Description

The present invention relates generally to a tape cassette having tape-supply and take-up reels and means for locking those reels and, more particularly, is directed to a tape reel lock and release device of a tape cassette which can, when the tape cassette is not in use, prevent tape reels from being rotated unintentionally by engagement of engaging members formed on a reel locking member with gear portions of the tape reels.

In a tape cassette, if the tape reels provided within cassette halves are rotated while the cassette is not in use, the magnetic tape wound around the tape reels is slackened. The assignee of the present application has previously proposed a tape reel lock and release device which can prevent tape reels from being rotated inadvertently. This previously proposed tape reel lock and release device is disclosed, for example, in Japanese patent application number 62-78747.

An enlarged plan view forming figure 1 of the accompanying drawings illustrates an example of such tape reel lock and release device. As figure 1 shows, a reel locking member 4 having a pair of engaging members 3, 3 to be engaged with gear portions 2 of a tape reel 1 is spring-biased toward the tape reels 1 by a spring 9. Hinge portions 5 and 6 are each formed on the base portions and intermediate portions of the pair of engaging members 3 and 3. Further, a central rib 7 is formed protruding from a cassette half 8 at the position in which the engaging members 3 are engaged with the gear portions 2. This central rib 7 extends the engaging members 3, 3 toward the tape reels 1, causing the tape reels 1 and the engaging members 3 to be engaged with each other.

In this prior art tape reel lock and release device, however, the gear portions 2 and the engaging members 3 can be engaged positively to some extent. In this engagement, the engaging members 3, 3 push the tape reels 1 in the direction shown by arrows a in figure 1 such that the tape reels 1 are moved toward the tape eject opening side. There is then a risk that the magnetic tape (not shown) wound around the tape reels 1 will be slackened. If the magnetic tape is slackened as described above, when the tape cassette, for example, is ejected from a cassette loading portion of a video camera or the like, its lid portion will bite the magnetic tape.

Therefore, as shown in figures 2 to 4, the configuration of the central rib 7 which extends the engaging members 3, 3 may be modified, whereby while the reel locking member 4 is moved from its lock-released state shown in figure 2 to its locking completion state shown in figure 4, the engaging members 3, 3 come in contact with the central rib 7 as shown in figure 3, thus the engaging members 3, 3 being extended to be engaged with the gear portions 2. Thereafter, the reel locking member 4 is slid further such that the engaging members 3, 3 rotate the tape reels 1 in the tape slack absorbing direction shown by arrows b in figure 4. Thus, upon locking, the tape slack can be taken up.

When the reel locking member 4 is slid relative to the central rib 7 as described above, the pair of engaging members 3 and 3 formed at the top of the reel locking member 4 are provided with hinge portions 6 and 6 at their intermediate portions so that the engaging members 3 and 3 can be displaced at their hinge portions 6 and 6. Thus, when the engaging members 3 rotate the tape reels 1 in the tape slack absorbing directions b, the engaging members 3 are flexed at their hinge portions 6 formed at the intermediate positions thereof, so the tape reels 1 cannot be rotated sufficiently in the tape slack absorbing direction b.

Further, when the engaging members 3 rotate the tape reels 1 in the tape slack absorbing direction b, the engaging members 3 push the tape reels 1 in the direction shown by arrows c in figure 4 with the result that their pushing forces weaken, swinging the engaging members 3 in the direction shown by arrows e in figure 5. There is then a risk that the engaging members 3 will come off from the gear portions 2 of the tape reels 1. Consequently, the tape reels 1 cannot be sufficiently prevented from being inadvertently rotated by the above-mentioned locking member 4.

Furthermore, since the hinge portions 6 are formed on the intermediate portions of the engaging members 3, when the engaging members 3 are handled as assembly parts and/or attached to the tape cassette or the engaging members 3 are left for a long period of time under the reel lock releasing condition after they are incorporated in the tape cassette, the engaging members 3 are frequently deformed so that the tape reels 1 cannot be positively prevented from being rotated.

US-A-4631619 discloses a tape reel lock and release device comprising:

a) gear portions formed around outer peripheries of a pair of tape reels rotatably provided within a cassette half of a cassette housing;

b) a tape reel locking member having a slider portion which is slidably spring-biased by spring-biasing means between said pair of tape reels within said cassette half in a reel locking direction and a pair of engaging members coupled to a top end of said slider portion to be engaged with said gear portions of said tape reels, said pair of engaging members being curved with the tip end of each engaging member being directed generally towards a respective gear portion; and

c) an extending operation member formed on and protruding from said cassette half so as to be located between said engaging members of said tape reel locking member and to enter, when said tape reel locking member is slidably moved in the reel locking direction, between said engaging members to extend said engaging members toward said gear portions of said tape reels.

The engaging members of the device of US-A-4631619 are rigidly attached to the top end of the slider portion. The bodies of the engaging members are however flexible. Whilst movement of the tape reel locking member in the reel locking direction carries the tips of the engaging members to engage the gear portions of the tape reels, the flexible nature of the engaging members can lead to the tape reels not being securely locked due to the propensity of the engaging members to flex under the compressive force of the spring urging the tape reel locking member in the tape reel locking direction, and/or rotation of the tape reels in a tape slack absorbing direction to deflect the tips of the engaging members together so that they slip out of engagement with the gear portions of the tape reels.

The present invention is characterised in that the engaging members are substantially rigid and are provided with hinge portions at their coupling to the top end of said slider portion, whereby initial movement of said tape reel locking member in the reel locking direction causes pivoting of the engaging members about their respective hinge portions to bring their tip portions into engagement with the gear portions of their respective tape reels so as to prevent inadvertent rotation of said tape reels and subsequent movement of said tape reel locking member in said reel locking direction causes the engaging members to rotate their respective tape reels in a tape slack absorbing direction.

The present invention will become apparent from the following detailed description of the preferred embodiments to be taken in conjunction with the accompanying drawings, in which like reference numerals identify like elements and parts. In the drawings:-

Figure 1 is an enlarged, plan view illustrating a main portion of a prior art tape reel lock and release device;

Figures 2 to 5 are enlarged, plan views of a main portion of an example of a modified prior art tape reel lock and release device, respectively, wherein;

Figure 2 illustrates the lock released condition;

Figure 3 illustrates the condition that the locking operation is now being done;

Figure 4 illustrates the condition that the locking operation is just finished; and

Figure 5 illustrates the condition that the engaging member is disengaged from a gear portion of a tape reel;

Figure 6 is a partly cut-away plan view of a tape cassette to which the present invention is applied;

Figures 7 to 9 are enlarged, plan views of a main portion of an embodiment of a tape reel lock and release device according to the present invention, respectively, wherein;

Figure 7 illustrates the lock released condition'

Figure 8 illustrates the condition that the locking operation is now being done;

Figure 9 illustrates the condition that the locking operation is just finished;

Figure 10 is an exploded, perspective view of a main portion of the tape reel lock and release device according to the present invention; and

Figures 11 and 12 are plan views illustrating examples of modified tape reel locking members used in the present invention; and

Figures 11 and 12 are plan views illustrating examples of modified tape reel locking members used in the present invention, respectively.

The present invention will now be described with reference to the attached drawings.

A partly cut-away plan view forming figure 6 illustrates a tape cassette for use in a so-called 8 mm video camera to which an embodiment of a tape reel lock and release device according to the present invention is applied.

As figure 6 shows, in this tape cassette, an upper half 11 and a lower half 12 each made of a synthetic resin are combined together to form a cassette housing 10 by some suitable means such as screws (not shown) and the like. A pair of tape reels 13 around which a magnetic tape T is wound are rotatably provided within the cassette housing 10.

The magnetic tape T wound around the tape reels 13 is extended along a front opening portion 14 of the cassette housing 10 and pinched by lid members (not shown) at the inside of a front lid 15. Thus, when this tape cassette is loaded on a cassette loading portion of a video camera or the like though not shown, the front lid 15 and the lid members are moved upward to withdraw the magnetic tape T.

This cassette housing 10 incorporates therein a tape reel lock and release device 20 of which the main portion is illustrated in figures 6 to 10. The arrangement of this tape reel lock and release device 20 will be described with reference to figures 6 to 10.

Referring to the figures, gear portions 21 are formed on the outer peripheries of the pair of tape reels 13 that are rotatably provided within the upper and lower halves 11 and 12 of the cassette

housing 10.

A reel locking member 22 is located between the pair of tape reels 13 so as to be engaged with the gear portions 21.

As shown, for example, in figure 7, the above mentioned reel locking member 22 is spring-biased by a spring 23 in the direction in which it is engaged with the gear portions 21 of the tape reels 13 and, this reel locking member 22 is supported between guide walls 24 so as to become freely slidable.

Specifically, the reel locking member 22 is comprised of a slider portion 25 slidably provided between the guide walls 24 and a pair of engaging members 26, 26 that are mounted on the top of the slider portion 25 so as to be engaged with the gear portions 21 of the tape reels 13, respectively. The engaging members 26 and 26 are curved in substantially C-letter configuration at their intermediate curved portions 26a so that their top portions form engaging nails 27, respectively. Hinge portions 28 are respectively formed at the base portions of the engaging members 26 and 26 so as to be displaced in the direction in which they approach each other. The engaging members 26 are coupled to the slider portion 25 via these hinge portions 28. The curved portions 26a of the engaging members 26 are formed slightly thick in order to come in contact with an extending operation member 29 which will be described later. It is also possible that slightly thin portions 26b may be formed on the outside of the curved portions 26a to allow the engaging members 26 to function as limiters.

Near the top portions of the guide walls 24 which slidably support the tape reel locking member 22, the extending operation member 29 is formed protruding from the lower half 12 so as to oppose the engaging nails 27, 27 of the tape reel locking member 22. This extending operation member 29 advances, when the tape reel locking member 22 is slidably moved in the reel locking direction, between the engaging members 26 and 26 to extend the engaging members 26 and 26 toward the gear portions 21 of the tape reels 13, whereby the engaging nails 27 are engaged with the gear portions 21, thus the tape reels 13 being prevented from being rotated.

As shown in figure 10, a step portion 30 is formed on the lower half 12 at the sliding position of the tape reel locking member 22, whereby the engaging nails 27 of the tape reel locking member 22 can be positively engaged with the gear portions 21 of the tape reels 13.

The thus constructed tape reel locking member 22 can prevent, during non-use of the tape cassette, the tape reels 13 from being rotated inadvertently as follows.

During use of the tape cassette, as shown in figure 7, a lock release pin (not shown) provided on the cassette loading mechanism of, for example, a video camera enters this cassette housing 10 through an entrance 32 (see figure 10) to bias the tape reel locking member 22 against the spring force of the spring 23, allowing the tape reels 13 to rotate. At that time, the engaging members 26 of the tape reel locking member 22 are displaced by stoppers 31 formed on the top portions of the guide walls 24 such that they approach each other.

In the unloading operation for unloading the tape cassette from the cassette loading mechanism or the like from this condition, the tape reel locking member 22 thus spring-biased by the lock release pin (not shown) is released.

When the tape reel locking member 22 is released from its biased state by the lock release pin, the tape reel locking member 22 is slidably moved between the guide walls 24 in the locking direction of the tape reels 13 by the spring-biasing force of the spring 23.

At that time, as shown in figure 8, while the tape reel locking member 22 is being slid, the extending operation member 29 comes in contact with the curved portions 26a of the engaging members 26 coupled to the top portion of the tape reel locking member 22 and then advances between the engaging members 26 to extend the engaging members 26, thus causing the engaging nails 27 formed on the top portions of the engaging members 26 to be engaged with the gear portions 21 of the tape reels 13, respectively.

When the tape reel locking member 22 is further slid to the position of the stoppers 31 of the guide walls 24 under the condition that the engaging members 26 are engaged with the gear portions 21 of the tape reels 13, the engagement between the engaging members 26 and the gear portions 21 slightly rotates the tape reels 13 in the direction in which the magnetic tape T is wound. Then, the reel locking operation is completed at the position shown in figure 9. The tape reels 13 are rotated in the magnetic tape rewinding direction, thus removing the slackening of the magnetic tape T.

Specifically, during the process where the tape reel locking member 22 is moved from the lock releasing state shown in figure 7 and the locking completion state shown in figure 9, the tape reel locking operation is carried out in former and latter steps. That is, in the former step, as shown in figure 8, the engaging members 26 come in contact with the extending operation member 29 to extend the engaging members 26, thus allowing the engaging nails 27 to be engaged with the gear portions 21 of the tape reels 13. In the latter step, the engaging members 26 rotate the tape reels 13

in the tape slack absorbing directions x.

According to the above mentioned tape reel locking member 22, while removing the slackening of the magnetic tape T, the tape reels 13 can be prevented from being rotated unintentionally during non-use. Since the slackening of the magnetic tape T can be removed in the locking operation of the tape reels 13 as described above, when the tape cassette is unloaded from the cassette loading mechanism of the video camera or the like, the front lid 15 and the lid members (not shown) can be prevented from biting the magnetic tape T. Also, upon loading the tape cassette, so-called tape jamming and the like can be prevented.

Further, in the tape reel locking operation, the engaging members 26 for avoiding the inadvertent rotation of the tape reels 13 can be prevented from being displaced at their intermediate portions so that the top portions of the engaging members 26 can be prevented from being swung, thus enabling the engaging nails 27 to be positively engaged with the gear portions 21 of the tape reels 13. At the same time, the tape reels 13 can be positively rotated in the tape slackening absorbing directions x shown in figure 8. Even after the tape reels 13 are rotated as described above, the above mentioned engagement between the engaging nails 27 and the gear portions 21 can be maintained positively by a sufficient pushing force.

Furthermore, the above engaging members 26 are not provided with the hinge portions at their intermediate portions so that even when the engaging members 26 are left for a long period of time under the tape reel lock released condition or the like, the engaging members 26 can be prevented from being deformed.

While the embodiment of the present invention is described as above, the present invention is not limited to the above embodiment but can take various modifications thereof on the basis of the technical idea of the present invention. As, for example, shown in figure 11, ribs 37 are formed on the curved portions of engaging members 36 of a tape reel locking members 35 thereby to reinforce the engaging members 36 such that they can be prevented from being displaced at their curved portions.

On the other hand, as shown in figure 12, engaging members 41 of a reel locking member 40 are formed thick from their curved portions 42 to their engaging nails 43 so as not to be displaced, while the engaging members 41 are formed thin from their curved portions 42 to their hinge portions formed on the base ends thereof so that the engaging members 41 function as a limiter which limits the rotation of the tape reels 13.

According to the present invention, as set forth above, after the tape reels are slightly rotated in the slackening absorbing direction of the magnetic tape by the tape reel locking member, the tape reels can be locked. Therefore, the tape reels can be locked positively without slackening the magnetic tape. Further, when the tape reels are locked by the tape reel locking member, the engaging members to be engaged with the tape reels can be prevented from being displaced at their intermediate portions so that the gear portions of the tape reels and the engaging nails can e engaged with each other by a sufficient pushing force. Accordingly, when the tape reels are rotated in the tape slackening absorbing directions by the engaging nails, the engaging nails can be prevented from being disengaged from the gear portions of the tape reels.

Therefore, according to the present invention, the tape slack can be avoided and the tape reels can be positively prevented from being rotated unintentionally upon non-use.

Claims

1. A tape reel lock and release device comprising:

   a) gear portions (21) formed around outer peripheries of a pair of tape reels (13) rotatably provided within a cassette half of a cassette housing;

   b) a tape reel locking member (22) having a slider portion which is slidably spring-biased by spring-biasing means (23) between said pair of tape reels (13) within said cassette half in a reel locking direction and a pair of engaging members (26) coupled to a top end of said slider portion (22) to be engaged with said gear portions (21) of said tape reels (13), said pair of engaging members being curved with the tip end (27) of each engaging member (26) being directed generally towards a respective gear portion; and

   c) an extending operation member (29) formed on and protruding from said cassette half so as to be located between said engaging members (26) of said tape reel locking member and to enter, when said tape reel locking member (22) is slidably moved in the reel locking direction, between said engaging members (26) to extend said engaging members (26) toward said gear portions (21) of said tape reels;

   d) characterised in that the engaging members (26) are substantially rigid and are provided with hinge portions at their coupling to the top end of said slider portion (22), whereby initial movement of said tape reel locking member (22) in the reel locking

in the tape slack absorbing directions x.

According to the above mentioned tape reel locking member 22, while removing the slackening of the magnetic tape T, the tape reels 13 can be prevented from being rotated unintentionally during non-use. Since the slackening of the magnetic tape T can be removed in the locking operation of the tape reels 13 as described above, when the tape cassette is unloaded from the cassette loading mechanism of the video camera or the like, the front lid 15 and the lid members (not shown) can be prevented from biting the magnetic tape T. Also, upon loading the tape cassette, so-called tape jamming and the like can be prevented.

Further, in the tape reel locking operation, the engaging members 26 for avoiding the inadvertent rotation of the tape reels 13 can be prevented from being displaced at their intermediate portions so that the top portions of the engaging members 26 can be prevented from being swung, thus enabling the engaging nails 27 to be positively engaged with the gear portions 21 of the tape reels 13. At the same time, the tape reels 13 can be positively rotated in the tape slackening absorbing directions x shown in figure 8. Even after the tape reels 13 are rotated as described above, the above mentioned engagement between the engaging nails 27 and the gear portions 21 can be maintained positively by a sufficient pushing force.

Furthermore, the above engaging members 26 are not provided with the hinge portions at their intermediate portions so that even when the engaging members 26 are left for a long period of time under the tape reel lock released condition or the like, the engaging members 26 can be prevented from being deformed.

While the embodiment of the present invention is described as above, the present invention is not limited to the above embodiment but can take various modifications thereof on the basis of the technical idea of the present invention. As, for example, shown in figure 11, ribs 37 are formed on the curved portions of engaging members 36 of a tape reel locking members 35 thereby to reinforce the engaging members 36 such that they can be prevented from being displaced at their curved portions.

On the other hand, as shown in figure 12, engaging members 41 of a reel locking member 40 are formed thick from their curved portions 42 to their engaging nails 43 so as not to be displaced, while the engaging members 41 are formed thin from their curved portions 42 to their hinge portions formed on the base ends thereof so that the engaging members 41 function as a limiter which limits the rotation of the tape reels 13.

According to the present invention, as set forth above, after the tape reels are slightly rotated in the slackening absorbing direction of the magnetic tape by the tape reel locking member, the tape reels can be locked. Therefore, the tape reels can be locked positively without slackening the magnetic tape. Further, when the tape reels are locked by the tape reel locking member, the engaging members to be engaged with the tape reels can be prevented from being displaced at their intermediate portions so that the gear portions of the tape reels and the engaging nails can e engaged with each other by a sufficient pushing force. Accordingly, when the tape reels are rotated in the tape slackening absorbing directions by the engaging nails, the engaging nails can be prevented from being disengaged from the gear portions of the tape reels.

Therefore, according to the present invention, the tape slack can be avoided and the tape reels can 'be positively prevented from being rotated unintentionally upon non-use.

Claims

1. A tape reel lock and release device comprising:

   a) gear portions (21) formed around outer peripheries of a pair of tape reels (13) rotatably provided within a cassette half of a cassette housing;

   b) a tape reel locking member (22) having a slider portion which is slidably spring-biased by spring-biasing means (23) between said pair of tape reels (13) within said cassette half in a reel locking direction and a pair of engaging members (26) coupled to a top end of said slider portion (22) to be engaged with said gear portions (21) of said tape reels (13), said pair of engaging members being curved with the tip end (27) of each engaging member (26) being directed generally towards a respective gear portion; and

   c) an extending operation member (29) formed on and protruding from said cassette half so as to be located between said engaging members (26) of said tape reel locking member and to enter, when said tape reel locking member (22) is slidably moved in the reel locking direction, between said engaging members (26) to extend said engaging members (26) toward said gear portions (21) of said tape reels;

   d) characterised in that the engaging members (26) are substantially rigid and are provided with hinge portions at their coupling to the top end of said slider portion (22), whereby initial movement of said tape reel locking member (22) in the reel locking

direction causes pivoting of the engaging members about their respective hinge portions to bring their tip portions into engagement with the gear portions of their respective tape reels so as to prevent inadvertent rotation of said tape reels and subsequent movement of said tape reel locking member (22) in said reel locking direction causes the engaging members (26) to rotate their respective tape reels in a tape slack absorbing direction.

2. A device as claimed in claim 1, in which each of said pair of engaging members (26) is thickly formed between an intermediate curved portion and its tip portion, and thinly formed between the intermediate curved portion and its hinge portion.

3. A device as claimed in claim 1 or 2, wherein reinforcing ribs (37) are formed near intermediate curved portions of said engaging members (26) so as to reinforce the engaging members (26) against displacement at said curved portions.

4. A device as claimed in any of the preceding claims, wherein said slider portion (22) is provided slidably between guide walls.

5. A device as claimed in claim 4, wherein stoppers (31) are formed on top portions of said guide walls, said stoppers being arranged to displace the engaging member together upon movement of said tape reel locking member (22) in a direction opposite to the tape reel locking direction.

6. A device as claimed in any of the preceding claims, wherein a step portion (30) is formed on a lower cassette half (12) at a sliding position of said tape reel locking member (22).

Patentansprüche

1. Bandspulen-Verriegelungs- und Löseeinrichtung, mit:
   a) Zahnradteilen (21), die rund um äußere Peripherien zweier Bandspulen (13) gebildet sind, die drehbar innerhalb einer Kassettenhälfte eines Kassettengehäuses angeordnet sind;
   b) einem Bandspulenverriegelungsteil (22), mit
      einem Gleiterteil, das durch Federvorspannmittel (23) federvorgespannt zwischen den beiden Bandspulen (13) innerhalb der Kassettenhälfte in einer Spulenverriegelungsrichtung gleiten kann, und
      zwei Eingreifteilen (26), die mit einem Kopfende des Gleiterteils (22) gekoppelt sind, die in die Zahnradteile (21) der Bandspulen (13) eingreifen können, wobei die beiden Eingreifteile am äußersten Ende (27) jedes Eingreifteils (26) abgebogen und allgemein in Richtung auf ein entsprechendes Zahnradteil gerichtet sind; und
   c) einem Erweiterungsfunktionsteil, das auf der Kassettenhälfte gebildet ist und aus dieser so herausragt, daß es zwischen den Eingreifteilen (26) des Bandspulenverriegelungsteils lokalisiert werden kann, und daß es, wenn das Bandspulenverriegelungsteil (22) gleitend in die Spulenverriegelungsrichtung bewegt wird, zwischen die Eingreifteile (26) eintritt, um die Eingreifteile (26) in Richtung auf die Zahnradteile (21) der Bandspulen auseinanderzudrücken; **dadurch gekennzeichnet,** daß
   d) die Eingreifteile (26) im wesentlichen steif sind und mit Scharnierteilen an ihrer Verbindungsstelle mit dem Kopfende des Gleiterteils (22) versehen sind, wodurch eine Anfangsbewegung des Bandspulenverriegelungsteils (22) in die Spulenverriegelungsrichtung eine Drehung der Eingreifteile um ihre jeweiligen Scharnierteile verursacht, um ihre äußersten Endteile so in Eingriff mit den Zahnradteilen der entsprechenden Bandspulen zu bringen, damit eine unbeabsichtigte Drehbewegung der Bandspulen verhindert werden kann, und wobei eine weitere Bewegung des Bandspulenverriegelungsteils (22) in die Spulenverriegelungsrichtung die Eingreifteile (26) veranlaßt, ihre entsprechenden Bandspulen in eine Richtung zu verdrehen, in der die Bandschlaffheit absorbiert wird.

2. Einrichtung nach Anspruch 1, bei der jedes der beiden Eingreifteile (26) zwischen einem abgebogenen Mittelteil und seinem äußersten Endteil dick und zwischen dem abgebogenen Mittelteil und seinem Scharnierteil dünn ausgebildet ist.

3. Einrichtung nach Anspruch 1 oder 2, wobei in der Nähe der abgebogenen Mittelteile der Eingreifteile (26) Verstärkungsrippen (37) gebildet sind, um so die Eingreifteile (26) gegen eine Verlagerung zu verstärken.

4. Einrichtung nach einem der vorherigen Ansprüche, wobei das Gleiterteil (22) zwischen Führungswänden gleitend angeordnet ist.

* C L M S *

5. Einrichtung nach Anspruch 4, wobei Zapfen (31) auf den Kopfteilen der Führungswände gebildet sind, wobei die Zapfen so angeordnet sind, daß sie das Eingreifteil bei einer Bewegung des Bandverriegelungsteils (22) in einer Richtung verlagern, die der Bandspulenverriegelungsrichtung entgegengesetzt ist.

6. Einrichtung nach einem der vorhergehenden Ansprüche, wobei ein Abstufungsbereich (30) auf einer unteren Kassettenhälfte (12) bei einer Gleitposition des Bandspulenverriegelungsteils (22) gebildet ist.

Revendications

1. Dispositif de verrouillage et de libération pour une bobine à bande, comprenant:
   a) des parties dentées (21) formées autour des périphéries extérieures d'une paire de bobines à bande (13) montées en rotation à l'intérieur d'une moitié d'un boîtier de cassette ;
   b) un élément de verrouillage de bobine (22) possédant une partie de coulisseau qui coulisse en étant repoussée par des moyens formant ressort (23) entre ladite paire de bobines (13) à l'intérieur de ladite moitié de cassette dans une direction de verrouillage des bobines, et une paire d'éléments d'engagement (26) accouplés à une extrémité supérieure de ladite partie de coulisseau (22) afin d'être engagés avec lesdites parties dentées (21) desdites bobines (13), ladite paire d'éléments d'engagement étant incurvées, l'extrémité (27) de chaque élément d'engagement (26) étant dirigée généralement en direction d'une partie dentée respective ; et
   c) un élément d'actionnement (29) formé sur ladite moitié de cassette et faisant saillie de celle-ci de manière à être situé entre lesdits éléments d'engagement (26) dudit élément de verrouillage de bobine, et à pénétrer, lorsque ledit élément de verrouillage de bobine (22) est déplacé en coulissement dans la direction de verrouillage, entre lesdits éléments d'engagement (26) afin d'écarter lesdits éléments d'engagement (26) en direction desdites parties dentées (21) desdites bobines à bande ;
   d) caractérisé en ce que les éléments d'engagement (26) sont sensiblement rigides, et en ce qu'ils sont pourvus de parties de charnières au niveau de leur accouplement avec l'extrémité supérieure de ladite partie de coulisseau (22), grâce à quoi le mouvement initial dudit élément de verrouillage de bobine (22) dans la direction de verrouillage des bobines provoque un pivotement des éléments d'engagement autour de leurs parties de charnières respectives afin d'amener leurs extrémités en engagement dans les parties dentées de leurs bobines respectives de manière à empêcher une rotation desdites bobines par inadvertance, et le mouvement ultérieur dudit élément de verrouillage de bobine (22) dans ladite direction de verrouillage amenant les éléments d'engagement (26) à faire tourner leurs bobines respectives dans une direction correspondant au retensionnement de la bande.

2. Dispositif selon la revendication 1, dans lequel chacun desdits éléments d'engagement (26) de ladite paire est formé de façon épaisse entre une partie incurvée intermédiaire et sa partie d'extrémité, et en ce qu'il est formé de façon mince entre la partie incurvée intermédiaire et sa partie de charnière.

3. Dispositif selon l'une ou l'autre des revendications 1 ou 2, dans lequel des nervures de renfort (37) sont formées au voisinage des parties incurvées intermédiaires desdits éléments d'engagement (26) de manière à renforcer les éléments d'engagement (26) à l'encontre d'un déplacement au niveau desdites parties incurvées.

4. Dispositif selon l'une quelconque des revendications précédentes, dans lequel ladite partie de coulisseau (22) est prévue en coulissement entre des parois guides.

5. Dispositif selon la revendication 4, dans lequel des butées (31) sont formées sur des parties supérieures desdites parois guides, lesdites butées étant agencées de manière à déplacer les éléments d'engagement l'un vers l'autre lors du déplacement dudit élément de verrouillage de bobine (22) dans une direction opposée à la direction de verrouillage.

6. Dispositif selon l'une quelconque des revendications précédentes, dans lequel une partie formant gradin (30) est formée sur une moitié inférieure de la cassette (12) au niveau d'une position de coulissement dudit élément de verrouillage de bobine (22).