

# United States Court of Appeals for the Federal Circuit

01-1238

ALLEN ENGINEERING CORPORATION,

Plaintiff-Appellee,

v.

BARTELL INDUSTRIES, INC. and DARRAGH COMPANY,

Defendants-Appellants.

Paul McNeill, Womack, Landis, Phelps, McNeill & McDaniel, of Jonesboro, Arkansas, argued for the plaintiff-appellee. On the brief was Stephen D. Carver, Carver Patent Law, LTD., of Little Rock, Arkansas.

William M. Lee, Jr., Lee, Mann, Smith, McWilliams, Sweeney & Ohlson, of Chicago, Illinois, argued for defendants-appellants. With him on the brief was Mark J. Nahnsen.

Appealed from: U.S. District Court for the Eastern District of Arkansas

Judge Stephen M. Reasoner.

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DECIDED: August 1, 2002

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Before GAJARSA, LINN, and PROST, Circuit Judges.

LINN, Circuit Judge.

Bartell Industries, Inc. (“Bartell”) appeals the April 13, 1999 judgment, following a bench trial, of the United States District Court for the Eastern District of Arkansas, Civil Action No. J-C-95-143 (“Allen Engineering”), holding that Bartell’s riding trowel models TS-65, TS-78, and TS-88<sup>1</sup> infringed certain claims of United States Patent No. 5,108,220 (“‘220 patent”), assigned to Allen Engineering Corporation (“Allen”), and the

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<sup>1</sup> Although the district court recited these model numbers in its February 2001 Order as identifying Bartell trowels that were found to infringe the claims of the ‘220 patent, infringement was apparently assessed in the April 1999 judgment with respect to Bartell trowels identified as “Bartell #1” and “Bartell #2.” We cannot determine from the record which model numbers correspond to these designations. This confusion should be addressed on remand.

same court's Order of February 2, 2001, entering judgment for Allen and awarding doubled damages in the amount of \$463,485.10. Because the district court did not construe the claims in suit and did not identify the specific claims it held to be infringed under the doctrine of equivalents, we vacate the judgment of infringement and the award of damages based thereon. Moreover, because the district court failed to apply the proper legal test in considering whether Allen's sales of the Red Rider more than one year prior to the filing date of the '220 patent constituted an on-sale bar to the patenting of the invention claimed therein, we vacate the district court's determination that the patent is not invalid under 35 U.S.C. § 102(b). Because claims 1-4, 13, and 23 of the '220 patent are indefinite, we reverse the district court's holding that those claims are not invalid under 35 U.S.C. § 112. We affirm the district court's finding that Bartell has not established the intent to deceive necessary to its claim of inequitable conduct before the Patent and Trademark Office based on Allen's failure to disclose its Red Rider trowel during the prosecution of the '220 patent. Finally, we affirm the district court's finding that the typographical error contained in certain patent identification labels on the Allen trowels was not material and does not affect any eventual calculation of damages. The case is remanded for further proceedings consistent with this opinion.

## I. BACKGROUND

This appeal relates to concrete riding trowels, which are machines used to smooth the surface of freshly poured concrete. Such trowels are powered by an internal combustion engine and are steered by the manipulation of a control stick or sticks. Since the steering of early trowels was relatively poor, research focused on improvements to the responsiveness of the steering. Allen's first model of such a trowel was known as the "Red Rider." It featured dual control sticks, and was a "front-facing" trowel, meaning that the operator sat on a forward facing seat, as distinct from "straddle-type" trowel seats, which

were similar to motorcycle seats. Sales of the Red Rider began in 1988; over one hundred units were ultimately sold. Allen's further research efforts ultimately resulted in the development of another riding trowel model, known as the "Flying Frame," which was introduced to the market in 1990.

Bartell introduced straddle-type trowels beginning in 1988. Its first front-facing model was completed in 1992, and was allegedly copied from a prototype of Allen's Flying Frame trowel. The introduction of this Bartell model to the marketplace provoked the present infringement litigation.

The application which matured to Allen's '220 patent was filed on July 13, 1990, and the patent issued in 1992. The claims were extensively amended during prosecution.

Representative claim 15 of the '220 patent is reproduced below:

A self-propelled, fast steering motorized riding trowel for finishing a concrete surface, said riding trowel comprising:

- seat means for supporting an operator of said riding trowel;
- primary control lever means accessible by said operator from said seat means for steering said riding trowel;
- rigid frame means adapted to be disposed over said concrete surface for supporting said seat means and said lever means;
- motor means for powering said riding trowel;
- twin rotor means associated with said frame means for navigating said concrete surface and supporting said frame means thereabove, each rotor means comprising:
  - blade means comprising a plurality of individual radially spaced apart blades adapted to frictionally contact said surface, said blades having a preselected pitch;
  - gearbox means for rotating said blade means, said gearbox means comprising a pair of rotatable shafts projecting downwardly from said frame means and defining a biaxial plane; and
  - pivot steering box means for pivotally mounting said gearbox means to said frame means;
- flexible drive shaft means for actuating said gearbox means in response to said motor means thereby revolving said rotor means, said flexible drive shaft means comprising individual shaft sections axially linked together by friction disk means for facilitating bending;
- means interconnecting said drive shaft means with said motor means; and,
- lever arm means disposed beneath said frame means for tilting said gearbox means in a plane generally parallel with said biaxial plane in

response to said primary control lever means.

Allen brought suit in the Eastern District of Arkansas in July of 1995, alleging that Bartell's manufacture and sale of its Bartell #1 and Bartell #2 models infringed claims 1-4, 6-9, and 13-24 of the '220 patent. The court did not conduct a Markman hearing, nor did it construe the claims of the '220 patent. After a bench trial, the district court found that the Bartell #1 trowel literally infringed claims 15-19, and possibly other claims, and that the Bartell #2 trowel infringed unspecified claims under the doctrine of equivalents. The district court also found that the Red Rider trowel was an experimental model that never reached completion, and on that basis, rejected Bartell's contention that the '220 patent claims were subject to an on-sale bar. The district court also rejected Bartell's argument that Allen committed inequitable conduct by not disclosing the Red Rider to the PTO during prosecution of the '220 patent. Finally, the court rejected Bartell's argument that damages could not be awarded because Allen's Flying Frame trowel, which was allegedly covered by the claims of the '220 patent, bore erroneous marking stickers that did not provide effective notice of the patent numbers to the public.

## II. DISCUSSION

### A. Standard of Review

This court reviews a district court's judgment following a bench trial for errors of law and clearly erroneous findings of fact. Manville Sales Corp. v. Paramount Sys., Inc., 917 F.2d 544, 549, 16 USPQ2d 1587, 1597 (Fed. Cir. 1990); Gould v. Quigg, 822 F.2d 1074, 1077, 3 USPQ2d 1302, 1304 (Fed. Cir. 1987). Claim construction is a matter of law and is reviewed de novo. Markman v. Westview Instruments, Inc., 52 F.3d 967, 979, 34 USPQ2d 1321, 1328 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370, 38 USPQ2d 1461 (1996). A determination of whether properly construed claims literally read on an accused product is a question of fact, General Mills, Inc. v. Hunt-Wesson, Inc., 103 F.3d 978, 981,

41 USPQ2d 1440, 1442 (Fed. Cir. 1997), as is the question of whether an element of an accused device is the equivalent of a claim limitation, Insta-Foam Prods., Inc. v. Universal Foam Sys., Inc., 906 F.2d 698, 702, 15 USPQ2d 1295, 1297 (Fed. Cir. 1990).

A determination of whether a claim recites the subject matter which that applicant regards as his invention and is sufficiently definite, so as to satisfy the requirements of 35 U.S.C. § 112, paragraph 2, is a legal conclusion and is reviewed de novo. Solomon v. Kimberly-Clark Corp., 216 F.3d 1372, 1377, 55 USPQ2d 1279, 1281 (Fed. Cir. 2000).

Inequitable conduct is a matter within the sound discretion of the trial court and is reviewed for an abuse of that discretion. Kingsdown Med. Consultants, Ltd. v. Hollister Inc., 863 F.2d 867, 876, 9 USPQ2d 1384, 1392 (Fed. Cir. 1988) (en banc in relevant part).

The ultimate determination of whether an invention was on sale under 35 U.S.C. § 102(b) is a question of law subject to plenary review. Brasseler, U.S.A. I, L.P. v. Stryker Sales Corp., 182 F.3d 888, 889, 51 USPQ2d 1470, 1471 (Fed. Cir. 1999). This legal determination is, however, based on underlying issues of fact. Weatherchem Corp. v. J.L. Clark, Inc., 163 F.3d 1326, 1332, 49 USPQ2d 1001, 1006 (Fed. Cir. 1998).

## B. Analysis

### 1. Claim Construction and Infringement

Allen asserted at trial that Bartell's riding trowels infringe claims 1-4, 6-9, and 13-24. This court's precedent provides a road map for district courts in assessing whether accused devices infringe patent claims. In short, an assessment of whether an accused device infringes claims of a patent necessarily involves both an identification and interpretation of the asserted claims, and a comparison of the properly interpreted claim limitations to the elements of the accused device.

The first step in any such analysis is to construe the claims at issue, which is a matter of law for the court. Markman, 52 F.3d at 976, 34 USPQ2d at 1326. In interpreting the claim limitations, the court should look first to the intrinsic evidence, or in other words "the written description, the drawings, and the prosecution history, if in evidence." Teleflex, Inc. v. Ficoso N. Am. Corp., \_\_\_ F.3d \_\_\_, 63 USPQ2d 1374, 1380 (Fed. Cir. 2002). The words of the claims themselves define the scope of the invention, and are given their ordinary and customary meaning, unless the patentee has chosen to use terms in some other manner. Ecolab, Inc. v. Envirochem, Inc., 264 F.3d 1358, 1366, 60 USPQ2d 1173, 1179 (Fed. Cir. 2001); see also Hoechst Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1578, 38 USPQ2d 1126, 1129 (Fed. Cir. 1996). It is thus necessary to review the specification to determine whether the patentee has assigned any special meaning to claim terms; the specification is "the single best guide to the meaning of a disputed term." Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996). The court may also consider the prosecution history, if in evidence. Id.; Markman, 52 F.3d at 980, 34 USPQ2d at 1330. The prosecution history "is often of critical significance in determining the meaning of the claims." Vitronics, 90 F.3d at 1582, 39 USPQ2d at 1577.

Once the court has construed the claim limitations, the second step in its analysis is to apply the claims to the accused device. Literal infringement of a claim exists when each of the claim limitations “reads on,” or in other words is found in, the accused device. Baxter Healthcare Corp. v. Spectramed, Inc., 49 F.3d 1575, 1583, 34 USPQ2d 1120, 1126 (Fed. Cir. 1995); Amhil Enters. Ltd. v. Wawa, Inc., 81 F.3d 1554, 1562, 38 USPQ2d 1471, 1476 (Fed. Cir. 1996). Even if one or more of the claim limitations are not literally present in the accused device, thus precluding a finding of literal infringement, the claim may still be held infringed if equivalents of those limitations are present. Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 24, 41 USPQ2d 1865, 1869 (1997). Equivalents are assessed on a limitation-by-limitation basis; this focus on individual limitations, rather than on the accused device as a whole, aids the court in being specially vigilant against allowing the concept of equivalence to eliminate any claim limitations completely. Id. at 40, 41 USPQ2d at 1875. Equivalence may be established by a showing by preponderant evidence that an element of an accused device “‘does substantially the same thing in substantially the same way to get substantially the same result’ as the claim limitation.” Toro Co. v. White Consol. Indus., Inc., 266 F.3d 1367, 1370, 60 USPQ2d 1437, 1439 (Fed. Cir. 2001) (quoting Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1260, 9 USPQ2d 1962, 1969 (Fed. Cir. 1989)). “‘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.’” Leggett & Platt, Inc. v. Hickory Springs Mfg. Co., 285 F.3d 1353, 1359, 62 USPQ2d 1266, 1270 (Fed. Cir. 2002) (quoting Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1423, 44 USPQ2d 1103, 1106 (Fed. Cir. 1997)).

The district court’s opinion gives little consideration to the claim limitations of the asserted ’220 patent. The court identifies the alleged “enhanced steering characteristics”



of the '220 patent, which it implies are attributable to the “offset torque rod means,” as the “heart” of the invention. Allen Engineering, slip op. at 9. This is erroneous. It is well settled that “there is no legally recognizable or protected ‘essential’ element, ‘gist’ or ‘heart’ of the invention in a combination patent.” Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 345, 128 USPQ 354, 359 (1961). Rather, “[t]he invention’ is defined by the claims.” Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1565, 19 USPQ2d 1111, 1118 (Fed. Cir. 1991).

In its only attempt at claim construction, the district court construes the “offset torque rod means” limitation to mean that “the actual movement of the gear boxes resulted from application of force at a point offset from the center pivot axis of the gear boxes themselves.” Allen Engineering, slip op. at 9. The court then proceeds to find literal infringement without discussing any other claim limitations: “[w]hile these concepts appear in various claims in the '220 patent, the most evident claim which directly reads on the Bartell #1 unit is contained in claim 15 and its dependent claims 16, 17, 18, and 19.” Id. Among these claims, however, the “offset torque rod means” appears only in claim 18. Thus, the court finds literal infringement of an independent claim apparently without considering any of the limitations of that claim and purportedly on the basis of a limitation appearing only in a dependent claim. This is error.

The court’s findings with respect to the Bartell #2 trowel also are flawed. Here, the court identifies no claim infringed by the trowel; rather, the court states in a conclusory manner that “Bartell #2 . . . is both a structural and functional equivalent of the '220 patent. The Court finds that the Bartell #2 trowel, while modified, performs substantially the same function as the '220 patent in substantially the same way.” Id. However, equivalents must be assessed on a claim-by-claim, limitation-by-limitation basis, not on any blanket comparison of the patent document generally to the accused device. Warner-Jenkinson,

520 U.S. at 40, 41 USPQ2d at 1875. Not only has the district court in this case failed to perform a limitation-by-limitation comparison, it has not even identified which claim or claims it finds the Bartell #2 trowel to infringe under the doctrine of equivalents.

The district court's failure to construe the claim limitations at issue, and its inadequate factual findings on infringement, compel this court to remand for further proceedings consistent with this opinion. See Graco, Inc. v. Binks Mfg. Co., 60 F.3d 785, 791, 35 USPQ2d 1255, 1260 (Fed. Cir. 1995) (“The entire omission of a claim construction analysis from the opinion, and the conclusory factual findings on infringement, each provide an independent basis for remand.”). On remand, the district court must construe the disputed limitations of all of the claims remaining in suit and must then compare each of those limitations, as construed, to the corresponding elements of the accused Bartell trowels to determine infringement. To assist the district court in this process, we provide the following guidance on specific issues that, among others, will have to be addressed on remand.

a. Claim Preamble

Each of the independent claims in suit begins with the same preamble, which is in this case that part of each claim preceding the transitional term “comprising.” This preamble reads: “[a] self-propelled, fast steering motorized riding trowel for finishing a concrete surface, said trowel comprising . . . .” ’220 patent, col. 16, ll. 32-35. Generally, the preamble does not limit the claims. DeGeorge v. Bernier, 768 F.2d 1318, 1322 n.3, 226 USPQ 758, 764 n.3 (Fed. Cir. 1985). However, the preamble may be limiting “when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention.” Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). If the preamble is “necessary to give life, meaning and vitality” to the claim, then the claim

preamble should be construed as limiting. Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 480-81 (CCPA 1951). This is determined “on the facts of each case in view of the claimed invention as a whole.” In re Stencel, 828 F.2d 751, 754, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987); see also Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc., 98 F.3d 1563, 1572-73, 40 USPQ2d 1481, 1488 (Fed. Cir. 1996) (“Whether a preamble stating the purpose and context of the invention constitutes a limitation . . . is determined on the facts of each case in light of the overall form of the claim, and the invention as described in the specification and illuminated in the prosecution history.”).

Allen argues that the term “fast steering” should be interpreted as a claim limitation. Bartell responds that this is simply a “laudatory term” that only sets forth the purpose of the claimed invention. We agree with Bartell. The term “fast steering” is a relative term, and no interpretive frame of reference is provided in any of the claims or in the specification. Moreover, there is no indication in the record that one of skill in the relevant art would understand what was meant by the term in this context without such a frame of reference. The term “fast steering” fails to give “life, meaning and vitality” to the claimed structure, and thus is not a limitation of the claim. Kropa, 187 F.2d at 152, 88 USPQ at 480-81. We hold that the expression “fast steering” should be construed as merely setting forth the intended purpose of the claimed combination, and should be given no limiting meaning.

b. 35 U.S.C. § 112, Paragraph 6, Means-Plus-Function Limitations

A claim limitation may be expressed in means-plus-function format in accordance with 35 U.S.C. § 112, paragraph 6, which reads as follows:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, paragraph 6 (2000). The use of the word “means” “triggers a presumption that the inventor used this term advisedly to invoke the statutory mandate for means-plus-function clauses.” York Prods., Inc. v. Cent. Tractor Farm & Family Ctr., 99 F.3d 1568, 1574, 40 USPQ2d 1619, 1623 (Fed. Cir. 1996). This presumption may be overcome in two ways. First, “a claim element that uses the word ‘means’ but recites no function corresponding to the means does not invoke § 112, ¶ 6.” Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1302, 50 USPQ2d 1429, 1434 (Fed. Cir. 1999). Second, “even if the claim element specifies a function, if it also recites sufficient structure or material for performing that function, § 112, ¶ 6 does not apply.” Id.; see Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531, 41 USPQ2d 1001, 1006 (Fed. Cir. 1996) (“To invoke [§ 112, paragraph 6], the alleged means-plus-function claim element must not recite a definite structure which performs the described function.”). A claim term recites sufficient structure if “the ‘term, as the name for structure, has a reasonably well understood meaning in the art.”’ Watts v. XL Sys., Inc., 232 F.3d 877, 880-81, 56 USPQ2d 1836, 1838 (Fed. Cir. 2000) (quoting Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583, 39 USPQ2d 1783, 1786 (Fed. Cir. 1996)). The mere use of the word “means” after a limitation, without more, does not suffice to make that limitation a means-plus-function limitation. Cole, 102 F.3d at 531, 41 USPQ2d at 1006.

In Cole, this court held that a limitation reading “perforation means extending from the leg band means to the waist band means through the outer impermeable layer means for tearing the outer impermeable layer means for removing the training brief in case of an accident by the user” was not in means-plus-function format. The court noted that “[t]he claim describes not only the structure that supports the tearing function, but also its location . . . and extent . . . . An element with such a detailed recitation of its structure, as opposed to its function, cannot meet the requirements of the statute.” Cole, 102 F.3d at 531, 41

USPQ2d at 1006. In contrast, in Sage Products, Inc. v. Devon Industries, Inc., 126 F.3d 1420, 44 USPQ2d 1103 (Fed. Cir. 1997), this court held that a “closure means . . . for controlling access” limitation was properly construed as a means-plus-function limitation, since a function was recited for the means and the claim did not “explicitly recite[ ] the structure, material, or acts needed to perform [the function].” Sage, 126 F.3d at 1428, 44 USPQ2d at 1110.

As in Cole, the drafter of the '220 patent “was clearly enamored of the word ‘means.’” Cole, 102 F.3d at 531, 41 USPQ2d at 1006. Claim 15, the independent claim that the district court found literally infringed, contains twelve limitations using the word “means,” and the word appears thirty-two times in that claim alone. Most of these putative means-plus-function limitations contain far too much structure to claim the benefit of § 112, paragraph 6. For example, the “gearbox means for rotating said blade means” of claim 15 is further defined in the claim to comprise “a pair of rotatable shafts projecting downwardly from said frame means and defining a biaxial plane.” Similarly, the “flexible drive shaft means for actuating said gearbox means” is defined by claim 15 itself to comprise “individual shaft sections axially linked together by friction disk means for facilitating bending.” Such detailed recitation of structure clearly removes these limitations from the ambit of § 112, paragraph 6.

Likewise, the presumptions raised by the use of the word “means” in all but one of the remaining limitations of the claims are overcome by the recitation in each instance of sufficient structure to preclude § 112, paragraph 6 treatment as well. The “pivot steering box means” and the “friction disk means” of claim 15, as well as, for example, the “torque rod means” of claim 17, the “knuckle spring means” of claim 20, the “connecting shaft means” of claim 21, the “crank means,” “clutch plate means,” “fork means,” and “cable means” of claim 24, and the “lever arm means” of all of the claims in suit, are instances in

which, as in Cole, “the claim drafter’s perfunctory addition of the word ‘means’ did nothing to diminish the precise structural character of [the] element.” Id. All of these limitations recite precise structure well understood by those of skill in the art. Accordingly, the word “means” in these limitations may be ignored. The only limitation that does invoke § 112, paragraph 6 is the “means interconnecting said drive shaft means with said motor means,” reciting as it does no structure at all. That limitation is construed in accordance with the statute to cover the corresponding structure disclosed in the written description for performing the recited function, and equivalents thereof.

c. Invalidity Under 35 U.S.C. § 112

Bartell argues that claims 1-4, 13, and 23 of the '220 patent are invalid under 35 U.S.C. § 112. The second paragraph of that statute recites:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

We have explained that the second paragraph of § 112 contains two requirements: “first, [the claim] must set forth what ‘the applicant regards as his invention,’ and second, it must do so with sufficient particularity and distinctness, i.e., the claim must be sufficiently ‘definite.’” Solomon v. Kimberly-Clark Corp., 216 F.3d 1372, 1377, 55 USPQ2d 1279, 1282 (Fed. Cir. 2000). In determining whether the claim is sufficiently definite, we must analyze whether “one skilled in the art would understand the bounds of the claim when read in light of the specification.” Personalized Media Communications, LLC v. Int’l Trade Comm’n, 161 F.3d 696, 705, 48 USPQ2d 1880, 1888 (Fed. Cir. 1998). Claim 23 is an example of a failure to meet the second of the requirements set forth in Solomon. This claim ends in the middle of a limitation: “coupled to said gearbox means by rigid”. '220 patent, col. 21, ll. 43-44. Since it is impossible to discern the scope of such a truncated limitation, claim 23 is indefinite and thus invalid under 35 U.S.C. § 112, paragraph 2.

Claims 1-4 and 13 of the '220 patent implicate the first requirement set forth in Solomon: that the applicant set forth what he “regards as his invention.” Solomon, 216 F.3d at 1377, 55 USPQ2d at 1282. Where it would be apparent to one of skill in the art, based on the specification, that the invention set forth in a claim is not what the patentee regarded as his invention, we must hold that claim invalid under § 112, paragraph 2. Id. at 1378-79, 55 USPQ2d at 1282-83. While claims 1-4 and 13 limit one of the two pivot steering boxes to pivoting “its gear box only in a plane perpendicular to said biaxial plane,” '220 patent, col. 16, ll. 60-63; col. 19, ll. 51-53 (emphases added), the specification describes this structure in contrary terms, stating that “rotation about the axis established by bolt 272 is not permitted; gearbox 85A cannot pivot in a plane perpendicular to the biaxial plane.” '220 patent, col. 11, ll. 48-51 (emphases added).

Allen argues that one of skill in the art would understand that the term “perpendicular” in the claim should be read to mean “parallel.” Allen stretches the law too far. It is not our function to rewrite claims to preserve their validity. Rhine v. Casio, Inc., 183 F.3d 1342, 1345, 51 USPQ2d 1377, 1379 (Fed. Cir. 1999). We are simply tasked with determining whether the claims “particularly point[ ] out and distinctly claim[ ]” what the inventor regards as his invention. 35 U.S.C. § 112, paragraph 2; see also In re Zletz, 893 F.2d 319, 322, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (holding that claims failing this test during prosecution must be rejected under § 112, paragraph 2). Moreover, it is of no moment that the contradiction is obvious: semantic indefiniteness of claims “is not rendered unobjectionable merely because it could have been corrected.” In re Hammack, 427 F.2d 1384, 1388 n.5, 166 USPQ 209, 215 n.5 (CCPA 1970). Here, it is apparent from a simple comparison of the claims with the specification that the inventor did not regard a trowel in which the second gear box pivoted only in a plane perpendicular to the biaxial plane to be his invention. Allen admits as much. Accordingly, we conclude as a

matter of law that claims 1-4 and 13, which include the incorrect “perpendicular” limitation, are invalid under § 112, paragraph 2.

Bartell also contends that these claims are invalid under the first paragraph of § 112, on the theory that they are not enabled by the specification. In light of our holding of invalidity under § 112, paragraph 2, we need not and do not address the § 112, paragraph 1 argument.

d. Prosecution History Estoppel

In any consideration on remand of infringement of claims of the '220 patent under the doctrine of equivalents, the district court must consider the doctrine of prosecution history estoppel. This doctrine bars a patentee from asserting as an equivalent subject matter surrendered during prosecution of the patent application. Am. Permahedge, Inc. v. Barcana, Inc., 105 F.3d 1441, 1445-46, 41 USPQ2d 1614, 1618 (Fed. Cir. 1997). An estoppel may arise as a result of amendments that narrow the scope of a claim to satisfy any requirement of the Patent Act. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 122 S.Ct. 1831, 1839, 62 USPQ2d 1705, 1711-12 (2002). Narrowing amendments create a rebuttable presumption of estoppel. Id. at 1841-42, 62 USPQ2d at 1713 (citing Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 33, 41 USPQ2d 1865, 1873 (1997)). The scope of the estoppel depends on “the inferences that may reasonably be drawn from the amendment.” Id. at 1840, 62 USPQ2d at 1712. A patentee is not barred from asserting “equivalents unforeseeable at the time of the amendment and beyond a fair interpretation of what was surrendered,” or those that “have only a peripheral relation to the reason the amendment was submitted.” Id. at 1841, 62 USPQ2d at 1712. Nor is recourse to the doctrine of equivalents foreclosed where there is “some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question.” Id. at 1842, 62 USPQ2d at 1714. The patentee bears



the burden of overcoming the presumption by “showing that the amendment does not surrender the particular equivalent in question.” Id. at 1842, 62 USPQ2d at 1713. An estoppel also may be found on the basis of arguments made during prosecution of the application to secure the allowance of claims. See Elkay Mfg. Co. v. Ebco Mfg. Co., 192 F.3d 973, 979, 52 USPQ2d 1109, 1113 (Fed. Cir. 1999) (holding that the scope of coverage of the claims may change if a patentee has “relinquished [a] potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference”); Southwall Techs., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1583, 34 USPQ2d 1673, 1683 (Fed. Cir. 1995).

It is apparent from the record that numerous amendments of the claim limitations were made during prosecution of the '220 patent. Also, in its October 3, 1991 response, Allen made numerous arguments respecting the patentability of the claims as amended. On remand, the district court must consider whether any of these amendments and arguments gives rise to prosecution history estoppel limiting resort to the doctrine of equivalents. Festo, 122 S.Ct. at 1839, 62 USPQ2d at 1711-12 (holding that “a narrowing amendment made to satisfy any requirement of the Patent Act may give rise to an estoppel”); Southwall, 54 F.3d at 1583, 34 USPQ2d at 1682 (“Clear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may also create an estoppel.”). Any argument-based estoppel affecting a limitation in one claim will also extend to all claims in which that limitation appears. Southwall, 54 F.3d at 1584, 34 USPQ2d at 1683 (“Once an argument is made regarding a claim term so as to create an estoppel, the estoppel will apply to that term in other claims.”).

e. Copying

The district court's decision and the record evince confusion about the legal effect of alleged copying of Allen's trowels on the issue of infringement. Specifically, in connection with a side-by-side comparison of several trowels, including Allen's Flying Frame trowel, Bartell's accused trowels, and the Red Rider, the court asked the plaintiff's president, Mr. Allen, to tell him "what he feels about the Allen machine that is unique and where he thinks it has been copied on the Bartell machine." Trial Tr. at 264 (emphasis added). Allen's counsel, perhaps out of excessive zeal in their client's cause, misstated applicable Supreme Court precedent in their post-trial submissions to the court:

Interestingly enough, Defendants urge that Bartell's copying is a "non-issue." [Defendant's Brief, p. 26] This position is in direct contradiction to the Court's holding in Graham v. John Deere Company of Kansas City, 383 U.S. 1, 15 L.Ed.2d. 545, 86 S.Ct. 684, 148 USPQ 459 (1966) which specifically directs that the trial court is to take into consideration as an element of infringement whether the invention in question was copied by the infringer.

Allen's Post-Trial Reply Br. at 2. Graham v. John Deere says no such thing even by implication, much less "specifically." That case does indicate that copying may have relevance not on infringement but on validity as one of a number of "indicia of obviousness or nonobviousness." Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966) (stating that secondary conditions such as "commercial success, long felt but unsolved needs, failure of others, etc. . . . may have relevancy" to the determination of obviousness vel non, and citing to a law review article that suggests actual copying may also be probative of obviousness); see also Apple Computer, Inc. v. Articulate Sys., Inc., 234 F.3d 14, 26, 57 USPQ2d 1057, 1066 (Fed. Cir. 2000) (describing copying as "objective evidence of non-obviousness"). While copying may be relevant to obviousness, it is of no import on the question of whether the claims of an issued patent are infringed. Indeed, the Supreme Court has specifically rejected the proposition that copying is relevant to infringement as asserted under the doctrine of equivalents. Warner-Jenkinson Co. v.

Hilton Davis Chem. Co., 520 U.S. 17, 35-36, 41 USPQ2d 1865, 1874 (holding that “intent plays no role in the application of the doctrine of equivalents”). Infringement is determined by comparing the accused devices not with products made by the patentee but with the claims of the patent as properly construed. Counsel who undertake patent infringement litigation should know the difference between validity and infringement and are expected to accurately explain the difference to the court.

## 2. Inequitable Conduct

Bartell argues that Allen committed inequitable conduct by not disclosing its earlier Red Rider model to the PTO during prosecution of the '220 patent. To prevail on this issue, Bartell must show by clear and convincing evidence that Allen withheld material information from the PTO with intent to deceive the PTO. GFI, Inc. v. Franklin Corp., 265 F.3d 1268, 1273, 60 USPQ2d 1141, 1143 (Fed. Cir. 2001). Intent is “in the main proven by inferences drawn from facts, with the collection of inferences permitting a confident judgment that deceit has occurred.” Id. at 1274, 60 USPQ2d at 1144. The district court’s determination on inequitable conduct is reviewed for an abuse of discretion. Id. at 1273, 60 USPQ2d at 1143.

We find no abuse of discretion in the district court’s determination that there was no inequitable conduct based on the record before us. Bartell has provided no direct evidence that Allen withheld information about the Red Rider with intent to deceive the PTO. Instead, Bartell argues that Allen was “at least grossly negligent” in withholding the Red Rider from the PTO, and that, on the basis of Argus Chemical Corp. v. Fibre Glass-Evercoat Co., 759 F.2d 10, 14-15, 225 USPQ 1100, 1003 (Fed. Cir. 1985), Allen’s intent to deceive is shown by this gross negligence. However, even if Allen’s conduct amounted to gross negligence, this alone would not be sufficient to show the requisite intent. Kingsdown Med. Consultants, Ltd. v. Hollister Inc., 863 F.2d 867, 876, 9 USPQ2d 1384,

1392 (Fed. Cir. 1988) en banc in relevant part) (holding that “a finding that particular conduct amounts to ‘gross negligence’ does not of itself justify an inference of intent to deceive”). Bartell argues, in essence, that the Red Rider was so material that its nondisclosure justifies an inference of intent to deceive. However, “materiality does not presume intent, which is a separate and essential component of inequitable conduct.” Allen Organ Co. v. Kimball Int’l, Inc., 839 F.2d 1556, 1567, 5 USPQ2d 1769, 1778 (Fed. Cir. 1988). The extent of the evidence in the present record simply is not sufficient to show deceptive intent. We find no basis to conclude that the district court abused its discretion in finding no inequitable conduct by Allen.

### 3. On-Sale Bar

Bartell alleges that sales of the Red Rider more than one year prior to the July 13, 1990 filing date of the application which matured to the '220 patent constituted an on-sale bar to the issuance of that patent under 35 U.S.C. § 102(b). Bartell argues that the sales were commercial in nature, identifying evidence that Allen’s customers were not informed that the Red Rider was an experimental model and that there was no record kept of any experimentation. Bartell also argues that the Red Rider was an embodiment of the invention of the '220 patent, identifying elements of the Red Rider that it alleges correspond to certain claim limitations, such as the offset torque arms, parallel lever arms, twin steering sticks and tertiary linkage, and flexible direct drive system.

Allen responds that the Red Rider did not incorporate the limitations of the '220 claims. Allen states that the Red Rider “did not have the critical ‘fast steering’ characteristics,” nor was it “operator friendly,” and contends that this proves that the invention of the '220 patent was not ready for patenting when the Red Rider was sold. Furthermore, Allen argues that the Red Rider was sold primarily for reasons of experimentation, and that the representations made by Allen to its customers should have

led them to believe that the machine was experimental. Allen states that the trade-in guarantees it gave to its customers establish that the Red Rider was “an experimental machine made in anticipation of a new superior machine.”

To establish an on-sale bar, it must be shown that the device sold “fully anticipated the claimed invention or would have rendered the claimed invention obvious by its addition to the prior art.” Tec Air, Inc. v. Denso Mfg. Mich. Inc., 192 F.3d 1353, 1358, 52 USPQ2d 1294, 1296-97 (Fed. Cir. 1999) (quoting Ferag AG v. Quipp Inc., 45 F.3d 1562, 1566, 33 USPQ2d 1512, 1514-15 (Fed. Cir. 1995)); see also Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 68, 48 USPQ2d 1641, 1647 (1998) (noting that the device “contained all the elements of the invention claimed in the '377 patent”). Thus, to invalidate a claim of the '220 patent, Bartell must show that the Red Rider embodied all of the limitations of that claim or would have rendered that claim obvious. In addition, Bartell must also prove the facts underlying both prongs of the Pfaff test by clear and convincing evidence. Specifically, Bartell must show that, before the critical date—which in this case is July 13, 1989—the Red Rider was both (1) the subject of a commercial offer for sale not primarily for purposes of experimentation and (2) ready for patenting. Pfaff, 525 U.S. at 67, 48 USPQ2d at 1646-47. The first prong of this test involves a determination of whether a commercial offer for sale has occurred, applying traditional contract law principles. See Linear Tech. Corp. v. Micrel, Inc., 275 F.3d 1040, 1048, 61 USPQ2d 1225, 1229 (Fed. Cir. 2001) (citing Group One, Ltd. v. Hallmark Cards, Inc., 254 F.3d 1041, 1047, 59 USPQ2d 1121, 1126 (Fed. Cir. 2001)). It also involves an assessment of whether the circumstances surrounding the transaction show that the transaction was not primarily for purposes of experimentation. In assessing experimentation, this court has considered a number of factors, not all of which may apply in any particular case. These factors include:

(1) the necessity for public testing, (2) the amount of control over the experiment retained by the inventor, (3) the nature of the invention, (4) the length of the test period, (5) whether payment was made, (6) whether there was a secrecy obligation, (7) whether records of the experiment were kept, (8) who conducted the experiment, . . . (9) the degree of commercial exploitation during testing[,] . . . (10) whether the invention reasonably requires evaluation under actual conditions of use, (11) whether testing was systematically performed, (12) whether the inventor continually monitored the invention during testing, and (13) the nature of contacts made with potential customers.

EZ Dock v. Schafer Sys., Inc., 276 F.3d 1347, 1357, 61 USPQ2d 1289, 1296 (Fed. Cir. 2002) (Linn, J., concurring). The second prong of the Pfaff test may be satisfied “by proof of reduction to practice before the critical date; or by proof that prior to the critical date the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention.” Pfaff, 525 U.S. at 67-68, 48 USPQ2d at 1647. The on-sale bar is evaluated on a claim-by-claim basis, so that some claims of a patent may be found to be barred while others are not. Lough v. Brunswick Corp., 86 F.3d 1113, 1122 n.5, 39 USPQ2d 1100, 1107 n.5 (Fed. Cir. 1996) (“Each claim of the patent must be considered individually when evaluating a public use bar.”).

We have described the assessment of whether a device sold was an embodiment of a claimed invention as “the first determination” in the on-sale bar analysis. Scaltech, 178 F.3d at 1383, 51 USPQ2d at 1058. However, in some cases, it may be more efficient to first assess experimental use negation of sales allegedly made, as “adequate proof of experimentation negates a statutory bar.” EZ Dock, 276 F.3d at 1352, 61 USPQ2d at 1292. If there is adequate proof that a device was sold primarily for experimentation, the first prong of Pfaff would not be met and it would be unnecessary to consider either whether the device was an embodiment of the claimed invention or whether the invention was “ready for patenting” at the time of the sales.

The district court in this case chose to focus its analysis on the experimental character of the Red Rider. It found that the Red Rider was “essentially an experimental prototype . . . which was under constant modifications,” Allen Engineering, slip op. at 4, and stated that “[p]ublic use under section 102(b) does not start the one-year period until after the invention has left the experimental stage.” Id. at 15. The court made the additional findings of fact that, if the users of the Red Rider had problems with the machine, “Allen would repair, replace, or substitute a usable product,” id. at 3, and that “it would have been impossible to conduct adequate research and development on the Red Rider in a factory environment,” id. at 4. The district court concluded from this alone that the Red Rider sales did not create an on-sale bar to the issuance of the '220 patent.

The district court erred, however, in concluding that sales of the Red Rider did not trigger an on-sale bar simply because the Red Rider was in an experimental stage. The court made the findings that the Red Rider was an experimental prototype that never reached completion, based on its findings that Allen’s customers received a guarantee of repair or replacement of the Red Rider, and that it was necessary to test the devices on job sites. By themselves, however, these findings are insufficient to determine whether sales of the Red Rider constituted a commercial offer for sale under the test set forth in Pfaff.

[W]hat is important to an assessment of the commercial versus experimental significance of a sale is not necessarily the posture of the invention’s overall development, but the nature or purpose of the particular use to which the invention that is the subject of that sale is to be put. See Manville Sales Corp. v. Paramount Sys., Inc., 917 F.2d 544, 550, 16 USPQ2d 1587, 1592 (Fed. Cir. 1990) (“a sale that is primarily for experimental purposes, as opposed to commercial exploitation, does not raise an on sale bar”); U.S. Env’tl Prods., Inc. v. Westall, 911 F.2d 713, 716, 15 USPQ2d 1898, 1901 (Fed. Cir. 1990) (“[a] section 102(b) bar is avoided if the primary purpose of the sale was experimental”); Barmag Barmer Maschinenfabrik AG v. Murata Mach., Ltd., 731 F.2d 831, 839, 221 USPQ 561, 567 (Fed. Cir. 1984) (quoting In re Theis, 610 F.2d 786, 793, 204 USPQ 188, 194 (CCPA 1979) (“[t]he experimental exception applies only if the commercial exploitation is merely incidental to the primary purpose of experimentation to perfect the invention”)).

Thus, the question posed by the experimental use doctrine, assessed under the first prong of the two-part on-sale bar test of Pfaff, is not whether the invention was under development, subject to testing, or otherwise still in its experimental stage at the time of the asserted sale. Instead, the question is whether the transaction constituting the sale was “not incidental to the primary purpose of experimentation,” i.e., whether the primary purpose of the inventor at the time of the sale, as determined from an objective evaluation of the facts surrounding the transaction, was to conduct experimentation. Scaltech, Inc. v. Retec/Tetra, L.L.C., 178 F.3d 1378, 1384 n.1, 51 USPQ2d 1055, 1059 n.1 (Fed. Cir. 1999). As noted, once the invention is reduced to practice, there can be no experimental use negation. Zacharin v. United States, 213 F.3d 1366, 1369, 55 USPQ2d 1047, 1050 (Fed. Cir. 2000); RCA Corp., 887 F.2d at 1061, 12 USPQ2d at 1453. But up to that point, regardless of the stage of development of the invention, and quite apart from the possible satisfaction of the second prong of the Pfaff test, the inventor is free to experiment, test, and otherwise engage in activities to determine if the invention is suitable for its intended purpose and thus satisfactorily complete.

EZ Dock, 276 F.3d at 1356-57, 61 USPQ2d at 1295-96 (Linn, J., concurring).

Because the district court erred as a matter of law in not considering or properly applying the first or second prongs of Pfaff, we are forced to vacate the determination of no on-sale bar and remand for further findings consistent with this opinion. To assist the court in this determination, we note that in its consideration of the first prong of Pfaff, the court must investigate all of the circumstances regarding the sales in question to assess whether Bartell has proved, by clear and convincing evidence, facts sufficient to establish that the sales made prior to the critical date were commercial sales not incidental to the primary purpose of experimentation. The court should be guided by the factors that were set forth in EZ Dock and quoted above, and should pay particular attention to the circumstances of the alleged testing of the Red Rider. Specifically, it should assess the amount of control over the experiments retained by the inventor, the length of the test period, whether records of the experiments were kept, who conducted the experiment, the degree of commercial exploitation during testing, whether testing was systematically performed, and whether the inventor continually monitored the invention during testing. Experimentation conducted to



determine whether the Red Rider would suit a particular customer's purposes does not fall within the experimental use exception. In re Theis, 610 F.2d 786, 792, 204 USPQ 188, 193 (CCPA 1979).

The court should also inquire into the nature of the relationship between Allen and its customers; for example, whether the amounts paid to Allen suggest a purely commercial transaction, whether there was a secrecy obligation, and the nature of the contacts made with potential customers. Useful in this determination is record evidence such as the testimony of Allen's president that "we wanted to get [the Red Rider] in the marketplace," Trial Tr. at 335, and that "we did not [tell buyers] this was a test machine or experimental," id. at 332. A showing that Allen did not clearly communicate to the users of the Red Rider that the use was to be for experimental purposes makes recourse to experimental negation questionable. In re Dybel, 524 F.2d 1393, 1401, 187 USPQ 593, 599 (CCPA 1975) ("Appellant's failure to communicate to any of the purchasers or prospective purchasers of his device that the sale or offering was for experimental use is fatal to his case."). Typical commercial sales provisions such as Allen's trade-in guarantees by themselves are insufficient to establish an experimental relationship. LaBounty Mfg., Inc. v. U.S. Int'l Trade Comm'n, 958 F.2d 1066, 1074, 22 USPQ2d 1025, 1031 (Fed. Cir. 1992).

Should the district court conclude from a closer examination of the circumstances of the sales of the Red Rider that at least some of the sales were commercial in nature and not incidental to the primary purpose of experimentation, thus satisfying the first prong of the Pfaff test, it must then assess: 1) whether the Red Rider is an embodiment of the invention recited in at least one of the claims of the '220 patent or would have rendered that claim obvious, and 2) whether the second prong of the Pfaff test, the "ready for patenting" prong, was met at the time the sales were made.

In making the first of these determinations, the court must both construe the claims of the '220 patent and make specific findings linking elements of the Red Rider to claim limitations of the '220 patent. In the court's consideration of these limitations, it is immaterial whether the Red Rider was considered to be a fast-steering trowel, in view of our holding above that the "fast-steering" language of the claim preamble is not a limitation of any of the claims. See STX LLC v. Brine Inc., 54 USPQ2d 1347, 1349 (Fed. Cir. 2000) ("The fact that the first squeezes that formed the basis of the commercial offer to sell might not have exhibited the desired degree of 'improved playing and handling' characteristics . . . is irrelevant, not least because the preamble to claim 1 is not a limitation."). Nor should the court consider things like the alleged "operator friendly" characteristics of the '220 trowel that do not appear in the claims. Finally, the court should appreciate that experimentation and modification of non-claimed features of the Red Rider will not necessarily preclude the finding of an on-sale bar. See Theis, 610 F.2d at 793, 204 USPQ at 194 (holding that "experimental [use] . . . does not apply to experiments performed with respect to non-claimed features of an invention").

#### 4. Marking

Bartell argues that the typographical error admittedly contained in the sticker affixed to Allen's Flying Frame trowel resulted in ineffective "notice to the public," under 35 U.S.C. § 287(a), that the trowel was patented. In support of this view, Bartell cites SRI International, Inc. v. Advanced Technical Laboratories, Inc., 127 F.3d 1462, 1469, 44 USPQ2d 1422, 1428 (Fed. Cir. 1997). However, the typographical error in this case simply involved a misplaced semicolon. Specifically, instead of reading "4,046,484; 5,108,220," the sticker read "4,046,4845; 108,220." Those sufficiently interested in the patents covering the Flying Frame would have no difficulty discerning—and indeed would be hard pressed not to discern—the actual patent number from the sticker. SRI

International, which dealt with a complete failure to mark, is not applicable here. A manifestly obvious typographical error that does not prevent interested members of the public from discerning the number of a patent alleged to protect an article does not result in a failure to mark. Furthermore, Bartell did not allege that any of the Flying Frame trowels did not bear this sticker. See Nike, Inc. v. Wal-Mart Stores, Inc., 138 F.3d 1437, 1446-47, 46 USPQ2d 1001, 1009 (Fed. Cir. 1998). Accordingly, we affirm the district court's holding that the sticker provided effective notice to the public under 35 U.S.C. § 287(a).

#### 5. Presentation of the Case

It is evident from the record that counsel for both parties sought to zealously represent their clients' interests at the trial of this case. However, at times, counsel's actions showed an excessive emphasis on their roles as zealous advocates. Counsel must remember that they are not only advocates for their clients; they are also officers of the court and are expected to assist the court in the administration of justice, particularly in difficult cases involving complex issues of law and technology. Judge Bennett has described the interplay between these roles in the following terms:

An attorney's obligations to provide zealous advocacy on behalf of his client are not absolute and uncompromising, but must be viewed in light of his additional obligations as an officer of the court to promote the administration of justice and to comply with the court's rules, notices, and orders. Additionally, as with his obligations to his client, the attorney's obligations to the court are ongoing at every stage of the litigation and the attorney must continually reevaluate the positions advanced in light of both the development of the litigation itself and of the relevant case law affecting the litigation.

In re Solerwitz, 848 F.2d 1573, 1577 (Fed. Cir. 1988).

Given the wide variety of lawsuits that are brought in district courts, it is incumbent on trial counsel to assist the court and to fully and fairly present the legal issues in the case within the applicable statutory and common law framework relevant to the factual dispute before the court for resolution. At times, both during and after trial in this case, counsel

appear to have sought to cloud rather than clarify the central legal issues and to draw the court's attention to peripheral matters. Counsel's overlooking of their respective roles as officers of the court has contributed, at least in part, to these protracted proceedings. We have alluded above to two issues: the mistaken focus on whether the Red Rider was a "fast-steering" trowel, and the largely irrelevant issue of Bartell's alleged "copying" of the Flying Frame. The record also reveals serious misstatements of applicable law, beginning with the mischaracterization of the holding of Graham v. John Deere cited above. Another example is the reference in post-trial briefs to a Fifth Circuit "synergism" test for the patentability of combination inventions, a test which was specifically abrogated in this Circuit by Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1540, 218 USPQ 871, 880 (Fed. Cir. 1983). Allen's Post-Trial Br. at 20; Reply Br. at 24. The record is replete with obfuscation, deflection and mischaracterization.

We trust that counsel in this case, mindful of their role as officers of the court, will do a better job on remand and will assiduously assist the court in conducting further proceedings consistent with this opinion.

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

## COSTS

No costs.