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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TRINIDAD MUNOZ JR.

Appeal 2011-003256
Application 11/634,319
Technology Center 1700

Before CHUNG K. PAK, JEFFREY T. SMITH, and DEBORAH KATZ, *Administrative Patent Judges*.

KATZ, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] seeks our review, under 35 U.S.C. § 134(a), of the Examiner's decision to reject claims 1-20. (App. Br. 3.) We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

The Examiner provisionally rejected claims 1, 3-6, 9, 11, and 15-18 under the doctrine of obviousness-type double-patenting over claims 15, 22, 23, 30, 47, 49, 50, 61, 65, and 67 of U.S. Patent Application 10/664,126. (Ans. 3-4.) Appellant does not make any substantive arguments against this

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[1] The real party in interest is Halliburton Energy Services, Inc. (App. Br. 3.)

rejection and notes that if the rejection becomes non-provisional during subsequent prosecution, a terminal disclaimer may be filed. (App. Br. 13.) Accordingly, we summarily sustain this rejection.

The Examiner also made the following rejections:

- Claims 1, 2, 5, 7-11, 13-15, 18, and 20 under 35 U.S.C. § 102(a) over Cooke[2] (Ans. 4-5);
- Claims 12 and 19 under 35 U.S.C. § 103(a) over Cooke and Erbstoesser[3] (Ans. 7-8);
- Claims 1-20 under 35 U.S.C. § 103(a) over Sawdon[4] in view of Cooke, Bradbury,[5] and Guzman.[6]

Appellant's Specification is directed to subterranean treatment fluids and methods of using them in subterranean formations, for example in drilling operations. (Spec., ¶¶ [0002] and [0003].)

Appellant's claim 15 is representative and recites[7]:

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[2] Cooke Jr., U.S. Patent Application Publication 2003/0060374 A1, which was published March 27, 2003.
[3] Erbstoesser, et al., U.S. Patent 4,716,964, which issued January 5, 1988.
[4] Sawdon and Ballard, U.S. Patent 6,710,019 B1, which issued March 23, 2004.
[5] Bradbury and Sawdon, U.S. Patent 6,586,372 B1, which issued July 1, 2003.
[6] Guzman, U.S. Patent 7,033,976 B2, which issued April 25, 2006.
[7] Appellant admits that the claims recited in the Claims Appendix of the Appeal Brief incorrectly include amendments made after the Final Office Action that were not entered. (Reply Br. 5.) Specifically, Appellants note that the independent claims incorrectly recite "allowing the subterranean treatment fluid to form a self-degrading filter cake upon a *well bore wall* in the subterranean formation," instead of "allowing the subterranean treatment fluid to form a self-degrading filter cake upon a *surface* in the subterranean formation," as originally recited. (*Id.*) We review Appellant's arguments

> A method comprising:
> drilling a well bore in a subterranean formation using a subterranean treatment fluid comprising an aqueous fluid, a viscosifier, a fluid loss control additive, a bridging agent comprising a degradable polymer capable of generating an acid upon degradation, and a solvent;
> allowing the solvent to at least partially plasticize the degradable polymer; and
> allowing the subterranean treatment fluid to form a self-degrading filter cake upon a well bore wall in the subterranean formation.

(Reply Br., Claims App'x.) Appellant does not argue for the separate patentability of any of the claims in the rejected groups. We focus on claim 15 in our review of the rejections because it includes the limitations highlighted by Appellant in the arguments against the rejections. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Rejection of claims 1, 2, 5, 7-11, 13-15, 18, and 20 as being anticipated by Cooke

Cooke teaches a fracturing process in which compounds that Appellants do not dispute are degradable polymers within the scope of their claims (*see* Cooke, ¶¶ [0022] and [0023]) are placed in a slurry down a wellbore and plasticized with polyhydric alcohol or glycol (*see id.*, ¶ [0027] and [0046]). (Ans. 4.) The Examiner finds that Cooke further teaches that the plasticized polymer is allowed to plug the fracture as a pellet, and thus reads on the claimed bridging agent and filter-cake. (Ans. 4.)

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based on the claims recited in the Reply Brief, which do not include the un-entered amendments.

Appellant argues that Cooke does not anticipate independent claim 15 because it does not teach drilling a well bore in a subterranean formation using a subterranean treatment fluid. (App. Br. 9.) According to Appellant, Cooke is directed to using a fluid to fracture a subterranean formation, instead of drilling. (App. Br. 9-10.)

The Examiner finds that Cooke's hydraulic fracturing meets the limitation of drilling a well bore because it causes a crack or fracture to develop in the face of the rock at a well bore. (Ans. 10, citing Cooke, ¶ [0005].) Cooke also provides that "the degradable plastic may be placed in a wellbore near a formation to be fractured as a dispersed or discontinuous phase in a carrier fluid, so as to control pressure losses in the wellbore during placement." (Cooke, ¶ [0014].) Appellant has not explained how the wellbore discussed in Cooke differs from the wellbore drilled in claim 15. Thus, even if the methods taught in Cooke are directed to hydraulic fracturing, we are not persuaded that they are excluded from the scope of Appellant's claims.

Appellant also argues that Cooke does not teach a "filter cake" as claimed because those in the art would have understood a filter cake to be the residue deposited on a permeable zone in a well bore after a slurry is forced, under pressure, against the medium and the filtrate flows through. (App. Br. 9; Reply Br. 6.) Appellant argues that Cooke teaches simply placing the degradable pellets into a facture without pressure, which would not form a filter cake. (App. Br. 9.)

We are not persuaded by Appellant's argument because, as the Examiner finds, Cooke teaches that the slurry may be pressured downhole to plug the fracture. (Ans. 9; Cooke, ¶¶ [0014] and [0035].) Thus, Appellant

has not persuaded us that the claim limitation of allowing a "filter cake" to form distinguishes it from the method taught in Cooke.

Appellant has not presented arguments that persuade us that Cooke fails to teach each and every element of the rejected claims and thus, fails to anticipate the methods claimed. *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) ("A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.").

Rejection of claims 12 and 19 as being rendered obvious over Cooke and Erbstoesser

Appellant argues only that Erbstoesser does not cure the deficiencies of Cooke with respect to independent claims 9 and 15. (App. Br. 12.) Because we do not find any deficiencies in the rejections of these claims over Cooke, the Examiner has not erred in rejecting claims 12 and 19.

Rejection of claims 1-20 as being obviousness over Sawdon, in view of Cooke, Bradbury, and Guzman

Sawdon teaches a method of drilling that involves preparing a wellbore fluid with an aqueous base (Sawdon, col. 2, l. 64), a viscosifier (*id.*, col. 5, ll. 11 and 14), a filtration control additive (*id.*, col. 5, ll. 10 and 14), and a bridging agent comprising a crosslinked polymer (*id.*, col. 3, ll. 3-5), which is degradable (*id.*, col. 4, l. 13). Sawdon teaches placing the wellbore fluid in the wellbore, allowing a filter cake to form (*id.,* col. 2, l. 60), and subsequently degrading the filter cake (*id.,* col. 4, ll. 13-14 and 32-33). (Ans. 5-6.) Sawdon does not teach the currently claimed degradable polymers and does not teach plasticizing the polymer. (Ans. 6.)

As discussed above, Cooke teaches using the claimed degradable polymers along with plasticizers to form a pellet or low porosity mass to plug a fracture. The Examiner finds that it would have been obvious for one of ordinary skill in the art to have included the polymers of Cooke in the fluid of Sawdon because Cooke teaches that these polymers could be predictably used to create a degradable plug. (Ans. 6; Cooke ¶¶ [0022] and [0027].) Cooke also teaches that including plasticizers can allow one to adjust the viscosity of the polymer before placing it in the wellbore. (Ans. 6-7; Cooke, ¶ [0027].)

Appellant argues that because the polymers of Sawdon are stable under basic conditions and are hydrolyzed by even weak acids (*see* Sawdon, col. 3, ll. 52-59), using acid generating polymers, as claimed, would change the principle of operation of Sawdon because it would "lead to near immediate breakdown of the polymers in Sawdon." (App. Br. 11; Reply Br. 7.)

We are not persuaded by Appellant's argument. First, the Examiner's rejection is based on the substitution of the polymers of Sawdon with the polymers taught in Cooke and claimed. Thus, the method taught by Sawdon, modified by using the polymers and plasticizers of Cooke, would not include the polymers of Sawdon. Appellant does not argue that the other components or conditions of subterranean treatment fluid taught in Sawdon would be incompatible with the polymers claimed and taught in Cooke.

Nor does Appellant direct us to evidence that the polymers of Cooke perform a different function than those used as bridging agents in Sawdon. Thus, Appellant's argument does not indicate that the Examiner erred by failing to provide a sufficient reason why the polymers of Cooke would

have been considered by those in the art as a substitution for the polymers of Sawdon that would have been reasonably expected to succeed.

Furthermore, Appellant's Specification contemplates removal of filter cakes with acid. (*See* Spec., ¶ [0021]: "Examples of other suitable degradable polymers include those degradable polymers that release useful or desirable degradation products that are desirable, *e.g.*, an acid. Such degradation products may be useful in a downhole application, *e.g.*, to break a viscosified treatment fluid or an acid soluble component present therein (such as in filter cake).") Like the polymers recited in Appellant's claims, the polymers of Sawdon are components of a "self-degrading filter cake." Because both the claimed polymers and those of Sawdon result in filter cakes that break down when exposed to acid, Appellant's argument that the principle of operation relied upon in Sawdon is different from that which would result using the claimed polymers, is unpersuasive.

Appellant has not persuaded us that the method of Sawdon, modified by using the polymers and plasticizers of Cooke, would not been considered obvious to those of skill in the art.

Conclusion

Upon consideration of the record and for the reasons given, the rejection of Appellant's claims is sustained.

Therefore, we affirm the decision of the Examiner.

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

AFFIRMED

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