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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PETER KOTANKO, STEPHAN THIJSSEN, LEN USVYAT, and NATHAN W. LEVIN

Appeal 2015-006699[1]
Application 12/959,017
Technology Center 3600

Before MURRIEL E. CRAWFORD, JOSEPH A. FISCHETTI, and MICHAEL W. KIM, *Administrative Patent Judges*.

CRAWFORD, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal from the final rejection of claims 1–5 and 9. We have jurisdiction to review the case under 35 U.S.C. §§ 134 and 6.

We REVERSE.

The invention relates generally to identifying a patient undergoing hemodialysis treatments at increased risk for death. Spec. 2, ll. 10–11.

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[1] The Appellants identify is Fresenius Medical Care Holdings, Inc. as the real party in interest. Appeal Br. 3.

Claim 1 is illustrative:

1. A method of identifying and treating a patient undergoing periodic hemodialysis treatments at increased risk for death, comprising:
   a) determining at least one clinical or biochemical parameter associated with an increased risk of death of the patient and monitoring said parameter periodically before and/or after the patient is undergoing hemodialysis treatments;
   b) determining a significant change in the rate of change of the at least one clinical or biochemical parameter from a retrospective record review of parameter values of the patient determined at prior hemodialysis treatments;
   c) identifying the patient as having an increased risk for death because the patient has the significant change in the rate of change of the at least one clinical or biochemical parameter; and
   d) treating the patient having an increased risk for death within a sufficient lead time to decrease the patient's risk of death.

Claims 1–5 and 9 are rejected under 35 U.S.C. § 101 as reciting ineligible subject matter in the form of an abstract idea.

Claims 1–5 and 9 are rejected under 35 U.S.C. § 103(a) as unpatentable over Casscells (US 6,454,707 B1, iss. Sept. 24, 2002), Mori (US 2006/0226079 A1, pub. Oct. 12, 2006), and Sornmo (US 2009/0082684 A1, pub. Mar. 26, 2009).

ANALYSIS

Rejection under 35 U.S.C. § 101

We are persuaded by Appellants' arguments that the claimed method is not an abstract idea, because the claims "have the particular practical

application of identifying a patient as having an increased risk of death and treating the patient to decrease the risk of death." Appeal Br. 6; *see also id.* at 4–6; Reply Br. 2–4.

The patent statute provides that a patent may be obtained for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. Yet the Supreme Court has "long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014) (*quoting Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013)). The Court has, thus, made clear that "[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972).

The Supreme Court in *Alice* reiterated the two-step framework, set forth previously in *Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1300 (2012), "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of these concepts." *Alice*, 134 S. Ct. at 2355. The first step in that analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* If so, the second step is to consider the elements of the claims "individually and 'as an ordered combination"' to determine whether the additional elements "'transform the nature of the claim' into a patent-eligible application." *Id.* (*citing Mayo*, 132 S. Ct. at 1291, 1297). In other words, the second step is to "search for an

'inventive concept'--i.e., an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Id.* (*citing Mayo*, 132 S. Ct. at 1294).

In rejecting claim 1, the Examiner finds claimed steps a) to c) can be performed with mental thought alone, and treating step d) is not a "transformation of a patient," because "the treatment step can be anything; i.e. not necessarily having to do with hemodialysis." Answer 4. The Examiner, therefore, concludes "the claim is effectively [directed] to the general correlation and the abstract idea of doing the significant change analysis." *Id.* We disagree.

Independent claim 1 is directed to identifying a patient undergoing hemodialysis at increased risk of death, by identifying a change in rate of change of a monitored clinical or biochemical parameter associated with an increased risk of death of a patient, and then treating the identified patient to decrease the risk. Although the claim includes steps that can be performed mentally, "treating the patient . . . to decrease the patient's risk of death" is not a phenomenon of nature, mental process, or abstract intellectual concept. This is a specific type of treatment, as opposed to, for example, treating only to alleviate pain. The claim as a whole is directed to more than just steps capable of being performed mentally.

Therefore, the claim, considered as a whole, is not directed merely to an abstract idea, as defined under step one of the *Alice* analysis, because it includes treating a patient to reduce a risk of death.

In addition, if one were to consider the claim under the second step of the *Alice* analysis, the treatment of a patient to reduce the risk of death

functions to "effect an improvement in [another] technology or technical field," namely medicine. *Alice*, 134 S. Ct. at 2359.

For these reasons, we do not sustain the rejection of claim 1, nor of dependent claims 2–5 and 9 under 35 U.S.C. § 101.

Rejection under 35 U.S.C. § 103(a)

We are persuaded by Appellants' argument that the cited art of record, alone or in combination, fails to disclose detecting a change in a rate of change of a parameter, because each of Casscells and Mori merely detect a change, or perhaps a rate of change, but not a change in a rate of change. Appeal Br. 8–9; *see also* Reply Br. 6–7.

The Examiner reasons "changes in temperature measurements over a period of time are interpreted as significant change in the rate of change." Answer 6. We find this interpretation to be unreasonable, because it ignores key claim language. Appellants point out "the Examiner's interpretation of Casscells is akin to interpreting, in mathematical terms, a first derivative (e.g., velocity) as a second derivative (e.g., acceleration or deceleration)." Reply Br. 6. We agree with Appellants. The Examiner has not established a case of obviousness of the claims because the "change of rate of change" language is not disclosed by a change in temperature over a single period of time.

For this reason, we do not sustain the rejection of claim 1, nor of dependent claims 2–5 and 9 that were rejected along with claim 1.

DECISION

We reverse the rejection of claims 1–5 and 9 under 35 U.S.C. § 101.

We reverse the rejection of claims 1–5 and 9 under 35 U.S.C. § 103(a).

REVERSED