

Title (en)

Float circuit for boom of construction apparatus.

Title (de)

Hydraulischer Schwimmkreislauf für einen Ausleger einer Erdbewegungsmaschine.

Title (fr)

Circuit hydraulique flottant pour la flèche d'un engin de terrassement.

Publication

EP 0389136 A1 19900926 (EN)

Application

EP 90302288 A 19900305

Priority

JP 5745289 A 19890308

Abstract (en)

A float circuit for a boom of a construction equipment, particularly a hydraulic shovel, which can put the boom into a floating condition. The float circuit comprises a boom cylinder (5) for operating the boom, a directional control valve (8), a pair of operating circuits (20, 21) for communicating the boom cylinder and the directional control valve, and a selector valve (27) connected between the operating circuits and having an interrupting oil path position and a float oil path position. When the selector valve assumes the interrupting oil path position, the operating circuits are not communicated with each other, and consequently, the boom cylinder is not brought into a floating condition. But if the selector valve is changed over from the interrupting oil path position to the float oil path position, then the operating circuits are communicated with each other so that the boom cylinder can be brought into a floating condition.

IPC 1-7

E02F 3/30; **E02F 3/32**; **E02F 9/20**; **E02F 9/22**

IPC 8 full level

F15B 13/10 (2006.01); **E02F 3/43** (2006.01); **E02F 9/22** (2006.01)

CPC (source: EP)

E02F 3/435 (2013.01); **E02F 9/2207** (2013.01)

Citation (search report)

- [X] US 3472127 A 19691014 - SCHEIDT JAMES E
- [X] US 4799851 A 19890124 - SWANSON WILLIAM C [US]
- [A] US 4586332 A 19860506 - SCHEXNAYDER LAWRENCE F [US]
- [A] GB 742783 A 19560104 - VICKERS ARMSTRONGS LTD
- [X] PATENT ABSTRACTS OF JAPAN, vol. 10, no. 246 (M-510)[2302], 23rd August 1986; & JP-A-61 75 132 (SEIKITAN ROTENBORI KIKAI GIJUTSU KENKYU KUMIAI) 17-04-1986
- [X] PATENT ABSTRACTS OF JAPAN, vol. 10, no. 246 (M-510)[2302], 23rd August 1986; & JP-A-61 75 133 (SEKITAN ROTENBORI KIKAI GIJUTSU KENKYU KIUMIAI) 17-04-1986

Cited by

EP2955279A4; DE102014012117A1; EP2378009A4; EP0440070A3; EP0436740A4; US5598648A; GB2391268A; GB2391268B; US7490421B1; US10208456B2; US8807013B2; WO2015064782A1; WO2015064785A1; WO2007022546A1; WO0114648A1; US6892535B2

Designated contracting state (EPC)

DE ES FR GB IT NL

DOCDB simple family (publication)

EP 0389136 A1 19900926; JP 2514915 B2 19960710; JP H02236318 A 19900919

DOCDB simple family (application)

EP 90302288 A 19900305; JP 5745289 A 19890308