

Title (en)
Free stroke damping

Title (de)
Dämpfung der freien Bewegung

Title (fr)
Amortissement de la course libre

Publication
EP 0716040 B1 20000412 (EN)

Application
EP 95850205 A 19951124

Priority
SE 9404118 A 19941128

Abstract (en)
[origin: EP0716040A1] Device for the reduction of shocks in the lifting movement at a lifting truck of the kind that includes a lifting fork carriage (5) moveable vertically in a mast part (4) that in turn is movable and where the fork carriage in the mast part is lifted by means of a hydraulic cylinder (7) fastened in the upper end of the mast part. Its piston rod (9) is extendable downwards and over a pulley (8) in the lower end of the piston rod a chain (6) runs that from an upper fastening point in the mast part (4) runs down around the pulley (8) and up again over another pulley (15) fastened in the upper end of the mast part and then once again downwards to be fastened in the fork carriage (5). The hydraulic cylinders of the fork carriage and the mast parts are coupled in parallel but have such relative cross sections that the cylinder (7) of the fork carriage have smaller pressure requirement than the mast cylinders. In the frame of the truck or in a mast part (2) fastened to the truck frame a sensor (11) is arranged close to the lower end position of the piston rod (8) and for cooperating with this in such a way that when the piston rod (8) approaches its lower end position , that is the lifting carriage is approaching its upper end position in the mast part, the sensor is triggered. The sensor is coupled to the hydraulic means that feed hydraulic oil to the hydraulic cylinder reducing the oil flow so that the speed of the carriage is reduced close to the end of the travel of the carriage in the frame part (4) and at lowering the mast movement speed is reduced in the vicinity of the lower end position of the mast parts.
<IMAGE>

IPC 1-7
B66F 9/08; **B66F 9/20**

IPC 8 full level
B66F 9/08 (2006.01); **B66F 9/20** (2006.01)

CPC (source: EP)
B66F 9/08 (2013.01); **B66F 9/20** (2013.01)

Cited by
CN102431936A; EP0866026A3; US9932213B2

Designated contracting state (EPC)
DE FR GB SE

DOCDB simple family (publication)
EP 0716040 A1 19960612; **EP 0716040 B1 20000412**; DE 69516250 D1 20000518; DE 69516250 T2 20000810; SE 505606 C2 19970922; SE 9404118 D0 19941128; SE 9404118 L 19960529

DOCDB simple family (application)
EP 95850205 A 19951124; DE 69516250 T 19951124; SE 9404118 A 19941128