

Safety packing for a product to be exhibited

The present invention relates to a safety packing for a product to be exhibited, for example, a
5 CD packing, comprising a housing for keeping the product, with an opening for inserting or removing the product and a locking mechanism comprising a frame part which is securely connected with the housing and a locking element to be moved between two positions,
10 namely a locking position where the product may be prevented from being moved into and from the housing, and an open position where the product may be moved into and from the housing, wherein the locking element is pushed through a spring in the direction of the open
15 position, and a retainer which is movable between a retaining position and a release position, which retainer is pushed in the retaining position through a spring, wherein the retainer in the retaining position secures the locking element when this latter is in the
20 locking position relative to the frame part, which retainer can be moved against the spring load through a magnetic force towards the release position in order to let the locking element move freely.

Such a packing is known from WO-A-98 36 997.

25 In such a known packing, the retainer is formed by saw tooth-shaped clamps which are connected

to the movable locking element and can be pressed onto resilient metal bands, which, after the clamps have completely passed thereon, return to their initial position and therefore, maintain the locking element in the closed position. The resilient bands can thereby move in an area which is approximately perpendicular to the moving direction of the movable locking element. For moving the locking element, a single magnet being mounted in the vicinity of the metal bands is sufficient, whereby the bands can be shifted against their own spring load and the clamps released, resulting in the locking element being moved with the spring load to the release position.

Such a known packing has this disadvantage that the magnetic force which is necessary to release the locking element is generated by a magnet or a magnetized material which is kept against the packing outside at the right place. Consequently, it is quite easy to remove the product from the safety packing, as a potential shop-lifter could simply open such a safety packing by inserting a permanent magnet.

The aim of the invention is to provide a safety packing of the above-mentioned type wherein the disadvantages of the known safety packing are overcome.

This aim is reached according to the invention in that the locking mechanism is provided with an opening and the retainer can therefore only be moved from the retaining position to the release position in such a way that this may only occur using a magnetic force generated by a magnet or a magnetized element being located in the opening.

It is thereby achieved that no any arbitrary permanent magnet may be used to shift the locking element to the released position, but such a magnet must satisfy specific requirements with respect to the shape and magnetic force thereof in order to be able to

move the locking element. The shape is important in order to be fit into the opening of the locking mechanism, whereas when the magnetic band fits into the opening, the right magnetic field strength must also
5 still be generated relative to the direction and orientation in order to move the retainer.

Other features and advantages of the invention will become apparent from the following description referring to the accompanying drawings,
10 wherein :

Fig. 1 is a schematic section of a safety packing for a CD packing according to the invention, and

Fig. 2 is a side view of the packing
15 according to Fig. 1.

Figs. 1 and 2 show a CD packing according to the invention, which comprises a housing 1 and a locking mechanism 2. The housing 1 is not shown in detail, but generally is in the shape of a rectangular
20 parallelepiped, with a flat rear wall 3 and a (non shown) flat front wall, an upper wall 4, a side wall 5 and a bottom wall 6. The side 7 lying opposite the side wall 5 is opened so that a CD can be inserted herein. Recesses 8 are arranged in the front wall and in the
25 rear wall 3 in order to facilitate the removal, so that an inserted CD can be grabbed with fingertips.

The above-mentioned walls define a rectangular space in which a CD packing fits with a limited tolerance. The upper wall 4 is castellated on
30 the side of the space, whereby a CD packing being pressed against the wall 4 cannot be any longer moved laterally, as such packings are also provided with castellated walls. Moreover, the wall 4 near the opened side 7 is provided with an abutment 9 extending in the
35 direction of the space 3.

The bottom wall 6 is connected with the

locking mechanism 2 and is provided with a number of openings 10, 11 and 12, the function of which will be described hereafter.

The locking mechanism 2 comprises a frame
5 part 15 which is securely connected with the housing 1 and a locking element 16 which is slidable within this frame part 15. The frame part 15 comprises a front wall and a rear wall which actually extend the front wall and the rear wall 3 of the housing and therefore form
10 an assembly.

The front wall and the rear wall of the frame
part 15 are connected with each other through parts 15A, 15B which form a seal for the sides and the bottom
15 sides of the frame part 15 and which also form a guide 13 for the locking element 16, so that it can shift to and fro, from and to the housing 3. The front wall and the rear wall of the frame part 15 are moreover connected through a central part 17. The central part is provided, approximately at mid-way of the bottom
20 edge of the assembly, with an opening 18 which extends from the bottom edge to the vicinity of the bottom wall 6. An abutment 19 is arranged in this opening 18, which abutment is pressed through spring 20 in the direction of the bottom edge, but is retained by an edge in the
25 locking element 16 as it will be described hereafter.

In the bottom edge oriented side of the
central part 17, two blind openings 22, 23 are additionally provided and respective pins 24, 25 are provided in each of them, which are pressed through
30 springs 26, 27 in the direction of the bottom edge.

The pins 24, 25 cooperate at their other end with blind bores 28, 29 in the locking element 16, as it will be described hereafter.

Each side edge oriented side of the central
35 part 17 is moreover provided with a blind bore 30, 31. A plunger 32, 33 is located inside, which is pressed

through springs 34, 35 in the direction of the side edge and can thereby cooperate with a blind bore 36, 37 formed in the locking element 16, as it will be described hereafter.

5 The locking element 16 comprises a basic part 40, upright arms 41, 42 and two wings 43, 44. The upright arms 41, 42 are connected with both ends of the basic part and are perpendicular thereto, whereas each wing 43, 44, is connected with an upright arm 41, 42
10 and is perpendicular thereto, as it is clearly seen from Fig. 1.

 The basic part 40 comprises an opening 45 which, when the locking element 16 is arranged in the frame part 2, is in alignment with the opening 18, but
15 with a somewhat smaller section so that the abutment 19 cannot pass through the opening 45.

 The basic part 40 also comprises both blind bores 28, 29 which cooperate with the pins 24, 25.

 The upright arms 41, 42, together with the
20 basic part 40, are adapted to the shape of the guide 13 and ensure that the locking element can shift controllably to and fro from and to the housing 3. In the sides oriented to each other of the upright arms 41, 42 the blind bores 36, 37 are provided, cooperating
25 with the plungers 32, 33. The wing 43 is provided with an abutment 51 which fits through the opening 11 in the bottom wall 6 and the wing 44 is provided with an abutment which fits through the opening 12 in the bottom wall 6. The wing 43 is moreover provided with an
30 abutment 50 which fits through the opening 10 in the bottom wall 6.

 The safety packing works as follows.

 In Fig. 1 the packing is shown in the closed position, i.e. with a CD packing present in the housing
35 1 being is locked inside on the one hand through the action of the abutments 50, 51, 52, whereby the

abutment 50 grabs behind the CD packing and the abutments 51, 52 cooperate with openings which are present as a standard in CD packings, on the other one by means of the castellated upper wall 4 against which
5 the CD packing is pressed and finally by the abutment 9 which maintains the CD packing near the upper wall 4.

To remove a CD packing from the housing, a magnetic bar or a magnetized bar is pressed into the openings 45 and 18, shifting thereby the abutment 19 in
10 the direction of the housing 1 until it entirely lies against the bottom of the opening 18.

At this time, the magnetic bar can attract the plungers 32, 33, which are made in a magnetized material, against the load of the springs 34, 35. The
15 plungers are released from the blind bores 36, 37 and the locking element 16 can now move freely and will be pressed away from the housing 1 as a result of the action of the springs 26, 27. The abutments 50, 51 are released from the CD packing in the housing 1 and the
20 CD packing is released from the wall 4 and this latter can now be removed from the housing. The magnetic bar is removed from the opening 18 and the safety packing is ready for a new use.

A new CD packing can thereby be slid into the
25 housing 1 through the opening 7 and when pushing the locking element in the direction of the housing, this one may be locked therein. This occurs automatically after the locking element has been clamped sufficiently away so that the plungers 32, 33 are pushed back in the
30 blind bores 36, 37. The assembly is now again in the situation illustrated in Fig. 1.

Figs. 1 and 2 illustrate the opening 18 and the associated insertion opening 45 as a rectangular opening. In order to make any possible fraud difficult,
35 these openings, at least certainly the opening 45, may have a special shape so that no any magnetic bar can be

inserted therein, but exclusively specially formed magnetic bars, for example with a S-shaped section, can be used. The assembly works then as the combination of a key and a keyhole.

5 In another embodiment, the mobility of the locking element is controlled in so that the locking element is pressed outside by the springs 26, 27 in such a way that the plungers 32, 33 lie somewhat biased in the bores 36, 37 and have therefore a clamping
10 effect. The magnetic force of an inserted magnetic bar is then sufficient to remove the plungers 32, 33. This can only happen when the locking element is simultaneously pushed somewhat in the direction of the housing 1 so that the plungers 32, 33 are released in
15 the bores 36, 37 and are therefore attracted by the magnetic bar.

 In practice, this can be automatically achieved by making a slot in the counter of a shop in which a magnetic bar is mounted and in which optionally
20 a small embossment is provided. When correctly inserting the safety packing into the slot, the magnetic bar automatically runs in the openings 18 and 45 and the embossment automatically presses the locking element in the direction of the housing 1. Moreover,
25 mechanically pressing may also be complicated when completely closing the bottom edge with a wall connected to the frame part 16. An opening may be present in the wall for inserting the magnetic bar and additionally a second opening, also having possibly a
30 special profile for inserting a pressing element in order to press the locking element somewhat in the direction of the housing. Finally it is also still possible to manufacture the system in such a way that each plunger is controlled by a separate magnetic bar,
35 making frauds more difficult as two magnetic bars should be used simultaneously, each also having

possibly a special section and being moreover possibly combined with a mechanical pushing action.

It should be apparent that the invention is not limited to the described and illustrated
5 embodiment, but several modifications can be contemplated within the scope of the claims. This is specially true for the mechanical parts such as springs and pins and the shaping of the different components.

CLAIMS

1. A safety packing for a product to be exhibited, for example, a CD packing, comprising a housing for keeping the product, with an opening for inserting or removing the product and a locking mechanism comprising a frame part which is securely connected with the housing and a locking element to be moved between two positions, namely a locking position where the product may be prevented from being moved into and from the housing, and an open position where the product may be moved into and from the housing, wherein the locking element is pushed through a spring in the direction of the open position, and a retainer which is movable between a retaining position and a release position, which retainer is pushed in the retaining position through a spring, wherein the retainer in the retaining position secures the locking element when this latter is in the locking position relative to the frame part, which retainer can be moved against the spring load through a magnetic force towards the release position in order to let the locking element move freely, **characterized in that** the locking mechanism is provided with an opening and the retainer can therefore only be shifted from the retaining position to the release position in such a way that this may only occur using a magnetic force generated by a magnet or a magnetized element located in the opening.

2. A packing according to claim 1, **characterized in that** the opening and the magnet or magnetized element to be inserted therein have a mutually adapted shape.

3. A packing according to claim 1 or 2, wherein the locking element is movable in a first direction, **characterized in that** the retainer is formed

by at least a pin which can be moved in one direction which is essentially perpendicular to the first direction.

4. A packing according to claim 3,
5 **characterized in that** the pin cooperates with one an opening in the frame part, wherein the magnetic force is insufficient to draw the pin out of the opening as a result of the frictional force between pin and opening generated by the spring acting on the locking element
10 and that a mechanical shift of the locking element is required so as to eliminate this frictional force.

5. A packing according to claim 4,
characterized in that an opening is provided in the locking mechanism in which a pin can be stuck so as to
15 generate the mechanical shift.

6. A packing according to claim 5,
characterized in that the pin and the opening have a profile mutually adapted to each other.