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(54) **A COVER OF A TECHNICAL OPENING**

ABDECKUNG EINER TECHNISCHEN ÖFFNUNG

COUVERCLE D'UNE OUVERTURE TECHNIQUE

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Description

Technical field

[0001] The technical solution relates to the structural arrangement of the carrier frame and the housing, for closing (cover-up) of the technical (inspection) of the opening, such as a hole for access to the meter, water meter, water valve, and the like, created in the wall and/or ceiling construction.

Background art

[0002] The various design of the supporting frames and covers is known from a wide range of files. One of the representatives of the state of the art is file DE 92 10 905 U1, where the cover plate is secured on a frame by screws. Screwing of the cover plate, or unscrewing in the correction and revision works is tedious, threatens to damage the cover when too strong tightening of the screws.

[0003] Furthermore, it is known from the document EP 779 397 B1 the cover of the inspection opening, which contains a frame located in the opening and the cover plate that covers the frame and is disassembly connected with it. The cover plate is in the front surface provided with a control element and has a peripheral part, protruding from its front surface to the back toward the frame and forming a selvedge of the frame. The frame contains in the area of one side of the cover plate at least one latch, which is by the spring flexibly stored in the storage part. The disadvantage of this technical solution is the fact that to the opening, removing the plate it is the need of special tool and furthermore, that this type of cover plate quite significantly protrudes above the surrounding surface.

[0004] Another type of solution is the construction of the support frame having in cross section the shape of the letter "L" and the cover plate, which is stored in the opening of the support frame and which is on one side provided with a sliding handles catching for the protrusions of the support frame. The disadvantage of such solution is that when opening the cover there is once again the need for tools, in this case, e.g. a screwdriver, which pushes the handle from the protrusions. There may occur breakage of the handle and thus irreversible damage to the door.

[0005] Another known solution is described in the utility model CZ 17513 U1, where the opening and locking of the cover is solved using the spring-loaded flaps, which are controlled by the tiltable control components with catching elements. This solution has the advantage in that for opening the cover requires no tools, but a disadvantage in that the tiltable control components can easily break, the system is quite structurally demanding and therefore expensive.

[0006] An electrical installation box is known from the DE 44 42 267 A1 that has a lock preventing unauthorised opening which requires a card. There is a two-part lid, the lower part covering the box and the upper part is hinged with a catch that is to be unlocked. The mechanism uses a slit into which a card with special ribs is inserted. According to the setting of the mechanism, one rib activates an interlock whilst the second rib allows the movement of a slider. Then the catch releases the upper cover from the lower cover. The slider moves in the same direction as for inserting the card. The mechanism is contained within a housing that sits in a recess in the lower cover. A disadvantage is that a special card is required and that the mechanism is complex.

[0007] The US 2 535 275 A describes a circular manhole cover provided with a pair of rectangular apertures in a diameter thereof and in spaced relation to a center thereof, a pair of aligned elongated latches slidably supported by the cover on the underside thereof in said diameter and provided with locking tongues on their opposite ends, the adjacent ends of said latches being in spaced relation and positioned between said apertures, a spring supported by said cover and disposed between said adjacent ends for forcing said latches apart to locking position, and a rectangular aperture in each latch of the same dimensions as the apertures in the cover, the latter apertures being normally displaced in said diameter relative to the first apertures but lapping same whereby providing through openings for the insertion of wedged tools for driving the latches toward each other against the action of said spring. Special tools are needed for the opening of the cover and the apertures are susceptible to clogging caused by dirt that would prevent the opening mechanism from being used.

Disclosure of the invention

[0008] This technical solution is designed to solve the above-described deficiencies associated with the opening or closing of the cover of the technical opening, so that for such operations there was no need of special tools to have a cover together with a frame formed into monolithic surface without protrusions and hollows and catching elements along with other structural elements allowing opening and closing of the cover are placed on the inner side of the cover or the frame.

[0009] This is achieved by the constructional arrangement of the supporting frame and the cover of the technical opening in the wall or ceiling of the construction, where in the door of the cover there is formed an opening size adapted for inserting credit cards or similar document. On the inner side of the door on both sides of the opening for the card there is positioned at least one slider with the advantage in the shape of the letter "U" connected to the locking rod when for the locking rod there is in the internal segment of the frame located a housing, in which there is inserted part of the locking rod in position "closed". The rod is pushed in the housing by pushing spring.

[0010] The slider, preferably in the shape of the letter

"U", has in the area of the entry of the card a slant, which is pushed by the card when inserting into the opening. This initiates the movement of the slider, when the second end of the slider on the opposite side of the opening for the card ejects the pushing spring out of the case and is possible to open the door. When pulling the card out of the opening the rod is returned into the case by the pushing springs.

Brief description of the drawings

[0011] The technical solution will be further clarified using drawings, where on

Fig. 1 there is shown the cover of the technical opening from the outer side with the marking opening for the card, in
Fig. 2 there is illustrated the mechanism for opening from the inner side, in
Fig. 3 there is shown a detail of the structural arrangement of the slider, the locking rod and pushing spring in the area of the opening for the card in the perspective view,
Fig. 4 shows the detail of the structural arrangement of the slider, the locking rod and pushing spring in the area of the opening for the card in the front view, and
Fig. 5 shows the cut through the mechanism.

Modes for carrying out the invention

[0012] In the carrier frame 8 there are by the help of hinges placed the door1, in which is formed an opening 2 for the card 3. On the inner side of the cover of the technical opening there are on the segment of the frame 9 against each other fixed housings/cases 10 for securing the rods 7. The rods 7 are in the housing 10 in the closed state fixed by means of the pushing springs 6. On the sides of the opening 2 there are located the sliders 5 in the shape of the letter "U" when one end of the slider 5 extends with its end into the opening 2 and at this end there is formed a slant 11 and the other end is connected with the rod 7 at the opposite end of the opening 2 between the pushing spring 6 and the housing 10.

[0013] When inserting the card into the opening the card pushes on slants, pushes them away it and the other end of the slider initiates the movement of the rods to each other, thereby to eject the rods from the housings. By this the door is ready to open whether by pushing on the opposite end on the door hinges, or by pulling the card or by any other known manner. When you eject the card from the opening the pushing springs return the rod back into the housings and the sliders to the initial position relative to the opening.

Industrial applicability

[0014] A cover of the technical opening according to this technical solution is primarily intended to be used for covering of the openings in walls of buildings or other structures where it is required to maintain access to the distribution systems of energy, water or other media.

Claims

1. A cover for a technical opening in the wall or ceiling of a construction consisting of a door (1) and a frame (8), wherein in the door (1) there is formed an opening (2) for insertion of a card (3), especially a credit card or similar card,
characterised in
that on the inner side of the cover there are housings (10) fixed on segments (9) on opposite sides of the frame (8), wherein the housings (10) are designed to receive and fix securing rods (7) in a closed state of the door (1) by means of pushing springs (6),
that on each side of the opening (2) there is located a slider (5) in the shape of the letter "U", wherein an end of the slider (5) extends into the opening (2) and at this end there is formed a slant (11) and an other end of the slider (5) is connected with the rod (7) at the opposite end of the opening (2) between the pushing spring (6) and the housing (10) and
that the sliders (5) are designed to move the rods (7) towards each other and out of the housings (10) during the insertion of the card (3) into the opening (2), wherein the card pushes against the slants of the sliders (5), thereby pushes the sliders (5) apart and wherein the door is enabled to transition to an opened state.

Patentansprüche

1. Abdeckung für eine technische Öffnung in der Wand oder Decke einer aus einer Tür (1) und einem Rahmen (8) bestehenden Konstruktion, wobei in der Tür (1) eine Öffnung (2) zum Einführen einer Karte (3), insbesondere einer Kreditkarte oder dergleichen, ausgebildet ist,
dadurch gekennzeichnet
dass an der Innenseite des Deckels auf gegenüberliegenden Seiten des Rahmens (8) an Segmenten (9) befestigte Gehäuse (10) vorgesehen sind, wobei die Gehäuse (10) zur Aufnahme und Fixierung von Sicherungsstangen (7) in einem geschlossenen Zustand der Tür (1) mittels Druckfedern (6) ausgebildet sind,
dass auf jeder Seite der Öffnung (2) ein Schieber (5) in Form des Buchstabens "U" angeordnet ist, wobei ein Ende des Schiebers (5) in die Öffnung (2) hineinragt und an diesem Ende eine Schräge (11) ausgebildet ist und ein anderes Ende des Schiebers (5) mit der Stange (7) am gegenüberliegenden Ende der Öffnung (2) zwischen der Druckfeder (6) und

dem Gehäuse (10) verbunden ist und
dass die Schieber (5) so ausgebildet sind, dass sie beim Einführen der Karte (3) in die Öffnung (2) die Stangen (7) aufeinander zu und aus den Gehäusen (10) heraus bewegen, wobei die Karte gegen die Schrägen der Schieber (5) drückt, dadurch die Schieber (5) auseinanderschiebt und wobei der Übergang der Tür in einen geöffneten Zustand ermöglicht wird.

Revendications

1. Couvercle pour une ouverture technique dans le mur ou dans le plafond d'une construction composée d'une porte (1) et d'un cadre (8) où dans la porte (1) est formée une ouverture (2) pour l'introduction d'une carte (3), particulièrement d'une carte crédit ou similaire
Est caractérisé de sorte qu'à la parti intérieure du couvercle sur la parti opposée du cadre (8) des boîtiers (10) fixés à des segments (9) sont prévus où les boîtiers (10) sont formés pour l'inclusion et la fixation de tiges de sécurité (7) dans l'état fermé de la porte (1) par le biais de ressorts de compression (6)
Qu'à chaque parti de l'ouverture (2) un poussoir (5) sous forme de la lettre « U » est disposé où le bout du poussoir (5) pénètre dans l'ouverture (2) et à ce bout une pente (11) est formée et est liée à l'autre bout du poussoir (5) par le biais de la tige (7) au bout opposé de l'ouverture (2) entre le ressort de compression (6) et le boîtier(10) et
Que les poussoirs (5) sont formés de sorte qu'ils déplacent lors de l'introduction de la carte (3) dans l'ouverture (2) les tiges (7) de manière consécutive vers les boîtiers (10) et hors des boîtiers (10) où la carte est appuyée contre les pentes des poussoirs (5), sépare ainsi les poussoirs (5) et où le passage de la porte vers un état ouvert est rendu possible.

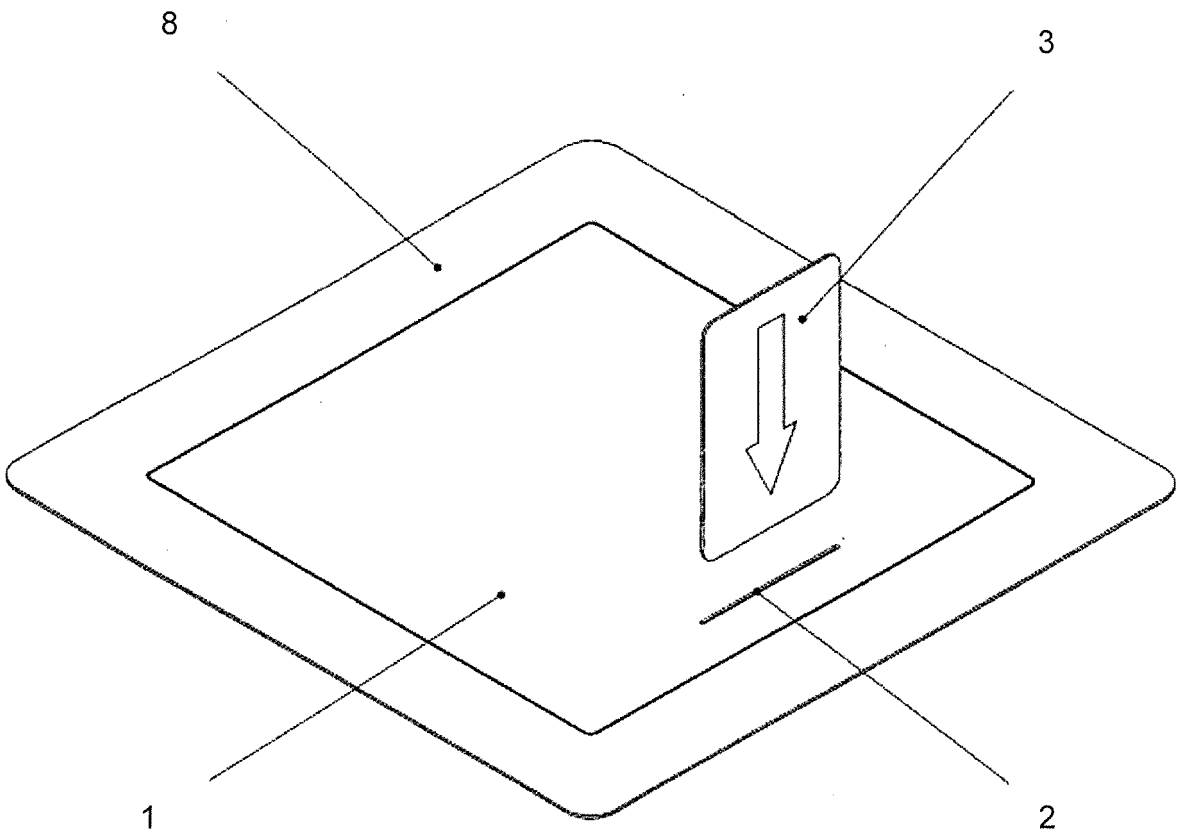

Fig. 1

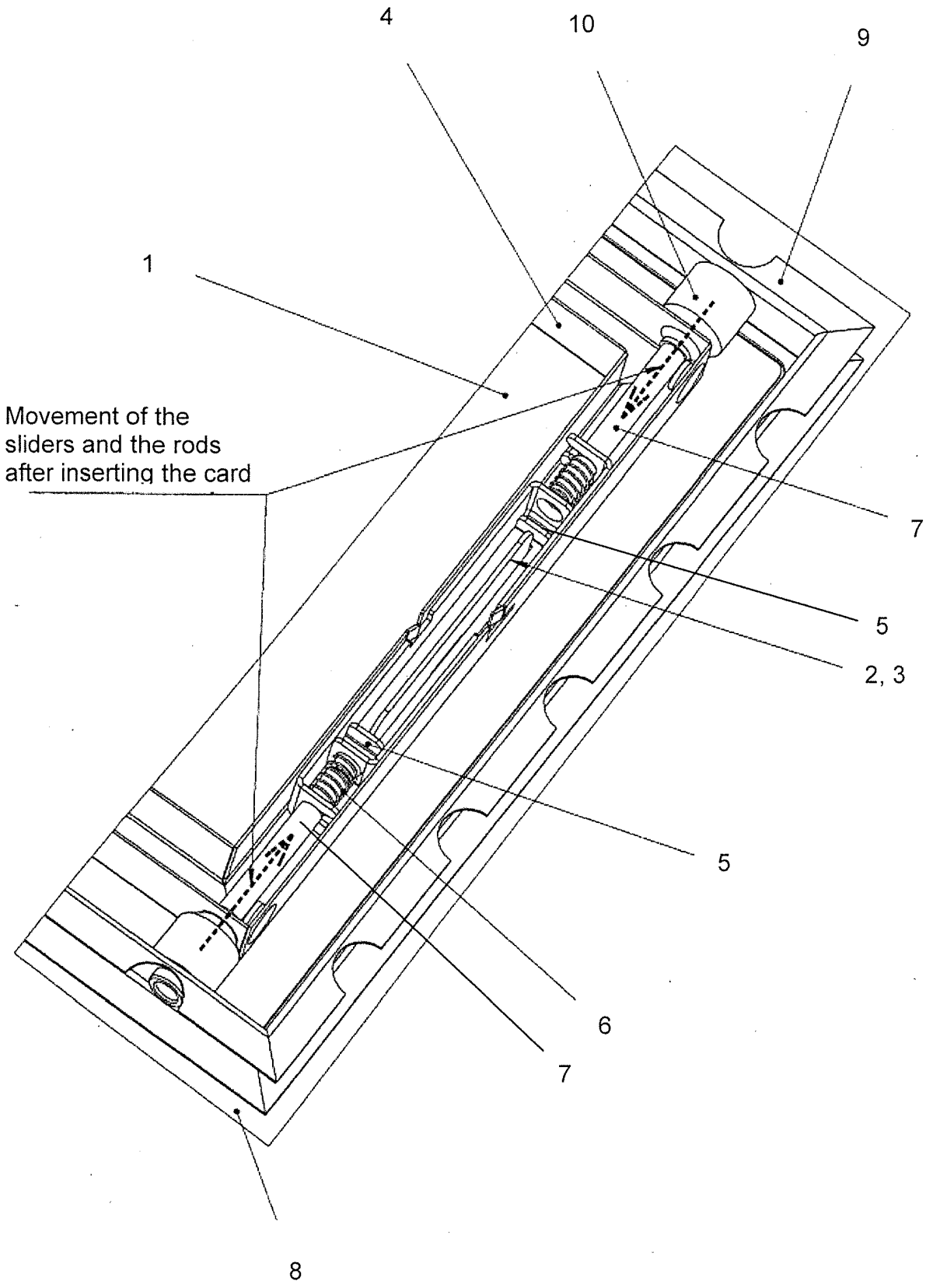
4
10
9
1
Movement of the sliders and the rods after inserting the card
7
5
2, 3
5
6
7
8

Fig. 2

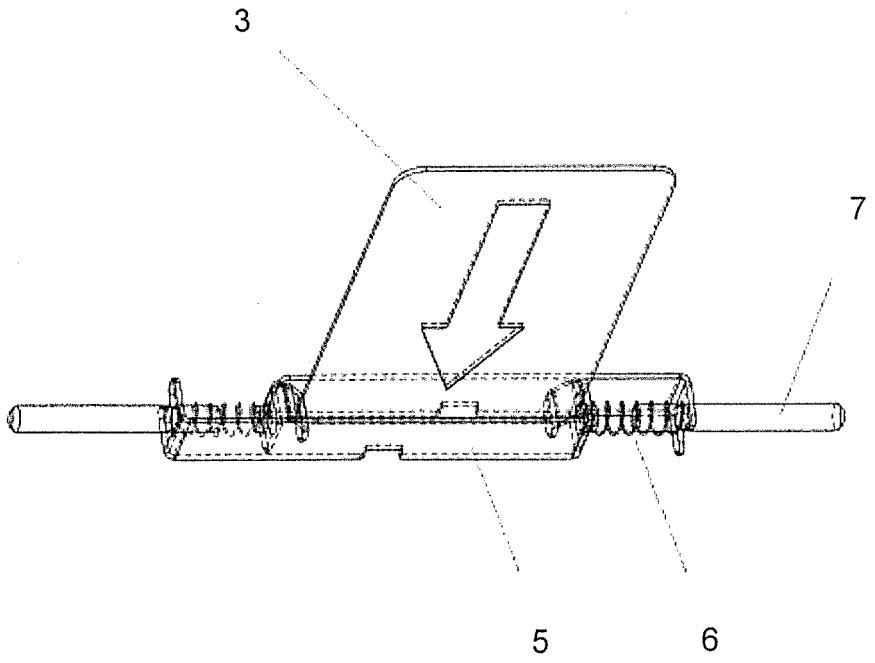

Fig. 3

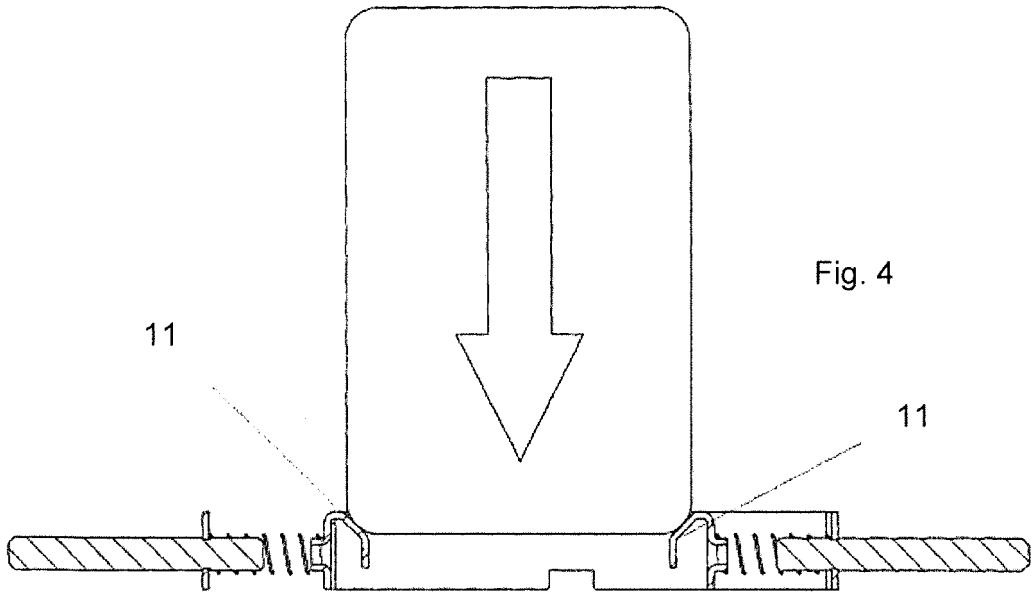

Fig. 4

Fig. 5

REFERENCES CITED IN THE DESCRIPTION

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- EP 779397 B1 **[0003]**
- CZ 17513 U1 **[0005]**
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