

Title (en)
ARRANGEMENT FOR PROVIDING A PULSING COMPRESSIVE FORCE

Title (de)
ANORDNUNG ZUR BEREITSTELLUNG EINER PULSIERENDEN DRUCKKRAFT

Title (fr)
AGENCEMENT POUR PRODUIRE UNE FORCE DE COMPRESSION PULSÉE

Publication
EP 3384096 B1 20220803 (DE)

Application
EP 15812936 A 20151203

Priority
CH 2015000178 W 20151203

Abstract (en)
[origin: WO2017091912A1] The invention relates to an arrangement for providing a pulsing compressive force for ground compacting devices. The arrangement comprises a first mass (1), which provides a contact surface (2) for transferring the pulsing compressive force onto the ground surface (3) to be compacted, and a second mass (4), which is coupled to the first mass (1) via a spring-damper system (5, 6) to form a vibrating system (1, 4, 5, 6). The arrangement further comprises an unbalance exciter (7), by means of which the vibrating system (1, 4, 5, 6) can be excited to vibrate. In addition, in the static state, the second mass (4) exerts a static force on the first mass (1) via the spring-damper system (5, 6), in the direction of gravity (S1). The first mass (1) and the second mass (4) are coupled to one another via the spring-damper system (5, 6) in such a way that no forces can be transferred from the first mass (1) to the second mass (4) in the direction of gravity (S1) and no forces can be transferred from the second mass (4) to the first mass (1) in the direction opposite to the direction of gravity. In addition, the arrangement is designed such that the coupling of the two masses (1, 4) can be temporarily suspended during the intended operation, by a vibratory movement of the second mass (4) opposite to the direction of gravity, the second mass (4) can then execute a part of its oscillation path in the uncoupled state, and the coupling of the masses (1, 4) via the spring-damper system (5, 6) is then reproduced, following a reversal in direction of the vibratory movement of the second mass (4). It has been shown that ground compacting devices can be provided by means of such arrangements according to the invention, which devices generate ground compacting forces during loaded operation (permanent contact with the ground), which, for a short time, are significantly greater than twice the weight of the machine.

IPC 8 full level
E02D 3/074 (2006.01)

CPC (source: EP US)
E02D 3/074 (2013.01 - EP US)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2017091912 A1 20170608; AU 2015416104 A1 20180614; CA 3006611 A1 20170608; EP 3384096 A1 20181010; EP 3384096 B1 20220803; JP 2018536106 A 20181206; US 10428482 B2 20191001; US 2018355572 A1 20181213

DOCDB simple family (application)
CH 2015000178 W 20151203; AU 2015416104 A 20151203; CA 3006611 A 20151203; EP 15812936 A 20151203; JP 2018548249 A 20151203; US 201515780316 A 20151203