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(54) **Shackleless security padlock**

Sicherheitsvorhängeschloss ohne Schliessbügel

Cadenas de sécurité sans anse

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(56) References cited:
FR-A- 408 312 **US-A- 2 660 872**
US-A- 3 996 774 **US-A- 4 269 048**

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Description

[0001] This invention relates to a new concept of metal "padlocks," that is to say, a locking system without the usual straight shackle or link which is normally inserted into two rings provided for the locking thereof.

[0002] It is well known that the weak part of currently available padlocks is the metallic shackle itself which, even when made of treated steel alloys, is not strong enough to withstand the action of the saw or cutting nippers which a burglar may easily obtain.

[0003] To avert such a risk, this invention, as defined in claim 1, offers a new type of padlock, capable of joining the two jambs of a door without resorting to the more usual, visibly-exposed and easily reachable shackle, but, rather, using the body of the lock itself, whose dimensions, design, and the materials used in manufacturing provide greater security against break-ins.

[0004] These and other characteristics will now appear to be more closely related to a simple way of applying the invention illustrated merely by way of example and not restrictive of the potential application of his patent Reference is made to the enclosed drawings, where:

TAB. 1, fig. 1, is a representation of the installed padlock;

TAB. 2, figs. 2 & 3, are a cross-section and a view of the casing;

TAB. 3, figs. 4, 5, 6, & 7, are representations of the bolt and of the plate or lock cap;

TAB. 4, figs. 8 & 9, are representations of the details of the protective shield of the padlock;

TAB. 4, fig. 10, is a representation of one of the locking studs to be driven into the door.

[0005] With reference to the above-mentioned figures, the number 1 is used to indicate the right jamb, 2 the left jamb of the door to be locked with the padlock, 3 the threaded through studs previously fitted onto the door; 4 indicates a protective shield - here asymmetrical in shape - used to compensate for any differences in level between the two jambs, where 4' is used to indicate the washer which is almost always required.

[0006] 5 indicates the cap which drives the bolt, 6, within the hemispherical-shaped casing, 7, which forms the body of the lock operated by means of a cylinder 8 and a key 9 whose rotation permits the bolt (6) to vary the position of the sinusoidal recesses 10 which come in contacts with the studs (3) during closure and penetrate the grooves 11 provided between the tips 12 and the collars 13.

[0007] 7' indicates the compartment within the casing (7) which contains the cap 5; 7" is the compartment which contains the bolt (6); 7''' indicates the compartment which contains the head (12) of the stud (3); 7'''' indicates the compartment that contains the cylinder 8; 14 indicates the threaded holes designed to secure by means of screws the cap (5) to the casing (7), and 14'

indicates the through holes in the cap.

[0008] 15 indicates the through holes in the cap (5), which permit the studs (3) to be driven into the casing (7).

5 **[0009]** 4" indicates the raised neck of the protective shield (4) which prevents access to the stud (3) and 16 indicated the through hole via which the protective shield (4) is secured to the door surface (1) by means of the screw. In practice, the details related to manufacture, dimensions, shape and other features of this invention may still be altered.

Claims

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1. "SHACKLELESS SECURITY PADLOCK," comprising a padlock body (7) having a cylinder (8), a bolt (6), and a cap (5), wherein the padlock body (7) is hemispherical in shape, with, in the middle, a keyway for the introduction of a key (9) which, by means of the cylinder (8), placed in a compartment (7'''), operates the bolt (6), the bolt (6) has an "S" shape so that in the closing position recesses (10) engage grooves (11) of threaded studs (3) previously installed on two jambs of the unit the padlock is meant to lock, and the grooves (11) are cut between specially-shaped heads (12) and collars (13), and the bolt (6) is located between the padlock body (7) and the cap (5), both located in special compartments (7'';7') within the body of the padlock, and the cap (5) has two through holes (15), via which the stud heads (3) enter and reach the compartments (7''') within the hemisphere (7) forming the padlock body, there to be blocked by the bolt (6).
 2. "SHACKLELESS SECURITY PADLOCK," **characterised**, according to claim 1, **characterized by** the fact that through holes (14') are drilled into the cap (5) and these threaded holes (14) extend into the casing (7), such that these two parts said are joined by means of screws.
 3. "SHACKLELESS SECURITY PADLOCK," according to claim 1, **characterized by** the fact that it comprises an asymmetrical, protective security shield (4) with a raised neck (4'') and through hole (16) having the function of both protecting the studs (3) from the danger of break-in, and of making up for any differences in level between the two doorjambs (1) and (2), in conjunction with a washer (4').
 4. "SHACKLELESS SECURITY PADLOCK," according to claim 1, **characterized by** the fact that the protective security shield (4) may also be circular and symmetrical, to protect the padlock body (7) on all sides.
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Patentansprüche

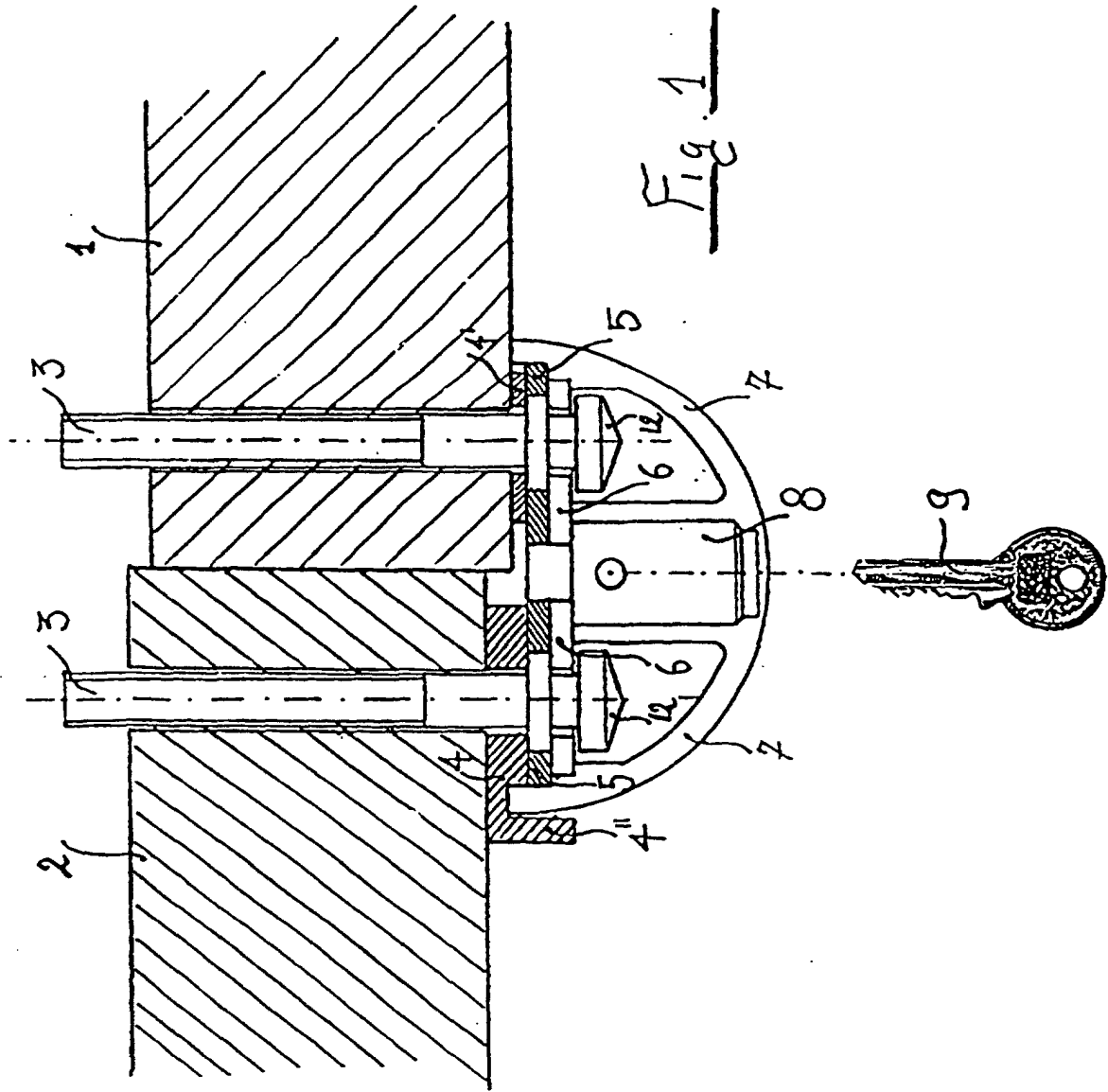
1. "SICHERHEITS-VORHÄNGESCHLOSS OHNE VERBINDUNGSBÜGEL" bestehend aus einem Schlosskörper (7) mit Zylinder (8), einem Riegel (6), einem Verschlussdeckel (5), in dem der halbkugelförmige Schlosskörper (7) mit in der Mitte dem Schlüsselloch zum Einstecken des Schlüssels (9) ausgebildet ist, der über den in einem Hohlraum (7'') gelagerten Zylinder (8) den Riegel (6) betätigt, in dem der Riegel (6) zum Einhaken in der Schließposition "S"-förmig ausgebildet ist, mit den Hohlräumen (10) und den Rillen (11) in den vorgehend an den zwei Pfosten des Erzeugnisses, das mit dem Vorhängeschloss verschlossen werden soll, montierten Gewindezapfen (3), in dem die Rillen (11) zwischen den Profilköpfen (12) und den Halsgliedern (13) herausgearbeitet sind, in dem der Riegel (6) zwischen dem Schlosskörper (7) und dem Deckel (5) angeordnet ist, die beide in besonderen, aus dem Schlosskörper herausgearbeiteten Räumen (7', 7'') gelagert sind, in dem der Deckel (5) zwei Durchgangslöcher (15) aufweist, durch welche die Köpfe der Gewindezapfen (3) durchlaufen und die in der Halbkugel (7) des Schlosskörpers herausgearbeiteten Räume (7'') erreichen und dort vom Riegel (6) blockiert werden können .
2. "SICHERHEITS-VORHÄNGESCHLOSS OHNE VERBINDUNGSBÜGEL" gemäss Anspruch 1.), **gekennzeichnet dadurch, dass** Durchgangslöcher (14') aus dem Deckel (5) und Gewindelöcher (14) zum Verbinden mit Schrauben der beiden vorgeannten Teile aus der Glocke (7) herausgearbeitet sind.
3. "SICHERHEITS-VORHÄNGESCHLOSS OHNE VERBINDUNGSBÜGEL" gemäss Anspruch 1.), **gekennzeichnet dadurch, dass** es einen asymmetrischen Sicherheitsschild (4) mit Halsglied (4'') und Durchgangsloch (16) mit der Doppelfunktion aufweist, die Bolzen (3) von eventuellen Einbrüchen zu schützen und zusammen mit der Unterlegscheibe (4') mögliche Höhenunterschiede zwischen den beiden Türpfosten (1), (2) auszugleichen.
4. "SICHERHEITS-VORHÄNGESCHLOSS OHNE VERBINDUNGSBÜGEL" gemäss Anspruch 1.), **gekennzeichnet dadurch, dass** der Schild (4) auch eine symmetrische runde Form aufweisen könnte, um den Schlosskörper (7) auf allen Seiten zu schützen.

JONCTION" constitué de: un coffre (7) avec barillet (8), un verrouilleur (6), un couvercle de fermeture (5); où le coffre du cadenas (7) est de forme hémisphérique avec au centre l'entrée de clé (9) qui par l'intermédiaire du barillet (8) logé dans une cavité (7'') actionne le verrouilleur (6) en forme de "S" pour accrocher, par l'intermédiaire des cavités (10), en position de fermeture, les gorges (11) réalisées sur les goupilles filetées (3) préalablement montés sur deux montants de l'objet devant être fixé par le cadenas; où les gorges (11) sont réalisées entre les têtes profilées (12) et les colliers (13); où le verrouilleur (6) est compris entre le coffre du cadenas (7) et le couvercle (5), tous deux logés dans des chambres (7' et 7'') présentes dans le coffre du cadenas; où le couvercle (5) présente deux trous débouchants (15) dans lesquels les têtes des goupilles (3) peuvent pénétrer pour atteindre les logements (7'') réalisés dans l'hémisphère (7) constituant le coffre du cadenas pour y être bloquées par le verrouilleur (6).

2. "CADENAS DE SÉCURITÉ SANS ANSE DE JONCTION" selon la revendication 1.) **caractérisé par le fait que** les trous débouchants (14') sont réalisés dans le couvercle (5) et les trous filetés (14) dans la cloche (7) pour joindre par l'intermédiaire de vis les deux parties mentionnées.
3. "CADENAS DE SÉCURITÉ SANS ANSE DE JONCTION" selon la revendication 1.) **caractérisé par le fait qu'il** présente un bouclier de sécurité asymétrique (4) avec collier rehaussé (4'') et trou de passage (16) assurant une double fonction, celle de protéger les goupilles (3) contre les éventuelles tentatives d'effraction et celle de corriger, grâce à la rondelle (4'), les éventuels écarts de niveau entre les deux montants de la porte (1), (2).
4. "CADENAS DE SÉCURITÉ SANS ANSE DE JONCTION" selon la revendication 1.) **caractérisé par le fait que** le bouclier (4) peut également être de forme circulaire symétrique pour protéger le coffre du cadenas (7) de chaque côté.

Revendications

1. "CADENAS DE SÉCURITÉ SANS ANSE DE



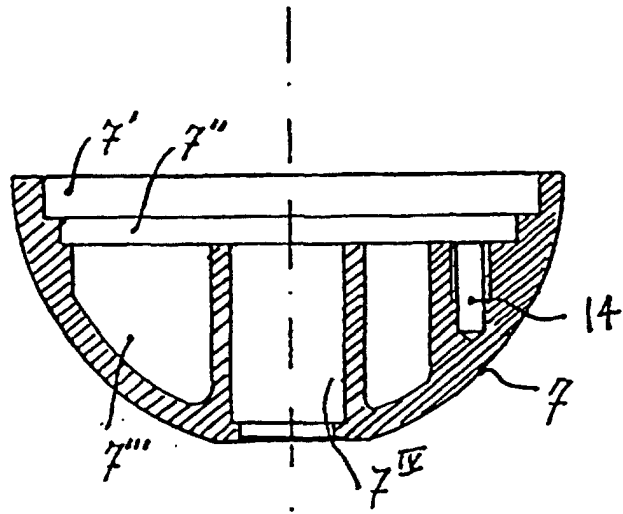


Fig. 2

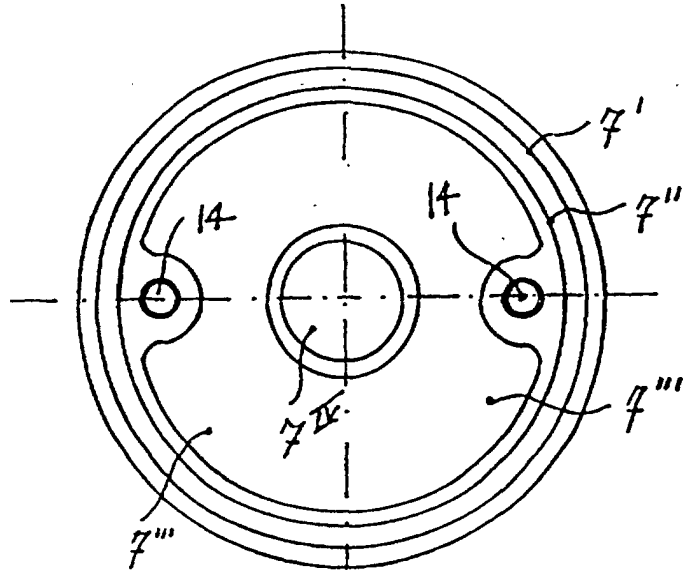


Fig. 3

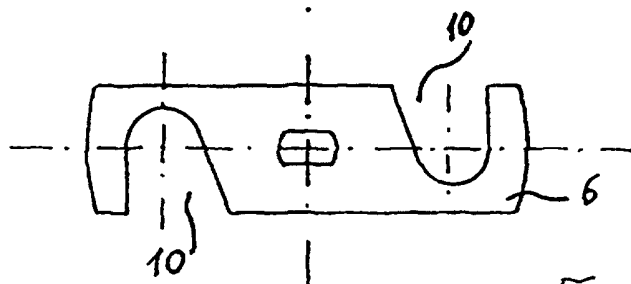


Fig. 4

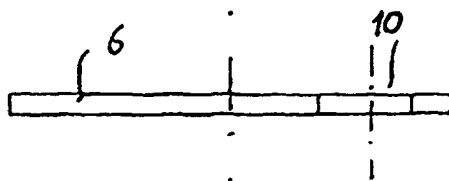


Fig. 5

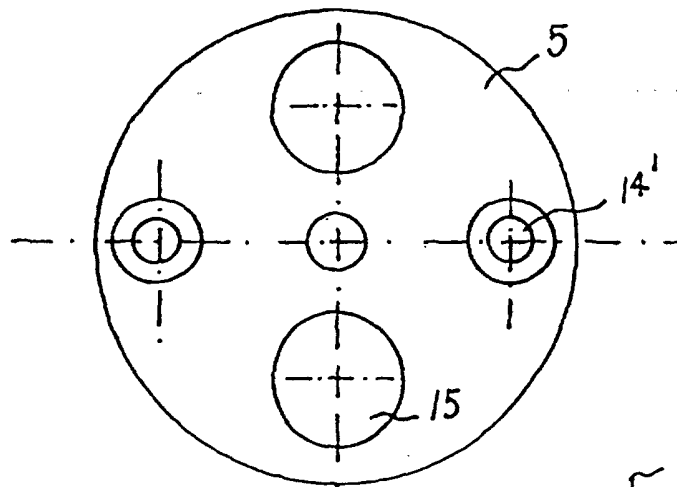


Fig. 6

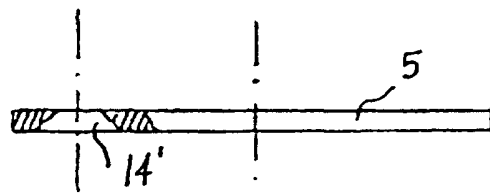


Fig. 7

