

Title (en)
Crane safety apparatus.

Title (de)
Kransicherheitsvorrichtung.

Title (fr)
Dispositif de sécurité pour grue.

Publication
EP 0614845 A2 19940914 (EN)

Application
EP 94201063 A 19890406

Priority
• EP 89904237 A 19890406
• JP 33019788 A 19881227

Abstract (en)
A crane safety apparatus for displaying a schematic diagram of a part of a crane mechanism on a two-dimensional screen dynamically as the crane mechanism is operated, and displaying on the same screen a predetermined operation zone as a visually discriminative zone pattern. The operation zone pattern is displayed on the screen in response to the key command by an operator during a selected crane operation mode, while referring to the schematic crane mechanism diagram currently displayed on the screen. <IMAGE>

IPC 1-7
B66C 23/90

IPC 8 full level
B66C 13/18 (2006.01); **B66C 13/46** (2006.01); **B66C 15/00** (2006.01); **B66C 23/88** (2006.01); **B66C 23/90** (2006.01)

CPC (source: EP KR)
B66C 13/46 (2013.01 - KR); **B66C 23/90** (2013.01 - KR); **B66C 23/905** (2013.01 - EP)

Cited by
EP2145852A1; US5731974A; US6140930A; EP1748020A3; EP1153876A3; AU2009202448B2; EP0849213A1; DE19653579B4; EP1803678A3; EP0857687A4; EP1306343A3; DE102006040782A1; DE19538264A1; EP0768588A3; DE19538264C2; EP2113481A1; EP0731054A4; EP3828123A4; US8160786B2; US6744372B1; US9187295B2; US7677401B2; US9126812B2; US9957141B2; US10961087B2; EP3362399B1; EP3362399B2

Designated contracting state (EPC)
AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)
EP 0406419 A1 19910109; EP 0406419 A4 19911127; EP 0406419 B1 19950628; EP 0406419 B2 20020828; AT E124381 T1 19950715; AT E185772 T1 19991115; AU 5629990 A 19920109; AU 618900 B1 19920109; DE 68923278 D1 19950803; DE 68923278 T2 19951026; DE 68923278 T3 20040805; DE 68929092 D1 19991125; DE 68929092 T2 20000608; DE 68929092 T3 20050120; EP 0614845 A2 19940914; EP 0614845 A3 19941026; EP 0614845 B1 19991020; EP 0614845 B2 20040512; KR 910700194 A 19910314; KR 940009268 B1 19941006; RU 2093452 C1 19971020; WO 9007465 A1 19900712

DOCDB simple family (application)
EP 89904237 A 19890406; AT 89904237 T 19890406; AT 94201063 T 19890406; AU 5629990 A 19900605; AU 5629990 D 19900605; DE 68923278 T 19890406; DE 68929092 T 19890406; EP 94201063 A 19890406; JP 8900368 W 19890406; KR 900701879 A 19900824; SU 4830987 A 19890406