

Title (en)

LOCKING DEVICE AND METHOD FOR CATCH BASIN AND MANHOLE COVERS, AND THE LIKE

Title (de)

VERRIEGELUNGSVORRICHTUNG UND -VERFAHREN FÜR AUFFANGBECKEN- UND MANNLOCHABDECKUNGEN UND DERGLEICHEN

Title (fr)

DISPOSITIF ET PROCEDE DE VERROUILLAGE POUR COUVERCLES DE PUISARD ET D'EGOUT, ET SIMILAIRE

Publication

EP 1534965 A4 20100728 (EN)

Application

EP 03785223 A 20030812

Priority

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- US 40275702 P 20020812
- US 29500702 A 20021113

Abstract (en)

[origin: WO2004015212A2] A locking device and method for securing a cover as for a catch basin or manhole in position including two elongate members pivotally connected together end to end so as to be able to articulate. The members are held aligned while being inserted through a cover opening suspended in Said opening an a flange an the upper member, the lower member then released to be angled by a spring force to wedge against sidewall and an edge of the cover opening. A holt extending through the top threaded into a trunnion extending across an intermediate space of the lower member draws the lower member up to create a powerful wedging action to prevent cover removal. The holt head is recessed into the flange and configured with a special shape engageable only with a special tool to be tamper resistant. A protective plastic cap covers the bolt head and has protrusions sheared off when the cap is removed to provide a tamper indication. A miniature radio transmitter can be installed beneath the cap to transmit an alarm signal when the cap is removed. The locking device is used with a modified manhole cover by installing an adaptor sleeve defining a rectangular opening through which the locking device is inserted, and by connecting an extension arm to the lower member bottom end by use of a shear pin and pivot holt allowing release of the locking device and cover in the event of an explosion.

IPC 8 full level

F16B 21/00 (2006.01); **E02D 29/14** (2006.01); **E03F 5/10** (2006.01)

IPC 8 main group level

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CPC (source: EP)

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Citation (search report)

- [A] JP H11107304 A 19990420 - HIKARI KAIRIKU SANGYO KK
- [A] JP H101962 A 19980106 - TOCHIGIYA KK
- [A] GB 2017198 A 19791003 - JONES & SON LTD FREDRICK
- [A] EP 1048806 A2 20001102 - HANEDA HUMEPIPE CO LTD [JP]
- See references of WO 2004015212A2

Cited by

JP2016205123A

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WO 2004015212 A2 20040219; WO 2004015212 A3 20050113; AP 1971 A 20090312; AP 2005003254 A0 20050331; AU 2003264055 A1 20040225; AU 2003264055 A8 20040225; CA 2495662 A1 20040219; CA 2495662 C 20121211; CN 100422573 C 20081001; CN 1692231 A 20051102; EP 1534965 A2 20050601; EP 1534965 A4 20100728; EP 1534965 B1 20130703; JP 2005535804 A 20051124; JP 2009150217 A 20090709; JP 4321775 B2 20090826; JP 4824094 B2 20111124; ZA 200502135 B 20051130

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