

Title (en)  
Push switch

Title (de)  
Druckschalter

Title (fr)  
Interrupteur à bouton poussoir

Publication  
**EP 1014405 B1 20070214 (EN)**

Application  
**EP 99125555 A 19991221**

Priority  
JP 36263798 A 19981221

Abstract (en)

[origin: EP1014405A2] A push switch of the present invention, which suits for small switches used for various apparatuses, comprises (a) a switch substrate (110) having outer fixed contact units (130) and a central fixed contact unit (120), both of which are fixed to the substrate (110) and have contact portions exposed from upper side of the substrate (110), also have connecting terminals (121, 131) extended therefrom, (b) a movable contact unit (140) which is formed with an elastic thin metal plate, and has an outer portion (141) placed on the outer fixed contact units (130), also has a tongue shaped portion (142) which faces toward the central fixed contact unit (120) forming a predetermined insulation gap between the portion (142) and the fixed contact unit (120), (c) an elastic unit (150) which is formed with an elastic material, and has a conical portion (151) having an opening at the lower side thereof, an upward protrusion (153) and a downward protrusion (156) which protrudes downward from the upper end of the opening, and, presses the outer portion (141) with the lower end portion (152) of the conical portion (151), (d) an operation unit (160) which is disposed on the upward protrusion (153) of the elastic unit (150) in such a manner as to be movable up and down and has a protrusion (163) at the lower end periphery thereof for preventing the slip off of the operation unit (160), (e) a cover (171) which is fixed to the periphery of the switch substrate (110), and holds the operation unit (160) with the surrounding wall (172) thereof in such a manner as to be movable up and down without the upward slip off of the operation unit (160), also has a hole (171), through which the operation unit (160) protrudes, at the upper central portion thereof, wherein, when an upper end portion (164) of the operation unit (160) is pressed, the portion (151) elastically deforms first, whereby the protrusion (156) presses the portion (142), whereby the portion (142) touches the fixed contact unit (120), next at least one of the protrusion (153) or the protrusion (156) deforms, whereby the protrusion (163) touches the substrate (110). The above structure realizes a push switch in which component parts are handled without difficulty, and the assembling productivity is superior, also the operation stroke is long. <IMAGE>

IPC 8 full level  
**H01H 13/20** (2006.01); **H01H 13/52** (2006.01)

CPC (source: EP)  
**H01H 13/20** (2013.01); **H01H 2215/002** (2013.01); **H01H 2215/006** (2013.01)

Cited by  
CN101923977A; US8822857B2; CN111684560A; EP3747037A4; AU2018405470B2; WO2005008003A1; WO2010072377A1; US7273991B2; WO2019151940A1

Designated contracting state (EPC)  
DE FR

DOCDB simple family (publication)  
**EP 1014405 A2 20000628**; **EP 1014405 A3 20011205**; **EP 1014405 B1 20070214**; DE 69935119 D1 20070329; DE 69935119 T2 20070606; JP 2000188037 A 20000704; JP 3890789 B2 20070307

DOCDB simple family (application)  
**EP 99125555 A 19991221**; DE 69935119 T 19991221; JP 36263798 A 19981221