

United States Court of Appeals for the Federal Circuit

03-1565, -1603

KOITO MANUFACTURING CO., LTD.
and NORTH AMERICAN LIGHTING, INC.,

Plaintiffs-Cross Appellants,

v.

TURN-KEY-TECH, LLC
and JENS OLE SORENSEN,

Defendants-Appellants.

William H. Mandir, Sughrue Mion, PLLC, of Washington, DC, argued for plaintiffs-cross appellants. With him on the brief were Frank L. Bernstein, Steven M. Gruskin, John F. Rabena, and Carl J. Pellegrini.

Boris Zelkind, Zelkind & Shackelford LLP, of San Diego, California, argued for defendants-appellants. With him on the brief was Patricia A. Shackelford. Of counsel on the brief was David R. Fairbairn, Kinney & Lange, P.A., of Minneapolis, Minnesota.

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

Chief Judge Marilyn L. Huff

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DECIDED: August 23, 2004

Before BRYSON, GAJARSA, and DYK, Circuit Judges.

GAJARSA, Circuit Judge.

Turn-Key-Tech, LLC and Jens Ole Sorenson (“Turn-Key”) appeal from the denial of their motions for a new trial and a judgment as a matter of law (“JMOL”) by the United States District Court for the Southern District of California with respect to a jury’s findings (1) that Claims 1, 3, 12, 13, 15, 18, 21, 30-33, and 36 of Turn-Key’s U.S. Patent No. 5,045,268 (the “’268 patent”) are invalid as anticipated and obvious and (2) that the ’268 patent is not infringed by taillights produced by Koito Manufacturing Co., Ltd. and North American Lighting, Inc. (collectively “Koito”). Koito Mfg. Co. v. Turn-Key-Tech, LLC, No. 02-C-273 (S.D. Cal. July 16, 2003). In its decision, the district court partially granted Turn-Key’s motion for a JMOL by overturning the jury’s finding that all 38 claims of the ’268 patent are invalid for lack of enablement, failure of the written description, and a certificate of correction adding new matter. Koito cross-appeals the district court’s grant of a JMOL on these other grounds for invalidity.

We affirm the district court’s grant of Turn-Key’s JMOL and agree that Koito failed to fulfill its

burden of showing that the '268 patent is invalid for lack of enablement, failure of written description, and the addition of new matter. We also affirm the district court's denial of Turn-Key's new trial motion and JMOL with respect to the jury's verdict of noninfringement. However, we vacate the district court's denial of Turn-Key's JMOL motion with respect to anticipation and obviousness, which the district court justified solely by reference to Japanese Unexamined Application No. 148,082 ("JP '082"). Because Koito merely entered the JP '082 reference into evidence and provided no specific testimony relating to it whatsoever, we hold that Koito did not present substantial evidence with respect to JP '082 to support the jury's finding of anticipation and obviousness. On remand, the trial court should evaluate the other evidence proffered by Koito to determine whether the jury's verdicts of anticipation and obviousness were adequately supported.

I. BACKGROUND

A. The '268 Patent

The '268 patent teaches a method of strengthening injection-molded plastics by cross-laminating layers of plastics. '268 patent, col. 1, ll. 5-10. Injection molding involves injecting liquid plastic into a mold cavity. The walls of the mold cavity define the final shape of the product. The liquid plastic cools and solidifies in the mold cavity and can then be ejected.

Injection molding technology can be used for the manufacture of a variety of plastic goods, including cups, cassette tapes, and, in the case of Koito's products, car taillights. The '268 patent takes advantage of the fact that, when a plastic is injected into a mold, the liquid plastic can be made to have a direction of flow consistent with how the plastic entered the mold cavity. The strength of a plastic that contains such a "flow direction" varies—the plastic is stronger across the flow than with the flow. This quality is analogous to that of wood, which is stronger across the grain than with the grain. To increase the strength of plastic that contains a flow direction, the '268 patent discloses the use of two different flow directions that overlap, i.e., cross-lamination.

The '268 patent has two independent claims that are at issue, Claims 1 and 21:

1. A method of injection molding a plastic product, with a cross- laminated section that includes

a first plastic layer and a second plastic layer, in a mold system comprising a first mold cavity with a first-layer-defining-mold-cavity-section and a second mold cavity with a second-layer-defining-mold-cavity-section with a second-cavity-section-wall, the method comprising the steps of:

- (a) injecting a quantity of first plastic into the first mold cavity so that the first plastic follows in the first-layer-defining-mold-cavity-section in a first predetermined general direction,
- (b) solidifying at least partly the flowed first plastic in the first-layer-defining-mold-cavity-section to thereby form said first plastic layer having a first direction-flow-record,
- (c) adjusting the mold system to thereby provide the second mold cavity with the second-cavity-section-wall including said first plastic layer,
- (d) injecting a quantity of second plastic into the second mold cavity so that the second plastic flows in the second-layer-defining-mold-cavity-section in a second predetermined general direction, whereby the second plastic in the second-layer-defining-mold-cavity-section fuses with said first plastic layer,
- (e) solidifying the flowed second plastic in the second-layer-defining-mold-cavity-section to thereby form said second plastic layer, so that the second plastic layer has a second-direction-flow-record which is positively different from said first-direction-flow-record, to thereby form said plastic product with said cross-laminated section that includes both the first plastic layer and the second plastic layer, and
- (f) adjusting the mold system to thereby eject the product,

wherein the first mold cavity comprises a first-cavity-flow-channel which is located adjacent the first-layer-defining-mold-cavity-section, with a flow channel being defined as a portion of a mold cavity which is significantly thicker and wider than the adjacent mold cavity thickness for the purpose of directing the flow of injected plastic, and wherein step (a) comprises the step of:

- (g) directing the first plastic into the first-layer-defining-mold-cavity-section via the first-cavity-flow-channel, so that the first plastic flows in the first-cavity-flow-channel in a direction which is positively different from said first predetermined general direction.

'268 patent, col. 8, ll. 11-61 (emphasis added).

Independent Claim 21 is identical to Claim 1 except for steps (f) and (g):

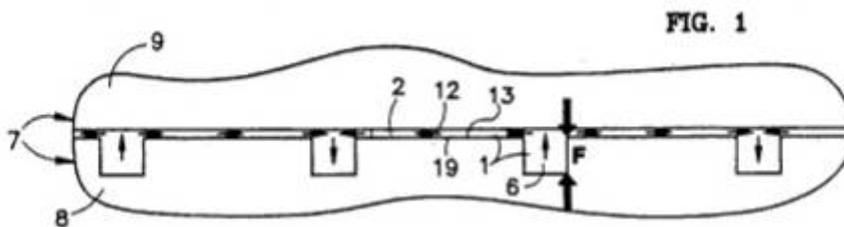
(f) adjusting the mold system to thereby eject the product, wherein the second mold cavity comprises a second-cavity-flow-channel which is located adjacent said second-layer-defining-mold-cavity-section, with a flow channel being defined as a portion of a mold cavity which is significantly thicker and wider than the adjacent mold cavity thickness for the purpose of directing the flow of injected plastic, and wherein step (d) comprises the step of:

- (g) directing second plastic into the second-layer-defining-mold-cavity-section via the second-cavity-flow-channel, so that the second plastic flows in the second-cavity-flow-channel in a direction which is positively different from said second predetermined general direction.

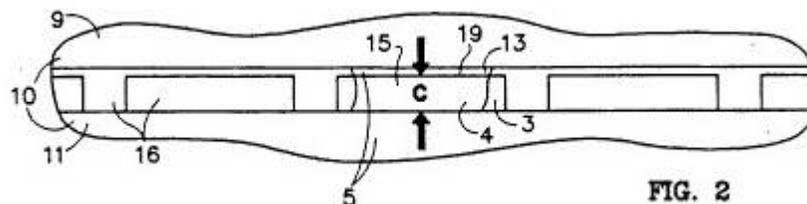
Id. at col. 10, ll. 53-68; col. 11, ll. 1-35. Claim 21 thus requires a flow channel in the second mold

cavity to redirect the flow of the plastic, rather than in the first mold cavity.

Figures 1 and 2 below help to illustrate the method claimed in the '268 patent. Mold system 7 includes two complementary mold sections, labeled 8 and 9. Mold cavity 1 is the space between these mold sections, and includes a flow channel 6 that is wider and deeper than the adjacent cavity 2. Because of the dimensions of the flow channel 6, the plastic passes easily through the flow channel and then changes direction in a predictable way when it encounters resistance by entering into the rest of the narrower cavity. The liquid plastic therefore flows into the layer-defining-mold-cavity-section 2 in a predetermined direction and produces a plastic layer 13 that has a direction of flow.



Once the plastic has solidified in the first mold system, the mold system is changed. Mold section 8 is removed, and mold section 9 and the first plastic layer 13 are put into contact with mold section 11. This forms a new mold system 10, which has a new mold cavity 3 that is then filled. Plastic is injected and flows into the layer-defining-mold-cavity-section 4 in a predetermined second direction that is different than the direction of flow used for the first plastic layer. As the second plastic layer solidifies, it fuses with the first plastic layer and thereby forms a cross-laminate.



B. Litigation

Koito manufactures taillights for several Japanese automakers. A taillight consists of three main components: a lens, a housing, and a lamp. At issue in this case are the lenses produced by Koito, which are made using injection molding techniques.

In February 2002, Koito brought a declaratory judgment action against Turn-Key requesting that the '268 patent be declared invalid, unenforceable, and not infringed by Koito's lenses. At the time it filed its declaratory judgment action, Koito alleged that Turn-Key had accused Koito of infringement and already filed suit against some of Koito's customers.^[1] Koito set forth a number of grounds for declaring the '268 patent invalid, including: (1) anticipation; (2) obviousness; (3) failure of written description; (4) failure to disclose best mode; (5) lack of enablement; and (6) the impermissible addition of new matter through a certificate of correction. In response to the declaratory judgment action, Turn-Key counterclaimed for infringement.

The district court conducted a Markman hearing and construed, among other terms, the claim language "predetermined general direction" and first- and second- "direction-flow-record." In its construction of the term "predetermined general direction," the court found that "predetermined" should be given its ordinary meaning, which the court found to be "determined beforehand." The district court thus found "predetermined general direction" to require that the prevalent direction of the plastic flow be determined before the injection of the liquid plastic into the mold. The district court then construed the term "flow record," finding that a flow record must be distinguished from the "predetermined general direction." The district court then construed "flow record" to refer to a preserved record of the predetermined general direction of flow created when the plastic layer solidifies or partially solidifies in the mold.

After the Markman hearing, the district court denied Koito's motions for summary judgment of invalidity and noninfringement and scheduled trial. At the close of evidence, the district court granted a directed verdict as to Koito's motion of noninfringement of dependent claims 3, 13, and 31 of the '268 patent. In addition, the court granted a directed verdict as to Turn-Key's motion that it did not fail to disclose its best mode. Neither party appeals these directed verdicts.

On April 25, 2003, the jury issued a special verdict finding the patent invalid and not infringed. The jury found all of the claims of the '268 patent to be invalid for lack of enablement, lack of written description, and the addition of new matter through a certificate of correction. As for anticipation and

obviousness, the jury was instructed to determine only whether Claims 1, 12, 15, 18, 21, 30, 32, 33, and 36 were anticipated or obvious. The jury found these nine claims to be both anticipated and obvious with respect to the prior art.

Turn-Key moved for a JMOL, which the district court granted in part. The district court upheld the finding of invalidity on the bases of anticipation and obviousness, but granted the JMOL motion as to the other invalidity grounds for the jury's decision; the district court's decisions on JMOL thus resulted in Claims 2, 4-11, 14, 16-17, 19-29, 32, 34-35, and 37-38 being held to not be invalid. Turn-Key also moved for a new trial on the basis that the jury's verdicts of invalidity and infringement were against the great weight of evidence presented at trial. The district court denied the new trial motion.

Turn-Key appeals to this Court, arguing that the district court altered the claim construction of the terms "flow record" and "predetermined general direction" in upholding the jury's noninfringement verdict. Additionally, Turn-Key insists that Koito did not meet its burden of showing anticipation or obviousness by clear and convincing evidence at trial.

Koito cross-appeals the district court's grant of a JMOL as to the jury's findings of invalidity of all the claims of the patent for failure of written description, lack of enablement, and the addition of new matter through a certificate of correction. Koito thus seeks to invalidate every claim of the '268 patent.

This Court has jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

II. DISCUSSION

A. Standard of Review

Turn-Key asks us to review the district court's denial of its new trial motion with respect to the jury's verdicts of noninfringement and invalidity. We review the denial of a motion for a new trial under the law of the regional circuit, in this case the Ninth Circuit. Southwest Software, Inc. v. Harlequin Inc., 226 F.3d 1280, 1290 (Fed. Cir. 2000). The Ninth Circuit will reverse the denial of a motion for a new trial if the verdict is "contrary to the clear weight of the evidence, or is based upon

evidence which is false, or to prevent, in the sound discretion of the trial judge, a miscarriage of justice.” United States v. 4.0 Acres of Land, 175 F.3d 1133, 1139 (9th Cir. 1999); see also Hanson v. Shell Oil Co., 541 F.2d 1352, 1359 (9th Cir. 1976); Moist Cold Refrigerator Co. v. Lou Johnson Co., 249 F.2d 246, 256 (9th Cir. 1957). In general, a new trial motion is not granted unless the reviewing court “is left with the definite and firm conviction that a mistake has been committed.” Landes Constr. Co. v. Royal Bank of Can., 833 F.2d 1365, 1372 (9th Cir. 1987).

On appeal, both parties also ask us to review the district court’s decisions with respect to Turn-Key’s JMOL. We review the denial or grant of a JMOL following a jury verdict by reapplying the district court’s standard of review. SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp., 225 F.3d 1349 (Fed. Cir. 2000). The party requesting the JMOL, in this case Turn-Key, must show that substantial evidence did not support the jury’s findings, where substantial evidence is “such relevant evidence from the record taken as a whole as might be accepted by a reasonable mind as adequate to support the finding under review.” Tex. Instruments Inc. v. Cypress Semiconductor Corp., 90 F.3d 1558, 1563 (Fed. Cir. 1996). The Court must also consider all the evidence before the jury and draw all reasonable inferences from the evidence in the light most favorable to the prevailing party on that issue, i.e., the non-movant. Richardson-Vicks Inc. v. Upjohn Co., 122 F.3d 1476, 1479 (Fed. Cir. 1997). In this case, we must determine whether the jury had substantial evidence upon which to conclude that Koito met its burden of showing invalidity by clear and convincing evidence.

Anticipation is a factual determination that is reviewed for substantial evidence when decided by a jury. See Acromed Corp. v. Sofamor Danek Group, Inc., 253 F.3d 1371, 1378-79 (Fed. Cir. 2001). When reviewing a jury’s verdict on obviousness, however, we review the “conclusions on obviousness, a question of law, without deference, and the underlying findings of fact, whether explicit or implicit within the verdict, for substantial evidence.” LNP Eng’g Plastics, Inc. v. Miller Waste Mills, Inc., 275 F.3d 1347, 1353 (Fed. Cir. 2001).

Whether a specification complies with the written description requirement of 35 U.S.C. § 112, ¶ 1, is a question of fact reviewed for substantial evidence by this Court. Union Oil v. Atl. Richfield Co.,

208 F.3d 989, 996 (Fed. Cir. 2000). Enablement is a matter of law that we review without deference; however, this Court reviews the factual underpinnings of enablement for substantial evidence. BJ Servs. Co. v. Halliburton Energy Servs., Inc., 338 F.3d 1368, 1371-72 (Fed. Cir. 2003).

B. Infringement

In considering Turn-Key's motion for a new trial on the jury's finding of non-infringement, the district court compared its claim construction to Koito's evidence and determined that a reasonable juror could have found that Koito's methods and lenses lacked at least two claim limitations, that of a "predetermined general direction" and a "flow record." The district court thus concluded that the jury's finding of noninfringement was not against the great weight of the evidence and denied Turn-Key's motion.

We affirm. Infringement requires that every limitation of a claim be met, either literally or equivalently, by the accused device. Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29 (1997). On appeal, Koito argues that it put forth sufficient evidence at trial that its taillights did not meet many of the claim limitations, including "flow record," "predetermined general direction," "flow channel," and "cross-laminated section." For our purposes, it is enough to evaluate only one claim limitation required by all asserted claims of the '268 patent: "predetermined general direction."

On appeal, Turn-Key disputes the claim construction of "predetermined general direction" used by the district court in its post-trial evaluation of Koito's evidence. The district court construed "predetermined general direction" to mean that the flow direction must be chosen or known before injection. Turn-Key argues that "predetermined general direction" instead means a direction predetermined by the shape of the mold cavity.

As Koito points out, however, Turn-Key's interpretation of "predetermined general direction" was repeatedly rejected by the district court even before the court reviewed Turn-Key's JMOL motion. In its claim construction order, the district court explained that the mold cavity design must "be arranged to result in a predetermined prevalent flow direction." Koito Mfg. Co. v. Turn-Key-Tech,

LLC, No. 02-C-273 (S.D. Cal. Nov. 14, 2002) (emphasis added). In a subsequent order, the district court further clarified that “predetermined” required intent or foreknowledge in the fixing of plastic flow direction. Koito Mfg. Co. v. Turn-Key-Tech, LLC, No. 02-C-273 (S.D. Cal. Mar. 5, 2003). Noting that “Turn-Key appears to be operating under a mistaken understanding of the court’s construction of ‘predetermined general direction,’” the court explained that, while the “relative cavity dimensions and injection parameters are the tool whereby the designer ensures” the flow direction, the direction must “still be determined, i.e., chosen or at least known, in advance of injection.”

Turn-Key now attempts to object to the claim construction applied by the district court consistently throughout the litigation. Turn-Key did not, however, preserve its claim construction argument at trial and also did not object to the jury’s instructions on this claim term.^[2] Because it failed to preserve its rights, Turn-Key is not permitted to contest the construction of “predetermined general direction” in this Court. Abbott Labs. v. Syntron Bioresearch, Inc., 334 F.3d 1343, 1352 (Fed. Cir. 2003). If Turn-Key had wanted a different construction for “predetermined general direction,” i.e., one that stated that the determination of the flow direction could be entirely unknown to the mold designer, it should have objected at trial.

Koito put forth sufficient testimonial evidence showing that it did not predetermine or know beforehand the direction of flow for its lenses. Specifically, Koito’s independent expert Dr. David Kazmer testified that Koito was not concerned with flow directions for its products and did not know the direction of flow for its taillights before injecting plastic into the molds. Dr. Kazmer testified that he reviewed design documents for every accused lens and saw no indication that Koito was trying to achieve a particular flow direction. Koito also put forth testimony from Donald Hall, the molding general foreman for North American Lighting. Mr. Hall testified that his company did not attempt to cross plastic flows and that any such crossing would be a “random event” that was not predetermined. This evidence alone is sufficient to support both the jury’s finding of noninfringement and the district court’s refusal to grant a new trial on the issue of infringement.

C. Anticipation and Obviousness

In reviewing Turn-Key's motion for a new trial and JMOL motion with respect to anticipation and obviousness, the district court focused exclusively on the JP '082 reference, concluding that "the evidence regarding this reference alone is sufficient to support the jury's anticipation verdict." The district court then expressly declined to review any of the other evidence of prior art products and references put forth by Koito at trial. Based on its finding of anticipation, the district court then affirmed the jury's verdict of obviousness, given that "anticipation is the ultimate of obviousness," In re Baxter Travenol Labs., 952 F.2d 388, 391 (Fed. Cir. 1991).

On appeal, Turn-Key argues that the district court erred in affirming that the '268 patent was anticipated and rendered obvious by the JP '082 reference because Koito merely submitted that reference into evidence and made no specific mention of it at trial. Turn-Key thus insists that the district court should have granted its motion for JMOL on the issues of anticipation and obviousness.

We agree with Turn-Key that the district court erred in finding Koito's evidence regarding the JP '082 reference to be sufficient to meet Koito's burden of showing anticipation by clear and convincing evidence. At the same time, however, we note that Koito presented an array of other evidence at trial that the district court has not yet reviewed and examined. Because the district court has not considered Koito's evidence other than that of the JP '082 reference, we vacate the district court's denial of Turn-Key's motion for JMOL on the issue of anticipation and obviousness and remand for further proceedings as to whether sufficient evidence supported the jury's findings of anticipation and obviousness.

1. JP '082

To establish anticipation, Koito was required to prove that the JP '082 reference met the limitations of the claims in the '268 patent. Dayco Prods., Inc. v. Total Containment, Inc., 329 F.3d 1358, 1368 (Fed. Cir. 2003). Koito thus shouldered what this Court has referred to as "an especially heavy burden" when it challenged the validity of the '268 patent. N.V. Akzo v. E.I. DuPont de Nemours, 810 F.2d 1148, 1150-51 (Fed. Cir. 1987).

At trial, Koito entered the JP '082 reference into evidence, but otherwise failed to provide any testimony or other evidence that would demonstrate to the jury how that reference met the limitations of the claims in the '268 patent or how the reference enabled one of ordinary skill in the art to practice the claimed invention. As Turn-Key points out, Koito did not even mention the JP '082 reference after introducing it into evidence. Instead, Koito's expert, Dr. David Kazmer, offered a conclusion of invalidity relating to a quintet of prior art patents which included JP '082.[3] Specifically, Dr. Kazmer testified that:

All these prior art patents provide for products and ways of making products with thick and thin sections. The gate locations are shown, and they all have inherently crossing flows in sections of the product, sometimes substantial sections of these products, such that they all would have a cross-laminated section as Turn Key is applying that term to the accused lenses.

We have consistently explained what is necessary to show anticipation by a given reference:

Typically, testimony concerning anticipation must be testimony from one skilled in the art and must identify each claim element, state the witnesses' interpretation of the claim element, and explain in detail how each claim element is disclosed in the prior art reference. The testimony is insufficient if it is merely conclusory.

Schumer v. Lab. Computer Sys., Inc., 308 F.3d 1304, 1315-16 (Fed. Cir. 2002). General and conclusory testimony, such as that provided by Dr. Kazmer in this case, does not suffice as substantial evidence of invalidity. See, e.g., id. (stating that "to accept confusing or generalized testimony as evidence of invalidity is improper"); Minn. Mining & Mfg. Co. v. Chemque, Inc., 303 F.3d 1294, 1305-08 (Fed. Cir. 2002) (finding insufficient evidence to support jury's verdict of invalidity where, among other failings, the patent challenger did not put forth evidence that the reference was enabled). This is so even when the reference has been submitted into evidence before the jury. Because Koito failed to articulate how the JP '082 reference anticipates or makes obvious the '268 patent, it has not presented sufficient evidence for the jury with respect to the JP '082 reference.[4]

2. Other Evidence

In its appeal, Turn-Key asks us not only to conclude that Koito's evidence with respect to the JP '082 reference was insufficient, but also to conclude that all of the other evidence Koito put forth at trial

is similarly inadequate to show anticipation or obviousness. We decline to do so. Koito presented multiple theories at trial to show anticipation and obviousness. One such theory was that, if the jury found that Koito's lenses infringed, then the '268 patent was invalid because of anticipation by prior art taillights that used the same method as that used by Koito. Because the jury found Koito's lenses to not infringe the '268 patent and also that the '268 patent was invalid, the only consistent way to interpret the jury's verdict is to determine that the jury did not find the prior art taillights to anticipate the '268 patent. Moreover, this court has made clear that there is no "practicing the prior art" defense to literal infringement. See Tate Access Floors, Inc. v. Interface Architectural Res., Inc., 279 F.3d 1357, 1365 (Fed. Cir. 2002); Baxter Healthcare Corp. v. Spectramed, Inc., 49 F.3d 1575, 1583 (Fed. Cir. 1995). We therefore reject Koito's evidence of anticipation with respect to the prior art automobile lenses.

We cannot, however, so easily dismiss Koito's other evidence of anticipation and obviousness. At trial, Dr. Kazmer analyzed a TDK two-color cassette and discussed in detail the prior art Japanese patent 1-113886. In addition, Turn-Key's expert Dr. Paul Brown admitted at trial that certain limitations of the '268 patent were present in the prior art. On remand, the district court should review the trial testimony and evidence, especially that regarding the plastic cassette technology, to determine whether Koito provided clear and convincing evidence to the jury on the issue of anticipation and obviousness to render the '268 patent invalid.

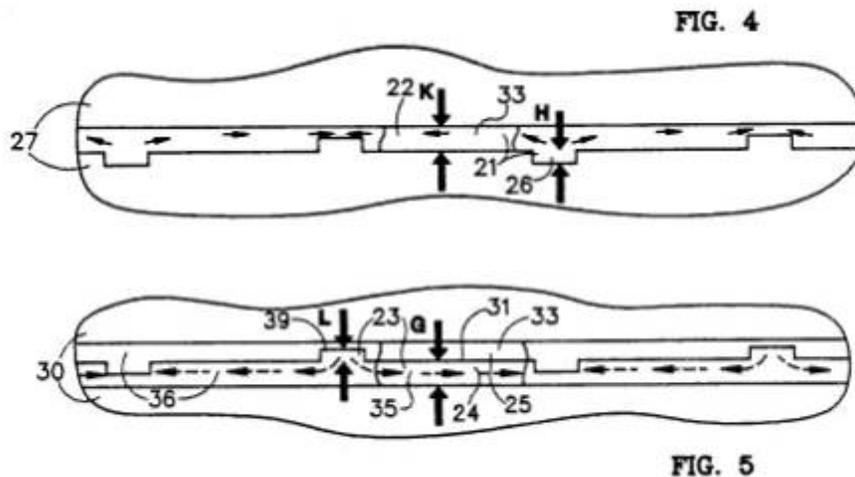
D. Koito's Cross-Appeal

Koito cross-appeals the district court's grant of a JMOL as to the jury's findings that the '268 patent lacked enablement, failed to satisfy the written description requirement of 35 U.S.C. § 112, ¶ 1, and added new matter in a certificate of correction. We affirm the district court's determinations on these issues.

1. New Matter

Koito argues that the '268 patent is invalid because Turn-Key amended the '268 patent specification in a manner that Koito states is unsupported by the original specification. The certificate

of correction for the '268 patent altered the definition of the thickness of the flow channel in the description of the first and second embodiments of the invention. For example, the patent originally disclosed that the second mold cavity section 24 has a thickness G that is at least as thick as the flow channel 26 with thickness H . The certificate of correction then clarified that thickness G is at least as thick as the flow channel 26 minus the first-layer-defining mold-cavity section 22.



The effect of this correction was to redefine the flow channel. Before the correction, the flow channel could have been considered to be only the protrusion from the first-layer-defining mold-cavity section 22. After the correction, however, the flow channel was considered to have the depth of that section and the protrusion. According to Koito, this change was not supported by the patent application and broadened the scope of the claims.

A change to correct an error is not considered new matter if “one skilled in the art would appreciate not only the existence of an error in the specification but what the error is.” *In re Oda*, 443 F.2d 1200, 1206 (CCPA 1971). In the present case, the original description filed by Turn-Key would have excluded the second preferred embodiment as shown in Figures 4 and 5, because all the claims in the patent require a flow channel that is thicker and wider than the adjacent cavity. Because the amended material is inherently contained in the original application, it cannot constitute new matter. *Schering Corp v. Amgen Inc.*, 222 F.3d 1347, 1352 (Fed. Cir. 2000). The district court therefore did not err in concluding that, as a matter of law, Turn-Key did not impermissibly broaden the scope of the '268 patent through its certificate of correction.

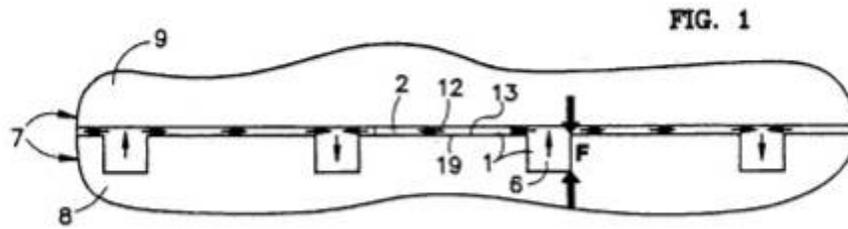
2. Written Description

On appeal, Koito also argues that the limitation that the flow channel be “significantly thicker and wider” finds no support in the written description. To support this theory, Dr. Kazmer testified that, because Figures 4 and 5 do not show channels that are significantly thicker and wider than the adjacent mold cavities, one of ordinary skill in the art would not have considered this feature part of the invention.

We agree with the district court that Dr. Kazmer’s testimony was conclusory and also in error given that it ignored the teachings of Figure 1. This Court has interpreted 35 U.S.C. § 112, ¶ 1, to require the patent specification to “describe the claimed invention so that one skilled in the art can recognize what is claimed.” Enzo Biochem, Inc. v. Gen-Probe Inc., 323 F.3d 956, 968 (Fed. Cir. 2002). In evaluating whether a patentee has fulfilled this requirement, our standard is that the patent’s “disclosure must allow one skilled in the art ‘to visualize or recognize the identity of’ the subject matter purportedly described.” Id. (quoting Regents of Univ. of Cal. v. Eli Lilly & Co., 119 F.3d 1559, 1573 (Fed. Cir. 1997)); see also Cordis Corp. v. Medtronic AVE, Inc., 339 F.3d 1352, 1364 (Fed. Cir. 2003).

Terms need not be used in haec verba, however. Eiselstein v. Frank, 52 F.3d 1035, 1038 (Fed. Cir. 1995) (“The prior application need not describe the claimed subject matter in exactly the same terms as used in the claims. . . .”). Instead, we have explained that the written description requirement can be satisfied by “words, structures, figures, diagrams, formulas, etc.” Lockwood v. Am. Airlines, Inc., 107 F.3d 1565, 1572 (Fed. Cir. 1997) (emphasis added).

In the present case, Figure 1 of the ’268 patent clearly shows that flow channel 6 is “significantly thicker and wider” than the adjacent mold cavity 2. Figure 1 thus demonstrates that the inventor was “in possession” of the patent claims, including the claim limitation speaking to the relative dimensions of the flow channel, and thus that the written description requirement was satisfied. See Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991).



We thus affirm the district court's determination that, as a matter of law, the limitation "significantly thicker and wider" finds adequate support in Figure 1 of the written description of the patent. Dr. Kazmer's conclusory testimony to the contrary, which ignores the embodiment of the invention described by Figure 1, is thus insufficient to show failure of written description.

3. Enablement

As the final argument of its cross-appeal, Koito contends that the '268 patent was not enabled because it failed to detail (1) Turn-Key's formula for predetermining flow direction and (2) injection parameters and gate sizes. Patents are required to "teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" Genentech Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1365 (Fed. Cir. 1997). Because Koito produced no evidence that the trial and error required to practice the claimed invention would be unduly laborious or beyond the reach of one of ordinary skill in the art, we affirm the district court's grant of Turn-Key's JMOL on the issue of enablement.

Koito argues that the '268 patent was not enabled because Turn-Key used a proprietary formula for achieving the claimed predetermined direction of flow in a mold cavity and yet did not disclose this formula in the patent. While this evidence may go to best mode,^[5] it does not demonstrate that any certain formula for achieving flow direction was required for one of ordinary skill in the art to practice the claimed invention or that undue experimentation would be required for one of ordinary skill in the art to predetermine flow direction through trial and error. Without such evidence, the jury's verdict of lack of enablement is not sufficiently supported.

Koito also argues on appeal that certain details used by Turn-Key, such as injection parameters and gate size, were necessary for one of skill in the art to practice the claimed invention without undue

experimentation. We again find that Koito failed to put forth clear and convincing evidence at trial that knowledge of such production details was necessary to practice the claimed invention without undue experimentation. In contrast to the absence of evidence by Koito, Turn-Key presented evidence by the inventor of the '268 patent that these details were omitted from the patent because they are "standard in the industry." This Court has repeatedly explained that a patent applicant does not need to include in the specification that which is already known to and available to one of ordinary skill in the art. Paperless Accounting, Inc. v. Bay Area Rapid Transit Sys., 804 F.2d 659, 664 (Fed. Cir. 1986); In re Howarth, 654 F.2d 103, 105 (CCPA 1981) ("An inventor need not, however, explain every detail since he is speaking to those skilled in the art."); In re Lange, 644 F.2d 856, 863 (CCPA 1981). We thus have noted that "[n]ot every last detail is to be described, else patent specifications would turn into production specifications, which they were never intended to be." In re Gay, 309 F.2d 769, 774 (CCPA 1962). Unless there is evidence to the contrary, therefore, the lack of certain production details does not indicate failure of enablement. See DeGeorge v. Bernier, 768 F.2d 1318, 1323 (Fed. Cir. 1985). In the present case, Koito simply did not provide evidence at trial that the production details omitted would have made one of ordinary skill in the art unable to practice the claimed invention without undue experimentation.

We have reviewed Koito's other arguments and find that, in the present case, Koito failed to shoulder its burden of showing lack of enablement by clear and convincing evidence before the jury. The district court therefore did not err in granting Turn-Key's JMOL with respect to the jury's finding that the '268 patent was not enabled.

III. CONCLUSION

We affirm (1) the jury's verdict that Koito did not infringe the '268 patent and (2) the district court's grant of a JMOL with respect to the jury's finding that the '268 patent was not enabled, did not meet the written description requirement, and impermissibly added new matter. However, we vacate the district court's denial of Turn-Key's JMOL with respect to anticipation and obviousness. On remand, the district court should evaluate the evidence proffered by Koito other than JP '082 to determine

whether the jury's verdict of anticipation and obviousness was adequately supported. For the reasons herein discussed, the decision of the district court is thus

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED.

COSTS

No costs.

[1] Suits against automakers Nissan, Honda, Toyota, Mitsubishi, and Isuzu, among many others, remain pending in the district courts.

[2] The jury instruction stated that the “predetermined general direction” means the “prevalent direction of flow determined before injection of the liquid plastic into the mold.” (Emphasis added). The instruction thus connotes an element of forethought and planning, which we note is a logically essential part of the patent. The mold designer must be aware of the flow direction that will result upon an injection of plastic so that he can assure himself that the next flow direction will be different. We have held that the construction of a patent term may require an actor to have knowledge of certain facts. See *Combined Sys., Inc. v. Def. Tech. Corp. of Am.*, 350 F.3d 1207, 1211-14 (Fed. Cir. 2003) (construing “forming folds” to require “the deliberate and systematic creation of folds”). In the present case, Turn-Key chose to limit its claims with a scienter requirement and thus was correctly required to demonstrate foreknowledge of flow directions to prove infringement.

[3] The other patents were U.K. Patent App. No. 2,205,304, U.S. Patent No. 3,543,338, U.S. Patent No. 4,118,051, and Japanese Laid-open Patent Pub. No. 58-82401. Koito's expert testified in significantly more detail about the prior art patent application of Japanese Unexamined Utility Model App. No. 113886/1989, as is discussed *infra* in Part II.B.2.

[4] The district court erred in concluding that explanatory testimony relating the JP '082

reference to the '268 patent was unnecessary because of this Court's decisions in Union Carbide Corp. v. American Can Co., 724 F.2d 1567 (Fed. Cir. 1991), and Monsanto Co. v. Mycogen Plant Science, Inc., 261 F.3d 1356 (Fed. Cir. 2001). In Union Carbide, this Court affirmed a district court's grant of summary judgment of invalidity of a patent covering a very simple means and method of dispensing plastic bags. 724 F.2d at 1568. In that decision, even though the alleged infringer did not provide explanatory expert testimony regarding the prior art references, we found anticipation because the references and the patent were "easily understandable" and the patentee, rather than the alleged infringer, provided explanatory analysis regarding the prior art references. Id. at 1573. The JP '082 patent is not an "easily understandable" patent.

Our decision in Mycogen is likewise inapplicable. In Mycogen, we held that "there is no general requirement that a party necessarily provide explanatory argument linking the evidence to each of the various elements of a legal theory." 261 F.3d at 1366. This rule, however, was articulated in the context of a priority contest, and has its exceptions. For example, we require the party alleging infringement under the doctrine of equivalents to present argument linking the evidence of equivalence to the three legal elements of function, way, and result. Lear Siegler, Inc. v. Sealy Mattress Co. of Mich., Inc., 873 F.2d 1422, 1425 (Fed. Cir. 1989); Nestier Corp. v. Menasha Corp.-Lewisystems Div., 739 F.2d 1576, 1579 (Fed. Cir. 1984). As with doctrine of equivalents, in the present case, we hold that Koito needed some explanatory testimony or other evidence to compare JP '082 with the patent at issue given that the JP '082 reference is a technical patent document describing a novel plastic manufacturing process.

[5] As noted before, Koito does not appeal the district court's directed verdict as to best mode.