

Title (en)
SWITCH DISC FOR AN ELECTRIC TIME SWITCH

Publication
EP 0043900 B1 19841219 (DE)

Application
EP 81103456 A 19810507

Priority
DE 3019325 A 19800521

Abstract (en)
[origin: EP0043900A2] 1. Switch disc for an electric timer switch, comprising two concentric discs, namely a cover disc (107, 205) and a base disc (111, 204) which is set in rotation about an axis (69, 102, 203) by a clockwork-driven shaft, and apertures, such as grooves (109), piercings or the like, with switch elements (61 to 66; 202) non-losably guided therebetween for displacement between a rest position and at least one working position, the number of which elements es equal to the number of selectable time stages for a switch programme, which is periodical according to the revolution of the switch disc, and which comprise side faces (14 to 16) which lie in an plane containing the axis (102; 203) of the shaft, with a switch device to which there pertains a switch for an electric current circuit, which switch is transferable by the switch elements (62 to 66, 202), by exploration of the circumference of the switch disc, into one of its operational conditions, possibly by means of a lever device and/or in combination with a dog, with detent means and stops according to the displacement position of the switch elements (61 to 66, 202) necessary for the operational positions to be effected, characterised in that a) in a first inner zone (101) the discs are formed with such shaping and concentric uniting that in the direction of displacement (104, 201) they form several cylindrical-circular zones, and these adjoin the inner zone (101) towards the opposite edge, namely b) a second as empty zone (114) of sufficient height (105, 207) at right angles to the direction (104, 201) of displacement, between parallel sliding faces, which serves exclusively for the shape-engaging sliding guidance of the switch elements (61 to 66, 202), in that b1) in this empty (114), as core parts of the switch elements, edgewise-flat squares (106) of integrally closed form with straight peripheral lines fill out the height (105) of the empty zone (114) in shape-engaging manner and b2) the switch elements (61 to 66, 202) in this empty zone (114) have a thickness (47) which is equal to the circumference of the switch disc divided by their number, less a fitting air gap necessary in manufacturing, b3) and the switch elements (61 to 66, 202) comprise, at right angles to the direction of displacement (104, 201), on both sliding faces (33, 34), parallel to and in the displacement direction, flanges (117, 118 and short flange 120), b3.1) the side walls (14 to 16) of which are parallel and the thickness of which is equal to half the thickness of the switch elements (62 to 66, 202) within the empty zone, b3.2) and possess outside the empty zone (114) at their end (124) lying opposite to the inner zone (101) a nose (119) for manual variation of the setting of the switch elements (61 to 66, 202), c) a further third zone adjoining at right angles to the direction of displacement (104, 201) over a part of the length of the empty zone (114), with apertures (for example groove 109 and short groove 116) of constant depth (110) in the direction of displacement and/or width is arranged lying opposite to one another in the mutually facing faces of the empty zone (114), c1) the longitudinal ends of which serve in the direction of displacement (104, 201) as stops for the short flange (120) and the nose (119) and c2) the width (11) of which, apart from tolerance deviations on account of the necessary play, is equal to half the thickness (47) of the switch elements (61 to 66, 202) in the region of the empty zone (114), d) and finally a fourth zone is present between the first (101) and the empty zone (114) with an annular bead (113) on one of the discs (107, 111, 205, 204) for the simultaneously returning click-stopping of the switch elements (61 to 66, 202) in the operation position in each case by an arm (126), formed as spring element (125) of tongue form, of the switch element (61 to 66, 202), in the direction towards the first inner zone (101).

IPC 1-7
H01H 43/06; **G04C 23/08**

IPC 8 full level
G04C 23/08 (2006.01); **H01H 43/06** (2006.01)

CPC (source: EP)
G04C 23/08 (2013.01); **H01H 43/06** (2013.01)

Cited by
EP0352644A3; EP0762456A3; DE102007038569A1; EP2026146A2

Designated contracting state (EPC)
CH DE FR GB IT LI

DOCDB simple family (publication)
DE 3019325 A1 19811126; **DE 3019325 C2 19880922**; DE 3167801 D1 19850131; EP 0043900 A2 19820120; EP 0043900 A3 19820127; EP 0043900 B1 19841219

DOCDB simple family (application)
DE 3019325 A 19800521; DE 3167801 T 19810507; EP 81103456 A 19810507