value regulator (13) which is adjustable by a control lever (13a) and which possesses potentiometers (13b; 13c) which are spatially displaced by 90 degrees and serve to form the control signals (V1 ; V2) which are proportional to the amount and the deflection in the x- and y-direction of a coordinate system in order to provide a control signal (nA) for the speed regulator (11) of the top control lever (6) and a control signal (nB) for the speed regulator (10) of the base control lever (4), where for the speed control the two potentiometers (13b; 14b) are connected to voltage and the output of the one potentiometer (13b) is connected to calculating modules (22, 24, 25; 45 to 50) in order to solve the equation : $nA = - V1 / \sin \beta \cdot K$ and the output of the other potentiometer (13c) is connected to calculating modules (23 to 19) in order to solve the equation : $nB = -nA (1 - \cos \beta) - V2 \cdot K$; where nA signifies the speed of rotation of the base control lever ; nB signifies the speed of rotation of the top control lever ; V1 signifies the load speed component in the direction of the top control lever ; V2 the load speed component at right angles to the top control lever ; beta is the angle between the base control lever and the top control lever ; and K represents a constant.

Abstract (de)

Bei einer Geschwindigkeitssteuerung für eine fernsteuerbare Transportvorrichtung, insbesondere einen Gelenkbordkran sind ein Grundlenker (4) und Spitzenlenker (6) mit Antrieben ausgerüstet, denen je ein Drehzahlregler (10, 11) zugeordnet ist. Zur Vorgabe eines Steuersignals (n8) für den Drehzahlregler (11) des Spitzenlenkers (6) und eines Steuersignals (nA) für den Drehzahlregler (10) des Grundlenkers (4) dient ein Rechner (12), dem über einen Drehmelder (5b) vom Drehwinkelwert (β) zwischen Spitzenlenker (6) und Grundlenker (4) abhängige Steuersignale und Steuersignale (V1; V2) von einem durch einen Steuerhebel (13a) einstellbaren Sollwertsteller (13) zugeführt werden, welcher um 90° räumlich versetzte Potentiometer (13b, 13c) zum Bilden der Steuersignale (V1; V2) besitzt, die dem Betrag und der Auslenkung in der x- und y-Richtung eines Koordinatensystems proportional sind.

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