

Title (en)

APPARATUS MOUNTED ON BOWLING-LANES FOR INDICATING THE GAME RESULTS

Publication

**EP 0151956 A3 19861203 (DE)**

Application

**EP 85100492 A 19850118**

Priority

DE 3404865 A 19840211

Abstract (en)

[origin: US4629189A] The invention provides a photoelectric bowling pinfall detection system which automatically scans and displays the number of the knocked down pins after each ball delivery. The system comprises an emitter positioned offset to the central longitudinal axis of the bowling lane in a certain distance to the pin arrangement, which emits a sharply focussed beam towards the pins. A receiver is provided behind the pins which detects the receipt of the focussed beam. If the beam is swept along the pins, each standing pin causes an interruption of the beam which is recorded by the receiver and fed to a processing circuitry. From the output signals of the receiver information about the numbers of the knocked down pins is derived and displayed.

IPC 1-7

**A63D 5/04**

IPC 8 full level

**A63D 5/04** (2006.01)

CPC (source: EP US)

**A63D 5/04** (2013.01 - EP US)

Citation (search report)

- [AD] US 3825749 A 19740723 - ZACHEV I, et al
- [AD] CH 306671 A 19550430 - CELLIER AUGUSTE [CH]
- [A] GB 1165588 A 19691001 - AMERICAN MACH & FOUNDRY [US]
- [AD] US 3705722 A 19721212 - BOLGER JOHN G JR, et al
- [A] US 3804408 A 19740416 - SAITO T, et al

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WO0050133A1; WO9749467A1

Designated contracting state (EPC)

AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)

**EP 0151956 A2 19850821; EP 0151956 A3 19861203; EP 0151956 B1 19880921;** AT E37295 T1 19881015; CA 1251482 A 19890321; DE 3404865 C1 19850814; DE 3565052 D1 19881027; JP S60188188 A 19850925; US 4629189 A 19861216

DOCDB simple family (application)

**EP 85100492 A 19850118;** AT 85100492 T 19850118; CA 474054 A 19850211; DE 3404865 A 19840211; DE 3565052 T 19850118; JP 2615385 A 19850212; US 69544885 A 19850128