

United States Court of Appeals for the Federal Circuit

01-1553, -1569

WILLIAM G. RILES,

Plaintiff-Cross Appellant,

v.

SHELL EXPLORATION AND PRODUCTION COMPANY,

Defendant-Appellant.

Jonathan T. Suder, Friedman, Young, Suder & Cooke, of Forth Worth, Texas, argued for plaintiff-cross appellant. With him on the brief was Michael T. Cooke. Of counsel on the brief was John C. Janka, Niro, Scavone, Haller & Niro, of Chicago, Illinois.

Willem G. Schuurman, Vinson & Elkins L.L.P., of Austin, Texas, argued for defendant-appellant. With him on the brief were David P. Blanke, Gwen Samora and Adam V. Floyd. Of counsel on the brief were Albert M.T. Finch and Eugene Montalvo, Shell Oil Company, of Houston, Texas; and Richard L. Stanley, Howrey Simon Arnold & White, of Houston, Texas.

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

Judge Sim Lake

United States Court of Appeals for the Federal Circuit

01-1553,-1569

WILLIAM G. RILES,

Plaintiff-Cross Appellant,

v.

SHELL EXPLORATION AND PRODUCTION COMPANY,

Defendant-Appellant.

DECIDED: July 31, 2002

Before MICHEL, RADER, and GAJARSA, Circuit Judges.

Opinion for the court filed by Circuit Judge RADER. Dissenting opinion filed by Circuit Judge MICHEL.

RADER, Circuit Judge.

The United States District Court for the Southern District of Texas refused to overturn as a matter of law a jury verdict of infringement and award of damages. William G. Riles v. Shell Exploration & Prod. Co., H-00-0304 (S.D.Tex. June 19, 2001). Shell Exploration and Production Co. appeals that decision. William G. Riles cross appeals because the district court vacated the jury's finding of literal infringement and also denied enhanced damages. Because substantial evidence supports the jury's finding of infringement, this court affirms. Because the damage award is excessive and unsupported by evidence, this court vacates and remands. Because the district court did not abuse its discretion, this court affirms the denial of enhanced damages.

I.

On August 27, 1999, William G. Riles (Riles) filed suit against Shell Exploration and Production Co. (Shell) for infringement of his U.S. Patent No. 4,669,918 (the '918 patent). The '918 patent relates to construction and installation of fixed offshore platforms for oil drilling.

A fixed offshore platform comprises a jacket and a deck. Before Riles's invention, fixed offshore platforms were installed in the following sequence. The first step placed the jacket on the sea floor. Typically, a mud mat temporarily leveled and supported the jacket on the sea floor. Mud mats are large, flat steel frames attached to the base of the jacket. After landing the jacket on the sea floor and leveling it with the mud mats, foundation pilings were driven through the main legs of the jacket and into the sea floor to anchor the jacket. When the foundation pilings were connected to the jacket, the deck could be installed on top of the jacket.

Riles's '918 invention modifies the prior art installation sequence for fixed offshore platforms to allow installation without mud mats. The '918 patent first installs a foundation by pre-installing some or all of the pilings. Next, it sets the jacket or a portion of a jacket onto the pilings. Third, it installs additional pilings, if any. Fourth, it installs any remaining portions of the jacket with the deck on top of the jacket.

Only three limitations in the third step of claim 1 are at issue. Claim 1 reads:

1. The method of offshore platform installation, the platform including a plurality of pilings for respectively being driven at chosen sites in the mudline, which comprises the steps of

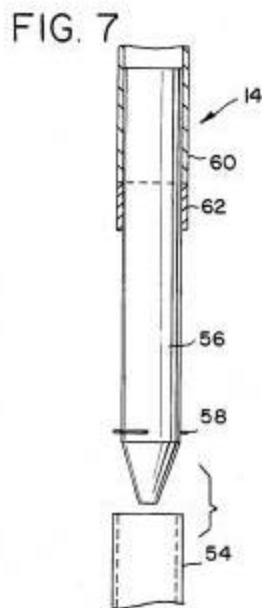
locating the site for each of the pilings at the mudline,

installing the pilings by driving them into the earth beneath the mudline so that each of said pilings extends only a short distance above the mudline, and

installing a space-frame jacket having depending support legs onto said pilings using stabbing connections for transferring the compressive load of the platform by effecting metal-to-metal bearing contact between said legs of the jacket and the top of the pilings.

(Emphasis added.)

Fig. 7 is a partial view of a jacket leg, spacer, and male extension in the '918 patent. This figure illustrates the stabbing function:

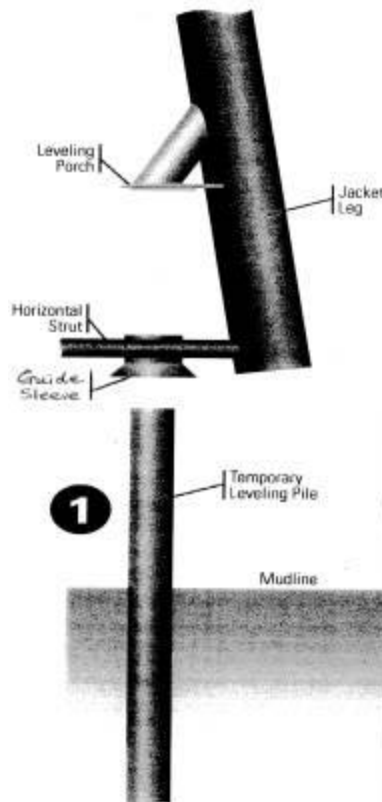


The top **54** of a piling is open to receive a male extension **56** located on the lower end of jacket **14**. The lower end of the male extension may include a hard rubber wiper ring **58** for sealing the annular space between the external surface of the male leg extension and the external surface of the top of the piling. After the male extension extends into the bottom of jacket leg **60**, it can be permanently attached by welding. The extension can also have a spacer **62** located at a position just below the jacket leg.

Shell's accused method installed four temporary "leveling pilings" into the ocean floor at predetermined locations. Meantime, during its fabrication of the Spirit platform on shore, Shell placed a "leveling porch" within the jacket structure at each corner. Each leveling porch consisted of a flat, circular metal plate, a reinforcing strut above the metal plate, and a layer of wooden timbers below the metal plate. The jacket also included two "guide sleeves" below two leveling porches. Shell then lowered the jacket onto the temporary pilings, until the timber layers of the leveling porches came to rest

on top of the pilings. Thereafter, within a few days, Shell inserted skirt foundation pilings in the conventional way through skirt sleeves at the four bottom corners of the jacket.

The following figure shows the jacket leg with a leveling porch, guide sleeve, and leveling piling for Shell's Spirit platform:



Before trial, the district court held a Markman hearing. In its September 7, 2000, order, the court adopted its earlier claim construction in Riles v. Amerada Hess Corp., Civil No. G-98-013. Thus, the district court defined the three limitations at issue:

“depending support leg” means “the lower portion of a space frame jacket leg which is angled to permit a stabbing connection to be made with a piling for support of the platform system;”

“stabbing connection” means “an end-to-end joining of two metal tubes by the insertion of an extension attached to the end of one of the tubes into the end of the other;”

“metal-to-metal bearing contact” means “a weight bearing contact between two metal surfaces.”

Neither party contested the court's claim construction.

After trial, the jury returned a verdict that Shell, in installing the Spirit platform, infringed the '918 patent both literally and under the doctrine of equivalents. The jury also found that Shell's infringement was willful, and awarded Riles \$8.7 million in damages.

On Shell's motion for a judgment as a matter of law (JMOL) and in the alternative, for a new trial, the district court held that the record does not support the jury's finding that Shell's process met the "stabbing connection" and "metal-to-metal bearing contact" limitations literally. On the other hand, the trial court determined that the record supports the jury's finding that Shell's process met all three limitations under the doctrine of equivalents. Finally, the trial court held that the record supports Riles's entitlement to attorney fees, but not enhanced damages.

Shell appeals the district court's decision to uphold the jury's finding that its process met the "stabbing connection" and "metal-to-metal bearing contact" limitations under the doctrine of equivalents. Shell also contests the jury's finding that its process met the "depending supporting leg" limitation both literally and under the doctrine of equivalents. Finally, Shell's appeal also questions the amount of the jury's damage award.

Riles cross-appeals the district court's vacation of the jury's finding that Shell's process met the "stabbing connection" and "metal-to-metal bearing contact" limitations literally. Further Riles challenges the trial court's denial of enhanced damages. This court has jurisdiction pursuant to 28 U.S.C. § 1295(a)(1) (1994).

II.

This court reviews a denial of JMOL by reapplying the JMOL standard. SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp., 225 F.3d 1349, 1354, 55 USPQ2d 1927, 1930 (Fed. Cir. 2000); Fed. R. Civ. P. 50(a)(1) (JMOL is appropriate when "a party has been fully heard on an issue and there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue."). Thus, this court

examines a JMOL decision to discern if it contains a legal error or if the record does not contain substantial evidence to support the jury's factual findings. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1172 (Fed. Cir. 1998) (en banc). With regard to factual findings, this court draws all reasonable inferences in favor of the prevailing party, and does not substitute this court's view of the conflicting evidence for that of the jury. SIBIA Neurosciences, Inc., 225 F.3d at 1355.

"The assessment of damages is a question of fact, and is decided by the jury when tried to a jury." Festo Corp. v. Shoketsu Kogyo Kabushiki Co., 72 F.3d 857, 866, 37 USPQ2d 1161, 1167 (Fed. Cir. 1995), vacated on other grounds, 520 U.S. 1111 (1997). This court reviews a jury's damages award for substantial evidence. Crystal Semiconductor Corp. v. Tritech Microelectronics Int'l, Inc., 246 F.3d 1336, 1346, 57 USPQ2d 1953, 1957 (Fed. Cir. 2001). This court reviews the district court's enhanced damages decision for "an erroneous conclusion of law, clearly erroneous factual findings, or a clear error of judgment amounting to an abuse of discretion." Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1543-44, 35 USPQ2d 1065, 1067 (Fed. Cir. 1995) (en banc).

A.

"To prove literal infringement, the patentee must show that the accused device contains every limitation in the asserted claims. If even one limitation is missing or not met as claimed, there is no literal infringement." Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1211, 48 USPQ2d 1010, 1014-15 (Fed. Cir. 1998) (citations omitted). "Judgment as a matter of law of no literal infringement is appropriate if no reasonable fact finder could determine that the accused devices meet every limitation of the properly construed claims." Elkay Mfg. v. EBCO Mfg., 192 F.3d 973, 980, 52 USPQ2d 1109, 1114 (Fed. Cir. 1999). In this case, the district court found legally insufficient evidence to support the jury's finding that Shell's process met the "stabbing connection" and "metal-to-metal bearing contact" limitations literally. Indeed the record on review supports that decision.

"Stabbing Connection"

The district court construed "stabbing connection" to mean "an end-to-end joining of two metal tubes by the insertion of an extension attached to the end of one of the tubes into the end of the other." Riles

claims that Shell's Spirit platform's "leveling porch" meets the definition of "depending support leg." Further, Riles contends that the "guide sleeve" works in unison with the leveling porch to bring about a stabbing connection with the leveling piling. Neither the leveling porch nor the leveling piling have an extension. Moreover, the Shell process does not insert the leveling porch into the leveling piling, or vice versa. The Shell process simply guides the leveling piling through the guide sleeve to rest on the leveling porch. Thus, the district court did not err in finding that the record does not support the jury's finding that Shell's process met the "stabbing connection" limitation literally.

"Metal-to-Metal Bearing Contact"

The district court construed "metal-to-metal bearing contact" to mean "a weight bearing contact between two metal surfaces." In the Spirit platform, each leveling porch consists of a flat circular metal plate, a reinforcing strut above the metal plate, and a layer of wooden timbers below the metal plate. The Shell process guides the leveling piling through the sleeve to rest on the layer of wooden timbers, rather than directly on the metal plate of the leveling porch. The district court did not err in finding that the record does not support the jury's finding that Shell's process met the "metal-to-metal bearing contact" limitation literally.

"Depending Support Leg"

The district court construed "depending support leg" to mean "the lower portion of a space frame jacket leg which is angled to permit a stabbing connection to be made with a piling for support of the platform system." Based on this construction, the jury found that Shell's process for installing the Spirit platform met this limitation both literally and under the doctrine of equivalents.

Substantial evidence supports the jury's finding of literal infringement. The "leveling porch" in the Spirit platform meets the definition of "depending support leg" because it is "the lower portion of a space frame jacket leg which is angled," and when working in unison with the guide sleeve, "permits a stabbing connection to be made with a piling for support of the platform system." Contrary to Shell's assertion, the claim does not require the "depending support leg" to be the stabbing part of the connection, but only requires it to permit a stabbing connection.

B.

Infringement under the doctrine of equivalents requires that the accused product contain each limitation of the claim or its equivalent. Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40, 41 USPQ2d 1865, 1875 (1997). "A claim element is equivalently present in an accused device if only 'insubstantial differences' distinguish the missing claim element from the corresponding aspects of the accused device." Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1423, 44 USPQ2d 1103,

1106 (Fed. Cir. 1997). “Whether a component in the accused subject matter performs substantially the same function as the claimed limitation in substantially the same way to achieve substantially the same result may be relevant to this determination.” Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 149 F.3d 1309, 1315, 47 USPQ2d 1272, 1276 (Fed. Cir. 1998). Here, the district court found sufficient evidence to support the jury’s finding of infringement under the doctrine of equivalents of all three limitations at issue.

“Stabbing Connection”

Substantial evidence supports the jury’s finding that Shell’s installation of the Spirit platform met the “stabbing connection” limitation under the doctrine of equivalents. At the outset, the ‘918 invention claims more than the preferred embodiment disclosed in the specification. The preferred embodiment uses the male extension of the jacket leg as the stabbing part of the connection. See Fig. 7 of the ‘918 patent supra. To emphasize that its claims encompass more than the preferred embodiment, the ‘918 specification teaches that “the piling may slip into a sleeve of the jacket, in which case there is still a ‘stabbing connection,’ the piling acting to stab the jacket.” Col. 4, ll. 17-21.

In installing the Spirit platform, Shell’s leveling piling passes through the guide sleeve and comes to rest on the leveling porch of the jacket leg. Thus, the guide sleeve, in combination with the leveling porch, performs substantially the same function as the depending support leg of the ‘918 invention in substantially the same way to achieve substantially the same result of a “stabbing connection.” See Ethicon Endo-Surgery, Inc., 149 F.3d at 1320 (“[T]wo physical components of an accused device may be viewed in combination to serve as an equivalent of one element of a claimed invention.”). In this case, the equivalent of an “insertion” occurs when the leveling piling passes through the guide sleeve. As to the “extension”, the piling has multiple sections. The last section of the piling serves as the equivalent of an extension at the end of the piling.

“Metal-to-Metal Bearing Contact”

The parties dispute the proper meaning of the “metal-to-metal bearing contact” limitation. Shell

argues that the limitation requires direct physical contact or “touching” of two metal surfaces. Riles, on the other hand, contends that the limitation requires only that “there is a load transferred in compression or bearing from one metal surface to another.” Riles further asserts that in the case of the Spirit platform, the four-inch layer of wood timbers on the underside of the leveling porch does not support the weight of the jacket.

At the outset, the district court did not interpret this claim term to require direct contact of metal on metal, but instead required “a weight bearing contact.” This interpretation gives appropriate meaning to the word “bearing” in the claim. Moreover, in the context of the metal jacket leg (over seven hundred feet in length), a four-inch layer of wood on the leveling porch is an insubstantial addition. Sage Prods., 126 F.3d at 1423. Thus, even without a direct physical “metal-to-metal contact,” a reasonable jury could have found that the Spirit platform uses the equivalent of “metal-to-metal bearing contact.” In other words, the record supports the jury’s potential finding that the metal-to-metal bearing contacts between the leveling porches and the top of the leveling pilings transfer the compressive weight of the jacket from the jacket legs to the pilings.

The doctrine of prosecution history estoppel does not prevent Riles from employing the doctrine of equivalents on this claim element. During prosecution of the ‘918 patent, Riles attempted to distinguish the Graham reference with this statement: “Graham does not describe a metal-to-metal bearing contact for transferring loads to the legs of the platforms.” This statement in context does not evince an unmistakable surrender of subject matter of any claim coverage beyond direct metal on metal contact. In context, Riles’ prosecution statement does not suggest a preference for metal on metal, or metal on wood, or metal on concrete weight bearing contacts. Moreover the statement does not discuss in any way the directness of the contact for the weight transfer. Rather, the focus of the statement explained the transfer of compressive load.

Graham involved a semi-submersible platform tied to a structure attached to the sea floor by tension tie rods. Graham did not transfer compressive load to the anchored structure. Riles did no more than explain that his invention does transfer load onto the anchored structure. Thus, Riles’s prosecution

statements do not evince any surrender of claimed subject matter, let alone an unmistakable surrender. The district court correctly found that the record supported the jury's finding that Shell's process met the "metal-to-metal bearing contact" limitation under the doctrine of equivalents.

“Depending Support Leg”

Because Shell's installation of the Spirit platform met the "depending support leg" limitation literally, this court need not reach the issue whether the installation met the limitation under the doctrine of equivalents.

C.

Upon a finding of infringement, Title 35 permits an award of "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. § 284 (1994). In Aro Manufacturing, the Supreme Court stated that the statutory measure of "damages" is "the difference between [the patent owner's] pecuniary condition after the infringement, and what his condition would have been if the infringement had not occurred." Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 507, 141 USPQ 681, 694 (1964). This formulation requires the patentee to reconstruct the market, by definition a hypothetical enterprise, to project economic results that did not occur. "To prevent the hypothetical from lapsing into pure speculation, this court requires sound economic proof of the nature of the market and likely outcomes with infringement factored out of the economic picture." Grain Processing Corp. v. American Maize-Products Co., 185 F.3d 1341, 1350, 51 USPQ2d 1556, 1562 (Fed. Cir. 1999). The statute guarantees patentees a reasonable royalty even when they are unable to prove entitlement to lost profits or an established royalty rate. A "reasonable royalty" contemplates a hypothetical negotiation between the patentee and the infringer at a time before the infringement began. Hanson v. Alpine Valley Ski Area, Inc., 718 F.2d 1075, 1078, 219 USPQ 679, 682 (Fed. Cir. 1983). Again, this analysis necessarily involves some approximation of the market as it would have hypothetically developed absent infringement. This analysis, in turn, requires sound economic and factual predicates. See, e.g., Crystal Semiconductor, 246 F.3d 1336; Shockley v. Arcan, Inc., 248 F.3d 1349, 58 USPQ2d 1692 (Fed. Cir. 2001).

Shell challenges the amount of the jury's damage award. The record shows that the jury could have relied on any of three economic models set forth by Riles's damage expert, Mr. Dry. Thus, this court examines each of these models for adequate evidence to support the verdict. If only one of the models supports the jury's award, this court must affirm.

Mr. Dry's first model was based upon a percentage (2-5%) of the cost of Shell's platform. His theory was Shell's construction of the platform with a patented method could result in an injunction on use of the platform. If such an injunction were in place, according to Mr. Dry, Shell would have had to choose between abandoning its \$84 million platform or paying Riles a percentage. Mr. Dry's assumptions, however, are legally incorrect.

Mr. Dry's first incorrect assumption is that an injunction on use of the patented '918 method could enjoin use of the entire \$84 million platform. This court has stressed that a trial court, upon a finding of infringement, must narrowly tailor an injunction to fit the specific adjudged violations. Gemveto Jewelry Co. v. Jeff Cooper Inc., 800 F.2d 256, 259, 230 USPQ 876, 878 (Fed. Cir. 1986). Thus, an injunction cannot impose unnecessary restraints on lawful activity. Id. Shell may lawfully use its platform without infringing a patent on a method of anchoring the jacket during erection. Without more serious allegations than this record contains, infringement of the '918 patent could not support an injunction on all lawful use of the Spirit platform. Thus Mr. Dry's theory that Riles deserves a royalty based on the cost of the entire platform rests on a predicate that this record does not support.

For another reason, this model cannot support the jury verdict. As noted above, Title 35 entitles Riles to the pecuniary benefit lost due to the infringement, measured either in terms of lost profits or in terms of a reasonable royalty. Under either theory of patent damages, the market would pay Riles only for his product – a method of anchoring offshore oil rigs without mud mats. Mr. Dry's model does not associate his proposed royalty with the value of the patented method at all, but with the unrelated cost of the entire Spirit platform, which includes much more than the cost of anchoring without mud mats. Stated otherwise, in the hypothetical negotiation that characterizes the reasonable royalty calculation, Shell may have had non-infringing alternatives to installing with temporary pilings. Thus, under the constraints of the hypothetical negotiation, the market could not award Riles a royalty for his method divorced of all relation to a potential non-infringing alternative method. The economic relationship between the patented method and non-infringing alternative methods, of necessity, would limit the hypothetical negotiation. See Grain Processing, 185 F.3d at 1347 (the difference in production costs between infringing and non-infringing products "effectively capped the reasonable royalty award"). On the other hand, the cost of the entire Spirit platform would have little, if any, relevance in the hypothetical negotiation. Mr. Dry's model does not account for the actual losses due to infringement of the patented method. Accordingly, for this reason as well, this first model could not support the jury's verdict.

Mr. Dry's second model posited that Riles deserved a percentage (2-5%) of the gross revenue

received from the first year of production on the Spirit platform. Again, Mr. Dry's theory rested on an assumption that Riles could enjoin Shell from using the platform. Faced with dismantling the platform, Mr. Dry opined, Shell would pay Riles a percentage of its income from the operation of the platform. As noted above, however, this record does not show a circumstance in which Riles could enjoin Shell's lawful use of its platform based on infringement of the '918 patent.

This court can imagine a circumstance where the trial court might appropriate a portion of Shell's revenue to satisfy a judgment based on correct damages theories – namely the revenue Riles would have received from the market for his patented method. Once again, as discussed above, the entire revenue of the Spirit platform bears no relation to the value of the patented method. Therefore, for the same reasons that model one could not sustain the jury verdict, Mr. Dry's model two also fails.

Mr. Dry's third model was simply to add the first two models together. Mr. Dry, however, did not provide any basis for combining the two models (cost of platform and revenue for the first year). This model only compounds the errors of analysis in the first two models. This court cannot discern any reasonable economic or factual basis for this third model either.

Compensatory damages, by definition, make the patentee whole, as opposed to punishing the infringer. Aro Mfg., 377 U.S. at 507 (“The question to be asked is ‘Had the infringer not infringed, what would the patent holder . . . have made?’”). The record simply does not support a jury verdict of \$8.7 million, which approximates 4.5% of Mr. Dry's third model. At no time did Riles present evidence that this royalty rate reflected an agreement between Shell and Riles in a hypothetical negotiation. Rite-Hite, 56 F.3d at 1554 (citing Hanson, 718 F.2d at 1078). A reasonable royalty determination for purposes of making a damages evaluation must relate to the time infringement occurred, and not be an after-the-fact assessment. Hanson, 718 F.2d at 1079 (“The key element in setting a reasonable royalty . . . is the necessity for return to the date when the infringement began.”) (quoting Panduit Corp. v. Stahl Bros. Fibre Works, Inc., 575 F.2d 1152, 1158, 197 USPQ 726, 731 (6th Cir. 1978)). Clearly, Mr. Dry's models did not reflect what royalty rate a hypothetical negotiation between Shell and Riles would have yielded at the time the infringement began. Instead, the models

reflected Mr. Dry's assessment of the worth of Shell's oil rig at the time of the trial. Riles did not provide any evidence or testimony to show that Mr. Dry's models reflected what the parties might have agreed to, at any time, particularly at the time the infringement began. As the district court noted, the issue of infringement was a close question.

Furthermore, Mr. Dry's models ignored Riles's established licensing practice. Unisplay, S.A. v. American Elec. Sign Co., 69 F.3d 512, 519, 36 USPQ2d 1540, 1545 (Fed. Cir. 1995) (The patentee's prior license agreements "should carry considerable weight in calculating a reasonable royalty rate."); Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc., 862 F.2d 1564, 1568, 9 USPQ2d 1273, 1278 (Fed. Cir. 1988) ("[T]he patentee's usual licensing approach should be considered in assessing a reasonable royalty."). The record suggests that Riles's past licenses based the royalty rate on a percentage of any savings that the licensee would realize from use of the patent or upon a fee based on platform depth, and not on a percentage of the cost of the platform or the revenue for first year or both. Indeed, Riles had earlier approached Shell on licensing his '918 patent for Shell's Enchilada project. In sum, Mr. Dry's models did not follow proper reasonable royalty criteria. Thus, the district court abused its discretion in overruling Shell's objections to Mr. Dry's models.

Without a model to support the jury's verdict, this court must remand to grant the trial court the opportunity to carry out the mandate of the statute. The statute promises the patentee, as a minimum, a reasonable royalty as compensation for infringement. The record, however, does not supply any basis for this court to arrive at a reasonable royalty.

Shell also urges that a reasonable royalty may not exceed the cost savings between its proposed non-infringing alternative – installation with mud mats – and the patented method. Grain Processing, 185 F.3d at 1347 (finding American Maize's production cost difference between infringing and noninfringing product "effectively capped the reasonable royalty award"). Shell claims that "mudmats were an available alternative and that Shell saved \$350,000 by not using them." In fact, the record shows that Shell considered installation with mud mats during planning of installation of the Spirit platform. Riles, on the other hand, argues that mud mats were not an available alternative in the installation of the Spirit platform due to "a difficult sea floor and very soft and unstable soil conditions." In this regard, this court finds the evidence of record conflicting. Upon remand, the district court is free to entertain additional evidence by the parties on this fact issue in its re-determination of the damage award. The trial court may also consider any other evidence about non-infringing alternatives.

D.

The jury found Shell's infringement willful. Nonetheless, the district court denied enhanced damages. A finding of willfulness does not mandate enhanced damages. Cybor Corp., 138 F.3d at 1461. Rather, "[t]he paramount determination [for enhanced damages] . . . is the egregiousness of the defendant's conduct based on all the facts and circumstances." Read Corp. v. Portec, Inc., 970 F.2d 816, 826, 23 USPQ2d 1426, 1435 (Fed. Cir. 1992).

Despite record evidence that Shell copied the '918 patent, the district court found that the issues of infringement, damages, and willfulness were close questions. It further noted that the case was hard-fought, and that the jury could have found for Shell on the infringement and willfulness issues and could have awarded substantially less damages. In addition, the trial court weighed Shell's litigation behavior and found no reason for an award of enhanced damages. Hence, after balancing all of the factors, the

court concluded that Riles should not recover enhanced damages. The district court did not abuse its discretion in denying Riles enhanced damages.

III.

Substantial evidence supports the jury's finding of Shell's infringement of Riles's '918 patent. Accordingly, this court affirms that portion of the district court judgment. This court also affirms the denial of enhanced damages. This court, however, vacates and remands the case to the district court for a re-determination of the damage award.

COSTS

Each party shall bear its own costs.

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

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United States Court of Appeals for the Federal Circuit

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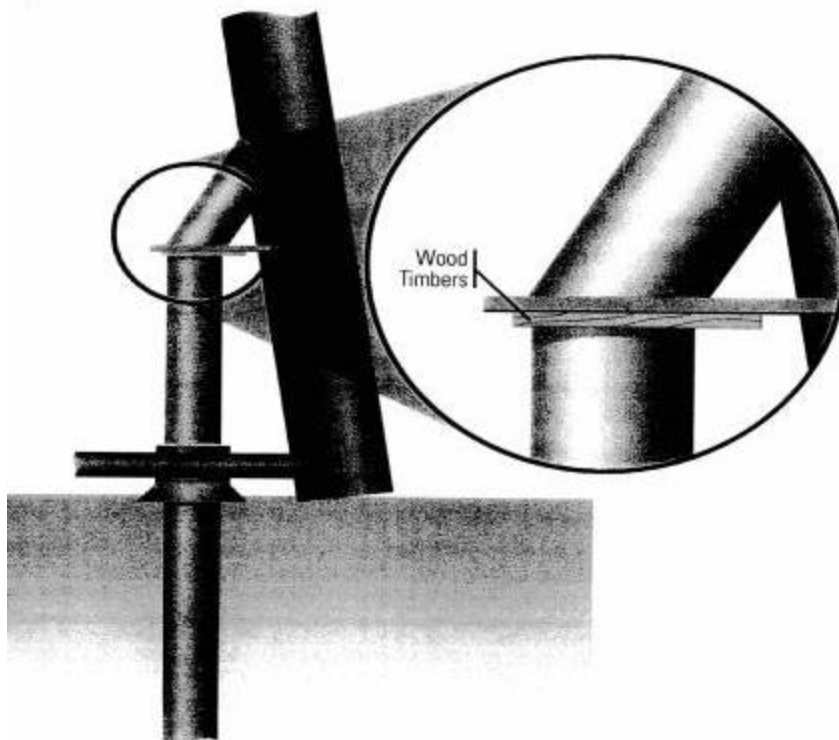
MICHEL, Circuit Judge, dissenting.

I respectfully dissent from the majority's affirmance of the denial of JMOL on equivalent infringement. In my view, we should hold that, under the All Elements Rule, use of the defendant's structure cannot infringe by equivalents the method claims of U.S. Patent No. 4,669,918 ("the '918 patent") because neither a judge nor a reasonable jury could conclude that the accused method used a

device containing a "metal-to-metal bearing contact" or a "stabbing connection" between an angled "depending support leg" and a piling. I would thus overturn the jury's verdict of infringement and enter judgment for the accused infringer.

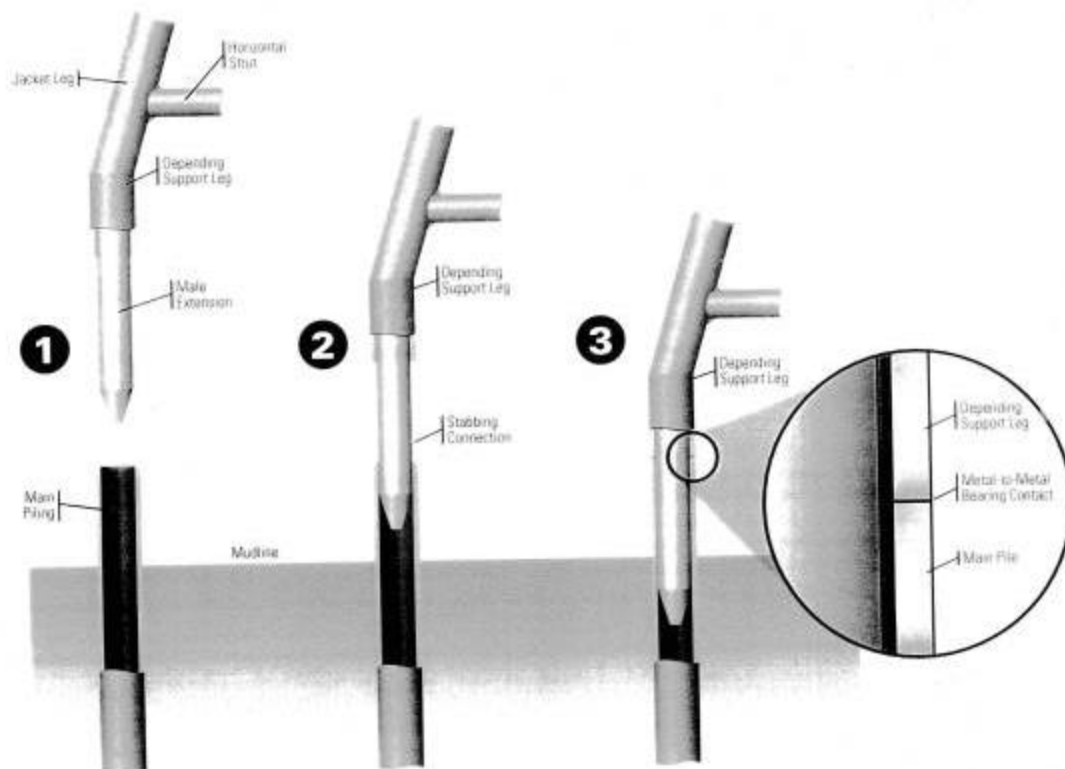
Turning to the first of three disputed limitations -- "metal to metal weight bearing contact" -- the trial court's undisputed and, I conclude, correct construction of this limitation is "a weight bearing contact between two metal surfaces." Accordingly, the limitation requires that the (lower) end of one metal tube (the jacket support leg) be in direct contact with the (top) end of another (the piling). See, e.g., Webster's II New Riverside University Dictionary 303 (1984) (defining "contact" as "[t]he touching of two objects or surfaces"). The patentee does not dispute that the defendant's structure, unlike that used in the claimed invention, lacks such metal-to-metal contact. Shown below, the defendant's structure has a piece of wood and a metal "porch" separating one metal tube from the other metal tube, i.e., the accused method's metal jacket support leg and the metal piling never come into direct contact.

[1]



It stands to reason, then, that the claimed "metal-to-metal" contact is missing altogether from the defendant's structure, meaning equivalent infringement as a matter of law simply cannot occur. See, e.g., Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co., 520 U.S. 17, 29-30 (1997) ("[T]he doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole, [and] it is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety."); Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 934-35, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987) (en banc) ("Under the doctrine of equivalents, infringement may be found (but not necessarily) if an accused device performs substantially the same overall function or work, in substantially the same way, to obtain substantially the same overall result as the claimed invention. That formulation, however, does not mean one can ignore claim limitations." (citations omitted)). The trial court should have granted JMOL on this basis alone.

A similar analysis applies to the angled "depending support legs" limitation. The trial court's uncontested -- and correct -- construction defined this limitation as "the lower portion of a space frame jacket leg which is angled to permit a stabbing connection to be made with a piling for support of the platform system." (Emphases added.) Separately, the trial court construed the limitation "stabbing connection" to mean "an end-to-end joining of two metal tubes by the insertion of an extension attached to the end of one of the tubes into the end of the other." (Emphasis added.) The claim limitation "depending support legs," however, incorporates such a "stabbing connection" and thus was construed to require, in toto, "the lower portion of a space frame jacket leg which is angled to permit 'an end-to-end joining of two metal tubes by the insertion of an extension attached to the end of one of the tubes into the end of the other.'" Of course, one of the tubes is a vertical piling for support of the platform system and the other is the now-vertical jacket leg at its lower extremity. Such a configuration is shown in the rendition of the structure of the patented method reproduced immediately below.



But this limitation's angled depending support leg feature is missing from Shell's device. Shell's jacket leg does not rest on or touch the top of the piling and is not angled at its lower extremity to become vertical. As shown in the figure below, it does have an attached piece angled down and to the left that ends at the "leveling porch." As is unmistakable from the evidence, Shell's piling extends from the ocean floor upward and its top surface is then embedded in the wood timbers at the underside of the leveling porch. The jacket leg, however, is not angled to become vertical, and the leg and the vertical piling do not join at all, much less by the "insertion of an extension attached to the end of one of" these tubes. Indeed, they cannot, because the lower leg portion is not angled such that it could be inserted inside the piling, or vice versa. Compare col. 9, ll. 28-35 of the '918 patent with the rendition of the structure disclosed by the patent reproduced above.

Again, therefore, the limitation's angled depending jacket support leg stabbingly connected to the piling is also altogether missing from the structure used in the accused method. See, e.g., Warner-

Jenkinson, 520 U.S. at 39 n.8 ("[I]f a theory of equivalents would entirely vitiate a particular claim element, partial or complete judgment should be rendered by the court . . ."); Pennwalt Corp., 833 F.2d at 935, 1737 USPQ2d at 1739 ("[A] court may not, under the guise of applying the doctrine of equivalents, erase a plethora of meaningful structural and functional limitations of the claim on which the public is entitled to rely in avoiding infringement." (citations omitted)).

In short, because all three disputed limitations recite structures that are utterly and unmistakably missing from the defendant's structure, the patentee is legally barred from benefiting from the doctrine of equivalents. I would therefore reverse and enter judgment for Shell. See Weisgram v. Marley Co., 528 U.S. 440, 455-56 (2000) (holding that appellate court can enter judgment for party when it determines that substantial evidence did not support jury verdict). All other issues although decided correctly, I agree, by the majority, would thereby become moot.

The All Elements Rule is applied by courts as a legal matter. See, e.g., Bell Atlantic Network Servs., Inc. v. Covad Comm. Group, Inc., 262 F.3d 1258, 1267, 59 USPQ2d 1865, 1869-70 (Fed. Cir. 2001) (stating that the All Elements Rule and prosecution history estoppel are legal limitations upon the doctrine of equivalents). And no amount of assertion by any trial witness can trump this rule to create a triable fact issue. Accordingly, no court need ask whether such evidence can be considered "substantial" because that standard of appellate review applies only to factual, not legal, issues. For this reason, the verdict cannot be sustained. Indeed, the issue of equivalent infringement of the three disputed limitations should never have been given to the jury in the first place. See id. at 1279-80, 59 USPQ2d at 1879 ("Thus, if a court determines that a finding of infringement under the doctrine of equivalents would entirely vitiate a particular claim element, then the court should rule that there is no infringement under the doctrine of equivalents." (citations omitted) (emphasis added)). The doctrine of equivalents was simply inapplicable to these limitations as a matter of law because a court must recognize that the features recited in these three limitations as correctly construed (without disagreement) were altogether missing from the defendant's device.

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[1] True, as the majority indicates, the "weight bearing" limitation is met, because the weight from the jacket leg is transferred to the piling via the porch and wood timbers. However, the "metal to metal" requirement of the limitation must still be satisfied, and it is not.
