

Title (en)

SELF-LEVELLING DEVICE FOR SHOVEL LOADERS

Publication

**EP 0345640 B1 19920429 (DE)**

Application

**EP 89109918 A 19890601**

Priority

US 20228688 A 19880606

Abstract (en)

[origin: EP0345640A1] A hydraulic device for setting the level of a shovel (12) arranged so as to be tiltable on a pivotable boom (14) contains a shovel-aligning valve (90) which provides for constant shovel alignment during the lifting or lowering of the boom. The hydraulic circuit supplies the shovel-aligning valve (90) automatically and alternatively with fluid flowing back from the boom cylinder (18) and/or fluid coming directly from the pump (40). The fluid flows are controlled by valves (54, 64, 102) responding to pressure and by a shuttle valve (70). <IMAGE>

IPC 1-7

**E02F 3/43**; **E02F 9/22**

IPC 8 full level

**E02F 3/43** (2006.01); **E02F 9/22** (2006.01)

CPC (source: EP US)

**E02F 3/433** (2013.01 - EP US); **E02F 9/2221** (2013.01 - EP US)

Cited by

FR2683867A1; EP2067911A4

Designated contracting state (EPC)

DE FR GB NL SE

DOCDB simple family (publication)

**EP 0345640 A1 19891213**; **EP 0345640 B1 19920429**; AU 3601189 A 19891207; AU 608712 B2 19910411; CA 1308073 C 19920929; DE 58901263 D1 19920604; HU 205323 B 19920428; HU T51569 A 19900528; NO 169503 B 19920323; NO 169503 C 19920701; NO 892217 D0 19890601; NO 892217 L 19891207; US 4923362 A 19900508; ZA 894274 B 19910227

DOCDB simple family (application)

**EP 89109918 A 19890601**; AU 3601189 A 19890602; CA 601820 A 19890605; DE 58901263 T 19890601; HU 290089 A 19890606; NO 892217 A 19890601; US 20228688 A 19880606; ZA 894274 A 19890606