

Title (en)  
Combination lock with four dial buttons

Title (de)  
Kombinationsschloss mit vier Einstellknöpfen

Title (fr)  
Serrure à combinaisons avec quatre boutons

Publication  
**EP 0662557 B1 19980923 (DE)**

Application  
**EP 94118830 A 19941130**

Priority  
DE 4343161 A 19931217

Abstract (en)  
[origin: US5582049A] A combination lock is disclosed having four dial buttons arranged in a lock box in a rectangular fashion with a handle driving a bolt which is controlled by the dial buttons. The bottom of the lock box has four bearing sleeves supporting four base plates provided with "n" number of teeth. Each base plate has, on its jacket surface, a radial groove. A cross-shaped scan lock is swivel-mounted between the base plates, with the scan lock having four scan pins, or burls, fitting into the radial grooves of each of the base plates, and a lock block immersing in the bolt. Catch disks are provided with "n" number of teeth and square-shaped holes, which are supported on the base plates. The dial buttons are provided with square shafts and have "n" numbers or symbols immersed in the catch disks. Each base plate also has a concentric bore and each bore has a coupling pin provided with conical ends. The pins engage conical bores of a switch plate and one of "n" bores of the catch disks. The swivel-mounted switch plate is actuated by a control nut of the bolt. When the bolt is extended, the switch plate pushes the coupling pins upward and couples the base plates with the catch disks so that, upon closing of the lock, the combination can be cancelled by simply turning the dial buttons.

IPC 1-7  
**E05B 37/12**

IPC 8 full level  
**E05B 37/00** (2006.01); **E05B 37/12** (2006.01); **E05B 15/16** (2006.01); **E05B 63/00** (2006.01)

CPC (source: EP US)  
**E05B 37/0003** (2013.01 - EP US); **E05B 37/0034** (2013.01 - EP US); **E05B 37/12** (2013.01 - EP US); **E05B 63/0069** (2013.01 - EP US); **E05B 2015/1642** (2013.01 - EP US); **Y10T 70/726** (2015.04 - EP US); **Y10T 70/7305** (2015.04 - EP US); **Y10T 70/7322** (2015.04 - EP US)

Cited by  
CN109403727A; CN111749545A

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

DOCDB simple family (publication)  
**US 5582049 A 19961210**; AT E171504 T1 19981015; DE 4343161 A1 19950622; DE 59406971 D1 19981029; EP 0662557 A2 19950712; EP 0662557 A3 19960410; EP 0662557 B1 19980923; ES 2121135 T3 19981116; JP H0821134 A 19960123

DOCDB simple family (application)  
**US 35683694 A 19941214**; AT 94118830 T 19941130; DE 4343161 A 19931217; DE 59406971 T 19941130; EP 94118830 A 19941130; ES 94118830 T 19941130; JP 31511194 A 19941219