

- 1 -

fischerwerke
Artur Fischer GmbH & Co. KG
W-7244 Waldachtal 3/Tumlingen

P 3129

14th July, 1993

Cassette holder with clamping means.

The invention relates to a cassette holder with clamping means, according to the preamble of claim 1.

Containers having cassette holders for storing magnetic tape cassettes are known in which the magnetic tape cassettes are held by a slider which can be inserted against the force of a spring into the container and can be locked there in a storage position. By pressing the magnetic tape cassette again, the locking means is released, so that the spring pushes the slider and the magnetic tape cassette placed thereon forwards into a removal position. In the removal position, the magnetic tape cassette can be removed by hand. Such a cassette holder and a container for storing magnetic tape cassettes are known from European Patent 0 538 585 A2.

Should such a cassette holder be used, for example in a motor vehicle, then the vibrations occurring during travel can lead to undesirable rattling noises. For that reason, clamping means which clamp the magnetic tape cassettes located in the storage position firmly in the cassette holder can be provided.

The invention is based on the problem of producing a cassette holder with clamping means, in which the clamping means can be operated by the existing spring used for ejection of the magnetic tape cassettes.

This problem is solved by the features specified in claim 1. The spring acts on an actuating element

of the clamping means mounted on the slider so that in the storage position the spring force is able to act by means of this actuating element on the clamping element of the clamping means. In the removal position, the spring no longer presses against the actuating element, so that clamping of the magnetic tape cassette is disabled and the cassette can easily be removed. A wedge-shaped clamping member pivotally mounted on the slider, and which together with the slider forms a one-piece plastics part, is used as the clamping element. The actuating element is in this case a push rod, which presses the wedge-shaped clamping member laterally against the inserted magnetic tape cassette when the slider is in the storage position. The wedge-shaped clamping member can be embodied especially simply in this manner, the plastics material being sufficiently resilient to allow on the one hand a deflection of the wedge-shaped clamping member and on the other hand, in the removal position, automatic return of the wedge-shaped clamping member.

It is especially advantageous to use a torsion spring as the spring, which bears with one spring arm on the rear side of the cassette holder, whilst the other spring arm acts on the actuating element. Here, the spring arm acting on the actuating element projects beyond this element, so that its free end rests against the rear side of the slider. As a result, although in the removal position there is still a pressure force coming from the spring on the slider, the actuating element is located in a neutral position without being affected by a spring force.

The invention is explained in greater detail hereinafter with reference to an embodiment illustrated in the drawings, in which

Figure 1 shows a cassette holder, in which the slider is located in the removal position,

Figure 2 shows the cassette holder of Figure 1, but with the slider in the storage position, and

Figure 3 shows a container in which six cassette holders according to Figure 1 can be inserted.

The cassette holder illustrated in Figure 1 has a base plate 1 and a slider 2 displaceable in the longitudinal direction 3. The slider 2 is located in the removal position in which a magnetic tape cassette 4 held in the slider 2 projects at the front side 5.

On the slider 2 there is a clamping means, consisting of a push rod 6 and a wedge-shaped clamping member 7. The push rod forms the actuating element of the clamping means, whilst the wedge-shaped clamping member 7 represents the clamping element of the clamping means. A spring 8 in the form of a torsion spring acts on the rear end of the push rod 6. At the rear, the spring 8 is secured with one of its two spring arms 9, 10 to a rear wall 11, whilst the other spring arm engages through a receiving part 12 of the push rod 6. The free end 13 of the spring arm 10 lies against the rear side 14 (not visible here) of the slider 2.

In Figure 1, the push rod 6 is located in a neutral position, so that its front end 15 does not come into contact with the wedge-shaped clamping member 7. The wedge-shaped clamping member 7 is thus also in a neutral position, so that the magnetic tape cassette 4 can be removed unhindered from the slider 2 in the direction of arrow 16 or reinserted again in the reverse direction.

In Figure 2, the magnetic tape cassette 4, and consequently also the slider 2, are in the storage position. The slider 2 is in this position locked in a locking arrangement 17 (Figure 1). In this position, the spring arm 10 presses the push rod 6 forwards against the wedge-shaped clamping member 7, which thus is pressed at its bevelled surface 18 by the front end 15 of the push rod 6 against the upper side 19 of the magnetic tape cassette 4. The push rod 6 is guided in a longitudinal channel 20 of the slider 2. In Figure 2 it is clear that the receiving part 12 projecting from the rear of the push rod projects only slightly from the rear side of the slider 2.

Multiples of the cassette holder shown in Figure 1 and Figure 2 can be used in a container 21, which is illustrated in Figure 3. The container 21 has altogether six receiving compartments 22, each of which is able to accommodate a cassette holder. The magnetic tape cassette 44' illustrated in Figure 3 is located in the removal position, as also illustrated in Figure 1. Through insertion of the magnetic tape cassette 44, it reaches the storage position, in which the slider 2 (Figure 2) is locked by means of the locking arrangement 17 (Figure 1). By renewed brief pressure on the magnetic tape cassette 44, the locking arrangement 17 is unlocked again and the magnetic tape cassette 44 is pushed out into the removal position by the spring 8.

In the embodiment illustrated in Figure 1 and Figure 2, the slider 2, together with the wedge-shaped clamping member 7, is in the form of a one-piece plastics part. A U-shaped aperture 23 surrounds the wedge-shaped clamping member 7, so that this is resiliently pivotable.



- 5 -

fischerwerke
Artur Fischer GmbH & Co. KG
W-7244 Waldachtal 3/Tumlingen



P 3129

14th July, 1993

Patent Claims

1. A cassette holder with clamping means, which has a slider that is arranged to be pushed back on a base plate into a storage position against the force of a spring, which slider receives a magnetic tape cassette or similar sound recording medium and which is arranged to be locked in the storage position, a clamping means clamping the magnetic tape cassette firmly in the storage position to avoid rattling noises when vibrations occur, characterized in that the spring (8) acts on an actuating element (6) of the clamping means mounted on the slider (2), and in the storage position the actuating element (6) presses against a clamping element (7) resting laterally against the inserted magnetic tape cassette (4).

2. A cassette holder according to claim 1, characterized in that the actuating element is a push rod (6) running in the direction of travel of the slider (2), which push rod is displaceable towards a wedge-shaped clamping member (7) forming the clamping element and arranged transversely on the slider (2) and pivotable towards the magnetic tape cassette (4).

3. A cassette holder according to claim 2, characterized in that the wedge-shaped clamping member (7), together with the slider (2), forms a one-piece plastics part and the wedge-shaped clamping member (7) is surrounded by a U-shaped aperture.

This Sheet Has Been Replaced



- 6 -

4. A cassette holder according to one of the preceding claims, characterized in that the actuating element (7)¹ is guided in a longitudinal channel (20) of the slider (2) and projects at the rear side (14) thereof with a receiving part for the spring (8).

5. A cassette holder according to one of the preceding claims, characterized in that, as the spring (8), a torsion spring bears with one spring arm (9) on the rear side of the cassette holder and with its other spring arm (10) bears on the actuating element (6), the free end (13) of the other spring arm (10) projecting beyond the actuating element (6) and resting against the rear side (14) of the slider (2).

6. A cassette holder according to one of the preceding claims, characterized in that in the removal position of the slider (2) the actuating element (6) releases the clamping element (7) so that the latter is located in a neutral position.

¹. Presumably in error for 6 - translator.

THIS SHEET HAS BEEN
REPLACED

FIG. 1

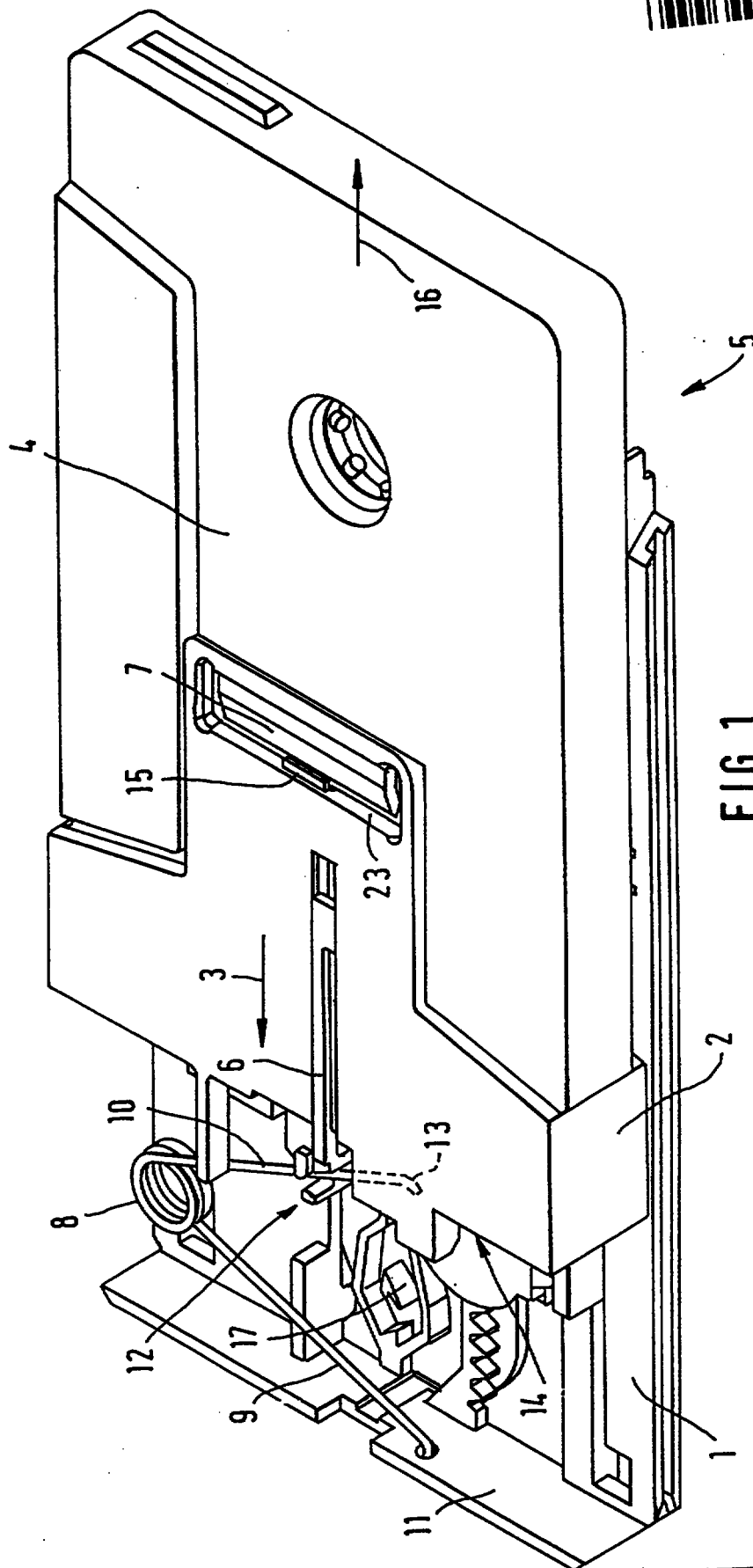


FIG. 1





FIG. 2



FIG. 3

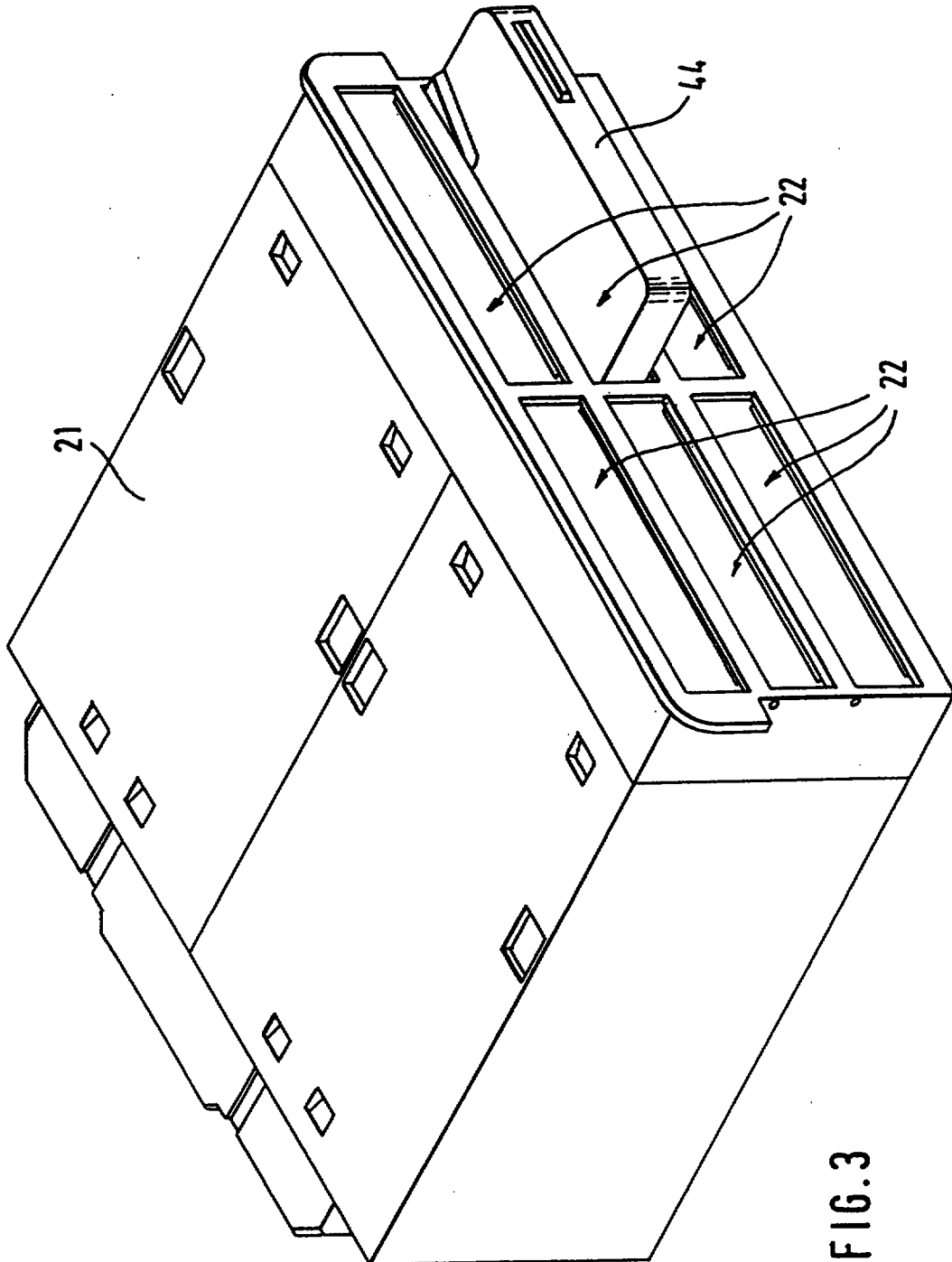


FIG. 3

This Sheet Has Been Replaced



fischerwerke
Artur Fischer GmbH & Co. KG
W-7244 Waldachtal 3/Tumlingen

P 3129

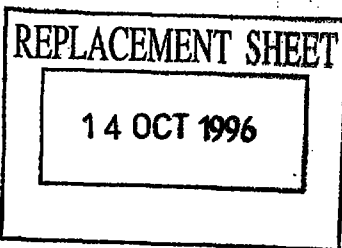
14th July, 1993

Abstract

A cassette holder with a clamping means is proposed, in which the clamping means consists of a push rod (6) and a wedge-shaped clamping member (7). The clamping means is arranged on a slider (2) which, together with a magnetic tape cassette (4) positioned on the slider (2), can be inserted into a rest position against the force of a spring (8). The spring (8) also acts on the push rod (6) of the clamping means and presses the wedge-shaped clamping member (7) against the magnetic tape cassette (4) in the storage position. In the removal position, the clamping means is not effective. (Figure 1).

P-68410 80

THIS SHEET HAS BEEN
REPLACED



14
Substitute Sheet - 11 October 1996



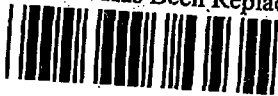
- 6 -

4. A cassette holder according to one of the preceding claims, characterized in that the actuating element (7) is guided in a longitudinal channel (20) of the slider (2) and projects at the rear side (14) thereof with a receiving part for the spring (8).

5. A cassette holder according to one of the preceding claims, characterized in that, as the spring (8), a torsion spring bears with one spring arm (9) on the rear side of the cassette holder and with its other spring arm (10) bears on the actuating element (6), the free end (13) of the other spring arm (10) projecting beyond the actuating element (6) and resting against the rear side (14) of the slider (2).

6. A cassette holder according to one of the preceding claims, characterized in that in the removal position of the slider (2) the actuating element (6) releases the clamping element (7) so that the latter is located in a neutral position.

This Sheet Has Been Replaced



THIS SHEET HAS BEEN
REPLACED

REPLACEMENT SHEET

14 OCT 1996

Substitute sheet - 11 October 1996

1 / 3

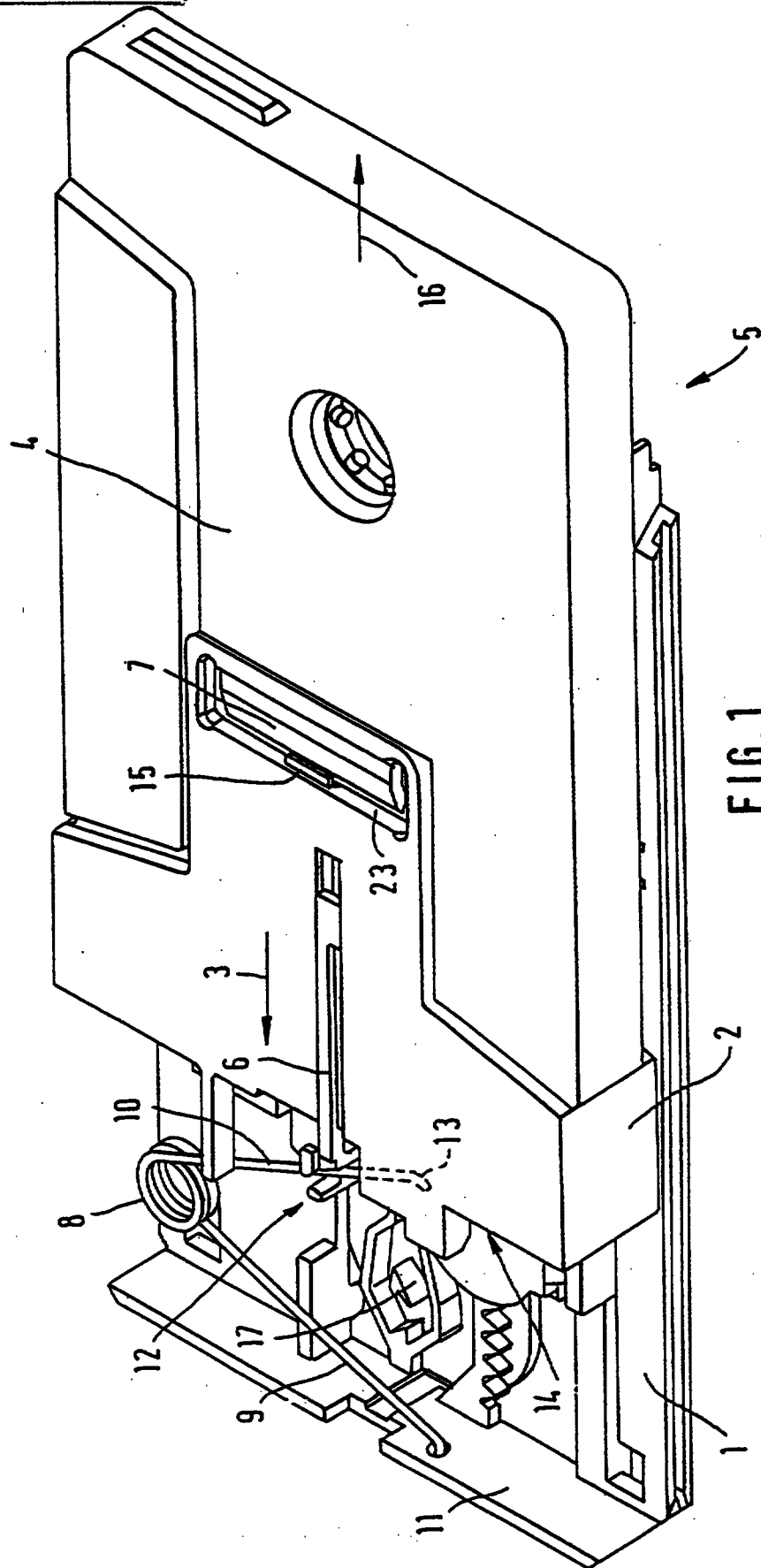


FIG. 1

2 / 3

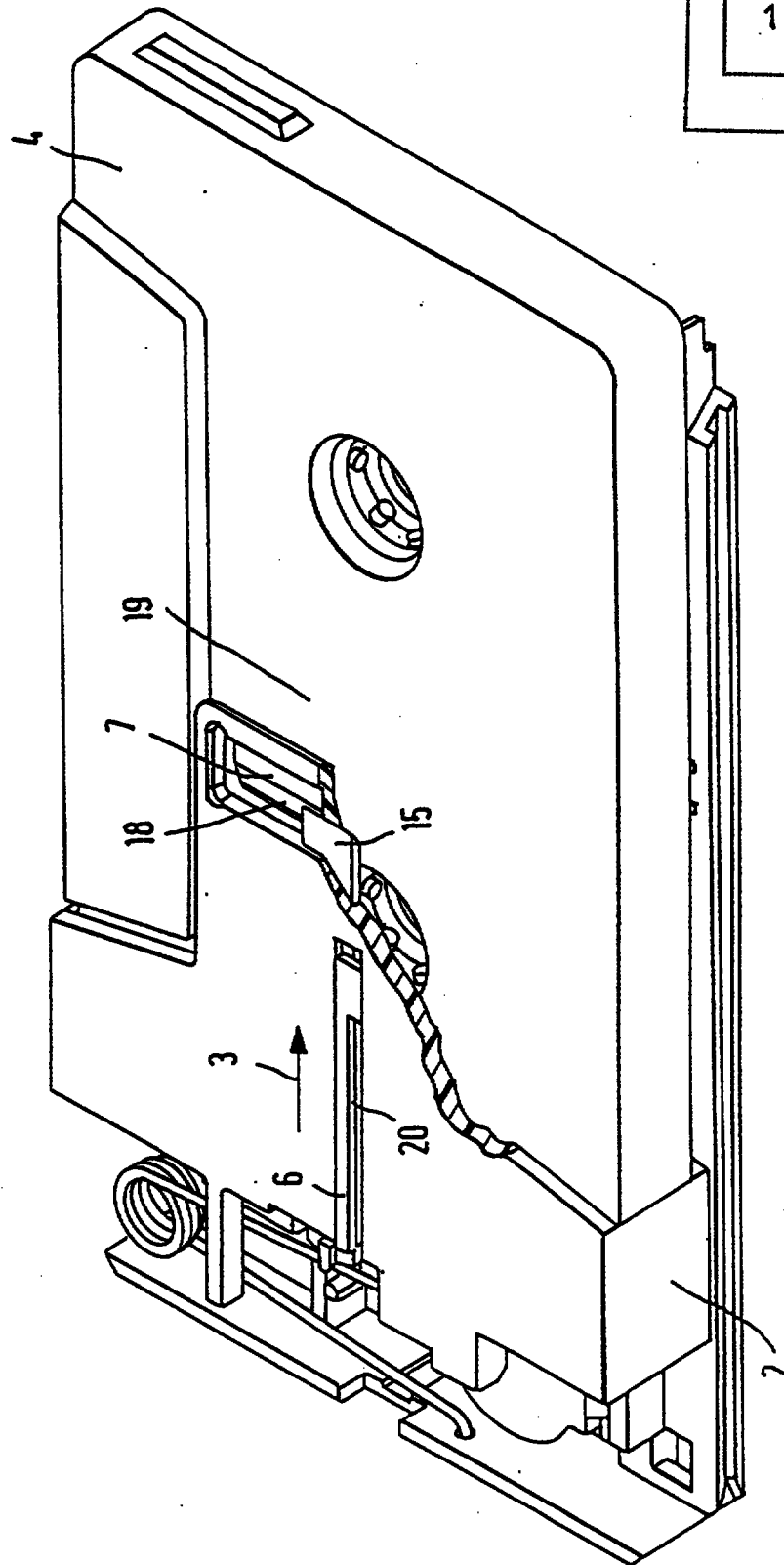
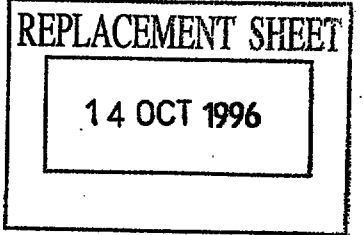


FIG. 2

3 / 3

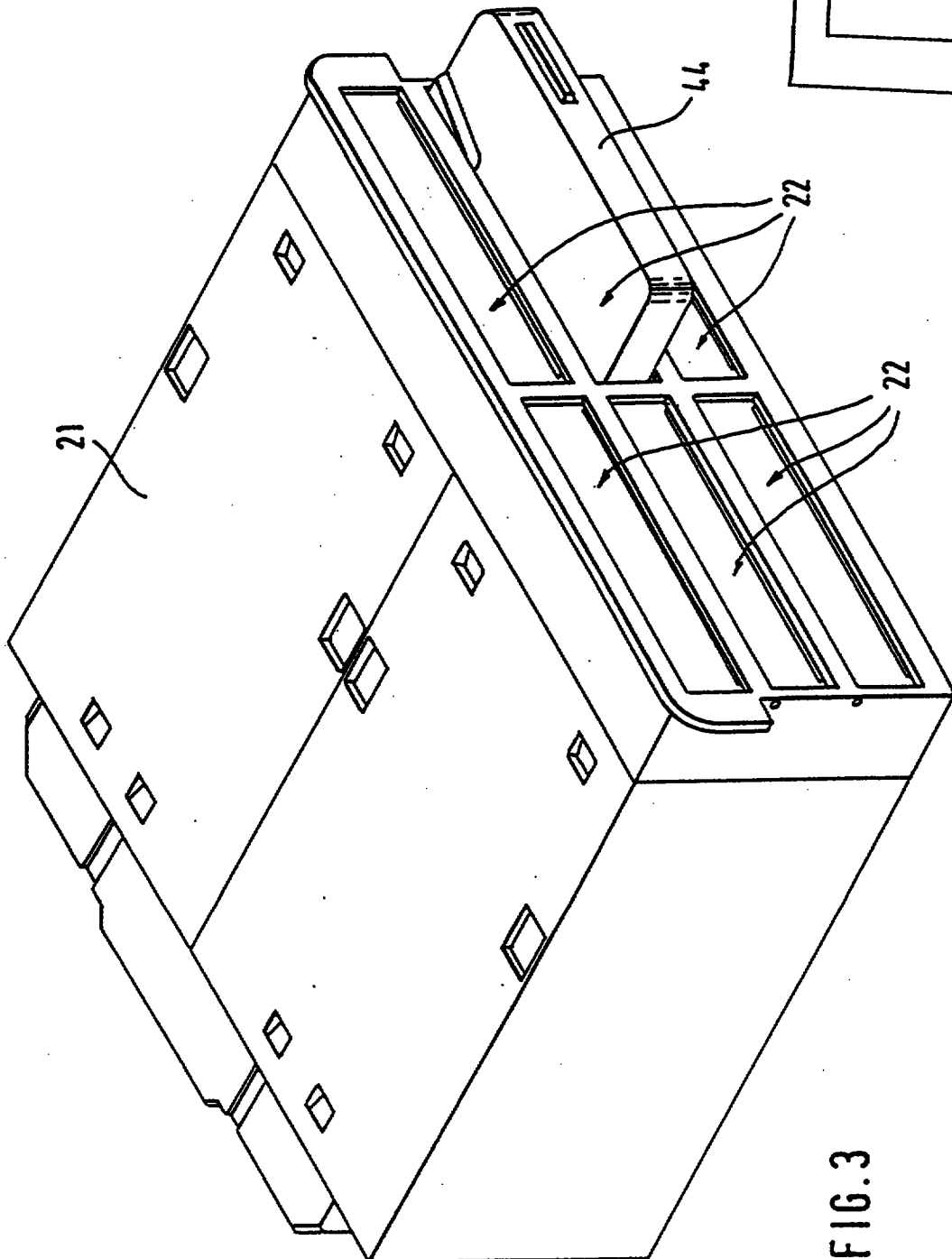
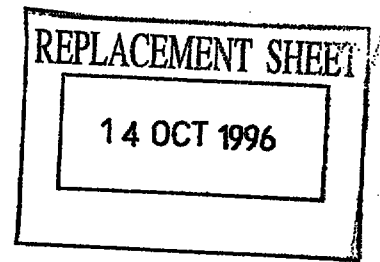


FIG. 3

This Sheet Has Been Replaced



REPLACEMENT SHEET

14 OCT 1996

Abstract

Cassette holder with clamping means.

A cassette holder with a clamping means is proposed, in which the clamping means consists of a push rod (6) and a wedge-shaped clamping member (7). The clamping means is arranged on a slider (2) which, together with a magnetic tape cassette (4) positioned on the slider (2), can be inserted into a rest position against the force of a spring (8). The spring (8) also acts on the push rod (6) of the clamping means and presses the wedge-shaped clamping member (7) against the magnetic tape cassette (4) in the storage position. In the removal position, the clamping means is not effective.

(Please note that Figure 1 should accompany the abstract when published)

-7-

REPLACEMENT SHEET

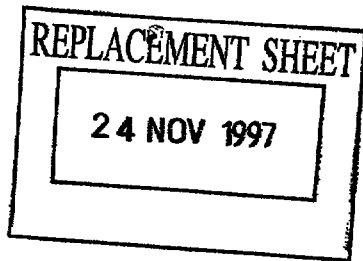
24 FEB 1997

CASSETTE HOLDER WITH CLAMPING MEANS

Abstract

A cassette holder with a clamping means is proposed, in which the clamping means consists of a push rod (6) and a wedge-shaped clamping member (7). The clamping means is arranged on a slider (2) which, together with a magnetic tape cassette (4) positioned on the slider (2), can be inserted into a rest position against the force of a spring (8). The spring (8) also acts on the push rod (6) of the clamping means and presses the wedge-shaped clamping member (7) against the magnetic tape cassette (4) in the storage position. In the removal position, the clamping means is not effective. (Figure 1).

3-2241069



- 5 -

Substitute Sheet

- 21 November 1997 -

24

Patent Claims



1. A holder for a sound recording medium housing comprising a base plate (1); a slider (2) mounted on said base plate (1) so as to be movable between a storage position and ^{La}removal position; releasable locking means (17) for releasably locking said slider (2) in said storage position; spring means (8) for urging said slider (2) from said storage position to said removal position; and clamping means for securing said sound recording medium housing on said slider (1) and for preventing rattling noise due to occurrence of motions including vibration, wherein said clamping means comprises a clamp element (7) on the slider (2), an actuating element (6) engageable with the clamp element (7) and means for pressing said actuating element (6) against said clamp element (7) to press said clamp element (7) against said sound recording medium housing on said slider and thus prevent said rattling noise, when said slider is in the storage position.

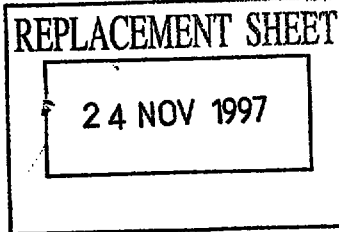
2. The holder according to claim 1, wherein said actuating element (6) comprises a push rod extending in a direction in which said slider (2) travels from said storage position to said removal position and said clamp element (7) is wedge-shaped, extends transversely across the slider (2) and is pivotably connected to said slider (2) so that when the push rod engages said clamp element said clamp element is pivoted to contact and press said sound recording medium housing on the slider (2).

3. The holder according to claim 2, wherein said clamp element (7) and said slider (2) are part of a one-

This Sheet Has Been Replaced



THIS SHEET HAS BEEN
REPLACED



Substitute Sheet
- 21 November 1997

- 6 -

piece plastic part, said plastic part is provided with a U-shaped aperture surrounding said clamp element (7) and said clamp element (7) is resiliently connected with said slider (2).

4. The holder according to claim 2, wherein the slider (2) is provided with a longitudinal groove (20) extending in said travel direction of said slider and the actuating element (6) is guided in said longitudinal groove (20) provided in the slider (2), projects from a rear side (14) of the slider (2) and said means for pressing said actuating element (6) against said clamp element (7) includes said spring means (8), said spring means (8) being engaged with said actuating element (6).

5. The holder according to claim 1, having a rear end and wherein said spring means (8) comprises a torsion spring having two spring arms (9,10), one (9) of said spring arms being secured at the rear end and another (10) of the spring arms having a free end (13) and bearing on the actuating element (6), the free end (13) projecting beyond the actuating element (6) and resting against a rear side (14) of the slider (2) so that said means for pressing said actuating element (6) against said clamp element (7) includes said spring means (8).

6. A holder according to claim 1, further comprising means for releasing said clamp element (7) from said sound recording medium housing when said slider (2) is in the removal position, said means for releasing including means for disengaging the actuating element (6)

This Sheet Has Been Replaced



THIS SHEET HAS BEEN
REPLACED

REPLACEMENT SHEET

24 NOV 1997



- 7 -

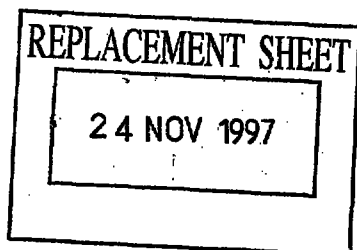
Substitute Sheet
- 21 November 1997

from the clamp element (7) when the slider (2) is in the removal position.

7. Container for a plurality of said sound recording medium housings comprising a plurality of said holders as defined by claim 1.

8. A holder for a sound recording medium housing comprising a base plate (1); a slider (2) mounted on said base plate (1) so as to be displaceable between a storage position and ^aremoval position; releasable locking means (17) for releasably locking said slider (2) in said storage position; spring means (8) for urging said slider (2) from said storage position to said removal position; and clamping means for securing said sound recording medium housing on said slider (1) to prevent rattling noise due to occurrence of motions including vibration, wherein said clamping means comprises a wedge-shaped clamp element (7) pivotally connected to the slider (2) and extending transversely across said slider (2), an actuating element (6) comprising a push rod extending in a travel direction of said slider (2) from said storage position to said removal position; and means for displacing said actuating element (6) relative to said slider (2) so as to engage said push rod with said clamp element (7) and for pressing said actuating element (6) against said clamp element (7) to pivot said clamp element (7) and press said clamp element (7) on said sound recording medium housing to secure said sound recording medium housing on said slider, thus preventing

This Sheet Has Been Replaced**THIS SHEET HAS BEEN
REPLACED**



- 8 -

Substitute Sheet
- 21 November 1997

said rattling noise, when said slider is in the storage position.

9. The holder according to claim 8, wherein said clamp element (7) and said slider (2) are part of a one-piece plastic part, said plastic part is provided with a U-shaped aperture surrounding said clamp element (7) and said clamp element (7) is resiliently connected with said slider (2).



10. The holder according to claim 8, wherein the slider (2) is provided with a longitudinal groove (20) extending in said travel direction of said slider, the actuating element (6) is guided in said longitudinal groove (20) provided in the slider (2), projects from a rear side (14) of the slider (2), said spring means (8) is engaged with said actuating element and said means for displacing said actuating element (6) and for pressing said actuating element against said clamp element (7) includes said spring means (8).

11. The holder according to claim 8 having a rear end and wherein said spring means (8) comprises a torsion spring having two spring arms (9,10), one (9) of said spring arms being fixed to said rear end and another (10) of the spring arms having a free end (13) and bearing on the actuating element (6), said free end (13) projecting beyond the actuating element (6) and resting against a rear side (14) of the slider (2) so that said means for

This Sheet Has Been Replaced



THIS SHEET HAS BEEN
REPLACED

REPLACEMENT SHEET

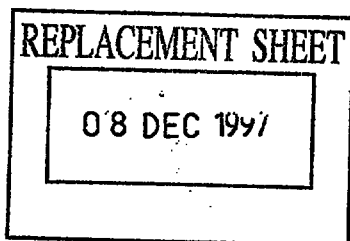
24 NOV 1997

- 9 -

Substitute Sheet21 November 1997

displacing said actuating element (6) and for pressing said actuating element (6) against said clamp element (7) includes said spring means (8).

**This Sheet Has Been Replaced****THIS SHEET HAS BEEN
REPLACED**

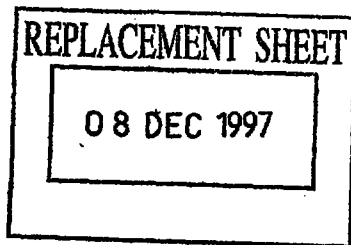


Substitute sheet - 5 December 1997

18

Claims

1. A chromium catalyst composition that comprises at least two chromium catalyst systems, wherein said chromium catalyst systems comprise chromium and a support, wherein the support comprises silica, wherein
 - (a) at least one of said chromium catalyst systems comprises chromium and a support, wherein the support consists essentially of silica and titania, and wherein the support has an average pore radius less than 8.5 nm (85 angstroms), and wherein the support has a pore volume less than 1.2 cm³ per gram, and wherein this chromium catalyst system is subjected to at least one of the following treatments (1) reduced and reoxidized, and (2) activated at a temperature greater than 700 °C;
 - (b) at least one of said chromium catalyst systems comprises chromium and a support, wherein the support consists essentially of silica, and wherein the support has an average pore radius greater than 8.5 nm (85 angstroms), and wherein the support has a pore volume greater than 1.5 cm³ per gram, and wherein this chromium catalyst system is subjected to at least one of the following treatments (1) activated at a temperature less than 700 °C, and (2) contacted with a fluorine compound.
2. The chromium catalyst composition of claim 1 wherein said silica-titania support has an average pore radius from 2.5 to 8.5 nm (25 to 85 angstroms), preferably from 3 to 8 nm (30 to 80 angstroms).



Substitute sheet - 5 December 1997

19



3. The chromium catalyst composition of claim 1 or 2 wherein said silica-titania support has a pore volume from 0.6 to 1.2 cm³ per gram, preferably from 0.8 to 1.15 cm³ per gram.
4. The chromium catalyst composition of any of claims 1 to 3 wherein said silica support has an average pore radius from 8.5 to 100 nm (85 to 1000 angstroms), preferably from 9 to 50 nm (90 to 500 angstroms).
5. The chromium catalyst composition of any of claims 1 to 4 wherein said silica support has a pore volume from 1.5 to 4 cm³ per gram, preferably from 1.5 to 3 cm³ per gram.
6. The chromium catalyst composition of any of claims 1 to 5 wherein said silica-titania support consists essentially of at least 80 weight percent silica and at least 0.1 weight percent titania, preferably at least 90 weight percent silica and at least 1 weight percent titania, where the weight percent is based on the weight of the support.
7. The chromium catalyst composition of any of the preceding claims wherein said chromium is present in said chromium catalyst systems in an amount from 0.1 to 5 weight percent.
8. A process of polymerizing at least one type of olefin with a chromium catalyst composition of any of the preceding claims.

REPLACEMENT SHEET**0 8 DEC 1997****Substitute sheet - 5 December 1997****20**

9. The process of claim 8 wherein said olefin is selected from ethylene, propylene, 1-butene, 3-methyl-1-butene, 1-pentene, 3-methyl-1-pentene, 4-methyl-1-pentene, 1-hexene, 3-ethyl-1-hexene, 1-octene, 1-decene, and mixtures of two or more said olefins.



10. The process of claim 8 or 9 wherein said olefin is ethylene and 1-hexene.