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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BRAN FERREN, RODERICK A. HYDE,
MURIEL Y. ISHIKAWA, ERIC C. LEUTHARDT,
DENNIS J. RIVET, LOWELL L. WOOD, JR., and
VICTORIA Y. H. WOOD

Appeal 2013-008005
Application 12/004,107
Technology Center 3700

Before PATRICK R. SCANLON, MICHELLE R. OSINSKI, and
BRADLEY B. BAYAT, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Bran Ferren et al. (Appellants)¹ appeals under 35 U.S.C. § 134 from the Examiner's final decision rejecting claims 293–296, 298, 302–305, 307, 320, and 323–327, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

¹ According to Appellants, the real party in interest is Invention Science Fund I, LLC, an affiliate of Intellectual Ventures Management, LLC.
Appeal Br. 4.

THE CLAIMED SUBJECT MATTER

Claim 293, the sole independent claim on appeal is reproduced below and is representative of the claimed subject matter on appeal.

293. A therapeutic administration system comprising:
one or more capture components configured to accelerate a decrease in a local concentration of one or more therapeutic structures along a downstream portion of a vasculature; and
one or more dispensation components configured to release the one or more therapeutic structures into an upstream portion of the vasculature.

EVIDENCE

The Examiner relied on the following evidence in rejecting the claims on appeal:

Ranchod US 2008/0058758 A1 Mar. 6, 2008

THE REJECTION

Claims 293–296, 298, 302–305, 307, 320, and 323–327 stand rejected under 35 U.S.C. § 102(e) as anticipated by Ranchod. Final Act. 3–8.

OPINION

Claims 293–296, 298, 302, 303, 305, 320, and 323–327

The Examiner finds that Ranchod discloses all of the limitations of independent claim 293, including “one or more capture components configured to accelerate a decrease in a local concentration of one or more therapeutic structures along a downstream portion of a vasculature.” Final Act. 3. In particular, the Examiner points to inner catheter assembly 70, which may be extended or retracted relative to outer catheter assembly 20 via control device 134 such as computer and/or display device 136, as the one or more capture components. *Id.*; Ranchod, ¶ 73. The Examiner states

that inner catheter assembly 70 includes filtration element 74 that includes filtration structures 120. Final Act. 3; Ranchod, ¶¶ 63, 66.

The Examiner reasons that the identified capture component is configured to accelerate a decrease in a local concentration of therapeutic structures because its “filtration structures (120) which are a sponge-like structure . . . hav[e] ports or conduits which . . . maximize the potential surface area for coating and filtration” and accomplish the claimed function via “the exposure of the filtration structure (74) . . . and the deployment or expansion of the filtration structures (120) which fully encompasses 360° of the cross-sectional area of the blood vessel ([]12).” Final Act. 3–4 (citing Ranchod, ¶¶ 66, 68). The Examiner explains that the therapeutic structures are subjected to “filtering or trapping and binding . . . in the ports or conduits of the filtration structures . . . once the filtration structures (120) are deployed.” *Id.* at 10 (citing Ranchod, ¶ 66); *see also* Ans. 12.

First, the Examiner explains that “if the one or more therapeutic structures are introduced before the deployment or the expansion of the one or more capture components, the result will be that the deployment or expansion of the one or more capture components will accelerate a decrease in the local concentration of the one or more therapeutic structures in the area of the deployment or expansion.” Final Act. 12; *see also* Ans. 11, 20. The Examiner notes the use of Ranchod’s apparatus to intercept and remove therapeutic substances in order “to limit or eliminate any possible harmful effects to downstream tissues.” Ans. 21 (citing Ranchod, ¶¶ 52, 54–55). The Examiner also notes the use of “feedback or signals to warn of an unsafe condition like an excessive amount of therapeutic substance in the body lumen” and that the “feedback component is connected to a control

device (134) which includes a controller (138) to control the operation of the system including the extension and retraction of the one or more capture components (70, 136).” *Id.*; Ranchod, ¶¶ 54–55, 73.

Second, the Examiner explains that “as more of the . . . therapeutic substances are captured or trapped by the capture components . . . , the . . . capture components . . . will accelerate a decrease in the local concentration of one or more therapeutic structures . . . by preventing more of the . . . therapeutic structures from reaching the downstream portion due to the increased number of the captured or trapped . . . therapeutic structures forming a physical blockage preventing more of the . . . therapeutic structures from passing through or advancing past the one or more capture components.” Ans. 11; *see also id.* at 13.

Appellants argue that a *prima facie* case of unpatentability has not been established because the Examiner has not explained how it reaches its mapping of claim 293 (including the claimed capture component in particular) onto Ranchod under a broadest reasonable interpretation consistent with the Specification. Appeal Br. 36–37. To the extent Appellants’ argument is based on the Examiner’s failure to expressly construe the claimed “capture components configured to accelerate a decrease in a local concentration of one or more therapeutic structures along a downstream portion of a vasculature,” we determine that the failure to expressly construe this clause is not dispositive of whether or not the Examiner’s findings based on Ranchod’s disclosure are adequate to reject claim 293. Rather, we consider whether the Examiner adequately supports a finding that Ranchod’s disclosure encompasses “one or more capture components configured to accelerate a decrease in a local concentration of

one or more therapeutic structures along a downstream portion of a vasculature,” when considering a proper construction of this claim term.

As to a construction of this claim term, the Specification describes accelerating a decrease in local concentration of therapeutic structures “by causing one or more elements to extract” at least a portion of the therapeutic structures “in response to . . . indications of the [therapeutic structures] in the vicinity of the one or more body lumens.” Spec. 10:22–26. Elements that may extract the therapeutic structures include ports or conduits that may be opened “to allow higher-than-nominal concentrations of the lytic material to drain out of the vascular system, optionally by a timely exposure to an absorbent element . . . or other disposal vessel” and/or “microfluidic or other pumps.” *Id.* at 10:26–11:2. We determine that, in accordance with the Specification, a capture component that is configured to accelerate a decrease in a local concentration of therapeutic structures should be construed as a component that is designed to selectively operate in order to extract therapeutic structures.

With this construction in mind, we determine that the Examiner has shown that (i) inner catheter assembly 70 may be extended relative to outer catheter 20 so as to expose filtration element 74 and deploy filtration structures 120; (ii) inner catheter assembly 70 may be retracted relative to outer catheter 20 without damage to filtration structures 120, thereby allowing re-deployment, and (iii) that extension and retraction of inner catheter assembly 70 relative to outer catheter 20 is accomplished through the use of control device 134 and/or controller 138. Final Act. 3–4; Ans. 21; Ranchod ¶¶ 67, 68, 73. The element of control through control device 134 and/or controller 138 supports the notion that inner catheter assembly 70 is

designed to be selectively operated. Moreover, the Examiner has shown that, when operated so as to deploy filtration structures 120, inner catheter assembly 70 will extract therapeutic structures along a downstream portion of the vasculature because of the ports and conduits of the sponge-like structure of filtration structures 120. Final Act. 3–4; Ranchod, ¶¶ 66, 68. In this way, the Examiner has adequately supported a finding that Ranchod discloses a component that is designed to selectively operate in order to extract therapeutic structures, and therefore, a capture component configured to accelerate a decrease in a local concentration of one or more therapeutic structures, as claimed.

We find Appellants’ general allegations that the claims define a patentable invention because the Examiner has failed to establish a prima facie case of unpatentability unpersuasive. *See, e.g.*, Appeal Br. 31–56, 58–60. We now address any specific distinctions advanced by Appellants as to the gaps that exist between Ranchod and the claims.

Appellants point to the lack of valves, pumps, or other similar capture components described in the Specification. Appeal Br. 57. Anticipation does not require that the prior art reference teach what the application at issue teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 (1984), *overrules on other grounds by SRI Int’l v. Matsushita Elect. Corp. of America*, 775 F.2d 1107 (Fed. Cir. 1985). It is only necessary for the claims to “‘read on’ something disclosed in the reference, i.e., all limitations in the claim are found in the reference, or ‘fully met’ by it.” *Id.* Therefore, Ranchod’s failure to teach the specific capture components described in the Specification is not persuasive of Examiner error.

Appellants also argue that Ranchod “just start[s] capturing ‘agent A’ as a passive response to the presence of ‘agent A’ in the bloodstream (just after ‘ports 42’ of ‘first catheter 20’ start injecting, e.g.),” rather than accelerating a decrease. Appeal Br. 57, n.32. Appellants point out that the “chemical coating” on filtration structures 120 could have been applied before insertion of catheter 10 into blood vessel 12, and therefore, does not *accelerate* a decrease in the concentration of therapeutic structures. Appeal Br. 57. Appellants further argue that there is “no apparent relationship” between the function of displaying information regarding the amount of thrombolytic agent remaining in blood vessel 12 downstream of filtration element 74 and the second catheter assembly being configured to accelerate a decrease in a local concentration of therapeutic structures. *Id.*

As described hereinabove, Ranchod’s second catheter assembly 70 includes filtration element 74 which, in turn, includes filtration structures 120. Because second catheter assembly 70 is designed such that the deployment of filtration structures 120 can be selectively controlled to extract therapeutic structures, we determine it sufficiently meets the claim language. It is not necessary that Ranchod disclose that the filtration structure actually be selectively operated in response to detection of a threshold level of therapeutic structures along a downstream portion of a vasculature, as suggested by Appellants. *See Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990) (“[A]pparatus claims cover what a device is, not what a device does.”). Because Ranchod’s filtration structures 120 are designed for selective operation (through a controller) so as to extract therapeutic structures, the Examiner is on solid ground in finding that Ranchod discloses a capture component

configured to accelerate a decrease in a local concentration of one or more therapeutic structures along a downstream portion of a vasculature, as recited in the claim, even if Ranchod fails to explicitly disclose that the filtration structures are selectively deployed in response to information regarding the amount of therapeutic structures in the blood vessel.

As an additional matter, at least some of Appellants' arguments appear to be predicated on a belief that a reference must describe a limitation *in haec verba*. See, e.g., Appeal Br. 39 (“[T]he Ranchod reference does not recite ‘one or more capture components configured to accelerate a decrease in a local concentration of one or more therapeutic structures along a downstream portion of a vasculature.’”). There is no such requirement. See *In re Bode*, 550 F.2d 656, 660 (CCPA 1977).

For the foregoing reasons, we sustain the Examiner's rejection of claim 293 under 35 U.S.C. § 102(b) as anticipated by Ranchod. We also sustain the Examiner's rejection of claims 294–296, 298, 302, 303, 305, 320, and 323–327, for which Appellants rely on the same arguments and reasoning we found unpersuasive in connection with independent claim 293. See Appeal Br. 60–61.

Claim 304

Appellants separately argue the patentability of dependent claim 304. Appeal Br. 61–74. Claim 304 recites that the one or more capture components comprise a semi-permeable membrane. *Id.* at 91 (Claims App.). The Examiner finds that filtration element 74 or wire mesh 130 of Ranchod meets the claim in that the “sponge-like structure [of filtration structures 120 making up filtration element 74] comprises a semi-permeable membrane” and/or that “wire mesh (130) is a fine wire mesh and is disclosed as acting

[as] an embolus/thrombus catching device to prevent the progression of thrombolytic material to a downstream location.” Final Act. 5 (citing Ranchod ¶¶ 69–71).

Appellants argue that the Examiner has failed to establish a prima facie case of unpatentability of claim 304. Appeal Br. 61–74. In this regard, Appellants argue that the Patent Office has not shown through “objectively verifiable evidence” that Ranchod discloses what is recited in claim 304. *Id.* at 61, 68. Yet, the cited portions of the reference and the accompanying explanation provided by the Examiner collectively constitute the “objectively verifiable evidence” which Appellants allege is lacking.

As to Appellants’ arguments that modifying the cited reference renders the art unsatisfactory for its intended purpose and changes its principle of operation (*id.*), such arguments are not persuasive in that they do not address the rejection as articulated by the Examiner, which is based on anticipation by Ranchod.

Appellants also argue that the Patent Office has not adequately explained how it reaches its mapping of claim 304 onto Ranchod under a broadest reasonable interpretation. *Id.* at 62. Appellants maintain that, in doing so, the Patent Office has not done what “is required under 37 C.F.R. § 1.104(c)(2).” *Id.* at 63. The Federal Circuit has held that the Patent Office carries its procedural burden of establishing a prima facie case when its rejection satisfies the requirements of 35 U.S.C. § 132 by notifying the applicant of the reasons for rejection, “together with such information and references as may be useful in judging of the propriety of continuing the prosecution of [the] application.” *See In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011). Thus, “all that is required of the office to meets its prima facie

burden of production is to set forth the statutory basis of the rejection and the reference or references relied upon in a sufficiently articulate and informative manner as to meet the notice requirement of § 132.” *Id.* at 1363. Here, the Examiner notified Appellants that claim 304 is rejected as anticipated by Ranchod and provided the portions of the reference that are the basis for the rejection. We find that the Examiner’s rejection satisfies the notice requirement of § 132, and therefore, establishes a prima facie case of obviousness. Therefore, the burden shifts to Appellants to rebut the Examiner’s prima facie case by distinctly and specifically pointing out the supposed errors in the Examiner’s action, as well as the specific distinctions believed to render the claims patentable over the applied references.

As an initial matter, with respect to Appellants’ argument that significant textual distinctions exist between the actual recitations of Ranchod and the language of claim 304 (*see, e.g.*, Appeal Br. 64–70), textual identity is not required. The Examiner does not contend, nor is the Examiner required to demonstrate, that the identical text of claim 304 appears in the cited reference.

Next, Appellants argue that filtration element 74 has “a coating ‘with a chemical adapted to react with the thrombolytic agent A’ that may ‘bind the thrombolytic agent A to filtration structures 120,’” but this provides “no reason to assume that such a coating would be ‘semi-permeable.’” Appeal Br. 71. Appellants further argue that “wire mesh 130 ‘is composed of an electrically conductive material’ and that ‘remaining active thrombolytic agent A (see FIG. 9B) reacts with wire mesh 130 which changes the electrical conductivity of the wire mesh 130,’” but this provides “no reason to assume that wire mesh 130 of Ranchod includes any kind of membrane at

all, much less one that is semi-permeable.” *Id.* at 71 (emphasis omitted). Appellants add that not every sponge-like structure, nor every fine wire mesh, is a semi-permeable membrane. *Id.* at 73 n.50. Appellants further argue that “[t]he Examiner has . . . neglected to consider whether the phrase ‘semi-permeable membrane’ has an art-known meaning.” *Id.* at 73 n.51. Appellants, however, fail to set forth what such an art-known meaning is, let alone provide evidence that Ranchod’s filtration element 74 and/or wire mesh 130 is not in accordance with such an art-known meaning.

The Examiner responds that the rejection of the claims is based on a broadest reasonable interpretation of the term semi-permeable membrane, considering the lack of any specific structure given to the semi-permeable membrane in the Specification. Final Act. 15 (citing Spec. ¶¶ 27, 71); *see also* American Heritage Dictionary, available at www.ahdictionary.com (last visited Nov. 18, 2016) (defining “semipermeable” as “partially permeable”) and Oxford English Dictionary, available at www.oed.com (last visited Nov. 18, 2016) (defining “membrane” as “[a]ny thin, often pliable, sheet or layer”). In the absence of a more detailed explanation by Appellants as to why filter element 74 and fine wire mesh 130 cannot be considered semi-permeable membranes, we are not persuaded the Examiner erred in making such a finding.

For the foregoing reasons, we sustain the rejection of claim 304 under 35 U.S.C. § 102(b) as anticipated by Ranchod.

Claim 307

Appellants separately argue the patentability of dependent claim 307. Appeal Br. 74–84. Claim 307 recites that the one or more capture components comprise a conduit configured to bear a blood-containing

material into a body lumen. *Id.* at 91 (Claims App.). The Examiner finds that Ranchod's conduit 70 meets the claim in that "conduit (70) is capable of bearing a blood-co[ntaining] material from the interior of the conduit into the body lumen in which the conduit is located." Final Act. 6; *see also id.* at 18 ("The rejection of claim 307 has been based on the conduit (70) being configured to bear a blood-containing material into a body lumen as the one or more capture components of Ranchod et al[.] comprises a conduit configured to bear and capable of bearing a blood-containing material into a body lumen.").

Appellants argue that even though "filtration element 74 of second catheter 70 might capture dissolved or dislodged thrombotic material 78 (possibly including blood)," this provides "no reason to assume . . . that second catheter 70 would ever bear a blood-containing material into blood vessel 12 or any other 'body lumen.'" Appeal Br. 81 (emphasis omitted).

The Examiner responds that Ranchod's capture component "is broadly disclosed as a catheter which includes a conduit which is capable of bearing a blood-containing material from the interior of the conduit into the body lumen in which the conduit is located." Ans. 18. At the outset, we note that the phrase "configured to" is narrower than "capable of" and has a meaning more akin to "designed to." *See Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1349 (Fed. Cir. 2012). Ranchod discloses capture component 70 as a filtering and sensing catheter 72 surrounded by inner sheath 100, in which capture component 70 is designed for a close fit between sensing catheter 72 and inner sheath 100, and includes end wall 108 "to prevent or minimize fluid entry through distal opening 114 into annular space 116 defined between inner sheath 100 and filtering and sensing

catheter 72.” Ranchod ¶¶ 63, 64 (emphasis omitted). Because Ranchod’s catheter is designed so as to avoid fluid entering into the annular space around the catheter, the Examiner has not adequately explained how any conduit of capture component 70 is designed to bear blood containing material from the interior of the conduit into the body lumen in which the conduit is located.

For the foregoing reasons, we do not sustain the rejection of claim 307 under 35 U.S.C. § 102(b) as anticipated by Ranchod.

DECISION

The Examiner’s decision to reject claims 293–296, 298, 302–305, 320, and 323–327 under 35 U.S.C. § 102(b) as anticipated by Ranchod is affirmed.

The Examiner’s decision to reject claim 307 under 35 U.S.C. § 102(b) as anticipated by Ranchod is reversed.

AFFIRMED-IN-PART