

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YOUNG-HAN KIM

Appeal No. 95-1109
Application 07/917,380¹

HEARD: October 15, 1997

Before HAIRSTON, BARRETT, and TORCZON, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed July 23, 1992, entitled "Disk Sensing Apparatus For Discriminating Disk Type In A Dual Purpose Disk Player," which claims the priority benefit under 35 U.S.C. § 119 of Korean Application 91-13287, filed July 31, 1991.

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This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-10 and 14-15. Claims 11-13 stand objected to as being dependent upon a rejected base claim, but are indicated as being allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. We reverse.

The invention is directed to a method and apparatus for discriminating whether a compact disk (CD) or laser disk (LD) is loaded in a dual-purpose laser disk player.

Claim 1 is reproduced below.²

1. A disk sensing apparatus, comprising:

 a disk sensor for sensing whether a disk is loaded on a clamper;

 a pickup;

 laser disk discriminating means for detecting a data domain of a laser disk according to the output of a tilt sensor mounted on the pickup, said laser disk discriminating means comprising:

 detecting means for receiving light reflected from said disk in response to light output by said tilt sensor and outputting a level value

² It is noted that the word "determining" in the sixth from the last line of claim 1, as reproduced, incorrectly appears as "determing" in the claims in the appendix to the brief and is misspelled in the amendment after final filed July 7, 1994 (Paper No. 17), but is spelled correctly in the amendment filed November 15, 1993 (Paper No. 8).

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corresponding to the quantity of said received light, and

comparing means for comparing the level value output by said detecting means to a predetermined reference value and for generating a comparison result signal;

a compact disk recognition switch; and

a microprocessor for determining said disk to be a compact disk when focus lock is achieved by said pickup after said pickup is moved to a position adjacent to said compact disk recognition switch once loading of disks is perceived by disk sensor, and for determining said disk to be a laser disk when focus lock is not achieved after said pickup is moved to said position adjacent said compact disk recognition switch and when said laser disk discriminating means does not detect said data domain of said laser disk.

The examiner relies on the following references:

Yoshimaru et al. (Yoshimaru)	4,755,980	July 5, 1988
Reynolds	4,825,109	April 25, 1989
Kusano et al. (Kusano)	5,130,963	July 14, 1992
Otsubo	5,172,354	December 15, 1992 (filed September 13, 1990)

L.C. Shen et al. (Shen), Applied Electromagnetism (2d ed. 1987), page 156.

Claims 1, 4-5, and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Otsubo and Kusano.

Claims 2-3, 6-7, 9-10, and 14-15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Otsubo, Kusano, Yoshimaru, Reynolds, and Shen.

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We refer to Final Rejection (Paper No. 10) and the Examiner's Answer (Paper No. 20) for a statement of the examiner's position and to the Appeal Brief (Paper No. 19) for a statement of appellant's position. Appellant's Reply Brief filed October 26, 1994 (Paper No. 22), and Substitute Reply Brief filed October 6, 1995 (Paper No. 31), were denied entry by the examiner and appellant's petitions to have the reply briefs entered and petitions for reconsideration have all been denied (Paper Nos. 26, 28, 30, and 34). Accordingly, the Reply Briefs have not been considered.

OPINION

Initially, it is noted that the specification describes the prior art of figure 1 as having "a CD recognition switch 3 for sensing the disk of CD group and a LD recognition switch 4 for sensing the disk of LD group" (page 2, lines 4-7) and describes the present invention as having "a CD recognition switch 16 for sensing the disk of CD group" (page 7, lines 5-6). These switches actually sense the position of the pickup 5 or 18 and do not "sense the disk." The disk sensor 14 senses the disk. Appellant should clarify the description.

Otsubo discloses a dual-purpose laser disk player, which is capable of playing a CD or LD and discriminating between the two types of disks. Otsubo discloses that in the prior art,

the pickup is initially positioned at an "LD determination position" which is beyond the CD diameter (figure 2) and a focus lock is attempted. If a focus lock is obtained, an LD is present, and the pickup moves to the LD playing start position to begin playing (figure 4, steps S43, S44). If no focus lock is obtained, a CD may be present, and the pickup moves to the CD playing start position. If a focus lock is obtained, a CD is present, and playing begins, whereas if no lock is obtained, no disk is present (figure 4, steps S45-S48). The problem is that delay results because it is always necessary to check that an LD is not loaded. Otsubo's improvement is the inclusion of a manual switch from which a person may select the type of disk to be played and circuitry which assumes that the next disk type is the same as the last, to place the pickup in its initial playing position, thereby decreasing the time needed to determine which type of disk is loaded. The flowchart using a CD playing mode switch is shown in figure 3 (where steps S24-S31 at the lower right correspond to the prior art in figure 4). The absence of a disk is sensed by the failure to obtain a focus lock in either the CD playing start position or the LD determination position (e.g., col. 4, lines 64-65; col. 5, lines 57-60).

The examiner finds that Otsubo does not disclose a "compact disk recognition switch" (Examiner's Answer, page 4), but concludes that it would have been obvious to incorporate such a switch "in order to take advantage of the benefits related to instantaneous compact disk recognition opposed to having to wait until the pick up is moved to the proper position for compact disk recognition" (Examiner's Answer, page 5). The examiner errs in finding that Otsubo does not disclose a "compact disk recognition switch." Otsubo discloses that "[t]he position of the pick-up 5 is detected by a position detector 7 which includes an encoder or a switch group (not shown)" (col. 3, lines 16-18). Counsel for appellant admitted at the oral hearing that these switches correspond to the recognition switches. Thus, Otsubo corresponds to appellant's disclosed prior art in figure 1. The examiner's obviousness conclusion, while unnecessary because the CD recognition switch is shown, is also wrong because the pickup must be moved next to the CD recognition switch, i.e., the CD recognition switch does not sense the CD as assumed by the examiner.

Otsubo includes a "disk sensor for sensing whether a disk is loaded on a clamper" because a failure to obtain a focussing signal at the CD playing start position and the LD determination position indicates no disk ("NO" alternative from

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steps S13 and S30 in figure 3), i.e., the pickup together with the related circuitry constitutes a disk sensor. However, Otsubo does not operate, as claimed, to first sense whether a disk is loaded. The examiner finds that a "sensor for producing a control signal when the loading is complete is inherent to the system in order to avoid erroneously starting disk operations before the disk is secured" (Examiner's Answer, page 4). We disagree. Otsubo determines when a loading command is issued by detecting whether a switch is turned on by the user slightly pushing the tray (col. 4, lines 43-46). Appellant correctly notes that "[t]he sensor in Otsubo detects the slight push of the tray on which a disk should have been loaded but does not detect a disk loaded on a clamper" (emphasis added) (Brief, page 7). It is necessary to attempt a focus lock in Otsubo before it can be determined that no disk is mounted (col. 4, lines 64-65; col. 5, lines 57-60). The examiner has failed to establish why it would have been obvious to modify Otsubo to operate by first sensing the loading of a disk. All independent claims require that a disk be determined to be loaded in the clamper before any action takes place to discriminate the type of disk.

Otsubo does not include structure corresponding to the "laser disk discriminating means for detecting a data domain of

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a laser disk according to the output of a tilt sensor mounted on the pickup," as recited in claims 1 and 4, or to the "laser disk discriminating means for detecting a data area of said laser disk," using a tilt sensor as recited in claim 8. Otsubo does not perform the step of "making a determination that said disk is a laser disk" in response to a tilt sensor on the pickup unit when the pickup unit is no longer under the data area of the disk as recited in method claim 5. The examiner applies Kusano, which discloses a tilt sensor as part of a sensor arrangement and concludes that it would have been obvious "to incorporate the tracking error signal, data signal, tilt signal, and zero-cross detecting signal sensor mounted on an optical pick up as taught by Kusano et al. in an apparatus as taught by Otsubo in order to detect the zero crossing timing on off-track so as to ensure stable operation of the tracking servo unit" (Examiner's Answer, page 6). We agree that it would have been obvious to incorporate the circuitry of Kusano into Otsubo because it is circuitry for an optical disk player and Otsubo would be expected to have similar circuitry. However, the tilt sensor in Kusano is used strictly to measure tilt and not to discriminate the end of the data domain of an LD, as claimed. Therefore, even if Otsubo and Kusano were

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combined, the combination of teachings would not result in the
claimed invention.

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Because the examiner has failed to show at least (1) the operation in response to sensing whether a disk is loaded on a clamper, and (2) discriminating means for detecting a data domain of a laser disk using a tilt sensor, the examiner has failed to carry the burden of establishing a prima facie case of obviousness. Accordingly, the rejection of claims 1-10 and 14-15 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
LEE E. BARRETT)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
RICHARD TORCZON)	
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