Sept. 16, 1958 H. THIELE 2,852,617

MAGNET HEAD

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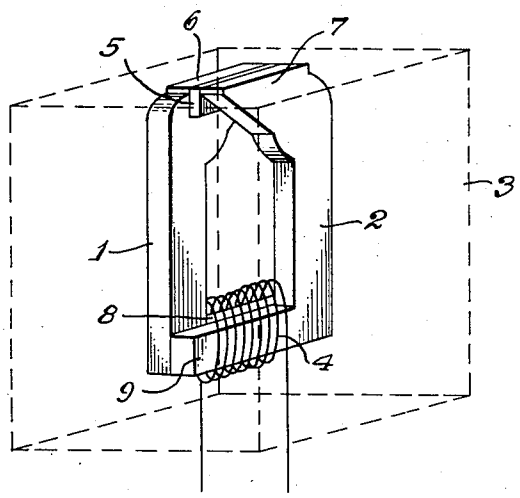


Fig. 1

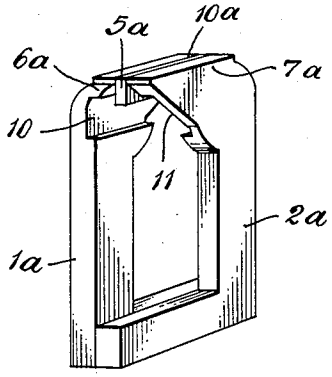


Fig. 2

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MAGNET HEAD

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1 Claim. (Cl. 179—100.2)

The invention relates to improvements in magnet heads which consist of at least two ferro-magnetic plates positioned side by side and in which the pole shoe ends are spaced from each other apart by a non-magnetic foil having the thickness of the desired gap, whereby the pole shoes are facing each other with their largest surface area. These magnet heads, among others, have the advantage that the wear caused on the pole shoes by the magnetic tape traveling transversely over the same does not cause any change in the width of the gap. Unfortunately, the magnetic efficiency of such head construction leaves much to be desired. The pole shoes form namely a magnetic shunt which is of more or less influence, depending upon the size of the surface areas of the pole shoes which are spaced from each other by the intermediate layer of the non-magnetic foil.

It is an object of the invention to reduce harmful shunt effects and so improve the magnetic efficiency of magnet heads by recessing the pole shoe ends, with the exception of those end portions of the pole shoe located in direct proximity to the effective gap—such that the produced greater space between the two pole shoe plates will reduce the magnetic shunt to an extent which is no longer disturbing.

Other objects and advantages of the invention will become apparent from the following description taken together with the accompanying drawings, in which:

Fig. 1 represents a pair of pole shoes of conventional construction which is embedded in a block of synthetic material as diagrammatically indicated, and

Fig. 2 shows a pair of pole shoes according to the invention.

Referring to Fig. 1 which illustrates a magnet head of conventional construction, a pair of pole shoe plates 1 and 2, made of a pair of ferro-magnetic material, is embedded in a block 3 made of a plastic material. The magnet head is excited by a coil 4 placed around the overlapping leg portions 8 and 9 of the plates 1 and 2. The ferro-magnetic plates 1 and 2 face each other with their largest surface area and the non-magnetic gap is formed by thickness of a non-magnetic foil 5 which is placed between the pole shoe ends 6 and 7.

The magnetic head according to the present invention is shown in Fig. 2. Pole shoe plates 1*a* and 2*a* consisting of ferro-magnetic material again confront each other with their largest surface area and the pole shoe ends 6*a* and 7*a* are spaced apart from each other by a non-magnetic foil 5*a* having the thickness of the desired gap 10.

In order to reduce or to eliminate any magnetic shunt action between the confronting faces of the pole shoe ends 6*a* and 7*a*, each of said shoe ends in the zone of the gap is provided with a recess 10 and 11, respectively, which preferably extends at opposite sides of pole shoe ends and across the entire width of the pole shoe ends and in close proximity of the face portions engaging the foil 5*a* and forming the gap.

What I claim is:

In a magnetic head, a pair of ferro-magnetic core plates having leg portions provided with laterally extending foot and head portions, said core members being oppositely arranged with their foot and head portions in overlapping relation, the laterally extending head portions being spaced from each other to form a gap therebetween and the overlapping foot portions being arranged to form the core for a conductor winding, a non-magnetic foil of a thickness equal to the space of said gap mounted in said gap between said overlapping head portions, and the inner surfaces of said head portions being provided with oppositely disposed grooves arranged adjacent said gap to extend parallel to the length thereof and across the entire width of the head portions such as to decrease the surface areas of the head portions of the core members forming said gap.

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