

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex Parte RICHARD HENRY DEE

Appeal No. 2006-2808
Application No. 09/896,162

ON BRIEF

Before HAIRSTON, JERRY SMITH, and SAADAT, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 5-7, 9, 10, 15-17, and 19-21, which constitute all the claims in the application.

The disclosed invention pertains to a reduced sensitivity spin valve sensor and to a method for making same.

Representative claim 5 is reproduced as follows:

5. A reduced sensitivity spin valve sensor, comprising:

at least two magnetically fixed layers; and

at least two free layers;

wherein the at least two free layers are positioned between the at least two fixed layers; and

wherein the at least two magnetically fixed layers have a parallel magnetic orientation.

The examiner has indicated how the claimed invention is deemed to be fully met by the disclosure of Gill [answer, pages 3-4]. With respect to independent claim 5, appellant argues that Gill teaches a read head that has two spin valve sensors, each of which has one magnetically fixed (pinned) layer and two free layers. Appellant argues that this teaching is different from the claimed invention which recites a single spin valve sensor that includes two magnetically fixed layers. Appellant argues that the examiner has improperly interpreted the claimed “spin valve sensor” to be plural even though the phrase is clearly singular. Thus, appellant argues that the claimed invention recites a configuration that operates as a single spin valve sensor with reduced magnetic sensitivity, while Gill describes two spin valve sensors operating independently [brief, pages 8-10]. The examiner responds that the claim does not recite what the spin valve sensor has a reduced sensitivity with respect to. The examiner also notes that no functionality with respect to the various claimed layers is recited in claim 5. The examiner also points out that a (dual) spin valve sensor is made up of two spin valve sensors [answer, pages 4-5]. Appellant responds that neither of the spin valve sensors of Gill has a reduced sensitivity. Appellant also asserts that sensors of Gill have increased sensitivity rather than reduced sensitivity. Appellant reiterates that Gill fails to show the claim elements in a single spin valve sensor and also fails to show a spin valve sensor with reduced sensitivity [reply brief, pages 2-4].

We will sustain the examiner's rejection of independent claim 5 as being anticipated by Gill. We agree with the examiner that a reasonable interpretation of the invention of claim 5 reads on the disclosure of Gill. Appellant's argument that the invention of claim 5 is distinguishable from Gill because Gill teaches two independent spin valve sensors is not persuasive. First, a single spin valve sensor is only recited in the preamble of claim 5. The body of claim 5 reads on Gill as demonstrated by the examiner. Second, since the two spin valve sensors of Gill work together to achieve an enhanced signal output and common mode noise rejection, we find that the two spin valve sensors of Gill together form a single spin valve sensor for purposes of forming the magnetic head. Note that the title of the invention in Gill is a "Differential Spin Valve Sensor Structure." This title suggests that the differential connection in Gill is used to form a single spin valve sensor. We are also not persuaded by appellant's argument that Gill fails to reduce sensitivity in a spin valve sensor. Claim 5 does not recite what the sensitivity is reduced with respect to. Gill discloses that the differential structure reduces noise so as to increase the signal-to-noise ratio [column 5, lines 58-60]. Since the differential connection in Gill increases signal-to-noise ratio, the spin valve sensor has reduced sensitivity to noise, and is therefore, a reduced sensitivity spin valve sensor. Therefore, appellant's arguments with respect to claim 5 are not persuasive. Since appellant relies on the arguments considered above with respect to claims 6, 7, 9, 15-17, and 19, we also sustain the examiner's rejection of these claims for the same reasons discussed above.

With respect to claims 10 and 20, appellant argues that Gill provides an enhanced response signal rather than a reduced response signal as claimed. Appellant also argues that Gill does not teach or suggest that the magnetic flux is distributed across the at least two free layers to reduce a magnetic flux fed to each layer [brief, pages 10-11]. The examiner responds that the magnetic flux in Gill is distributed across the two free layers which reduces the magnetic flux fed to each free layer [answer, page 6]. Appellant responds that the portion of Gill cited by the examiner demonstrates that Gill does not anticipate a single reduced sensitivity spin valve sensor having two fixed layers [reply brief, pages 4-5].

We will sustain the examiner's rejection of claims 10 and 20 as being anticipated by Gill for essentially the reasons discussed above and for the reasons argued by the examiner. We agree with the examiner that a magnetic flux in Gill is distributed across the free layers as recited in claims 10 and 20.

With respect to independent claim 21, appellant again argues that Gill does not teach a single spin valve sensor that includes two magnetically fixed layers as claimed. Appellant also again argues that the differential in Gill produces an enhanced response signal rather than a reduced response signal as claimed. Finally, appellant reiterates that Gill does not teach or suggest that the magnetic flux is distributed across the at least two free layers to reduce a magnetic flux fed to each layer as claimed [brief, pages 11-12].

We will sustain the examiner's rejection of claim 21 as being anticipated by Gill for the reasons discussed above. Each of appellant's arguments with respect to claim 21 repeats arguments that were considered above.

In summary, we have sustained the examiner's rejection with respect to each claim on appeal. Therefore, the decision of the examiner rejecting claims 5-7, 9, 10, 15-17, and 19-21 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

AFFIRMED

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KENNETH W. HAIRSTON)
Administrative Patent Judge)
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JERRY SMITH) BOARD OF PATENT
Administrative Patent Judge) APPEALS
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MAHSHID D. SAADAT)
Administrative Patent Judge)

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Wayne P. Bailey
Storage Technology Corporation
One Storage Tek Drive
Louisville, CO 80028-4309