

Description

BACKGROUND OF THE INVENTION

This invention relates to an auto-ejector of recording mediums incorporated in an apparatus for recording on and/or reproducing from the disk-like recording mediums, such as floppy disks or the like.

Description of the Prior Art

Disclosed in Japanese Patent Publication No. 61-208666 is an auto-ejector of the above-mentioned type. The auto-ejector is connected with a disk driving motor of the apparatus by a mechanism including a solenoid and the like when an ejection start signal is detected, so that a recording medium is ejected under the power of the disk driving motor. The solenoid and the like can be substituted by a motor.

In the above auto-ejector, a solenoid and the like, or a motor used only for driving the mechanism is necessary, though the disk driving motor of the apparatus is used also as a motor for ejecting the recording medium. Therefore, it is difficult to reduce the size and weight of the apparatus, and to lower the production cost of the apparatus.

OBJECTS AND SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide an auto-ejector which avoids the previously described disadvantages of the prior art.

More specifically, it is an object of this invention to provide an auto-ejector in which disk-like recording mediums are ejected only by the help of both a head driving motor and a disk driving motor which are requisite for the ordinary disk recording and/or reproducing apparatus, so that it is unnecessary to provide electromagnetic devices, motors or the like used only for the auto-ejector. Thus, it is easy to reduce the size and weight of the apparatus, and to lower the production cost of the apparatus.

A further object of the invention is to provide an auto-ejector which is forcibly disconnected from a disk driving motor at the time of ejection being finished under the power of a head driving motor. Therefore, change-over between an operation mode and a stop mode can be always surely effected, and reliability of the apparatus is very much increased.

In accordance with an aspect of this invention, there is provided an auto-ejector recording and/or reproducing apparatus, which has a disk driving motor for driving a turntable on which the disk-like recording medium is mounted, a head driving mo-

tor for driving a carrier, whereby record/playback heads are carried substantially in the radius direction of the disk-like recording medium mounted on the turntable, and ejection means for ejecting the disk-like recording medium from the apparatus, the auto-ejector comprising control means for causing the head driving motor to start, at an ejection start signal, to displace the heads beyond a record/playback range thereof, and characterized in that it further comprises transmission gear means for transmitting the power of the disk driving motor to the ejection means having a first position in which the ejecting means are uncoupled from the disk driving motor and a second position in which rotation of the disk driving motor causes the ejection means to eject the disk, and actuating means mechanically forced into action by movement of said carrier by the head driving motor when said heads are moved to a predetermined position beyond the recording/playback range thereof, and mechanically coupled to the transmission gear means to bring them from the first position into the second position by the force applied by said head driving motor via said actuating means.

The above and other objects, features and advantages of this invention, will be apparent in the following detailed description of an illustrative embodiment thereof which is to be read in connection with the accompanying drawings wherein like reference numerals identify the corresponding parts in the several views.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a schematic front view of disk driving means of a disk recording and/or reproducing apparatus to which an auto-ejector according to an embodiment of this invention is applied, the view showing actions of a disk cartridge which is mounted on and ejected from the disk driving means.

Figures 2 to 5 are plan views of the apparatus of Figure 1, the views showing in order each step of actions of the auto-ejector.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to the drawings in detail, and initially to Figure 2 thereof, it will be seen that the auto-ejector 16 to be described may be incorporated in a disk recording and/or reproducing apparatus 4.

A disk cartridge 2 indicated in chain-dotted lines in Figure 2, in which a disk-like recording medium 1, such as a floppy disk, is rotatably accommodated, is horizontally pushed into the apparatus 4 from the left side in Figure 2 as indicated by arrow a in Figure 1, and when the disk-like

recording medium (hereinafter described only as a disk) 1 reaches just over a turntable 5, is vertically lowered in a direction of arrow j by a disk loading mechanism (not shown) so as to horizontally mount the disk 1 on the turntable 5 as indicated in solid lines in Figure 1. Thereafter, a pair of upper and lower record/playback heads 6 are inserted into the disk cartridge 2 from above and below so as to be brought into contact with the upper and lower faces of the disk 1, respectively.

Then, a disk driving motor 7 is started, and by the turntable 5 driven by the motor 7 through a timing belt 8, the disk 1 is rotated in a direction of arrow b within the cartridge 2. Almost at the same time, the heads 6 mounted on a carrier 9 are moved within predetermined range I shown in Figure 2 in a direction of arrow c or c', that is, almost in the radius direction of the disk 1 by a head driving motor 10. Thus, selective recording on, or selective reproducing from the disk 1 is performed.

Incidentally, shown in Figure 2 is a head driving means of the type where the carrier 9 is moved in the direction of arrow c or c' through a needle 12, one end of which is fixed to the carrier 9, and the other end of which is fitted in the thread groove of a lead screw 11 driven by the head driving motor 10.

The auto-ejector 16 ejecting the disk 1 in a direction of arrow a' in Figure 1 works under the powers of the disk driving motor 7 and the head driving motor 10, which are started at an ejection start signal S1. As shown in Figure 2, the disk driving motor 7 drives a gear 17 in the direction of arrow b, the gear 17 being formed integrally with the turntable 5 at the lower end thereof, and the head driving motor 10, started at the ejection start signal S1 through a control circuit 51, puts a trigger means 19 in action.

That is, the head driving motor 10 moves the carrier 9 from the position shown in Figure 2 to the position shown in Figure 3, so as to displace the heads 6 located within the range I to a position P₂, the utmost limit of the disk 1 that is about 1 to 3 mm apart from a position P₁, an outer reference position (00 track), so that an engagement portion 18a projecting from the carrier 9 pushes a pin 19a provided at one end of the lever 19, which is made of synthetic resin.

Then, the lever 19 is swung on a fulcrum 20 in a direction of arrow d as shown in Figure 3, and an elastic arm 19b formed integrally with the lever 19 at the other end thereof pushes a pin 22a provided at one end of a lever 22, which is made of synthetic resin, so that the lever 22 is swung on a fulcrum 23 in a direction of arrow e. Thus, a gear 24 mounted on the lever 22 meshes with the gear 17.

As a result, rotation of the gear 17 driven by the disk driving motor 7 in the direction of arrow b is transmitted to a gear 28, which is made of synthetic resin and on which a cam 29 is integrally provided, through the gear 24 and a train of gears 25, so that the gear 28 is rotated in a direction of arrow f from a stopped position thereof shown in Figure 2.

As a result, the cam 29 abuts against a cam follower 31 provided in a slide plate 30 as shown in Figure 3, and the slide plate 30 is moved in a direction of arrow g against the force of tension coiled springs 32 from its backward position shown in Figure 2 to its forward position shown in Figure 3, and due to the movement of the slide plate 30, the disk cartridge 2 is vertically raised in a direction of arrow j' to a position indicated in chain-dotted lines in Figure 1 by the disk loading mechanism to make the disk 1 separate from the turntable 5.

Just before the slide plate 30 reaches the forward position, a locked portion 33a provided in a lever 33 and made of synthetic resin is disengaged from a locking portion 30a of the slide plate 30, so that the lever 33 is swung on a fulcrum 34 by a tension coiled spring 35 in a direction of arrow h from the position shown in Figure 2 to the position shown in Figure 3. Thus, the disk cartridge 2 is pushed in the direction of arrow a' and ejected to a position indicated in double dots-and-dash lines in Figure 1 by an ejection pin 36 formed integrally with the lever 33.

Next, when the locking portion 30a of the slide plate 30 enters into a recess 37 extending from the locked portion 33a of the lever 33 as shown in Figure 3, and the slide plate 30 is returned a little from its forward position by the force of the springs 32, the locking portion 30a of the slide plate 30 is engaged with the base of the locked portion 33a of the lever 33, so that the lever 33 is locked again as shown in Figure 4.

Thereafter, when the gear 28 makes almost one revolution in the direction of arrow f as shown in Figure 4, one end 38a of a switch lever 38 is pushed by the cam 29, so that the switch lever 38 is swung on a fulcrum 39 in a direction of arrow i against the force of a tension coiled spring 40. Thus, a detecting switch 41 is pushed by the other end 38b of the switch lever 38 to close the switch 41.

As soon as the switch 41 is closed as shown in Figure 4, the disk driving motor 7 is stopped at an ejection finish signal S2 to stop rotation of the gear 17, and the head driving motor 10 is driven at high speed at the ejection finish signal S2 through the control circuit 51 in the reverse direction thereof to move the carrier 9 at a stretch in the direction of arrow c', so that both heads 6 are moved by the

carrier 9 as shown in Figure 5 via range I from the position P₂, the utmost limit of the disk 1, to a position P₄, the inmost limit of the disk 1, which is spaced apart about 1 to 3 mm from the position P₃, the inner reference position (for example, 79 track).

When the heads 6 are moved to the position P₄, the other engagement portion 18b projecting from the carrier 9 pushes the pin 19a of the lever 19 in the direction of arrow c'. The lever 19 is swung on the fulcrum 20 in a direction of arrow d', and a nonelastic arm 19c provided at the other end of the lever 19 pushes the pin 22a of the lever 22, so that the lever 22 is swung on the fulcrum 23 in a direction of arrow e'. Thus, the gear 24 is forcibly disengaged from the gear 17.

After the above auto-ejecting processes are completed, the carrier 9 is moved again in the direction of arrow c by the head driving motor 10 so as to move the heads 6 from the position P₄ to the position P₃, or P₁, and then, the head driving motor 10 is stopped.

In the embodiment, so as to shorten the auto-ejecting time and rotate the gear 17 at high speed in the direction of arrow b, the disk driving motor 7 has broken off relations with a servomechanism as soon as the ejection finish signal S2 is detected.

Further, in the embodiment, the gear 24 is forcibly disengaged from the gear 17 by the help of the head driving motor 7, so that any construction to pull the lever 19 with a return spring is not needed. Therefore, a tension coiled spring 43 shown in Figure 2 is prepared only to properly position the lever 19. That is, the spring 43 has a low spring constant necessary for putting the lever 19 into contact with a stop 42, so that the spring 43 scarcely hinders the lever 19 from rotating in the direction of arrow d at the time when the engagement portion 18a of the carrier 9 pushes the pin 19a of the lever 19.

Furthermore, in the embodiment, when the ejecting processes start, the lever 19 is swung in the direction of arrow d as shown in Figure 3 due to displacement of the heads 6 to the position P₂, and when the ejecting processes finish, the lever 19 is swung in the direction of arrow d' as shown in Figure 5 due to displacement of the heads 6 to the position P₄, but, on the contrary, the lever 19 may be swung in the direction of arrow d when the carrier 9 is moved in the direction of arrow c', and the lever 19 may be swung in the direction of arrow d' when the carrier 9 is moved in the direction of arrow c.

In the meantime, when the disk cartridge 2 is loaded in the apparatus 4 as initially described, the disk cartridge 2, inserted into the disk loading mechanism in the direction of arrow a in Figure 5, pushes the ejection pin 36 with one end thereof, so

that the lever 33 is swung in a direction of arrow h' from the position shown in Figure 5 to the position shown in Figure 2 against the force of the spring 35. Thus, the side plate 30 is disengaged from the lever 33 and moved in a direction of arrow g' from the forward position shown in Figure 5 to the backward position shown in Figure 2 by the force of the springs 32. Then, the disk cartridge 2 is vertically lowered, and the locked portion 33a of the lever 33 abuts against the side of the locking portion 30a of the slide plate 30 to lock the lever 33 again. In Figure 2, reference numeral 30b designates a push button for hand-operated ejection.

Claims

1. An auto-ejector (16) for ejecting a disk-like recording medium (1) from a disk recording and/or reproducing apparatus (4), which has a disk driving motor (7) for driving a turntable (5) on which the disk-like recording medium (1) is mounted, a head driving motor (10) for driving a carrier (9), whereby record/playback heads (6) are carried substantially in the radius direction of the disk-like recording medium mounted on the turntable, and ejection means for ejecting the disk-like recording medium from the apparatus,

the auto-ejector comprising:

control means (51) for causing said head driving motor (10) to start, at an ejection signal, to displace said heads (6) beyond a record/playback range (1) thereof,

characterized in that it further comprises

transmission gear means (23, 24, 31) for transmitting the power of said disk driving motor (7) to said ejection means having a first position in which the ejecting means are uncoupled from the disk driving motor and a second position in which rotation of the disk driving motor causes the ejection means to eject the disk, and

actuating means (19) mechanically forced into action by movement of said carrier by the head driving motor when said heads are moved to a predetermined position beyond the recording/playback range thereof, and mechanically coupled to the transmission gear means to bring them from the first position into the second position by the force applied by said head driving motor via said actuating means.

2. The auto-ejector according to claim 1, wherein said transmission means has a driven wheel (24), and when said trigger means (19) is put in action, said driven wheel is engaged with a driving wheel (17) driven by said disk driving



carrier 9 as shown in Figure 5 via range I from the position P₂, the utmost limit of the disk 1, to a position P₄, the inmost limit of the disk 1, which is placed apart about 1 to 3 mm from the position P₃, the inner reference position (for example, 79 track).

When the heads 6 are moved to the position P₄, the other engagement portion 18b projecting from the carrier 9 pushes the pin 19a of the lever 19 in the direction of arrow c'. The lever 19 is swung on the fulcrum 20 in a direction of arrow d', and a nonelastic arm 19c provided at the other end of the lever 19 pushes the pin 22a of the lever 22, so that the lever 22 is swung on the fulcrum 23 in a direction of arrow e'. Thus, the gear 24 is forcibly disengaged from the gear 17.

After the above auto-ejecting processes are completed, the carrier 9 is moved again in the direction of arrow c by the head driving motor 10 so as to move the heads 6 from the position P₄ to the position P₃, or P₁, and then, the head driving motor 10 is stopped.

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In the meantime, when the disk cartridge 2 is loaded in the apparatus 4 as initially described, the disk cartridge 2, inserted into the disk loading mechanism in the direction of arrow a in Figure 5, pushes the ejection pin 36 with one end thereof, so

that the lever 33 is swung in a direction of arrow h' from the position shown in Figure 5 to the position shown in Figure 2 against the force of the spring 35. Thus, the side plate 30 is disengaged from the lever 33 and moved in a direction of arrow g' from the forward position shown in Figure 5 to the backward position shown in Figure 2 by the force of the springs 32. Then, the disk cartridge 2 is vertically lowered, and the locked portion 33a of the lever 33 abuts against the side of the locking portion 30a of the slide plate 30 to lock the lever 33 again. In Figure 2, reference numeral 30b designates a push button for hand-operated ejection.

Claims

1. An auto-ejector (16) for ejecting a disk-like recording medium (1) from a disk recording and/or reproducing apparatus (4), which has a disk driving motor (7) for driving a turntable (5) on which the disk-like recording medium (1) is mounted, a head driving motor (10) for driving a carrier (9), whereby record/playback heads (6) are carried substantially in the radius direction of the disk-like recording medium mounted on the turntable, and ejection means for ejecting the disk-like recording medium from the apparatus,

the auto-ejector comprising:

control means (51) for causing said head driving motor (10) to start, at an ejection signal, to displace said heads (6) beyond a record/playback range (1) thereof,

characterized in that it further comprises

transmission gear means (23, 24, 31) for transmitting the power of said disk driving motor (7) to said ejection means having a first position in which the ejecting means are uncoupled from the disk driving motor and a second position in which rotation of the disk driving motor causes the ejection means to eject the disk, and

actuating means (19) mechanically forced into action by movement of said carrier by the head driving motor when said heads are moved to a predetermined position beyond the recording/playback range thereof, and mechanically coupled to the transmission gear means to bring them from the first position into the second position by the force applied by said head driving motor via said actuating means.

2. The auto-ejector according to claim 1, wherein said transmission means has a driven wheel (24), and when said trigger means (19) is put in action, said driven wheel is engaged with a driving wheel (17) driven by said disk driving



motor (7) to transmit the power of said disk driving motor to said ejection means.

3. The auto-ejector (16) according to claim 1, wherein said control means (51) makes said head driving motor (10) start at an ejection start signal (S1) to displace said heads (6) to one predetermined position (P₂) beyond a record/playback range (1) thereof, and start, at an ejection finish signal (S2), to displace said heads (6) from the predetermined position to the other predetermined position (P₄) beyond the record/playback range (1) thereof;

whereby when said ejection start signal (S1) is detected, the power of said disk driving motor (7) is transmitted to said ejection means so as to eject said disk-like recording medium (1), and when said ejection finish signal (S2) is detected, said disk driving motor (7) is forcibly disconnected from said transmission means so as to put said ejection means out of action.

4. The auto-ejector according to claim 3, wherein said actuating means and said transmission mean comprise a lever (19) and a gear train (25), respectively, and when said heads (6) are displaced to the one predetermined position (P₂) beyond said record/playback range (1) thereof, said lever (19) is swung in a first direction (d) to transmit the power of said disk driving motor (7) to said ejection means, and when said heads (6) are displaced to the other predetermined position (P₄) beyond said record/playback range (1) thereof, said lever (19) is swung in a direction (d') reverse to said first direction (d) to disconnect said disk driving motor (7) from said transmission means.

Patentansprüche

1. Selbstauswerfer (16) zum Auswerfen eines plattenförmigen Aufzeichnungsträgers (1) aus einem Plattenaufnahme- und/oder -wiedergabegerät (4) mit einem Plattenantriebsmotor (7) zum Antrieb eines drehbaren Plattentellers (5), auf welchen der plattenförmige Aufzeichnungsträger (1) befestigt ist, einem Kopfantriebsmotor (10) zum Antrieb eines Trägers (9), durch den Aufnahme/Wiedergabeköpfe (6) im wesentlichen in der Radiusrichtung des auf dem Plattenteller befestigten plattenförmigen Aufzeichnungsträgers gehalten sind, und einer Auswerfeinrichtung zum Auswerfen des plattenförmigen Aufzeichnungsträgers aus dem Gerät, wobei der Selbstauswerfer eine Steuereinrichtung (51) zum Bewirken, daß der Kopfantriebsmotor (10) bei einem Auswerf-

signal beginnt, die Köpfe (6) über einen Aufzeichnungs/Wiedergabebereich (1) des Aufzeichnungsträgers (1) hinaus zu verschieben, gekennzeichnet durch

eine Kraftübertragungseinrichtung (23, 24, 31) zum Übertragen der Kraft des Plattenantriebsmotors (7) auf die Auswerfeinrichtung, die eine erste Position hat, in welcher die Auswerfeinrichtung von dem Plattenantriebsmotor entkoppelt ist, und eine zweite Position, in welcher die Drehung des Plattenantriebsmotors bewirkt, daß die Auswerfeinrichtung die Platte auswirft, und

eine Betätigungseinrichtung (19), die durch Bewegung des Trägers durch den Kopfantriebsmotor zwangsweise mechanisch in Tätigkeit gebracht wird, wenn die Köpfe in eine vorbestimmte Position außerhalb des Aufzeichnungs/Wiedergabebereichs bewegt werden, und mechanisch an die Kraftübertragungseinrichtung gekoppelt wird, um die Köpfe durch die von dem Kopfantriebsmotor über die Betätigungseinrichtung ausgeübte Kraft von der ersten Position in die zweite Position zu bringen.

2. Selbstauswerfer nach Anspruch 1, wobei die Kraftübertragungseinrichtung ein angetriebenes Rad (24) aufweist, das beim Betätigen der Auslöseeinrichtung (19) mit einem Antriebsrad (17) zusammenwirkt, das durch den Plattenantriebsmotor (7) zum Übertragen der Kraft des Plattenantriebsmotors auf die Auswerfeinrichtung angetrieben ist.

3. Selbstauswerfer (16) nach Anspruch 1, wobei die Steuereinrichtung (51) den Kopfantriebsmotor (10) bei einem Auswerfstartsignal (S1) zum Verschieben der Köpfe (6) in eine vorbestimmte Position (P₂) außerhalb des Aufzeichnungs/Wiedergabebereichs (1) starten und bei einem Auswerfbeeidigungssignal (S2) zum Verschieben der Köpfe (6) von der vorbestimmten Position in die andere vorbestimmte Position (P₄) außerhalb des Aufzeichnungs/Wiedergabebereichs (1) starten läßt, wobei beim Detektieren des Auswerfstartsignals (S1) die Kraft des Plattenantriebsmotors (7) auf die Auswerfeinrichtung übertragen wird, um den plattenförmigen Aufzeichnungsträger (1) auszuwerfen, und beim Detektieren des Auswerfbeeidigungssignals (S2) der Plattenantriebsmotor (7) zwangsweise von der Kraftübertragungseinrichtung getrennt wird, um die Auswerfeinrichtung außer Betrieb zu setzen.



4. Selbstauswerfer nach Anspruch 3, wobei die Betätigungseinrichtung und die Kraftübertragungseinrichtung einen Hebel (19) und eine Räderkette (25) aufweisen, und wobei beim Verschieben der Köpfe (6) in die eine vorbestimmte Position (P₂) ausserhalb des Aufzeichnungs/Wiedergabebereiches (1) der Hebel (19) zum Übertragen der Kraft des Plattenantriebsmotors (7) auf die Auswerfeinrichtung in einer ersten Richtung (d) geschwenkt wird, und beim Verschieben der Köpfe (6) in die andere vorbestimmte Position (P₄) außerhalb des Aufzeichnungs/Wiedergabebereiches (1) der Hebel (19) zum Trennen des Plattenantriebsmotors (7) von der Kraftübertragungseinrichtung in einer Richtung (d') umgekehrt zur ersten Richtung (d) geschwenkt wird.

Revendications

1. Dispositif d'auto-éjection (16) destiné à éjecter un support d'enregistrement en forme de disque (1) d'un appareil d'enregistrement et/ou de reproduction de disque (4), qui possède un moteur d'entraînement de disque (7) destiné à entraîner un plateau (5) sur lequel est monté le support d'enregistrement en forme de disque (1), un moteur d'entraînement de tête (10) destiné à entraîner un support (9), les têtes de lecture/écriture (6) étant sensiblement transportées dans la direction radiale du support d'enregistrement en forme de disque monté sur le plateau, et des moyens d'éjection destinés à éjecter de l'appareil le support d'enregistrement en forme de disque,

le dispositif d'auto-éjection comportant :

des moyens de commande (51) destinés à amener le moteur d'entraînement de tête (10) à commencer, avec un signal d'éjection, à déplacer lesdites têtes (6) au-delà d'une plage d'enregistrement/reproduction (1) de celles-ci,

caractérisé en ce qu'il comporte en outre :

des moyens d'engrenage de transmission (23, 24, 31) destinés à transmettre la force motrice dudit moteur d'entraînement de disque (7) aux dits moyens d'éjection ayant une première position dans laquelle les moyens d'éjection sont découplés du moteur d'entraînement de disque et une deuxième position dans laquelle la rotation du moteur d'entraînement de disque amène les moyens d'éjection à éjecter le disque, et

des moyens d'actionnement (19) forcés mécaniquement en action par le déplacement dudit support par le moteur d'entraînement de tête lorsque lesdites têtes sont déplacées vers une position prédéterminée au-delà de la plage d'enregistrement/reproduction de celles-ci,

et mécaniquement reliés aux moyens d'engrenage de transmission afin de les amener de la première position dans la deuxième position grâce à la force appliquée par ledit moteur d'entraînement de tête par l'intermédiaire desdits moyens d'actionnement.

2. Dispositif d'auto-éjection selon la revendication 1, dans lequel lesdits moyens de transmission possèdent une roue entraînée (24), et lorsque lesdits moyens de déclenchement (19) sont mis en action, ladite roue entraînée est engagée avec une roue d'entraînement (17) entraînée par ledit moteur d'entraînement de disque (7) afin de transmettre la force motrice dudit moteur d'entraînement de disque aux dits moyens d'éjection.

3. Dispositif d'auto-éjection (16) selon la revendication 1, dans lequel lesdits moyens de commande (51) amènent ledit moteur d'entraînement de tête (10) à commencer avec un signal de début d'éjection (S1) à déplacer lesdites têtes (6) vers une position prédéterminée (P2) au-delà d'une plage d'enregistrement/lecture (1) de celles-ci, et à commencer, avec un signal de fin d'éjection (S2) à déplacer lesdites têtes (6) de la position prédéterminée vers l'autre position prédéterminée (P4) au-delà de la plage d'enregistrement/lecture (1) de celles-ci;

la force motrice dudit moteur d'entraînement de disque (7) étant transmise aux dits moyens d'éjection de façon à éjecter ledit support d'enregistrement en forme de disque (1) lorsque ledit signal de début d'éjection (S1) est détecté, et ledit moteur d'entraînement de disque (7) étant déconnecté de manière forcée desdits moyens de transmission de façon à mettre lesdits moyens d'éjection hors d'état d'agir lorsque ledit signal de fin d'éjection (S2) est détecté.

4. Dispositif d'auto-éjection selon la revendication 3, dans lequel lesdits moyens d'actionnement et lesdits moyens de transmission comportent respectivement un levier (19) et un train d'engrenage (25), et lorsque lesdites têtes (6) sont déplacées vers la première position prédéterminée (P2) au-delà de ladite plage d'enregistrement/lecture (1) de celles-ci, ledit levier (19) est basculé dans une première direction (d) afin de transmettre la force motrice dudit moteur d'entraînement de disque (7) aux dits moyens d'éjection, et lorsque lesdites têtes (6) sont déplacées vers l'autre position prédéterminée (P4) au-delà de ladite plage d'enregistrement/lecture (1) de celles-ci, ledit



levier (19) est basculé dans une direction (d') opposée à ladite première direction (d) afin de déconnecter ledit moteur d'entraînement de disque (7) desdits moyens de transmission.

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