

"Container for recording media"

The invention relates to a container for recording media.

Containers for recording media, such as audio tape
5 cassettes, compact discs, or the like, are known, in
which one or more slide members are arranged in a
housing that is open at one end. Each slide member is
able to accommodate one of these recording media and
can be pushed into the housing against an elastic
10 force. The slide member is held in the pushed-in
position by means of a locking member, with a front
panel of the slide member flush with the housing
opening and closing it off. Actuation of an unlocking
button causes the slide member to be moved into the
15 removal position by the elastic force, pins that are
arranged on the sides of the slide member being movable
in longitudinal guides as far as a stop or stops which
define the removal position.

It is frequently considered to be a disadvantage
20 of those known containers that the slide members are
moved into the removal position at high speed, so that
the lateral pins strike their stops at a correspond-
ingly high speed. The sudden braking in the removal
position causes vibrations and associated undesired
25 noises.

The invention provides a container for recording
media, such as magnetic tape cassettes, records, video

discs, or compact discs, having a housing that is open at a front end and having at least one slide member for accommodating such a recording medium and movable forwards into a removal position projecting from the housing by means of elastic force, which slide member rests on longitudinal ribs or similar bearing members in the housing and engages by means of pins that project laterally from the slide member in longitudinal guides formed on side walls of the housing, which longitudinal guides have in at least one portion of their length a guide surface sloping obliquely to the longitudinal direction of the guides and bearing members, along each of which a said pin slides as the slide member approaches the removal position, and which so deflects the pins from the forward direction of movement as to press the slide member against the bearing members.

The elastic force that acts on the back of the slide member in the longitudinal direction thus produces, in the region of the sloping guide surface, a force that is directed towards the bearing members of the slide member. As a result of the friction between the bearing members and the slide member, braking of the slide member before it reaches the removal position can be achieved. The smaller the slope of the guide surfaces, the more gentle the braking of the slide member before it reaches the stop.

Advantageously, two pins, which are arranged one

behind the other at a distance from one another,
project from each side of the or each slide member, and
as the slide member approaches the removal position
both pins on either side, and preferably all four pins,
5 are deflected equally from the longitudinal direction
along sloping guide surface. The slide member is then
displaced vertically, while remaining at least
approximately parallel its previous orientation,
shortly before reaching the removal position, and is
10 thus pressed evenly against the rails, ribs, or the
like forming the members, as a result of which an even
distribution of forces can be obtained.

The longitudinal guides may be in the form of
slots or grooves, the upper and/or lower edges of which
15 form the sloping guide surfaces. The guide surfaces may
be in the form of straight slopes, having uniform
inclination, or in the form of curves.

The stop defining the removal position may be
arranged to engage one or more of the pins, and the
20 sloping guide surfaces on the longitudinal guides are
preferably arranged in front of the stop in such a
manner that the associated pin does not come to a
standstill before it reaches the stop. The pin is thus
preferably still travelling, although only at low
25 speed, as it strikes the stop, so that there is a
defined removal position even when the sloping guide
surfaces are used.

Various forms of container constructed in

accordance with the invention will now be described by way of example accompanying drawings, in which:

Figure 1 is a perspective view of a first form of container for recording media;

5 Figure 2 is a side elevation view of part of the container shown in Figure 1;

Figure 3 is a section along the line A-B in Figure 2;

Figure 4 is a view similar to Figure 2 of a second
10 form of container, with the slide member in a removal position;

Figure 5 is a view similar to Figure 2 of a third form of container, with the slide member omitted; and

Figure 6 is a plan view of part of the slide
15 member of the fourth form of container.

Referring to the drawings, and initially to Figure 1, one form of container according to the invention comprises a housing 2 and three slide members 3, 4, and 5 mounted one above the other within the housing. The
20 middle slide member 4 is shown in the removal position. Its front portion 6 is bent or pivoted downwards so that a compact disc 7 located in the slide member can easily be removed. Each of the slide members 3 to 5 has lateral pins 8 near the rear of the slide member and
25 lateral pins 9 midway along the slide member, which pins engage in longitudinal guides 10, which are here in the form of cutouts or slots in the side walls of the housing 2. The longitudinal guides 10 have sloping

guide surfaces 11 and 12 against which the pins 8 and 9, respectively, come to rest shortly before the removal position is reached. The sloping guide surfaces 11 are constituted by downward and rearward facing
5 surfaces of downward projections from the upper sides of the slots 10 midway along the slots. The guide surfaces 12 cut off the upper corners of the front ends of the slots 10. The pins 8 and 9 are pressed downwards by the guide surfaces 11 and 12. When the removal
10 position is reached, each of the forward pins 9 abuts a stop 13 formed by the front end of the respective slot 10.

Figure 2 shows to a larger scale than Figure 1 one of the longitudinal guides 10 having sloping surfaces
15 11 and 12 and the stop 13.

The cross-section shown in Figure 3 is taken in a plane that passes through the projections defining the sloping surfaces 11 and 12 but lies within the longitudinal guide slot 10 along the rest of its length. Two
20 different pins 8 and 9 projecting laterally from the slide member 3 engage in the longitudinal guide 10. The slide member 3 rests on a bearing member 14 which runs beneath the longitudinal guide 10 and which is a rib formed on the inside of the housing 2. Corres-
25 ponding longitudinal guides and corresponding bearing members, which are associated with each of the slide members 3 to 5, are located on the opposite side of the housing 2, not shown here.

The front face of the pin 9 is flat and projects perpendicularly from the side of the slide member to match the vertical stop face of the stop 13, against which it rests in the removal position. The pin 9 is wedge-shaped, tapering away completely at its rear edge. The pin 8 is cylindrical. Before the removal position is reached, the pins 8 and 9 come into contact with the associated guide surfaces 11 and 12, as a result of which the slide member 3 is pressed downwards against the bearing members 14 while remaining substantially parallel to the bearing members. The friction thereby produced brakes the slide member, so that the pin 9 does not strike the stop 13 at full force.

15 In Figures 4 and 5 there are shown two different forms of sloping guide surfaces. In Figure 4, as in Figures 1 to 3, the guide surfaces have constant inclination, and there are provided beneath the sloping guide surfaces 11 and 12 cutouts 17 and 18, respectively, which allow the pins 8 and 9 to move downwards unhindered, so that the vertical pressing of the slide member 3 against the bearing member 14 is not impeded.

25 In the form of container shown in Figure 5, both the guide surfaces and the cutouts beneath them are formed by curved surfaces 15 and 16 that merge smoothly into the straight portions of the guide 10 to their rears.

The housing 2 and the slide members 3 to 5 are preferably made, as are the bearing members 14 in the form of ribs, of a plastics material that is sufficiently resilient for gentle braking of the movement of the slide members to be achievable as a result of the slide members' pressing against the ribs before the removal position is reached, as is described above. The sloping guide surfaces may also slope upwards, contrary to what is shown in the drawing, provided that there are arranged above the slide members 3 to 5 support surfaces comparable to the bearing members 14, against which corresponding frictional braking of the slide members is possible.

Figure 6 shows a slide member 3 having a pin 19 that is resiliently deflectable sideways. The pin 19 is located at the end of a bridge 20 which projects in the plane of the side wall 21 of the slide member 3 over a cutout. The bridge 20, which is preferably made of plastics material, has sufficient resilience to allow the pin 19 to be deflected in resilient manner in the region of the guide surfaces 12. As a result, the frictional force produced before the stop is reached is limited and the slide member is held free from play in the removal position.



CLAIMS

1. A container for recording media, such as magnetic tape cassettes, records, video discs, or compact discs, having a housing that is open at a front
5 end and having at least one slide member for accommodating such a recording medium and movable forwards into a removal position projecting from the housing by means of elastic force, which slide member rests on longitudinal ribs or similar bearing members
10 in the housing and engages by means of pins that project laterally from the slide member in longitudinal guides formed on side walls of the housing, which longitudinal guides have in at least one portion of their length a guide surface sloping obliquely to the
15 longitudinal direction of the guides and bearing members, along each of which a said pin slides as the slide member approaches the removal position, and which so deflects the pins from the forward direction of movement as to press the slide member against the
20 bearing members.

2. A container as claimed in claim 1, wherein two said pins, which are arranged one behind the other at a distance from one another, project from each side of a slide member, and before the removal position is
25 reached both pins are deflected equally towards the bearing members along respective sloping guide surfaces.

3. A container as claimed in claim 1 or claim 2,

wherein the longitudinal guides are in the form of slots or grooves the upper and/or lower edges of which form the sloping guide surfaces.

4. A container as claimed in any one of claims 1
5 to 3, wherein the sloping guide surfaces are in the form of slopes having uniform inclination.

5. A container as claimed in any one of claims 1 to 3, wherein the sloping guide surfaces are curved.

6. A container as claimed in any one of claims 1
10 to 5, wherein front ends of the longitudinal guides form stops against which respective ones of the said pins rest in the removal position, limiting the forward movement of the slide member.

7. A container as claimed in any one of claims 1
15 to 6, wherein the pins are so mounted on the slide member as to be resiliently deflectable.

8. A container for recording media, such as magnetic tape cassettes, records, video discs, and compact discs, having a housing that is open at a front
20 end and having at least one slide member that accommodates the recording medium and is movable into a removal position by means of elastic force, which slide member rests on ribs or similar bearing members in the housing and engages by means of pins that project
25 laterally from the slide member in longitudinal guides formed on the lateral walls of the housing, wherein the longitudinal guides have in at least one portion a sloping guide surface along which a pin slides before



-10-

the removal position is reached and thereby presses the slide member against the bearing members.

9. A container as claimed in any one of claims 1 to 8, having a plurality of said slide members each of which can accommodate a respective recording medium and which are spaced apart in the direction perpendicular to the said longitudinal and lateral direction.

10. A container for recording media, substantially as hereinbefore described with reference to, and as shown in, Figures 1 to 3 of the accompanying drawings.

11. A container as claimed in claim 10, modified substantially as hereinbefore described with reference to, and as shown in, Figure 4 or Figure 5 of the accompanying drawings.

12. A container as claimed in claim 10 or claim 11, modified substantially as hereinbefore described with reference to, and as shown in, Figure 6 of the accompanying drawings.
