

Title (en)

AUTOMATION FOR OPENING AND CLOSING TUBES PROVIDED WITH A TILTABLE PLUG

Title (de)

AUTOMATISCHE VORRICHTUNG ZUM ÖFFNEN UND SCHLIESSEN VON MIT EINEM KIPPBAREN STOPFEN VERSEHENEN RÖHRCHEN

Title (fr)

AUTOMATE POUR L'OUVERTURE ET LA FERMETURE DE TUBES MUNIS D'UN BOUCHON BASCULANT

Publication

EP 1678508 A2 20060712 (FR)

Application

EP 04787383 A 20040915

Priority

- FR 2004002339 W 20040915
- FR 0310799 A 20030915

Abstract (en)

[origin: FR2859789A1] The automaton has a cap lifting unit with a handle including a shoulder that is engaged under an edge of caps (4, 5) of tubes (2, 3) that hold biological sample. An activation unit activates the handle in a direction tangential to a trajectory of a cap edge when the cap is tilted or rotated. A centrifugation rotor having housings positions the tube, and nacelles receive the tubes.

IPC 1-7

G01N 35/00

IPC 8 full level

G01N 35/00 (2006.01); **G01N 35/04** (2006.01)

CPC (source: EP US)

G01N 35/00 (2013.01 - EP US); **G01N 35/04** (2013.01 - EP US); **G01N 2035/0405** (2013.01 - EP US)

Citation (search report)

See references of WO 2005029094A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

FR 2859789 A1 20050318; FR 2859789 B1 20070706; EP 1678508 A2 20060712; JP 2007511420 A 20070510; US 2007110624 A1 20070517; WO 2005029094 A2 20050331; WO 2005029094 A3 20070426

DOCDB simple family (application)

FR 0310799 A 20030915; EP 04787383 A 20040915; FR 2004002339 W 20040915; JP 2006526662 A 20040915; US 37568906 A 20060314