

ABSTRACT

SUSPENDED LOAD STEADYING CONTROL DEVICE

A trolley 12 travels along rails 11 while suspending a load 14 by a rope 13. The trolley 12 has a trolley displacement detector 21 for detecting a trolley position x_1 , a trolley speed detector 22 for detecting a trolley speed x_2 , and a swing motion detector 23 for detecting a swing displacement x_3 and a swing speed x_4 of the suspended load 14. A control device 26 produces a speed command u based on the detected values x_1 , x_2 , x_3 and x_4 . In response to the speed command u , a trolley drive device 15 is driven to run the trolley 12. When the trolley is to be moved to the target position by the control of the control device 26, control for steadying the suspended load while the trolley 12 is following a set speed is performed in the first half of control. As the trolley 12 approaches the target position, control for positioning the trolley and steadying the suspended load is performed. Thus, the swing of the suspended load is lessened not only at the target position, but also during the travel of the trolley.

FIGURE 1