Title (en)

SAFE ELECTRICAL OUTLET

Title (de)

SICHERER ELEKTRISCHER AUSGANG

Title (fr)

PRISE ÉLECTRIQUE DE SÉCURITÉ

Publication

EP 2797174 B1 20170607 (EN)

Application

EP 12859839 A 20120928

Priority

- KR 20110139940 A 20111222
- KR 20120076801 A 20120713
- KR 2012007958 W 20120928

Abstract (en)

[origin: EP2797174A1] Provided is a safety electric outlet, which includes: an electric outlet main body including a lower main body connected to a power line and having a power connection hole into which a plug connection terminal is inserted and an upper main body having a circular hole into which a plug is inserted; a safety device including a circular cover having a guide cylinder and a through hole through which the plug connection terminal passes, a blade having a branch with an inclination configured so that the blade rotates in a direction perpendicular to an insertion direction of the plug connection terminal when the plug connection terminal is inserted, and a safety device lower portion having a through hole through which the plug connection terminal passes; and a safety device receiving unit accommodating the safety device and inserted into the circular hole, wherein the safety device receiving unit has a protrusion, and the lower main body has a concave portion into which the protrusion of the safety device receiving unit is fit and fixed, wherein an elastic member of the safety device receiving unit for elastically moving the safety device in a vertical direction is included in the protrusion of the safety device receiving unit, a ground terminal is formed in a lower portion of the safety device receiving unit in a direction perpendicular to the protrusion of the safety device receiving unit, and the ground terminal is connected to a ground plate of the lower main body when the safety device receiving unit is fit into the lower main body, wherein a guide protrusion is formed near the through hole of the safety device, a guide member having a guide groove corresponding thereto is installed in the safety device receiving unit, and the safety device elastically moves along the guide member in a vertical direction by the elastic member of the safety device receiving unit, wherein a branch of the blade has a branch support supported by a stepped portion of the guide cylinder, and the safety device includes a torsion spring for restoring the branch support of the blade to the stepped portion of the guide cylinder when the insertion of the plug is released, wherein the safety device includes a torsion spring receiving unit therein, a hooking groove is formed in the torsion spring receiving unit so that the hooking portion of the torsion spring is hooked thereto, and when the plug is inserted so that the inclination of the blade is pressed, the torsion spring is pressed on the torsion spring receiving unit and the inclination of the blade is able to elastically move in the same direction as the insertion direction of the plug, wherein when the connection terminal is inserted into the through hole of the connection terminal and the inclination of the blade is pressed by the connection terminal and moves over the thickness of the circular cover of the safety device, the blade freely rotates in a direction perpendicular to the insertion direction of the plug by the inclination of the blade, and when the plug connection terminal further progresses and is inserted and fixed in the power connection hole, the circular cover of the safety device is pressed together and reaches the ground terminal of the safety device receiving unit, and wherein when the plug connection terminal is released and deviates from the through hole of the circular cover of the safety device, the circular cover is restored to a position at the upper surface of the circular hole by the elastic force of the elastic member of the safety device receiving unit, and the inclination of the blade rotates in a direction opposite to the rotation direction when the connection terminal is inserted, by means of the restoring force of the torsion spring, so that the inclination of the blade is snapped to the through hole of the circular cover and comes into a locked state again.

IPC 8 full level

H01R 13/447 (2006.01); **H01R 13/453** (2006.01); H01R 13/655 (2006.01); H01R 24/22 (2011.01)

CPC (source: EP KR)

H01R 13/447 (2013.01 - KR); **H01R 13/4532** (2013.01 - EP); **H01R 13/4534** (2013.01 - EP); **H01R 13/655** (2013.01 - EP); **H01R 13/66** (2013.01 - KR); H01R 13/4538 (2013.01 - EP); H01R 24/22 (2013.01 - EP); H01R 25/003 (2013.01 - EP)

Cited by

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