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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BRAN FERREN, W. DANIEL HILLIS, RODERICK A. HYDE,
MURIEL Y. ISHIKAWA, EDWARD K. Y. JUNG, ERIC C.
LEUTHARDT, NATHAN P. MYHRVOLD, CLARENCE T. TEGREENE,
LOWELL L. WOOD JR., and VICTORIA Y. H. WOOD

Appeal 2011-000153
Application 11/726,031
Technology Center 3700

Before DEMETRA J. MILLS, ERIC GRIMES, and LORA M. GREEN,
Administrative Patent Judges.

MILLS, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134. The Examiner has rejected the claims for obviousness-type double patenting, anticipation and obviousness. We have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF CASE

Claim 1 is reproduced below. Other rejected claims can be found in Appellants' Claim Appendix to the Brief.

1. A method of emplacing an electromagnetic stimulation device, comprising:
 - causing a self-propelling electromagnetic stimulation device to travel within a body tube tree of a subject toward a target site;
 - if a branch point including two or more branches within the body tube tree is reached by the self-propelling electromagnetic stimulation device, causing the self propelling electromagnetic stimulation device to enter a selected branch; and
 - causing the self-propelling electromagnetic stimulation device to stop traveling upon reaching the target site.

Cited References

Alfano et al.,	US 6,240,312 B1,	May 29, 2001
Combs et al.,	US 6,512,949 B1,	Jan. 28, 2003
Mosse et al.,	US 6,709,388 B1,	Mar. 23, 2004

Grounds of Rejection

1. Claims 1-4, 17, 31, 32, 40, 66, 122-125, 129, 131, 132, 135 and 146-165 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the claims of copending Application No. 11/645,358.¹
2. Claims 1-4, 17, 31, 32, 40, 66, 122-125, 129, 131, 132, 135 and 146-165 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 51, 68, 83, 95, 96, 125 and 134-152 of copending Application No. 11/645,357, now U.S. Patent 7,857,767.
3. Claims 1-4, 17, 31, 32, 40, 66, 122-125, 129, 131, 132, 135 and 146-165 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 17, 21, 23, 35, 38, 39, 50, 51, 62 and 83-97 of copending Application No. 11/651,946 now U.S. Patent 7,998,060.
4. Claims 1-4, 17, 31, 32, 40, 122-125, 146-152, 154-158, 164 and 165 are rejected under 35 U.S.C. 102(b) as being anticipated by Alfano.
5. Claims 1-4, 17, 31, 32, 40, 129, 131, 132, 135, 154, 155, 158-163 and 165 are rejected under 35 U.S.C. 102(b) as being anticipated by Mosse.
6. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alfano or Mosse.
7. Claim 153 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mosse in view of Combs.

¹ The '358 application has issued as U.S. Patent No. 8,000,784, so the rejection is no longer provisional.

FINDINGS OF FACT

The Examiner's findings of fact are set forth in the Answer at pages 3-10.

Discussion Obviousness-Type Double Patenting

1. Claims 1-4, 17, 31, 32, 40, 66, 122-125, 129, 131, 132, 135 and 146-165 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 62, 66, 74, 84, 89, 95 and 103-125 of copending Application No. 11/645,358, now U.S. Patent No. 8,000,784.
2. Claims 1-4, 17, 31, 32, 40, 66, 122-125, 129, 131, 132, 135 and 146-165 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 51, 68, 83, 95, 96, 125 and 134-152 of copending Application No. 11/645,357, now U.S. Patent 7,857,767.
3. Claims 1-4, 17, 31, 32, 40, 66, 122-125, 129, 131, 132, 135 and 146-165 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 17, 21, 23, 35, 38, 39, 50, 51, 62 and 83-97 of copending Application No. 11/651,946, now U.S. Patent 7,998,060.

ISSUE

The Examiner concludes that although the conflicting claims are not identical, they are not patentably distinct from each other because both the pending application and patented applications recite methods of propelling a lumen-traveling, electromagnetic stimulation device through a body lumen.

Appellants argue that

The Examiner repeatedly concluded that claim recitations are "obvious variants of each other," without providing the "reasons why a person of ordinary skill in the art would

conclude that the invention defined in the claim at issue would have been an obvious variation of, the invention defined in a claim in the patent."

Appellant provisionally states that if in the future, claims are patented in a copending application and claims in the instant application are allowed, and if an appropriate nonprovisional nonstatutory obviousness-type double patenting objection is raised, Appellant will file an appropriate terminal disclaimer.

(App. Br. 74).

The issue is: Do the claims of the pending application claim an obvious variant of the now patented applications?

PRINCIPLES OF LAW

"Obviousness-type double patenting is a judge-made doctrine that prevents an extension of the patent right beyond the statutory time limit. It requires rejection of an application claim when the claimed subject matter is not patentably distinct from the subject matter claimed in a commonly owned patent. Its purpose is to prevent an unjustified extension of the term of the right to exclude granted by a patent by allowing a second patent claiming an obvious variant of the same invention to issue to the same owner later." *In re Berg*, 140 F.3d 1428, 1431 (Fed. Cir. 1998) (citation omitted).

"All proper double patenting rejections, of either type, rest on the fact that a patent has been *issued* and later issuance of a second patent will continue protection, beyond the date of expiration of the first patent, of the very same invention claimed therein (same invention type double patenting) or of a mere variation of that invention which would have been obvious to those of ordinary skill in the relevant art (obviousness-type double patenting). In the latter case, there must be some clear evidence to establish why the variation would have been obvious which can properly qualify as 'prior art.'" *In re Kaplan*, 789 F.2d 1574, 1579-80 (Fed. Cir. 1986) (emphasis in original).

PATENTED CLAIMS

A representative claim from Application 11/645,358, filed Dec. 21, 2006, now US 8,000,784, follows.

1. A method implemented with a lumen-traveling device, comprising:
 - moving the lumen-traveling device through a body lumen using a propelling mechanism and *a steering mechanism* on the lumen-traveling device, based at least in part upon a pre-programmed motion pattern;
 - at least intermittently permitting flow of fluid through the body lumen and past a fluid-contacting portion of the lumen-traveling device;
 - detecting a condition of interest with a sensor on the lumen traveling device;
 - producing a response initiation signal with response initiation circuitry located at least in part on the lumen-traveling device at least partially in response to detection of the condition of interest, wherein the response initiation signal is configured for controlling performance of an action by an active portion of the lumen-traveling device based at least in part on a pre-programmed pattern; and
 - performing the action with the active portion of the lumen traveling device in response to the response initiation signal.
(Emphasis added.)

Representative claims from Application No. 11/645,357, filed Dec. 21, 2006, now U.S. Patent 7,857,767, follow.

1. A lumen-traveling device, comprising:
 - a motion-arresting portion;
 - a fluid-contacting portion configured to contact fluid within the body lumen and to at least intermittently permit flow of fluid through the body lumen;

a propelling mechanism configured to produce movement of the lumen-traveling device through a body lumen in which the lumen-traveling device is deployed;

motion control circuitry carried at least in part by said lumen-traveling device and configured to control the propelling mechanism to control movement of the lumen-traveling device through the body lumen;

a sensor configured to detect a condition of interest in the body lumen and to generate a sense signal indicating detection of the condition of interest;

response initiation circuitry operatively connected to the sensor and configured to generate a response initiation signal upon receipt of the sense signal indicating detection of the condition of interest in the body lumen; and

an active portion operatively connected to the response initiation circuitry and configured to produce a response upon receipt of the response initiation signal.

8. The device of claim 1, including:

a steering mechanism configured to modify the direction of movement of the lumen-traveling device;

wherein the motion control circuitry is configured to control the steering mechanism to control movement of the lumen-traveling device through the body lumen. (Emphasis added.)

Representative claims from Application No. 11/651,946, filed Jan. 9, 2007, now U.S. Patent 7,998,060, follow.

1. A lumen-traveling delivery device comprising:

a propelling mechanism;

a material release portion configured to release a deliverable material;

a capture portion distinct from the material release portion and capable of capturing the deliverable material released from the material release portion;

an expanding or extending portion positioned downstream of the material release portion and the capture portion and configured to at least temporarily seal with a wall of a body lumen in the vicinity of a treatment target to completely block a flow of fluid through the body lumen to keep the deliverable material released from the material release portion in the vicinity of the delivery device to be captured by the capture portion; and

control circuitry located at least in part on the delivery device, the control circuitry capable of controlling the operation of the propelling mechanism to move the delivery device through the body lumen to the treatment target, controlling the material release portion to release a deliverable material and controlling the capture portion.

6. The device of claim 1, including a *steering mechanism* capable of modifying the movement of the delivery device. (Emphasis added.)

ANALYSIS

Appellants now claim:

1. A method of emplacing an electromagnetic stimulation device, comprising:

causing a self-propelling electromagnetic stimulation device to travel within a body tube tree of a subject toward a target site;

if a branch point including two or more branches within the body tube tree is reached by the self-propelling electromagnetic stimulation device, causing the self propelling electromagnetic stimulation device to enter a selected branch; and

causing the self-propelling electromagnetic stimulation device to stop traveling upon reaching the target site.

We agree with the Examiner that the subject matter of the pending claims is an obvious variant of each of the cited, now patented applications. In particular, pending claim 1 recites a method wherein “if a branch point including two or more branches within the body tube tree is reached by the

self-propelling electromagnetic stimulation device, causing the self propelling electromagnetic stimulation device to enter a selected branch.”

At least one claim of each of the cited patents includes a steering mechanism and the patents generally disclose the concept of self-propulsion. We agree with the Examiner that “causing the self propelling electromagnetic stimulation device to enter a selected branch” as presently claimed, is equivalent of steering the device into a branch, and therefore claim 1 is an obvious variant of the patented claims. Claims 2-4, 17, 31, 32, 40, 66, 122-125, 129, 131, 132, 135 and 146-165 fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

Appellants argue that the Examiner has not provided reasons why a person of ordinary skill in the art would consider the conflicting claims to be obvious variants (Appeal Br. 74). However, the Examiner provides adequate reasoning to support the rejections (Answer 3-5), and for the reasons discussed above, we agree with the Examiner’s reasoning.

Discussion Anticipation and Obviousness Rejections

4. Claims 1-4, 17, 31, 32, 40, 122-125, 146-152, 154-158, 164 and 165 are rejected under 35 U.S.C. § 102(b) as being anticipated by Alfano.

5. Claims 1-4, 17, 31, 32, 40, 129, 131, 132, 135 and 154, 155, 158-163 and 165 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mosse.

6. Claim 66 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Alfano or Mosse.

7. Claim 153 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mosse in view of Combs.

PRINCIPLES OF LAW

In order for a prior art reference to serve as an anticipatory reference, it must disclose every limitation of the claimed invention, either explicitly or inherently. *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). To anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

In order to determine whether a prima facie case of obviousness has been established, we consider the factors set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966): (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the relevant art; and (4) objective evidence of nonobviousness, if present.

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

ANALYSIS

For rejection 4, Appellants provide separate argument for claims 3, 14, 17, 31, 32, 40, 124, 125, 148, 149, 151, 152 154-156, 158 and 164. For rejection 5, Appellants provide separate argument for claims 2, 3, 17, 31, 32, 40, 129, 131, 132, 155, 158, 160-161, 163 and 165. The Examiner has addressed each of these claims in the Answer.

We agree with the Examiner’s fact finding, statement of the rejection and responses to Appellants’ arguments as set forth in the Answer, including

those of the separately argued claims. We find that the Examiner has provided evidence to support a prima facie case of anticipation and obviousness and adopt the Examiner's arguments as our own. We provide the following additional comment.

Appellants argue that

The Examiner mischaracterizes Appellant's claim 1 by asserting that "every point in the body can be considered a branch point, because the device can be controlled to move forward (branch one) or backward (branch two) in order to reach a target site" (emphasis added). The Examiner failed to establish how one of ordinary skill in the art would interpret the term "branch point" as including "every point in the body" (emphasis added). Clearly, the Examiner's finding that "every point in the body can be considered a branch point" rests on an unreasonably broad interpretation of "branch point."

(App. Br. 28.)

Appellants define the term "body tube tree" as follows.

The term "body tube tree", as used herein, refers to a body lumen having a branching structure, i.e., that it includes *at least one branch point where a first region of a lumen splits into two or more branches, or where a side lumen branches off from a main lumen*. "Body tube tree" is not intended to convey any particular structure, configuration, level or organization, or level of complexity, beyond that indicated above. Examples of body tube trees include, but are not limited, the cardiovascular system, the respiratory system, and the CSF -space, for example.

(Spec. 16, emphasis added).

The Examiner finds that

Alfano discloses that the device enters the body through the mouth and eventually exits the rectum (see Fig. 9 and Col. 7, lines 4-7). By traversing this entire path, the device of Alfano necessarily reaches a plurality of branch points with two lumens, and chooses one lumen to pass through. As but one example, Fig. 8 of Alfano shows the bile duct branching off from the duodenum.

(Ans. 11.)

Consistent with this interpretation, and notwithstanding the Examiner's earlier interpretation of the term "branch point" as encompassing any point allowing forward or backward movement, both the Specification and Alfano contemplate a body tube tree such as the gastrointestinal tract having a side lumen branching off from a main lumen. Alfano, Fig. 8, evidences that the gastrointestinal tract includes a plurality of branches including the common bile duct and duodenum. According to Alfano, the laser head can be mounted on a snake like cable and the laser pulse can be impinged onto the target area. (Col 6, l. 55-col. 7, l. 3.)

Therefore, we agree with the Examiner that the device of Alfano is intended for gastrointestinal use (col. 4, l. 37), has complete freedom to move about inside a patient (col. 4, ll. 7-8), may be turned in the gastrointestinal tract by a build in gas flow (col. 4, ll. 57-58) and therefore is capable of entering a selected branch at a branch point, or

if a branch point including two or more branches within the body tube tree is reached by the self-propelling electromagnetic stimulation device, causing the self propelling electromagnetic stimulation device to enter a selected branch; and causing the

self-propelling electromagnetic stimulation device to stop traveling upon reaching the target site[,]

as claimed. That is, the point at which the bile duct merges with the duodenum is a branch point according to the Specification's definition, and continuing the progress of Alfano's device in the intestine is causing it to enter a selected branch.

With respect to claim 32, we agree with the Examiner, that a physiological parameter includes the physiology of a specific organ as differentiated from the physiology of another organ. Thus, when Alfano is targeting the gallbladder he is measuring a visual physiological parameter, as claimed.

With respect to claim 149, Alfano, claim 25, discloses diagnosis of the heart and blood vessels.

All other claims separately argued by Appellants are affirmed for the reasons given by the Examiner in the record.

Regarding the anticipation rejection over Mosse, the Appellants provide similar argument with respect to the definition of "branch points." We agree with the Examiner that

Mosse discloses that the device enters the body in the gut and eventually reaches the small bowel or colon (see Col. 2, lines 40-42). By traversing this entire path, the device of Mosse necessarily reaches a plurality of branch points with two lumens, and chooses one lumen to pass through. As but one example, in order to reach the colon or small bowel, the bile duct branching off from the duodenum will be reached. However, in order to reach the colon or small bowel, the device of Mosse is directed into the duodenum and the intestines, and does not enter the lumen of the bile duct. The appellant

discloses the GI tract to be a body tube tree (Par. 0298 of the specification).

(Ans. 15.) Appellants fail to provide evidence that the gut does not include branch points or the device of Mosse cannot traverse such branch points.

Appellants further argue that

nowhere does the Examiner allege that Mosse discloses "causing the self-propelling electromagnetic stimulation device to stop traveling upon reaching the target site," as recited in claim 1. Moreover, there is no teaching, and the Examiner has pointed to none, in column 2, line 5 through column 3, line 35 of Mosse of "causing the self-propelling electromagnetic stimulation device to stop traveling upon reaching the target site."

(App. Br. 56.)

Mosse discloses that the walls of the bowel are the target site of stimulation. (See Ans. 16.) Mosse discloses that once the device has advanced sufficiently far along the passage, for example the colon or small bowel, the current may be switched off and the bowel viewed with a camera. (Col. 2, l. 40-42.) Thus, the device of Mosse is stopped when it reaches a target site.

Therefore, we affirm all the rejections of the Examiner for the reasons of record.

CONCLUSION OF LAW

The cited references support the Examiner's anticipation and obviousness rejections.

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Application 11/726,031

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

AFFIRMED

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