Title (en)

Rolling damping damper for a railroad vehicle and method for damping

Title (de)

Roll-Dämpfer für ein Schienenfahrzeug und Dämpfungsverfahren

Title (fr)

Amortisseur du roulis pour un véhicule ferroviaire et procédé d'amortissement

Publication

EP 1038750 A1 20000927 (EN)

Application

EP 99302156 A 19990319

Priority

EP 99302156 A 19990319

Abstract (en)

To provide a damper for damping rolling of a railroad vehicle and a damping method, in which controlling of an attenuation force in an attenuation force control circuit is carried out merely by a vehicle body speed signal of a vehicle body without using a damper speed signal, and even when a power is off, controlling can be made in common by the same attenuation force control circuit as that is used at the time of control without the provision of a separate exclusive-use circuit, whereby the control system is simplified, the number of parts is reduced, and miniaturization can be accomplished. A damper C for damping rolling of a railroad vehicle, comprising: a cylinder 106 interposed between a bogie A and a vehicle body B, a flow passage 121 merely allowing a flow of working fluid from a head-side chamber 111 to a rod-side chamber 112 of the cylinder, a reservoir 107 leading to the head-side chamber of the cylinder through a suction valve 122, a flow passage 120 for communicating the head-side chamber with the reservoir, an unload valve 118 for pressure side disposed in the flow passage, and an attenuation force control circuit 8 interposed between the rod-side chamber and the reservoir, said attenuation force control circuit having a fixed restrictor 126, and a proportional electromagnetic relief valve V provided in parallel with the fixed restrictor to continuously control a relief set pressure from the maximum pressure to the minimum pressure as an input from a proportional solenoid 45 increases, said proportional electromagnetic relief valve comprising a valve casing 7, an input port 32 and a return port 34 provided in the valve casing, a valve seat body 20 provided with a valve body 27 for intermittently communicating the input port with the return port, a spring 30 for setting a relief pressure for biasing the valve body in a closing direction, an adjusting screw body 9 having a pressing body 17 for supporting a base end of the spring slidably disposed, a stop member 19 provided on the adjusting screw body to control a stroke of the pressing body, an adjusting threaded rod 14 threadedly inserted into the adjusting screw body to support the base end of the pressing body, a pressure receiving chamber 18 formed between the pressing body and the adjusting screw body, a solenoid for applying a force in an opening direction to the valve body, and a switching valve 48 positioned between the valve body and a movable core 46 in the solenoid to switch the mode from communication with the return port of the pressure receiving chamber to communication with the input port thereof while pressing the valve body through the excitation of the solenoid. <IMAGE>

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B61F 5/24

IPC 8 full level

B61F 5/24 (2006.01)

CPC (source: EP)

B61F 5/245 (2013.01)

Citation (applicant)

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