FLETCHER YODER

Intellectual Property Law

Keywords: **Inequitable Conduct; On-Sale Bar; Public Use Bar; Experimental Use; Attorney Fees; 35 U.S.C. § 285**

General: **Failure to disclose a material action, which potentially triggers the on-sale bar, with specific intent to deceive the PTO may constitute inequitable conduct, which renders any resulting patent unenforceable.**

Energy Heating, LLC v. Heat On-The-Fly, LLC
Federal Circuit
No. 2016-0559; 2016-1893; 2016-1894
Decided: May 4, 2018

I. Facts

Heat On-The-Fly filed a provisional application on September 18, 2009 directed to continuous preparation of heated water flow for use in hydraulic fracturing. More than a year before filing the provisional application, Heat On-The-Fly provided water heating services on at least sixty-one hydraulic fracturing jobs, which brought in $1.8 million. In fact, the invention disclosure form indicated that the invention was conceived in January 2006, experimented with through October 2006, and used on a paying job on November 3, 2006. Nevertheless, during prosecution, Heat On-The-Fly did not disclose any of the sixty-one prior hydraulic fracturing jobs to the Patent and Trademark Office (PTO).[1]

Heat On-The-Fly was ultimately issued U.S. Patent No. 8,171,993 (hereinafter "the '993 patent") on May 8, 2012. Subsequently, on September 30, 2014, Heat On-The-Fly filed a continuation application[2] claiming priority to the '993 patent. During prosecution of the continuation application, Heat On-The-Fly disclosed the sixty-one prior hydraulic fracturing jobs to the PTO. Nevertheless, the continuation application issued as U.S. Patent No. 9,442,498 (hereinafter "the '498 continuation patent") on September 13, 2016.

In 2012, Energy Heating, a Heat On-The-Fly competitor, began practicing techniques that allegedly infringed the '993 patent. Additionally, during 2012, Energy Heating was in discussions with a potential client – namely Triangle Oil – for providing water heating services. Ultimately, in December 2012, Triangle Oil hired Heat On-The-Fly instead of Energy Heating.

In January 2013, Energy Heating filed suit in North Dakota District Court seeking declaratory judgment that the '993 patent was unenforceable due to inequitable conduct, invalid

[1] Heat On-The-Fly contended that prosecuting attorney decided that sixty-one prior hydraulic fracturing jobs were experimental use and, thus, need not be disclosed to PTO.
[2] Heat On-The-Fly filed a continuation application on April 10, 2012, which issued as U.S. Patent No. 8,739,875 on June 3, 2014, and another continuation application on April 23, 2014, which issued as U.S. Patent No. 9,575,495 on February 21, 2017.

as obvious, and not infringed.[3] During trial,[4] the sole inventor admitted that 1) the sixty-one prior hydraulic fracturing jobs included all elements of independent claim 1 of the '993 patent and 2) he had discussed the one year on-sale bar with his business partner. However, the sole inventor testified that the sixty-one prior hydraulic fracturing jobs were intended to experiment with 1) heating water at the same rate as water being pumped downhole, 2) getting a thirty-degree rise in temperature, and 3) achieving those results consistently.[5]

Ultimately, the District Court found that 1) the sixty-one prior hydraulic fracturing jobs were not experimental use and 2) failure to disclose the sixty-one prior hydraulic fracturing jobs constituted inequitable conduct, which rendered the '993 patent unenforceable, but 3) denied attorney fees.[6] Subsequently, Heat On-The-Fly appealed the District Court's finding of inequitable conduct[7] while Energy Heating appealed the District Court's denial of attorney fees.[8]

II. Issues

i. Does experimentation with specific aspects of an invention automatically trigger experimental use exception?

ii. Can a failure to disclose a prior action, which is arguably experimental use, constitute inequitable conduct?

iii. Does a finding of inequitable conduct necessitate granting of attorney fees?

III. Discussion

i. No – Experimental use exception only applies when experimental criteria are reflected in the claims of the patent.

The Federal Circuit reviewed the District Court's finding that Heat On-The-Fly's sixty-one prior hydraulic fracturing jobs do not constitute experimental use under an abuse of discretion standard. In determining whether the sixty-one prior hydraulic fracturing jobs constituted experimental use, the Federal Circuit considered the object indicia of experimental use set forth in *Allen Corp.*, which include 1) the necessity for public testing, 2) the amount of control over the experiment retained by the inventor, 3) the nature of the invention, 4) the length of the test period, 5) whether payment was made, 6) whether there was a secrecy obligation, 7)

[3] Heat On-The-Fly filed counterclaims of direct infringement, induced infringement, and contributory infringement against Energy Heating and Marathon. Additionally, Energy Heating filed a second amended complaint seeking declaratory judgement for tortious interference with existing or prospective business relationships and for tortious inference with contracts under state law.

[4] District Court concurrently conducted jury trial and bench trial. Additionally, before trial, the District Court granted summary judgment finding 1) no direct infringement of the independent claims of the '993 patent and 2) all claims of the '993 patent would be obvious under 35 U.S.C. § 103.

[5] During trial, Heat On-The-Fly wanted to introduce testimony of the prosecuting attorney to support an advice of counsel defense again a finding of specific intent to deceive, but was denied due to Heat On-The-Fly previously asserting attorney-client privilege during deposition of the prosecuting attorney.

[6] Jury trial found that Heat On-The-Fly 1) represented in bad faith that it had a valid patent, 2) knowingly engaged in unlawful sales or advertising practices, 3) unlawfully interfered with Energy Heating's prospective business relationship with Triangle Oil, and 4) caused Energy Heating $750,000 in damages.

[7] Heat On-The-Fly also appealed District Court's judgment on obviousness, tortious interference, claim construction and divided infringement.

[8] Energy Heating and Marathon appealed denial of attorney fees under 35 U.S.C. § 285. Energy Heating also appealed denial of attorney fees and treble damages under North Dakota Unlawful Sale or Advertising Practices Act.

whether records of the experiment were kept, 8) who conducted the experiment, 9) the degree of commercial exploitation during testing, 10) whether the invention reasonably requires evaluation under actual conditions of use, 11) whether testing was systematically performed, 12) whether the inventor continually monitored the invention during testing, and 13) the nature of contacts made with potential customers.

On appeal, Heat On-The-Fly did not dispute that 1) the sixty-one prior hydraulic fracturing jobs included all elements of independent claim 1 of the '993 patent, 2) the sixty-one prior hydraulic fracturing jobs were not done in secret, 3) Heat On-The-Fly made no attempt to enter into a confidentiality agreement or otherwise hide the water heating techniques, and 4) the sole inventor of the '993 patent did not keep a record of outcomes of the experimentation, express a preliminary hypothesis prior to experimentation, or record a conclusion confirming or denying the preliminary hypothesis. Additionally, the Federal Circuit agreed with the District Court's finding that the primary reason for the sixty-one prior hydraulic fracturing jobs was to provide the sole inventor and Heat On-The-Fly income. Accordingly, in view of the *Allen Corp.* factors, the Federal circuit found that the District Court did not clearly err in finding that Heat On-The-Fly's sixty-one prior hydraulic fracturing jobs do not constitute experimental use.

Moreover, the Federal Circuit reasoned that, even assuming *arguendo* that the sixty-one prior hydraulic fracturing jobs were performed for the primary purpose of experimentation, the prior hydraulic fracturing jobs would not satisfy the requirements of the experimental use exception to the on-sale bar. To qualify for the experimental use exception, a prior commercial sale must be a bona fide experiment to 1) test claimed features or 2) determine if the invention would work for its intended use. At trial, the sole inventor of the '993 patent testified that the goals of the prior hydraulic fracturing jobs were to experiment with 1) heating water at the same rate as water being pumped downhole, 2) getting a thirty-degree rise in temperature, and 3) achieving those results consistently. However, the Federal Circuit noted none of those experimental criteria are reflected in the claims of the '993 patent and, thus, found no clear error in the District Court's finding that the prior hydraulic fracturing jobs do not satisfy the requirements of the experimental use exception.

ii. Yes – A failure to disclose a prior action constitutes inequitable when Applicant knew that the prior action was material and made a deliberate decision to withhold disclosure of the prior action.

The Federal Circuit reviewed the District Court's finding that Heat On-The-Fly's failure to disclose the sixty-one prior hydraulic fracturing jobs constituted inequitable conduct under an abuse of discretion standard. As set forth in *Therasense*, to establish inequitable conduct, it must be shown through clear and convincing evidence that Applicant 1) knew of a prior commercial sale, 2) knew that the prior commercial sale was material, and 3) made a deliberate decision to withhold disclosure of the prior commercial sale. Additionally, as set forth in *Therasense*, specific intent to deceive the PTO must be the single most reasonable inference that can be drawn from the evidence. After reviewing the evidence and noting the absence of contemporaneous evidence of experimentation, the Federal Circuit found that the District Court did not clearly err in disbelieving the sole inventor's testimony and, thus, finding inequitable conduct.

Moreover, the Federal Circuit found that the PTO's issuance of the '498 continuation patent did not negate the District Court's findings on materiality and specific intent since 1) the

‘498 continuation patent issued after the District Court’s judgment and 2) the claims in the ‘498 continuation patent materially differ from the claims in the ‘993 patent. In particular, the Federal Circuit noted that the heating-capacity and flow-rate limitations, which were the subject of the alleged experimentation, are recited in the ‘498 continuation patent, but not the ‘993 patent.

iii. No – A finding of inequitable conduct does not necessitate an award of attorney fees, but does necessitate articulation of a basis for denying attorney fees.

The Federal Circuit reviewed the District Court’s denial of attorney fees under the abuse of discretion standard. In particular, the Federal Circuit noted that courts are required to articulate a basis for finding a case exceptional under 35 U.S.C. § 285 and, thus, awarding attorney fees. Due at least to the heightened standard for finding inequitable conduct after *Therasense*, the Federal Circuit reasoned that it is equally necessary to explain why a case is not exceptional after a finding of inequitable conduct. However, the Federal Circuit was unsure whether the District Court’s denial of attorney fees rested on a misunderstanding of the law or erroneous fact finding[9] and, thus, could not determine whether the District Court abused its discretion in denying attorney fees.

IV. Conclusion

The Federal Circuit affirmed the District Court’s declaratory judgment that the ‘993 patent is unenforceable due to inequitable conduct. Additionally, the Federal Circuit vacated and remanded the District Court’s denial of attorney fees under 35 U.S.C. § 285. [10]

V. Representative Claims

U.S. Patent No. 8,171,993 – Parent

1. A method of fracturing a formation producing at least one of oil and gas, comprising the steps of:

a) providing a transportable heating apparatus for heating water to a temperature of at least about 40 degrees F. (4.4 degrees C.);

b) transmitting a water stream of cool or cold water to a mixer, the cool or cold water stream being at a temperature of less than a predetermined target temperature;

c) the mixer having a first inlet that receives cool or cold water from the stream of step “b” and a first outlet that enables discharge of a substantially continuous stream which is a mix of cool or cold and heated water;

d) the mixer having a second inlet that enables heated water to enter the mixer;

e) adding heated water from the transportable heating apparatus of step “a” to the mixer via the second inlet;

f) wherein the volume of cool or cold water of step “b” is much greater than the volume of heated water of step “e”;

g) adding a selected proppant to the mix of cool or cold and heated water discharged from the mixer after step “f”; and

[9] Specific intent for establishing inequitable conduct must be the single most reasonable inference that can be drawn from the evidence. However, in denying attorney fees, District Court reasoned that Heat On-The-Fly reasonably disputed facts and provided a meritorious argument against inequitable conduct.

[10] Federal Circuit also affirmed District Court’s judgment of tortious interference and denial of remedies under the North Dakota Unlawful Sales and Advertising Practices Act since Heat Energy did not plead in its complaint.

h) transmitting the mix of cool or cold and heated water and the proppant into a formation producing at least one of oil and gas, wherein water flows substantially continuously from the first inlet to the first outlet during the fracturing process.

U.S. Patent No. 9,442,498 – Continuation (Main Difference Highlighted)

1. A method of heating while fracturing of the formation occurs, fluid for use in fracturing a formation producing at least one of oil and gas, comprising the steps of:

a) providing a heating apparatus for heating fluid to a temperature of at least about 40 degrees F. (4.4 degrees C.);

b) transmitting a stream of cool or cold fluid to a mixer, the cool or cold fluid stream being at a temperature of less than a predetermined target temperature;

c) the mixer having a first inlet that receives cool or cold fluid from the stream of step "b" and a first outlet that enables discharge of a substantially continuous stream of fluid;

d) the mixer having a second inlet that enables heated water to enter the mixer;

e) adding heated water from the heating apparatus of step "a" to the mixer via the second inlet;

f) wherein the volume of fluid of step "b" is much greater than the volume of water of step "e";

g) wherein fluid exiting the first outlet of the mixer is transmitted into a formation producing at least one of oil and gas and includes a proppant when transmitted into the formation; and

h) wherein fluid flows substantially continuously from the first inlet to the first outlet during the fracturing process, wherein the water is heated in the heating apparatus before fracing chemicals are added to the water, *wherein the heating apparatus has a heating capacity to add about 100 F. to 150 F. to the fluid at a flow rate of about 100 barrels per minute of fluid discharged from the first outlet, and wherein the fluid exiting the first outlet of the mixer flows at a rate of at least 20 barrels per minute into the formation.*

2. The method of claim 1, wherein the volume of fluid flowing through the mixer is about equal to the volume of fluid being pumped into the formation during the fracing process.

4. The method of claim 1, wherein the flow rate through the mixer during the fracing process is about equal to the flow rate of the fluid being pumped downhole.

VI. Relevant Statutes

35 U.S.C. 102 (PRE-AIA) CONDITIONS FOR PATENTABILITY; NOVELTY AND LOSS OF RIGHT TO PATENT.

A person shall be entitled to a patent unless — …

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, ….

35 U.S.C. § 285 ATTORNEY FEES.

The court in exceptional cases may award reasonable attorney fees to the prevailing party.