NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

2008-1045, -1112

TOKYO KEISO COMPANY, LTD.
and KROHNE MESSTECHNIK GMBH & CO. KG,

Plaintiffs-Appellants,

v.

SMC CORPORATION
and SMC CORPORATION OF AMERICA,

Defendants,

and

CHRONOTEK SYSTEMS, INC.,

Movants-Appellees.

- -

TOKYO KEISO COMPANY, LTD.
and KROHNE MESSTECHNIK GMBH & CO. KG,

Plaintiffs-Appellants,

v.

SMC CORPORATION
and SMC CORPORATION OF AMERICA,

Defendants-Appellees.

Michel J. Sacksteder, Fenwick & West LLP, argued for plaintiffs-appellants. With him on the brief were Darryl M. Woo, David D. Schumann, and Evan R. Bennett.

Arthur I. Neustadt, Oblon, Spivak, McClelland, Maier & Neustadt, P.C., of Alexandria, Virginia, argued for defendants-appellees and movants-appellees. With him on the brief were Thomas J. Fisher and Barry J. Herman. Of counsel on the brief was Andrew S. Doctoroff, Honigman Miller Schwartz and Cohn LLP, of Detroit, Michigan.

Appealed from: United States District Court for the Southern District of Texas

Judge David Hittner

Appealed from: United States District Court for the Central District of California

Judge Otis D. Wright

NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

2008-1045, -1112

TOKYO KEISO COMPANY, LTD.
and KROHNE MESSTECHNIK GMBH & CO. KG,

Plaintiffs-Appellants,

v.

SMC CORPORATION
and SMC CORPORATION OF AMERICA,

Defendants,

and

CHRONOTEK SYSTEMS, INC.,

Movants-Appellees.

- -

TOKYO KEISO COMPANY, LTD.
and KROHNE MESSTECHNIK GMBH & CO. KG,

Plaintiffs-Appellants,

v.

SMC CORPORATION
and SMC CORPORATION OF AMERICA,

Defendants-Appellees.

Appeals from the United States District Court for the Southern District of Texas in Case No. 07-MC-0279, Judge David Hittner; and from the United States District Court for the Central District of California in Case No. 06-CV-374, Judge Otis D. Wright.

DECIDED: January 9, 2009

Before LOURIE, SCHALL, and PROST, Circuit Judges.

LOURIE, Circuit Judge.

Tokyo Keiso Company, Ltd. and Krohne Messtechnik GMBH & Co. KG (collectively "Tokyo Keiso") appeal from the judgment of the United States District Court for the Central District of California granting summary judgment of invalidity of claims 1, 2, and 5 of U.S. Patent 5,458,004 ("the '004 patent"). See Tokyo Keiso Co. v. SMC Corp., 533 F. Supp. 2d 1047 (C.D. Cal. 2007). Tokyo Keiso also appeals from the judgment of the United States District Court for the Southern District of Texas denying a motion to compel production of the source code for a product that allegedly infringes the '004 patent. See In re Chronotek Sys., Misc. No. 07-0279, 2007 U.S. Dist. LEXIS 54661 (S.D. Tex. July 27, 2007). Because the California court did not err in holding claims 1, 2, and 5 obvious as a matter of law, we affirm.

BACKGROUND

Tokyo Keiso owns the '004 patent, which is directed to a volume flow meter that measures the flow volume of fluids passing through a pipe, or measuring line. As described in the specification, volume flow meters in the prior art measured flow by using two measuring heads on opposite ends of a length of the measuring line, each

transmitting an acoustic signal such that one signal moved upstream and the other moved downstream. The measuring heads measured the difference in time for each signal to traverse the same distance, allowing the user to determine the speed of the flow. '004 patent col.1 ll.36-43. In the prior art, according to the specification, "the measuring line [was] made of metal, in which the sound velocity is greater than in fluid." Id. at col.2 ll.21-22. Thus, the acoustic signal would travel through the metal of the measuring line faster than it would travel through the fluid, interfering with the measurement of the signals through the fluid. Id. at col.2 ll.24-35. The '004 patent purports to improve upon existing volume flow meters by constructing the measuring line out of a material that transmits an acoustic signal at a slower sound velocity than the fluid, such as plastic. Id. at col.2 ll.61-64, col.3 ll.18-22.

In April 2006, Tokyo Keiso sued SMC Corporation and SMC Corporation of America (collectively "SMC") for infringement of claims 1, 2, and 5 of the '004 patent. Claims 1, 2, and 5 read as follows:

> 1. A volume flow meter for measuring the flow volume of a fluid by determining the difference in the travel times of at least two pulsed acoustic signals, said meter being of the type including a measuring line (2), a first measuring head (5), and a second measuring head (6), wherein
>
> a first sharp, precisely definable leading edge of the pulsed acoustic signal transmitted by one of the measuring heads (5,6) is used for the direct time measurement,
>
> the two acoustic signals are transmitted through the fluid as a measuring signal as well as through the material of the measuring line (2) as an interfering signal at least partially interfering with the measuring signal, and
>
> the measuring line (2) is made of a material that transmits an acoustic signal at a slower sound velocity than the fluid transmits said signal.
>
> 2. The volume flow meter according to claim 1 wherein the measuring line (2) is of plastic.

> 5. In a volume flow meter for measuring the flow volume of a fluid by determining the difference in the travel times of at least two signals, said meter being of the type including a measuring line (2), a first measuring head (5) and a second measuring head (6), the improvement wherein the measuring line (2) is made of PFA plastic material that transmits an acoustic signal transmitted by one of the measuring heads (5,6) at a lower sound velocity than the fluid transmits said signal.

'004 patent col.5 l.2-col.6 l.10.

In May 2007, Tokyo Keiso moved to compel, from non-party Chronotek, production of Chronotek's source code, which operates SMC's accused flow meter. Tokyo Keiso sought to discover, for the purpose of proving infringement, whether the source code used the "leading edge of the pulsed acoustic signal" recited in claim 1. In July 2007, the Texas district court, relying on the findings of a special master, held that Chronotek only needed to produce the portion of the source code (if any) pertaining to the use of a threshold amplitude value to detect the arrival of a pulse signal. The court reasoned that, because the code was a trade secret, Tokyo Keiso had the burden to show a substantial need for it. The special master had reasoned that any leading edge would be represented in the code by detection of a threshold amplitude value, so Tokyo Keiso had shown a substantial need only for that portion of the code.

In October 2007, the California district court held the '004 patent obvious as a matter of law. According to the court, U.S. Patent 5,060,507 ("Urmson") and Engineering Aspects of Ultrasonic Process Control-Flow, Temperature, and Liquid Level Applications ("Lynnworth") would have rendered the invention of the '004 patent obvious at the time the invention was made. The Urmson patent discloses a volume flow meter that uses plastic tubing to prevent sound traveling through the tube from interfering with a measuring signal flowing through the fluid in the tube. Urmson col.14 ll.34-44. The Lynnworth article also discloses, in a flow meter, using plastic, and particularly Teflon®,

pipe to solve the "acoustic short circuit" that results from a metal pipe because "the longitudinal velocity in Teflon . . . is less than the nominal value for water." Lynnworth at 67. The court reasoned that both references were within the same field of endeavor as the '004 patent, viz., flow meter devices used in industries where accurate measurement of volume of fluids is necessary. According to the court, both references would have fairly suggested the same structure and function as the '004 patent, including slowing down the interfering signal, and neither teaches away from slowing down the signal. The court also reasoned that, because the PTO considered neither Urmson nor Lynnworth during prosecution, the presumption of validity was also much diminished.

The California district court also reasoned that using PFA plastic, as recited in claim 5, would have been obvious because both references used plastic, and Lynnworth used Teflon® in particular. PFA is a member of the Teflon® family. The district court found that, even if claims 1 and 2 were limited to PTFE plastic based on the specification, as Tokyo Keiso advocated, PTFE would also have been obvious for the same reason, i.e., both references disclosed plastic. Thus, according to the court, the '004 patent's use of the best type of plastic was a predictable next step to the prior art. The court also found that the '004 patent's use of a straight tube with measuring heads attached to each side, instead of angularly clamped onto the tube as in the Lynnworth article, was a predictable next step, and Lynnworth did not teach away from the claimed invention. Regarding secondary considerations of nonobviousness, the court reasoned that, even though it took a few years for companies such as Tokyo Keiso to expand on the prior art, that evidence did not override SMC's strong showing of obviousness; the

flow meter business is a small niche market in which only a few players are working to improve the art.

Tokyo Keiso timely appealed the California district court's grant of summary judgment of obviousness and the Texas district court's denial of its motion to compel production of the source code. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review a district court's grant of a motion for summary judgment de novo. Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 149 F.3d 1309, 1315 (Fed. Cir. 1998). Summary judgment is appropriate if "there is no genuine issue as to any material fact and . . . the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). "The evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986). "The ultimate judgment of obviousness is a legal determination. Where . . . the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate." KSR v. Teleflex, 127 S. Ct. 1727, 1745-46 (2007).

Tokyo Keiso argues that the California district court erred in granting SMC summary judgment of invalidity of the '004 patent on the ground of obviousness. Tokyo Keiso asserts that the court erred in failing to conduct a claim-by-claim analysis, instead analyzing a non-existent claim that was broader than any of the asserted claims and finding it obvious.

Tokyo Keiso also argues that disputed material facts precluded a grant of summary judgment. For example, Tokyo Keiso's expert stated that neither the Urmson patent nor the Lynnworth article recognized the problem of the speed of interfering signals or use of the claimed materials for controlling speed. Instead, according to Tokyo Keiso, Lynnworth only mentions acoustic short circuit and low sound speed with respect to clamp-on flow meters, in which the measuring heads are clamped onto the outside of the measuring line and transmit a signal transversely across the pipe. Thus, Tokyo Keiso asserts, a person of ordinary skill in the art would not have applied this technology to wetted flow meters, in which the measuring heads are immersed in the fluid and transmit a signal axially with the pipe. Also, according to Tokyo Keiso, the Urmson patent uses a polymeric material to reduce intensity of sound, rather than speed, and therefore does not necessarily teach the limitations requiring that the material transmit sound at a lower speed than fluid. Tokyo Keiso argues that not every polymeric material reduces the speed that sound travels below that of a fluid, and that neither Urmson nor Lynnworth discloses using PFA or PTFE.

Tokyo Keiso also asserts that the California district court erred in holding that the '004 patent was not entitled to the full presumption of validity. According to Tokyo Keiso, KSR, 127 S. Ct. 1727, does not hold that the presumption is diminished. Moreover, Tokyo Keiso asserts, the references were cumulative of references that were cited by the Patent Office. Indeed, according to Tokyo Keiso, the same argument, that plastic used to match the shear mode velocity rather than lower the sound velocity leads to the claimed invention, was rejected during prosecution. Finally, Tokyo Keiso asserts that the court did not properly consider evidence of objective indicia of nonobviousness,

instead resolving disputes against Tokyo Keiso, the nonmovant. For example, according to Tokyo Keiso, unrebutted evidence showed a long-felt need and commercial success.

SMC responds that the California district court addressed every claim limitation at issue, even if it did not do so in a claim-by-claim analysis. SMC argues that Lynnworth recognized the problem of the speed of interfering signals and specifically described the low sound speed of Teflon® as less than the nominal value for water, a fluid. According to SMC, the Lynnworth article does not teach away from the asserted claims, as it is not limited to clamp-on meters, and claims 1, 2, and 5 are not limited to wetted transducers. Indeed, the '004 patent depicts transducers that transmit signals through the pipe wall, not wetted transducers. SMC argues that Urmson describes using plastic to attenuate a sound signal for exactly the same reasons the Lynnworth article uses plastic, to slow the sound speed, rendering obvious the claim limitation requiring that the material transmit sound at a lower speed than fluid. SMC also argues that the '004 patent specification states that the sound velocity in plastic is less than that in fluid and that any plastic would be suitable, contrary to Tokyo Keiso's argument that not every plastic fits the claim limitations. Moreover, SMC asserts that, with respect to the specific recitation of PFA in claim 5, the specification describes no additional benefit from using PFA, and PFA is in the Teflon® family, Teflon® being disclosed in the Lynnworth article. Thus, according to SMC, Lynnworth would have rendered obvious the use of PFA in a flow meter.

SMC also argues that the California district court followed KSR, 127 S. Ct. 1727, as to the presumption of validity because the Patent Office failed to consider the most

pertinent art. According to SMC, the prior art that the Patent Office considered disclosed less than Lynnworth disclosed, as Lynnworth described a plastic pipe that was designed to lower the sound velocity in the pipe compared with the fluid. Finally, SMC asserts that the court considered the evidence of secondary considerations of nonobviousness but held that it failed to overcome the strong showing of obviousness. SMC also argues that it rebutted Tokyo Keiso's assertion of commercial success.

We agree with SMC that Lynnworth renders claims 1, 2, and 5 of the '004 patent obvious, when combined with the admissions in the '004 patent specification (and Tokyo Keiso's admissions as well) that many limitations were in the prior art. Because we hold the claims obvious based on Lynnworth, we do not address SMC's arguments for obviousness based on Urmson.

Tokyo Keiso admits that the '004 patent specification concedes as prior art most of the limitations of claims 1, 2, and 5. Claims 1, 2, and 5 recite generally a volume flow meter that sends two acoustic signals, a measuring line, and two measuring heads. All of these limitations are thus admittedly in the prior art. The specification describes them as such. See '004 patent col.1 l.27-col.2 l.16 (describing these limitations as "in the state of the art"). "Valid prior art may be created by the admissions of the parties. . . . [A] statement by an applicant during prosecution identifying certain matter not the work of the inventor as 'prior art' is an admission that the matter is prior art." Riverwood Int'l Corp. v. R.A. Jones & Co., 324 F.3d 1346, 1354 (Fed. Cir. 2003) (citations omitted); see also Constant v. Advanced Micro-Devices Inc., 848 F.2d 1560, 1570 (Fed. Cir. 1988) ("A statement in a patent that something is in the prior art is binding on the applicant and patentee for determinations of anticipation and obviousness."). The only difference

between flow meters admitted in the specification to be prior art and the invention of claims 1, 2, and 5 is that the measuring line in the prior art flow meter is made of metal, whereas the measuring line in the '004 patent is made of another material. '004 patent col.2 l.57-col.3 l.22. Thus, in the claims, the only aspects not admittedly prior art are the measuring line material that "transmits an acoustic signal at a slower sound velocity than the fluid transmits said signal" (claim 1), wherein the measuring line material is plastic (claim 2), and "wherein the measuring line is made of PFA plastic material that transmits an acoustic signal transmitted by one of the measuring heads at a lower sound velocity than the fluid transmits said signal" (claim 5).

Lynnworth discloses all of the aspects of claims 1, 2, and 5 that are not admittedly prior art. Regarding claim 2, Lynnworth discloses a flow meter with "plastic pipes." Lynnworth at 67. Lynnworth also recognizes the benefit of a measuring line made of a material that "transmits an acoustic signal at a slower [or lower] sound velocity than the fluid transmits said signal," as required by claims 1 and 5. '004 patent cls. 1, 5. Lynnworth states that "[f]low in plastic pipes, including . . . Teflon hose, is often easier to measure than in metal pipes of the same dimensions because of the relative absence of acoustic short circuit, and relatively low sound speed in the plastic pipe." Lynnworth at 67 (emphasis added). Lynnworth even discloses specific sound speeds, with the sound speed of Teflon® being slower than that of a fluid: Lynnworth states that "the longitudinal velocity in Teflon, for example, is ~1350 m/s, which is less than the nominal value for water, ~1500 m/s." Id. Similarly, the '004 patent specification describes that "[p]lastic is preferably used as the material for the measuring line, especially PFA. The sound velocity in plastic is in the range of 1,000

m/s, hence clearly less than the sound velocity of roughly 1,500 m/s for fluids . . . ." '004 patent col.3 ll.18-22. Thus, Lynnworth, like claims 1 and 5, clearly contemplated the slower sound velocity of the measuring line material compared with that of the fluid running through it.

Finally, regarding claim 5, the Lynnworth article would have rendered obvious the use of PFA as the specific plastic material in the measuring line. As noted above, PFA is a member of the Teflon® family of plastics, and Lynnworth discloses the use of Teflon®. Tokyo Keiso presented no evidence that PFA exhibits any unexpected results in the context of the claimed invention that other Teflon® products do not. See Pfizer, Inc. v. Apotex, Inc., 480 F.3d 1348, 1371 (Fed. Cir. 2007) (relying on lack of unexpected results in determining that species claim was obvious in view of prior art genus claim); In re Woodruff, 919 F.2d 1575, 1578 (Fed. Cir. 1990) (generally requiring applicant, to defeat obviousness when claiming a subset of a range disclosed in a prior art patent, to show that "the claimed range achieves unexpected results relative to the prior art range"). As the '004 patent specification explains, although PFA is especially preferable as a material, plastic in general has a sound velocity "less than the sound velocity . . . for fluids." '004 patent col.3 ll.18-22. The specification describes no reason why PFA is preferable to other members of the Teflon® family. Thus, Lynnworth's disclosure of the Teflon® family would have rendered the use of PFA obvious.

We agree with SMC that no material facts regarding Lynnworth's disclosure were in dispute that would have precluded summary judgment. Even if, as Tokyo Keiso argues, some plastics would not reduce acoustic speed below that of a fluid, Lynnworth

specifically describes Teflon® as having that property, even giving the specific acoustic speeds of Teflon® and water.

We also agree with SMC that one of ordinary skill in the art would have been motivated to combine the disclosure of Lynnworth with the admitted prior art described in the '004 patent. "When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability." KSR, 127 S. Ct. at 1740. As the California district court found, the Lynnworth article is "within the same field of endeavor as [the] '004 [p]atent," as both "address[] the problem of acoustic interaction and suggest[] the use of a plastic measuring line as a solution." Tokyo Keiso, 533 F. Supp. 2d at 1054, 1056. Tokyo Keiso argues that Lynnworth teaches away from lowering sound speed in wetted flow meters and thus teaches away from a combination with the '004 patent. However, contrary to Tokyo Keiso's argument, neither the specification nor claims 1, 2, and 5 apply only to wetted flow meters. Instead, the claims require two measuring heads located anywhere, and Fig. 1 of the '004 patent even depicts the measuring heads outside of the flow. Tokyo Keiso also attempts to rely on an earlier Lynnworth article that did not relate to an interfering signal to show that Lynnworth was not trying to solve the problem of interfering signals, thus arguing that Lynnworth was in a different field of endeavor than the '004 patent. However, a court need not rely on separate references to reach a conclusion that the subject matter of asserted claims would have been obvious based on the plain disclosure of a single reference. Thus, Lynnworth does not teach away from the claimed combination.

We also agree with SMC that secondary considerations of nonobviousness do not overcome the prima facie showing that the Lynnworth article, combined with admitted prior art, renders claims 1, 2, and 5 of the '004 patent obvious. Even though Tokyo Keiso claims to have made out a case of long-felt need and commercial success, the California district court did not err in finding no genuine issue of material fact supportive of its case. It stated that, "given the fact that the flow meter business involves a niche market, it is not surprising that it took a few years for a company to expand on the prior art at issue here." Tokyo Keiso, 533 F. Supp. 2d at 1060. Moreover, the court correctly held that the evidence failed to raise a genuine issue of material fact sufficient to overcome SMC's strong showing of obviousness. Id.; see Leapfrog Enters., Inc. v. Fisher-Price, Inc., 485 F.3d 1157, 1162 (Fed. Cir. 2007) ("[G]iven the strength of the prima facie obviousness showing, the evidence on secondary considerations was inadequate to overcome a final conclusion that [the claim] would have been obvious."); see also Agrizap, Inc. v. Woodstream Corp., 520 F.3d 1337, 1344 (Fed. Cir. 2008) (same).

The California district court thus did not err in granting summary judgment of obviousness. "Where . . . the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate." KSR, 127 S. Ct. at 1745-46. Here, the content of Lynnworth is not in material dispute. As discussed above, Lynnworth plainly discloses the limitations of claims 1, 2, and 5 that are not admitted to be in the prior art. The scope of the asserted claims is also not in material dispute, and obviousness is apparent in light of these factors. We therefore

affirm the district court and hold as a matter of law that claims 1, 2, and 5 would have been obvious in view of Lynnworth, combined with the admitted prior art. We have considered all other arguments raised by Tokyo Keiso and find them unpersuasive.

Because we have affirmed the California district court's judgment on obviousness, Tokyo Keiso's argument regarding the Texas district court's discovery decision relating to infringement is moot.

CONCLUSION

Accordingly, the judgment of the district court is affirmed.

AFFIRMED