

Title (en)

EXCAVATION REGION SETTING APPARATUS FOR CONTROLLING REGION LIMITED EXCAVATION BY CONSTRUCTION MACHINE

Title (de)

BAGGERBEREICH-FESTLEGUNGSGERÄT ZUR STEUERUNG DER ARBEITSBEREICHSBEGRENZUNG DES BAGGERNS FÜR EINE BAUMASCHINE

Title (fr)

APPAREIL DE DEFINITION D'UNE ZONE A EXCAVER PERMETTANT DE CONTROLER L'EXCAVATION D'UNE ZONE LIMITEE PAR UNE MACHINE DE CONSTRUCTION

Publication

**EP 0790355 B1 20060830 (EN)**

Application

**EP 96926605 A 19960808**

Priority

- JP 9602251 W 19960808
- JP 20702395 A 19950814

Abstract (en)

[origin: WO9707296A1] In an excavation region setting apparatus for controlling the region limited excavation by a construction machine, which is adapted to calculate a target speed vector  $V_c$  for use in controlling a front unit (1A), on the basis of a vehicle body (1B), restrict when the front unit approaches a boundary of a preset excavation region the moving speed thereof in the direction approaching the same boundary, by correcting the target speed vector, and move the front unit along the mentioned boundary, an outer reference 80 is set first in the horizontal direction in a position outside a hydraulic shovel body, and a depth  $h_r$  between the outer reference and the boundary of the excavation region is then set by using a setter (7), for the purpose of setting the excavation region. The front unit (1A) is then moved, and, when the position of a front reference 70 agrees with that of the outer reference, an outer reference setting switch (71) is pressed. Consequently, a control unit (9) computes a height  $h_f$  between a vehicle body reference point  $O$  and the outer reference, and then a height  $h_s$  of a boundary surface of the excavation region with respect to the vehicle body reference point  $O$  on the basis of this depth  $h_r$  by using the height  $h_f$  as a correction value, and set the excavation region based on the vehicle body (1B), on the basis of which the target speed vector  $V_c$  is calculated. This enables the setting of an excavation region suitable for an excavation control operation in which computation is carried out on the basis of the vehicle reference to be done, and a highly reliable control operation to be carried out.

IPC 8 full level

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CPC (source: EP KR)

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Cited by

CN102575455A; US11377813B2; EP3992371A4; CN113302359A; US12000108B2; US9540793B2; WO02059428A1

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