

Title (en)

CONTROL OF THE CABLE DRUM OF A WINCH HOLDING A FREE-FALLING RAMMING WEIGHT

Publication

EP 0413189 B1 19930602 (DE)

Application

EP 90114618 A 19900730

Priority

DE 3927354 A 19890818

Abstract (en)

[origin: EP0413189A1] The invention relates to a control system with which the rope (3), drawn off from a cable drum (4) by a ramming weight (5), can be braked essentially without shocks within a predetermined overrun travel while avoiding a slack rope formation and while maintaining the selected drop height during subsequent blows, the winch drum being driven with adjustable torque by a motor (12) via a slip clutch. The torque when lifting over the height of the overrun travel is set to a threshold value which is matched to the weight of the rope and the load suspension device in such a way that the latter, but not the ramming weight (5), is lifted. After the threshold value is reached, the tensile force of the rope activates a measuring device (15) before or during the lifting of the ramming weight, which measuring device (15) measures the sectional length up to the desired drop height. When the threshold value is reached, the clutch is switched from the lower torque of the overrun travel to the torque for lifting the ramming weight or to the rated torque. The clutch is switched to free running after a rope length corresponding to the drop height is wound onto the winch, and the winch brake is engaged as soon as a rope length corresponding to the drop height has run off the winch drum. <IMAGE>

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E02D 7/08; E21B 1/02

IPC 8 full level

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Cited by

DE102007062301A1; DE102009007916A1; WO2010089096A1; CN102425166A; CN115247422A; CN110803622A; CN107090830A; DE102007062301B4; CN110862039A; EP3272944A1; US10232578B2; EP3272944B1; EP3268538B1

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