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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSEPH E. TORLINE

Appeal 2015-006752
Application 14/157,014
Technology Center 2600

Before NABEEL U. KHAN, KARA L. SZPONDOWSKI, and
AARON W. MOORE, *Administrative Patent Judges*.

SZPONDOWSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–14. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE and enter NEW GROUNDS OF REJECTION pursuant to our authority under 37 C.F.R. § 41.50(b).

STATEMENT OF THE CASE

Appellant's application is directed to a tape head module for performing azimuth recording and reading of tape media using a linear format. Spec. ¶ 13. Claims 1 and 9, reproduced below, are illustrative of the claimed subject matter:

1. An apparatus for performing at least one of reading operations and writing operations on a magnetic tape, comprising:

a body;

an upper surface on the body that is configured to face a magnetic tape traveling at least partially over the upper surface, wherein the upper surface includes a plurality of at least one of read elements and write elements that are respectively configured to read data from and write data to the magnetic tape as the magnetic tape travels over and at least partially in contact with the upper surface, and wherein the plurality of the at least one of read elements and write elements extend along a reference axis; and

first and second opposite edges that border the upper surface over which the magnetic tape is configured to pass, wherein the first and second opposite edges respectively extend along first and second axes, wherein the first axis is parallel to the second axis, wherein the first axis is nonparallel and non-perpendicular to the reference axis, and wherein the second axis is non-parallel and non-perpendicular to the reference axis.

9. A method of operating a tape drive, comprising:

moving tape along a direction of motion over first and second opposite edges of a tape head module of a tape drive, wherein the first and second opposite edges extend perpendicular to the direction of motion;

contacting, during the moving step, an upper surface of the tape head module with the tape, wherein the upper surface is disposed between the first and second opposite edges; and

performing, during the contacting step, at least one of reading and writing of data on the tape with a span of transducers disposed on the upper surface, wherein the span of transducers extends non-perpendicular to the direction of motion.

REJECTIONS

Claims 1–14 stand rejected under 35 U.S.C. § 102(a)(1) as being anticipated by Watson et al. (US 7,239,465 B1; issued July 3, 2007) (“Watson”).

ANALYSIS

Issue 1: Did the Examiner err in finding Watson discloses first and second axes of respective first and second opposite edges of an upper surface of an apparatus over which tape is configured to pass that are each non-perpendicular and non-parallel to a reference axis along which a plurality of read and/or write elements of the upper surface extends, as recited in independent claim 1?

The Examiner finds:

Watson depicts the two arrays of read/write elements per head/section module (each head/section module element as shown of element 114 in figure 4 of Watson that which has two submodule/arrays of read/write elements {col. 2, lines 31-34 and depicted in figures 2 and 3 of Watson and in the enlarged and extended drawing of the submodules in figure 2}) which each section module has its own read/write axis that further features its own the first and second opposite edges that border the upper surface over which the tape is configured to pass that are each non-perpendicular and non-parallel to a reference axis (datum/(plane) axis 38 in the figures of Watson) along which a plurality of read and/or write elements of the upper surface extends along with the first read/write axis and second

read/write axis that which the first axis and the second axis are parallel to each other as respective with the opposite edges of the upper surface.

Ans. 2.

Appellant contends the first and second opposite edges of the upper surface of each head section/module in Watson are all parallel to the read/write element axis of the respective head section/module. Br. 6.

We are persuaded of error. Figure 4 of Watson is reproduced below:

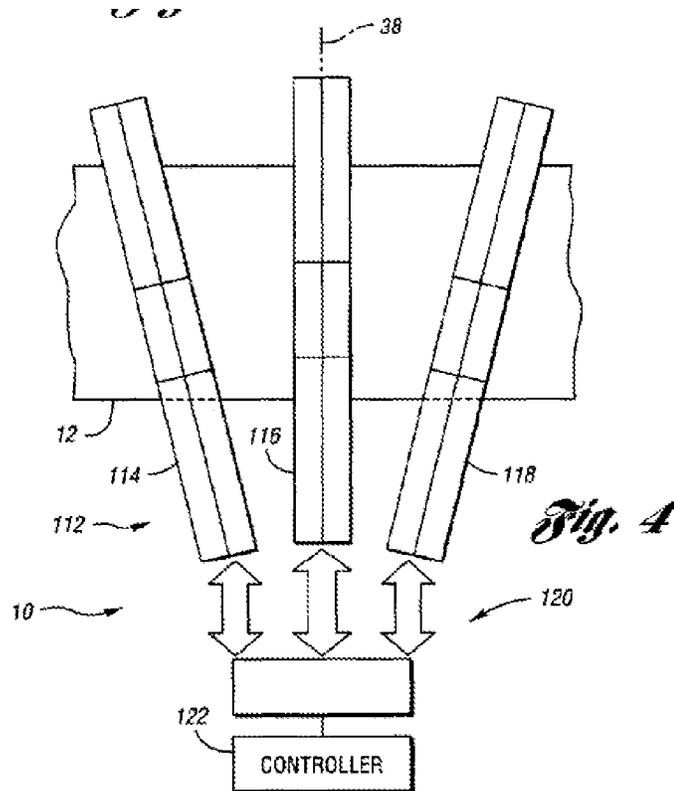


Figure 4 depicts an embodiment of a data recording system including multiple head sections 114, 116, and 118. In the Figure 4 embodiment, head sections 114 and 118 are canted in opposite directions with respect to plane 38, while head section 116 is aligned with plane 38. Watson col. 4, ll. 57–

64. Watson describes that each head section includes, *inter alia*, a write element and a read element. Watson col. 2, ll. 29–35, col. 4, ll. 59–61.

The Examiner identifies plane 38 as the claimed reference axis and the read/write elements of head section 114 as the claimed read elements and write elements. Ans. 2. While we agree with the Examiner that the read/write axis of head section 114 is non-perpendicular and non-parallel to plane 38, the Examiner has not adequately explained how the claimed limitations map to the teachings of Watson. For example, the Examiner has not specifically identified the first and second opposite edges or the first and second axis. Moreover, claim 1 also recites that “at least one of read elements and write elements extend along a reference axis.” As shown in Figure 4, the read/write elements of head section 114 do not extend along reference axis 38. We cannot say, nor has the Examiner shown, how the specific findings teach all the elements of the claimed apparatus. Nor will we speculate. The one who bears the initial burden of presenting a prima facie case of unpatentability is the Examiner. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the Appellant. Since the Examiner has failed to make this showing, there is no prima facie case of anticipation.

Therefore, we do not sustain the Examiner’s rejection of independent claim 1. For the same reasons, we do not sustain the Examiner’s rejection of dependent claims 2–8.

Issue 2: Did the Examiner err in finding Watson discloses the limitations in independent claim 9?

Appellant argues the Examiner has not addressed the specific limitations of independent claim 9 and dependent claims 10–14. Br. 7–10. Appellant contends “all of the modules of Watson include first and second opposite edges that are *parallel* to the read/write elements of the respective modules.” Br. 10.

The Examiner finds:

Watson describes the head section 116 of figure 4 that which the tape drive operation that includes the moving tape over an upper surface of the module having first and second opposite edges (boundary of the bumps) that are perpendicular to the direction (elements 14 and 15 of figure 1) of the tape motion (as head section element 116 illustrated in figure 4) and the span of the transducers that are not perpendicular (skewed/azimuth) / non-perpendicular to the direction of tape motion/(travel) as in the noted arguments of the Appellant. Therefore, noted elements as argued of the tape drive operation are matched to Watson’s operation of head section element 116 of figure 4.

Ans. 4.

We are persuaded of error. As in the rejection of claim 1, the Examiner has not adequately explained how the claimed limitations map to the teachings of Watson. In particular, the Examiner has not identified how the span of transducers extends non-perpendicular to the direction of motion. Since the Examiner has failed to make this showing, there is no prima facie case of anticipation.

Therefore, we do not sustain the Examiner’s rejection of independent claim 9. For the same reasons, we do not sustain the Examiner’s rejection of dependent claims 10–14.

NEW GROUNDS OF REJECTION

Pursuant to our authority under 37 C.F.R. § 41.50(b), we enter new grounds of rejection for claims 9–14. Claims 9–14 are rejected under 35 U.S.C. § 102(a)(1) as anticipated by US 6,947,247 B2 to Schwarz et al., issued Sept. 20, 2005 (“Schwarz”).

Regarding claim 9, Schwarz discloses a method of operating a tape drive (Fig. 10 and associated description at col. 17, l. 43 – col. 18, l. 19), comprising:

moving tape along a direction of motion (Fig. 10, direction of travel 312) over first and second opposite edges of a tape head module of a tape drive (Fig. 10, head module 304), wherein the first and second opposite edges extend perpendicular to the direction of motion (Fig. 10, first and second opposite edges on left and right side of head module 304, respectively, which extend perpendicular to the direction of motion);

contacting, during the moving step, an upper surface of the tape head module with the tape, wherein the upper surface is disposed between the first and second opposite edges (Fig. 10, head module 304 and associated description at col. 17, l. 43 – col. 18, l. 19); and

performing, during the contacting step, at least one of reading and writing of data on the tape with a span of transducers disposed on the upper surface, wherein the span of transducers extends non-perpendicular to the direction of motion (Fig. 10, read element 316, which “may represent any number of elements provided in an array,” oriented at azimuth angle 318 with respect to transverse axis 314,

write element 320, which also may be an array, oriented at azimuth angle 322 with respect to transverse axis 314, and associated description at col. 17, l. 43 – col. 18, l. 19).

Regarding claim 10, Schwarz discloses the method of claim 9, wherein the tape head module is a first tape head module (Fig. 10, head module 304), and wherein the method further comprises:

moving the tape along the direction of motion (Fig. 10, direction of travel 312) over first and second opposite edges of a second tape head module of the tape drive (Fig. 10, head module 306), wherein the first and second opposite edges of the second tape head module extend perpendicular to the direction of motion (Fig. 10, first and second opposite edges on left and right side of head module 306, respectively, which extend perpendicular to the direction of motion);

contacting, during the step of moving the tape over the first and second opposite edges of the second tape head module, the upper surface of the second tape head module with the tape, wherein the upper surface of the second tape head module is disposed between the first and second opposite edges of the second tape head module (Fig. 10, head module 306 and associated description at col. 17, l. 43 – col. 18, l. 19); and

performing, during the step of contacting the upper surface of the second tape head module with the tape, at least one of reading and writing of data on the tape with a span of transducers disposed on the upper surface of the second tape head module, wherein the span of transducers extends non-perpendicular to the direction of motion (Fig.

10, read element 326, which “may represent any number of elements provided in an array,” oriented at azimuth angle 318 with respect to transverse axis 314, write element 324, which also may be an array, oriented at azimuth angle 322 with respect to transverse axis 314, and associated description at col. 17, l. 43 – col. 18, l. 19).

Regarding claim 11, Schwarz discloses the method of claim 10, wherein a non-perpendicular angle is disposed between the span of transducers of the first tape head module and the direction of motion (Fig. 10, read element 316 oriented at azimuth angle 318 with respect to transverse axis 314, write element 320 oriented at azimuth angle 322 with respect to transverse axis 314, and associated description at col. 17, l. 43– col. 18, l. 19), and wherein the non-perpendicular angle is disposed between the span of transducers of the second tape head module and the direction of motion (Fig. 10, read element 326 oriented at azimuth angle 318 with respect to transverse axis 314, write element 324 oriented at azimuth angle 322 with respect to transverse axis 314, and associated description at col. 17, l. 43– col. 18, l. 19). Column 17, lines 39–42 further describes “the azimuth angle chosen is preferably a large angle azimuth angle of greater than twenty five degrees, more preferably greater than forty degrees, and most preferably about 45 degrees.”

Regarding claim 12, Schwarz discloses the method of claim 10, wherein a first non-perpendicular angle is disposed between the span of transducers of the first tape head module and the direction of motion (Fig. 10, read element 316 oriented at azimuth angle 318 with respect to

transverse axis 314, write element 320 oriented at azimuth angle 322 with respect to transverse axis 314, and associated description at col. 17, l. 43—col. 18, l. 19), wherein a second non-perpendicular angle is disposed between the span of transducers of the second tape head module and the direction of motion (Fig. 10, read element 326 oriented at azimuth angle 318 with respect to transverse axis 314, write element 324 oriented at azimuth angle 322 with respect to transverse axis 314, and associated description at col. 17, l. 43 – col. 18, l. 19), and wherein the first and second non-perpendicular angles are different, as, for example, the first non-perpendicular angle may be viewed as the acute angle between write element 320 of the first head and the direction of travel, and the second, different, non-perpendicular angle may be viewed as the obtuse angle between write element 324 of the second head and the direction of travel.

Regarding claim 13, which is dependent on claim 10, see rejections for claims 9 and 10, and in particular Figure 10 and its accompanying description at col. 17, l. 43 – col. 18, l. 19. In addition, Schwarz discloses that more than two head modules may be used, which discloses the third tape head module described in claim 13. *See* col. 15, ll. 9–10.

Regarding claim 14,¹ Schwarz discloses the method of claim 10, wherein the span of transducers extends non-parallel to the direction of

¹ Should prosecution continue, the Examiner may wish to consider whether claim 14 is sufficiently definite, as it recites “the span of transducers,” where claim 10 includes spans of transducers for both the first and second heads. For the purposes of this decision, we have assumed that both spans of transducers must be non-parallel to the direction of motion.

motion (first head module 304, Fig. 10, read element 316, which may be an array, oriented at azimuth angle 318 with respect to transverse axis 314, write element 320, which also may be an array, oriented at azimuth angle 322 with respect to transverse axis 314; second head module 306, Fig. 10, read element 326, which may be an array, oriented at azimuth angle 318 with respect to transverse axis 314, write element 324, which also may be an array, oriented at azimuth angle 322 with respect to transverse axis 314, and associated description at col. 17, l. 43 – col. 18, l. 19). Column 17, lines 39–42 further describes “the azimuth angle chosen is preferably a large angle azimuth angle of greater than twenty five degrees, more preferably greater than forty degrees, and most preferably about 45 degrees.”

We, therefore, reject claims 9–14 under 35 U.S.C. § 102(a)(1) as anticipated by Schwarz.

DECISION

For the above reasons, the Examiner’s rejection of claims 1–14 is reversed.

We enter new grounds of rejection for claims 9–14.

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

- (1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new Evidence relating to

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the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the Examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

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

REVERSED; 37 C.F.R. § 41.50(b)