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Tape recorder

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None

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FIG. 2

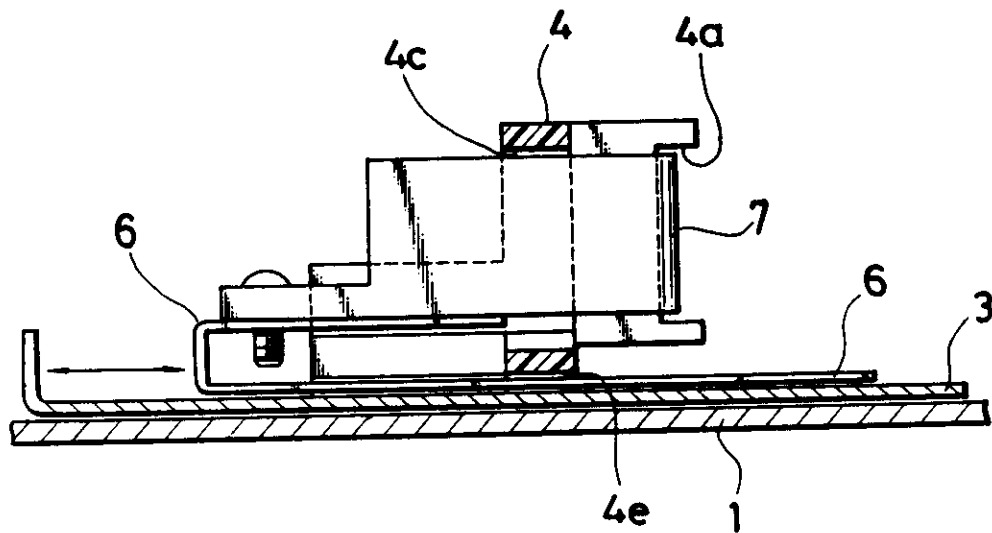
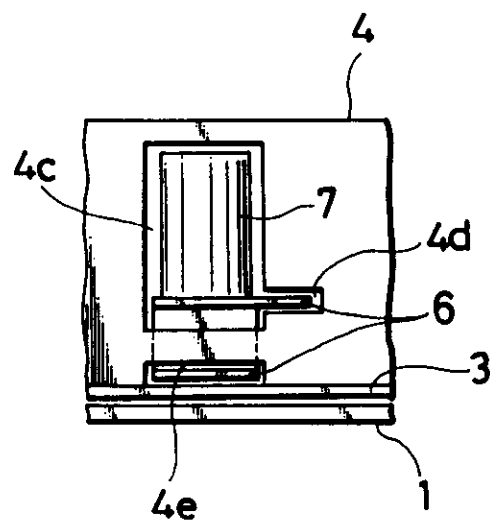


FIG. 3



it is displaced actually, signals recorded in the form of remnant magnetism on the tape cannot be erased perfectly and may remain unevenly over the entire width of the tape.

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SUMMARY OF THE INVENTION

It is an object of the present invention to provide a tape recorder wherein, upon recording or erasing of sounds, signals recorded in the form of remnant magnetism on a tape can be erased perfectly.

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In order to attain the object, according to the present invention, there is provided a tape recorder ~~[of the type]~~ wherein an erasing head of the permanent magnet type is mounted for movement relative to a head mounting plate which is in turn mounted on a chassis for movement toward and away from a predetermined path of a magnetic tape to be recorded or reproduced on the tape recorder, characterized in that a tape guide in the form of a plate having a restricting portion for restricting movement of a magnetic tape on the predetermined path in its widthwise direction is provided on the head mounting plate and has an extension which is extended at least to the position of the erasing head and has an erasing head guide portion formed thereon for restricting movement of the erasing head in a widthwise direction of the tape.

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position in the tape recorder.

A tape guide 4 in the form of an elongated plate is securely mounted on the head mounting plate 3 and extends substantially in a parallel relationship to the tape 2. The tape guide 4 are bent obliquely at the opposite end portions thereof toward the tape 2, and a pair of guide recesses 4a are formed at the opposite bent ends of the tape guide 4 for receiving the tape 2 therein to prevent or restrict widthwise movement of the tape 2.

A substantially rectangular recording/reproducing head hole 4b is perforated at a central portion of the tape guide 4. A head support structure 5 is fitted in the recording/reproducing head hole 4b of the tape guide 4 and is projected at a forward end portion thereof forwardly from the recording/reproducing head hole 4b toward the tape 2. The head support structure 5 is securely mounted on the head mounting plate 3, and a magnetic head member 5a is fitted in the head support structure 5 for rotation around a horizontal axis perpendicular to the plane of the tape 2. A magnetic head 5b for recording and reproduction (hereinafter referred to as recording/reproducing head) is disposed at an eccentric location on the magnetic head member 5a. A pair of tape restricting members 5c are provided on

it is guided only for movement in the direction perpendicular to the tape 2 by the guide slot 4d and the guide hole 4e.

Incidentally, the guide member is moved along with the head mounting plate 3 when a recording button (not shown) is manually operated, but is not moved by manual operation of an unillustrated reproducing button alone although the latter manual operation causes movement of the head mounting plate 3.

Referring to FIG. 1, a pair of pinch rollers 8 are provided at locations outwardly of the opposite ends of the tape guide 4. Each of the pinch rollers 8 is mounted for rotation around a pin 8c supported at an end portion of a roller supporting member 8b which is in turn mounted for pivotal motion around a shaft 8a mounted uprightly on the chassis 1.

A pair of capstans 9 are mounted uprightly on the chassis 1 in an opposing relationship to the pinch rollers 8 with the tape 2 interposed therebetween.

Operation of the tape recorder of the present invention having such a construction as described above will be described below.

At first, a tape cassette is loaded in position into the tape recorder. A magnetic tape 2 in the tape cassette thus partially extends along the predetermined path as shown in phantom in FIG. 1.

Then, if the reproducing button not shown is

recorder, the erasing head 7 and the other pinch roller 8 both remain spaced away from the tape 2.

To the contrary, if the recording button not shown is manually operated together with the reproducing button not shown either, the head mounting plate 3 and one of the pinch rollers 8 are moved forwardly in a similar manner. In this instance, however, the guide member 6 is also moved forwardly toward the tape 2 on the head mounting plate 3 until the erasing head 7 thereon is contacted with the face of the tape 2, thereby establishing a recording condition of the tape recorder. During the forward movement of the guide member 6, the top wall thereof is guided by the guide slot 4d of the tape guide 4 so that it is restricted from moving in the widthwise upward or downward direction.

The reproducing or recording condition of the tape recorder will be maintained until the tape 2 is fed to its final end unless a stopping operating member not shown is manually operated to stop operation of the tape recorder. If a final end of the tape 2 is detected by a tape end detecting mechanism not shown during reproduction of the tape 2, the tape end detecting mechanism develops a mechanical detection signal. In response to such a tape end detection signal, the one

because the tape recorder is of the automatic reversing type, the point is that it is necessary for the tape guide to have at least one extension in which the erasing head is guided only for movement toward and away
5 from the tape in position in the tape recorder.

It is also to be noted that the present invention can be applied also to a tape recorder of such a structure that an erasing head is mounted for turning motion around a shaft provided uprightly on a chassis.
10 In such an arrangement, the tape guide 4 may have a guide portion which conforms to a locus of the erasing head.

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