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SOUND RECORDING DEVICE

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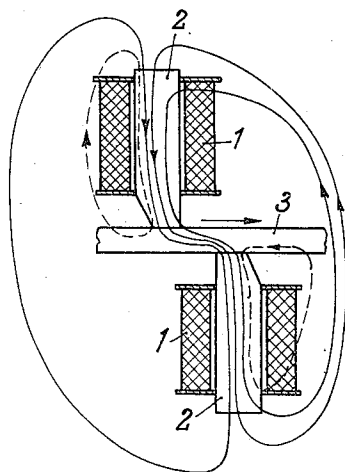


Fig. 1

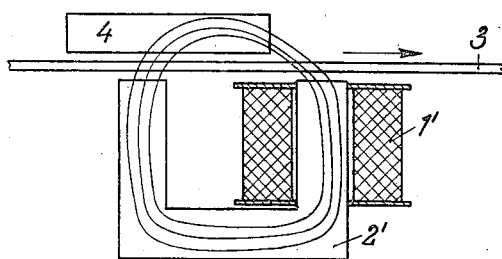


Fig. 2

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SOUND RECORDING DEVICE

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4 Claims. (Cl. 179—100.2)

The invention relates to sound recording devices of the kind known as steel tone machines.

It is customary to arrange the effacing and recording heads in the same casing. Heretofore, these two have been of the same construction. In the known arrangements such heads comprise two coils provided with magnet cores, the record carrier being arranged to run between them. The cores are formed with a sort of knife-edge and are offset with respect to each other in order to effect a longitudinal magnetization of the record carrier. The effacing heads must produce a very strong field, as the record carrier must be given an equable state of magnetization. This is obtained by magnetically saturating the record carrier. However, the cores of the effacing heads being extremely narrow and small a large number of ampere turns is necessary for the production of the requisite magnetic field. Another disadvantage of these effacing heads is that a leakage flux arises which acts to neutralize the magnetization in part. In addition, in the known arrangements the cores contact with the record carrier in order to increase the flux. Consequently, they wear away and therefore must be exchanged from time to time.

The invention will be understood from the following description, reference being had to the accompanying drawing, in which

Fig. 1 is a diagrammatic representation of an example of known arrangements, while Fig. 2 is a diagrammatic representation of one embodiment of the invention.

Fig. 1, relating to the construction as heretofore adopted, shows two coils 1 and cores 2 for these, the record carrier 3 being arranged to move between the cores 2 while contacting with them. The full lines represent some of the lines of force while by dotted lines leakage lines of force are illustrated. As will be seen, the lines of force constituting the main flux pass from one core 2 over the record carrier 3 to the other core 2, whereas the leakage flux only passes through one core and a part of the record carrier. The leakage flux as far as it passes through the record carrier is in opposition to the main flux in the record carrier, as will be understood from the

arrow heads shown in Fig. 1. The leakage flux therefore always acts to neutralize the main flux in part. Equally, disturbing effects may result from those lines of force which are running outside of the coils.

Fig. 2, relating to the novel construction, shows a coil 1' mounted on one limb of a U-shaped core 2'. A magnet yoke 4 serves to close the field of the lines of force. The record carrier 3 is arranged to run through between the limbs of core 2' and the yoke 4. The yoke is slightly offset with respect to these limbs in order that the path of the lines of force when traversing the record carrier shall be the same as it is during the recording operation. No disturbing leakage lines arise here. Also, the flux is much stronger than with devices of the known type. Consequently, the core 2' need not contact with the record carrier and hence does not wear away. There will thus be no necessity for exchanging the core.

It will be of advantage to make the core 2' of a material possessed of high permeability and small remanence, such as permalloy.

What is claimed is:

1. In a sound recording machine using an elongated magnetic tape recording medium, a magnet comprising a yoke, a pair of polepieces projecting from said yoke at substantially right angles thereto, said polepieces having their poles aligned with the length of said tape, an energizing coil on at least one of the said polepieces, and a bar of magnetic material arranged on the opposite side of said medium from said polepieces, said bar substantially overlying one of said polepieces and extending in proximity to but not overlying the other of said polepieces.

2. A sound recording machine, according to claim 1, in which the yoke is offset with respect to the core.

3. A sound recording machine according to claim 1, in which the core is out of contact with the record carrier.

4. A sound recording machine according to claim 1, wherein the core is of a material possessed of high permeability and small remanence.

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