THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM M. DUNBAR,
LEONARD R. SWANSON,
WAYNE L. SKELCHER,
and PETER VAN LAANEN

Appeal No. 1998-0560
Application 08/527,957[1]

ON BRIEF

Before BARRETT, RUGGIERO, and LALL, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

[1] Application for patent filed September 14, 1995.

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-22.

We reverse.

BACKGROUND

Existing two megabyte (2 MByte), three and one-half inch (89 mm) diskettes have hubs having a central hub member and an outwardly extending flange to support the magnetic media. The prior art hub has a diameter of approximately 29.0 mm. Appellants state that they have discovered a problem of decreased signal amplitude caused by misalignment that occurs near the inner diameter between the gap defined by the magnetic heads and the sheet of magnetic media due to decreased flexibility where the sheet is mounted to the hub flange. Appellants' solution is to modify the hub to have a smaller diameter. The added distance between the bond point of the sheet to the hub flange and the read/write access point of the heads enables the inner region of the sheet to be more flexible and to bend to align with the head gap.

Claim 1 is reproduced below.

1. A data storage diskette comprising:

> a diskette housing, the diskette housing conforming to a three and one-half inch (89 mm) diskette form factor;
>
> a sheet of magnetic media contained in the diskette housing, the sheet of magnetic media having a circular aperture; and
>
> a hub mounted in the diskette housing, the hub including a central hub member and a hub flange that extends radially outward from the central hub member, wherein a portion of the sheet of magnetic media is mounted on the hub flange, and
>
> wherein the hub has a diameter of less than 29.0 mm.

The Examiner relies on the following prior art:

Kato et al. (Kato)	5,383,078	January 17, 1995
Yamamoto et al. (Yamamoto)	5,444,651	August 22, 1995
Evans et al. (Evans)	5,462,823	October 31, 1995 (filed November 15, 1993)

Claims 1-7 and 9-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kato.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kato further in view of Yamamoto.

Claims 16-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kato and Yamamoto further in view of Evans.

We refer to the Final Rejection (Paper No. 10) (pages referred to as "FR__") and the Examiner's Answer (Paper No. 18) (pages referred to as "EA__") for a statement of the Examiner's position and to the Appeal Brief (Paper No. 17) (pages referred to as "Br__") and the Reply Brief (Paper No. 19) for a statement of Appellants' arguments thereagainst.

OPINION

As a preliminary matter, it appears that there is a problem under 35 U.S.C. § 112, fourth paragraph, with respect to claims 2-7, 10-15, and 17-22. Section 112, fourth paragraph, requires that a dependent claim further limit the claim from which it depends. Claims 2, 9, and 17 recite that the central hub member has a diameter of 24.9 mm, while claims 3-7, 11-15, and 18-22, which depend therefrom, recite diameters of greater than 24.9 mm. Thus, claims 3-7, 11-15, and 18-22 are inconsistent with and do not further limit claims 3-7, 11-15, and 18-22. We leave it to the Examiner to address this problem.

The Examiner acknowledges that "Kato et al do not disclose the size of the hub, the central hub member, or the

flange" (FR2; EA4). However, the Examiner concludes, it would have been obvious "to determine the size of the hub, hub member, and flange . . . disclosed by Kato et al by routine experimentation, by keeping in account the disk elastic properties and the need for maximize [sic] the amount of usable disk area, as a change in size of a structure known in the prior art involves only ordinary skills in the art" (FR2; EA4). The Examiner states that one of ordinary skill in the art "would have been motivated to do so to provide adequate connection and support of the sheet . . . without excessively limiting the usable area of the sheet, as required by the well known trend in the art toward maximization of the amount of information storable on disks" (FR2-3; EA4).

Appellants argue that the industry standard prior art 2 MByte 3.5" (89 mm) diskette has a hub having a diameter of approximately 29.0 mm and that the Examiner has provided no motivation to decrease the diameter of the hub. Appellants refer to the affidavit under 37 CFR § 1.132 of James K. Knudsen (Paper No. 12).

The Examiner provides no factual evidence why one of ordinary skill in the art would have been motivated to reduce the diameter of the industry standard 89 mm hub.[2] Bare assertions at the argued point of novelty are not persuasive. As to the argument that one of ordinary skill in the art could determine the size by routine experimentation, the Examiner has not provided any evidence that there was some known problem or other reason why one of ordinary skill would have been led to experiment to reduce the size of the hub. Here, Appellants state that they discovered the problem that led to the solution of a smaller diameter hub (specification, page 3, lines 13-22). Patentable invention may lie in the discovery of the source of the problem even though the remedy may be obvious once the source of the problem is identified. See In re Sponnoble, 405 F.2d 578, 585, 160 USPQ 237, 243 (CCPA 1969). The prior art was apparently satisfied with the 29.0 mm diameter hub and the Examiner has provided no evidence of a motivation to experiment with the diameter.

[2] That 29 mm is the industry standard hub diameter is established by the documents in Appellants' Information Disclosure Statement (Paper No. 7) filed November 4, 1996.

As to the argument that changing the size of a structure involves only ordinary skill in the art, this does not address why one of ordinary skill would have been motivated to change the size of the hub diameter. If the Examiner had showed the motivation for the change in size, then we would agree that actually reducing the diameter would be within the level of skill in the art. This must be so since Appellants have not disclosed any special structure for a reduced diameter hub.

As to the argument that one of ordinary skill in the art "would have been motivated to do so to provide adequate connection and support of the sheet . . . without excessively limiting the usable area of the sheet, as required by the well known trend in the art toward maximization of the amount of information storable on disks" (FR2-3; EA4), the Examiner has provided no evidence that the prior art hubs did not have "adequate connection and support of the sheet" (EA4) or how decreasing the hub diameter would improve the connection and support. We do not understand the Examiner's argument relying on the "well known trend in the art toward maximization of the amount of information

storable on disks" (EA4) since decreasing the hub diameter apparently does not affect the amount of information storage. Obviousness requires a showing of factual evidence, not just inventing reasons for a modification.

For the reasons stated above, we conclude that the Examiner has failed to establish a prima facie case of obviousness with respect to the limitation of a diameter of less than 29.0 mm, which is found in all independent claims. The Yamamoto and Evans patents do not cure the deficiency of Kato. The rejections of claims 1-22 are reversed.

REVERSED

LEE E. BARRETT)
Administrative Patent Judge)
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) BOARD OF PATENT
JOSEPH F. RUGGIERO) APPEALS
Administrative Patent Judge) AND
) INTERFERENCES
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PARSHOTAM S. LALL)
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