

United States Court of Appeals for the Federal Circuit

99-1511

HARRY SCHOELL,

Plaintiff-Appellant,

v.

REGAL MARINE INDUSTRIES, INC. and EMERALD CITY HARBOR, INC.,

Defendants-Appellees.

Ernie L. Brooks, Brooks & Kushman P.C., of Southfield, Michigan, argued for plaintiff-appellant. With him on the brief were John E. Nemazi, Frank A. Angileri, and William G. Abbatt.

Brian R. Gilchrist, Allen, Dyer, Doppelt, Milbrath & Gilchrist, of Orlando, Florida, argued for defendants-appellees.

Appealed from: United States District Court for the Middle District of Florida

Judge Patricia C. Fawsett

United States Court of Appeals for the Federal Circuit

99-1511

HARRY SCHOELL,

Plaintiff-Appellant,

v.

REGAL MARINE INDUSTRIES, INC. and EMERALD CITY HARBOR, INC.,

Defendants-Appellees.

DECIDED: April 17, 2001

Before NEWMAN, Circuit Judge, PLAGER, Senior Circuit Judge,* and SCHALL, Circuit Judge.

PLAGER, Senior Circuit Judge.

Harry Schoell is the inventor of a particular boat hull for a planing boat, patented under U.S. Patent No. 5,456,202 (the "202 patent"). Schoell brought a patent infringement suit against boat manufacturer Regal Marine Industries, Inc. and one of its dealers, Emerald City Harbor, Inc. (collectively "Regal"). On Regal's motion for summary judgment, the United States District Court for the Middle District of Florida ruled that Regal had not infringed the '202 patent, either literally or under the doctrine of equivalents. We affirm the judgment of the district court.

BACKGROUND

The '202 patent relates to boat hulls found in powerboats. Though there are numerous gradations between, boat hulls are divided into two broad categories: displacement and planing. Planing hulls obtain dynamic lift from a combination of hull shape and the speed at which they move through the water. A planing hull is designed so that, at speed, hydrodynamic forces are used to lift a planing hull almost out of the water, thus greatly reducing drag and wave-making resistance, allowing relatively high speeds. Displacement hulls, typically seen on cruising sailboats and large, low-speed powerboats (such as trawlers), get all of their support from buoyancy. They are designed in such a way that, even at speed, they do not rise out of and to the top of the water surface. Once attaining hull speed, a function of waterline length, no reasonable amount of increased power results in any efficient increase in speed. A semi-displacement hull combines round or V-shaped sections forward and flat-bottom sections in the aft run; pushed above hull speed, this design operates partially as a planing hull, but at the expense of increased fuel consumption.

To reduce pounding when a boat is driven at high speeds through rough water, a problem accentuated by the broad, flat sections required of an efficient planing hull, the V-hull has been widely adopted. Boats with such hulls, combining the V-shape forward and flat sections aft, perform well when planing but become much more difficult to maneuver at slow speeds, i.e., at below planing speeds. The '202 patent describes a planing hull that has a stepped offset between the forward and aft portions of the hull, and a substantially flat or concave aft keel, rather than a V-shaped keel. This configuration purports to provide both stability and maneuverability, both of which are desirable.

The configuration of the boat hull disclosed in the '202 patent is shown in Figures 1, 3, 4, and 6, reproduced below from Schoell's opening brief.[\[1\]](#)

Fig. 1
Side Elevation

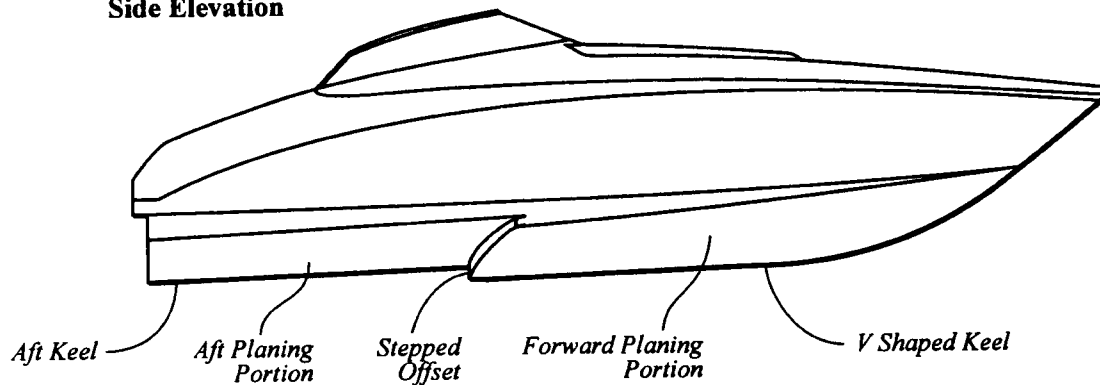


Fig. 3
Bottom Plan View

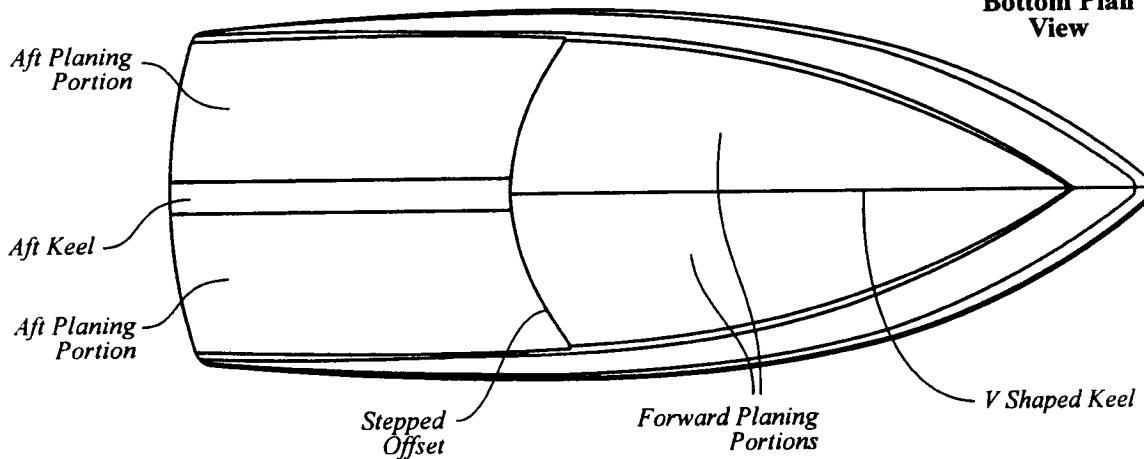


Fig. 4
Aft Section

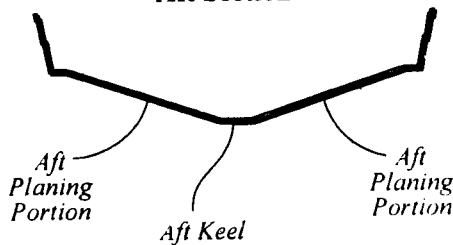
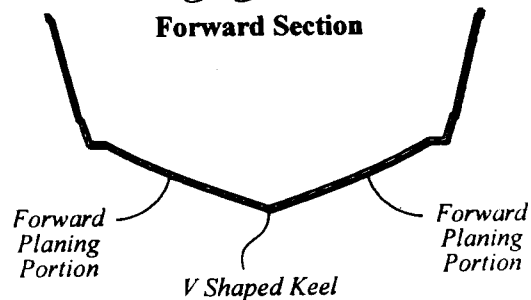


Fig. 6
Forward Section



As shown in Figures 1 and 3, a stepped offset separates the forward hull section from the aft hull section. The forward hull section has a conventional V-shaped keel, as shown in the profile view in Figure 6. The aft hull section has a substantially flat keel, as shown in the profile view in Figure 4, or a slightly concave keel. The width of the aft keel in the disclosed embodiment is approximately ten percent of the boat's beam. Substantially flat planing

portions extend outward from both the forward and aft keels.

According to the written description of the '202 patent, the bow (forward) portion of the hull creates a bow wave as the hull speed increases. The wave surges under the hull, causing the stern (aft) portion to ride on the bow wave. The substantially flat or concave aft keel rides on the surface of the water, much like a surfboard or water ski, thereby enhancing maneuverability and efficiency at high speeds.

The '202 patent has two independent claims, 1 and 17, both of which include a stepped offset between the forward and aft hull sections, a V-shaped forward keel, and “generally flat aft keel.”^[2] Claim 1 is representative and reads (key phrases highlighted):

A planing boat hull for planing upon a water surface, the boat hull comprising:

an upper hull, a lower hull, and a pair of laterally spaced chine portions connecting therebetween;

the lower hull including a forward hull and an aft hull and a stepped offset extending transversely therebetween;

the forward hull including an arcuate bow, a V-shaped keel extending from the bow to the stepped offset, and two generally planar forward planing portions extending symmetrically outboard from the V-shaped keel of the forward hull toward the respective chine portions and extending aftward from an apex adjacent the arcuate bow to the stepped offset; and

the aft hull including a stern and a generally flat aft keel extending from the offset to the stern and a pair of generally planar aft planing portions extending symmetrically outboard from the aft keel toward the chine portions and aftward from the offset to the stern;

the stepped offset connecting the forward planing portions to the aft keel and the aft planing portions;

wherein during planing of the hull, the hull planes on the water surface upon the forward planing portions and the aft keel and aft planing portions.

The aft keel limitation in claim 17 is identical to that in claim 1. The forward keel limitation is similar: “the forward hull including an arcuate bow . . . and a V-shaped forward keel trailing therefrom.”

Regal manufactures a boat with a stepped hull design, referred to as the “FasTrac” design. The aft hull of the Regal boat contains a V-shaped aft keel at a twelve degree dead rise angle, i.e., the slope of the bottom sections where they join makes a twelve degree angle with the horizontal, typically measured at the transom. The forward hull of the Regal boat also has a V-shaped keel. Just forward of the step, the forward keel has a twelve degree dead rise

V-shape, which angle increases as the keel extends toward the bow.

On September 19, 1997, Schoell filed suit in the United States District Court for the Eastern District of Michigan, alleging that Regal infringed the '202 patent. After the case was transferred to the United States District Court for the Middle District of Florida, Regal filed a motion for summary judgment of noninfringement. The case was referred to a magistrate judge, who heard oral argument on the motion. In his report and recommendation, the magistrate judge construed the claim limitation "generally flat aft keel" to call for an aft keel that is mostly horizontal. Based on this claim construction, the magistrate judge recommended granting summary judgment with respect to literal infringement. The magistrate judge also concluded that summary judgment of noninfringement under the doctrine of equivalents was appropriate because the only evidence of equivalence submitted was Schoell's own affidavit stating that he believed there was equivalence based on his tests of hulls allegedly similar to the Regal FasTrac hull. The district judge adopted the magistrate judge's recommendation in its entirety. Schoell v. Regal Marine Indus., Inc., No. 98-411-CIV-ORL-19B (M.D. Fla. Mar. 30, 1999).

DISCUSSION

In reviewing a district court's grant of summary judgment, we must make an independent determination as to whether the standards for summary judgment have been met. Conroy v. Reebok Int'l, Ltd., 14 F.3d 1570, 1575, 29 USPQ2d 1373, 1377 (Fed. Cir. 1994). We view the evidence in a light most favorable to the non-movant, and draw all reasonable inferences in its favor. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986); SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 1116, 227 USPQ 577, 581 (Fed. Cir. 1985) (en banc). A motion for summary judgment is properly granted if there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). Summary judgment must be entered against a party "who fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial." Celotex Corp. v. Catrett, 477 U.S.

317, 322-23 (1986); see also Fed. R. Civ. P. 56(c), (e).

An infringement analysis requires two steps: claim construction to determine the scope and meaning of the asserted claims, and a comparison of the properly construed claims with the allegedly infringing device or method to determine whether the device or method embodies every limitation of the claims. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1172 (Fed. Cir. 1998) (en banc). Claim construction is a matter of law over which we exercise independent review. See id. at 1456, 46 USPQ2d at 1174. Whether an accused device or method infringes a claim either literally or under the doctrine of equivalents is a question of fact. Tanabe Seiyaku Co. v. United States Int'l Trade Comm'n, 109 F.3d 726, 731, 41 USPQ2d 1976, 1981 (Fed. Cir. 1997). Thus, on appeal from a grant of summary judgment of noninfringement, we must determine whether, after resolving reasonable factual inferences in favor of the patentee, the district court correctly concluded that no reasonable jury could find infringement. IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1429, 54 USPQ2d 1129, 1133 (Fed. Cir. 2000).

1.

The principal question in this case is whether the term “generally flat aft keel,” properly construed, encompasses a twelve degree V-shaped aft keel such as the one found in Regal’s FasTrac hull design. The district court construed “generally flat” to mean “mostly horizontal.” Schoell argued that, although deeper V-shapes may not be flat, a twelve degree V-shape was sufficiently shallow to be “generally flat.” Rejecting Schoell’s position, the court noted that Schoell’s written description distinguished between flat-bottomed hulls and V-shaped hulls. The court concluded that, although “generally flat” need not mean “dead flat,” a V-shaped keel could not be considered “generally flat” in light of the distinctions made by Schoell.

On appeal to this court, Schoell argues that the trial court erred by interpreting the term “generally flat” too narrowly. Schoell contends that the trial court did not recognize that the claim language, written description, and prosecution history show that “generally flat” embraces configurations that are not perfectly flat. Schoell further argues that Regal has admitted, in a sales training videotape referring to the aft keel as “flatter” than the adjacent

planing portions, that “flat” is a relative, not absolute, term.

Contrary to Schoell’s contentions on appeal, the trial court’s interpretation of “generally flat” was not limited to completely flat surfaces. As the trial court recognized, the word “generally” modifies “flat” and, in this context, means “mostly.” This definition is supported by the written description, which in one instance describes the aft keel as “substantially flat or concaved.” The trial court acknowledged that a “slightly concave” aft keel, as claimed in dependent claim 10, is not completely flat and is within the scope of the independent claims requiring a “generally flat” aft keel.

The trial court also interpreted “flat” to mean “horizontal.” Although that interpretation might not apply in some cases, since, for example, a vertical surface may be flat but not horizontal, we think it is understood that flat and horizontal are synonymous as applied to the keel of a boat in an upright, stationary position. Also, the court’s reference to other reported decisions construing the term “flat” in other contexts is at most harmless error since the court relied on the ordinary meaning and not on any special meaning given to the term in the patents at issue in those cases. In any event, we find the phrase “mostly horizontal” to provide little more guidance than “generally flat” in determining whether a twelve degree V-shaped keel is within the scope of the claims. Thus, we must look further into the record to resolve that question.

Throughout the claims, written description, and prosecution history of the ’202 patent, Schoell distinguished between V-shaped keels and generally or substantially flat keels. In describing his boat hull in the written description portion of the patent, Schoell carefully differentiated between the V-shape of the forward keel and the substantially flat surface area of the aft keel. In the claims of the ’202 patent, Schoell required a V-shaped forward keel and a generally flat aft keel. Furthermore, during prosecution of his application, Schoell responded to the examiner’s rejection of his initially filed claims as obvious over an earlier Schoell patent, U.S. Patent No. 4,193,370 (the “’370 patent”), asserting that “Schoell shows no stepped offset and shows no generally flat aft keel.” Joint App. at 339. The ’370 patent, however, describes a V-shaped aft keel with a dead rise angle between twelve and eighteen degrees. Thus, not

only did Schoell differentiate between a V-shaped keel and a generally flat keel, he essentially conceded that a twelve degree V-shaped keel cannot be a generally flat keel as claimed in the '202 patent.

For our purposes, we need not decide whether a shallow V-shaped keel can meet the “generally flat” claim limitation, or, if so, how shallow it must be. Regal’s aft keel has a twelve degree dead rise V-shape, but a portion of its forward keel also has a twelve degree V-shape. Because Schoell so clearly distinguished between the two keel shapes, a twelve degree V-shape cannot be both V-shaped and generally flat. If Regal’s forward keel satisfies the “V-shaped forward keel” limitation, Regal’s aft keel cannot satisfy the “generally flat aft keel” limitation. Conversely, if Regal’s aft keel satisfies Schoell’s aft keel limitation, Regal’s forward keel cannot satisfy Schoell’s forward keel limitation. Thus, it is impossible for Regal’s FasTrac hull to literally infringe the claims of the '202 patent.

Schoell’s response to this conclusion is that the claims do not require the forward keel to be V-shaped the entire length from the bow to the stepped offset. According to Schoell, Regal’s twelve degree V-shaped aft keel can satisfy the “generally flat” limitation, and the portion of the forward keel with a deeper V-shape, the portion closest to the bow, can satisfy the “V-shaped” limitation. The claim language itself belies this theory. Claim 1 unequivocally requires a “forward hull including . . . a V-shaped keel extending from the bow to the stepped offset.” The language of claim 17—“the forward hull including an arcuate bow . . . and a V-shaped forward keel trailing therefrom”—is not as explicit, but the application of the adjective “V-shaped” to the forward keel rather than to a portion of the forward keel suggests that the entire forward keel must be V-shaped.

Schoell finally argues in his reply brief that, because Figure 2a of the '202 patent depicts a forward hull similar to Regal’s with a V-shape that is deeper at the bow and flattens as it approaches the step, Regal’s forward hull must meet the V-shaped claim limitation. This argument, however, ignores the clear distinction between the V-shape of the forward keel and the flat surface of the aft keel in the '202 patent. Regal does not dispute that its forward keel is V-shaped, but Schoell overlooks the other half of Regal’s position—if Regal’s forward keel is

V-shaped, its aft keel cannot be generally flat.

Lastly, we find no merit in Schoell's argument that "flat" is a relative term and that an aft keel that is flatter than the adjacent hull sections qualifies as "generally flat." The genesis of Schoell's argument is a sales training videotape produced by Regal that describes the allegedly infringing Regal hull:

As you can notice, we [have] got the 24 degree dead rise here at the bottom of the hull and more notably right at the keel we've a little flatter sectional surface. That is the step-pad. It's approximately again 12 degrees [and] it provides for lift as the boat wants to come out of the water and at the same time giving stability at high end speeds.

Joint App. at 670 (emphasis added). Nothing in the '202 patent or its prosecution history, however, indicates that "generally flat" is to be measured relative to adjoining areas. It is undisputed that Regal's aft keel is flatter than the adjacent planing portions of the hull, but by no means does this lead to the conclusion that Regal's aft keel is "generally flat" within the meaning of the claims.

For the above reasons, we affirm the district court's grant of Regal's motion for summary judgment with respect to literal infringement.

2.

Even if an accused product does not literally infringe the asserted claims of a patent, the product may infringe under the doctrine of equivalents if the differences between the element of the accused product at issue in the product and the claim limitation at issue are insubstantial. Dawn Equip. Co. v. Kentucky Farms, Inc., 140 F.3d 1009, 1015-16, 46 USPQ2d 1109, 1113 (Fed. Cir. 1998). One test used to determine whether differences are insubstantial is to determine whether the element performs substantially the same function in substantially the same way to obtain substantially the same result as the claim limitation. Id. at 1016, 46 USPQ2d at 1113.

Schoell has proffered the following evidence in response to Regal's motion for summary judgment of noninfringement under the doctrine of equivalents: Regal's own advertising and sales training videotape touting the stability, handling, and efficiency of the Regal boats; a letter, allegedly evidence of copying, from Regal's president to Schoell indicating Schoell had

shared design ideas with Regal; and Schoell's own affidavit stating that testing he performed on designs similar to those of Regal's FasTrac hull "confirms [his] belief that Regal's boats perform substantially the same function in substantially the same way to achieve substantially the same results" as the claimed invention.

This evidence is wholly insufficient to support Schoell's claim. At most, Schoell's evidence may tend to show that the Regal boats achieve performance results similar to the results disclosed by Schoell in the '202 patent. From the similarity of results, Schoell infers that the boats, particularly the aft keels, must perform the same function in the same way. This is not enough; Schoell has not set forth specific facts showing that there is a genuine issue for trial whether the Regal twelve degree V-shaped aft keel is insubstantially different from the claimed "generally flat" aft keel. See Fed. R. Civ. P. 56(e) ("When a motion for summary judgment is made and supported . . . , an adverse party . . . must set forth specific facts showing that there is a genuine issue for trial."). Because Schoell bears the burden of proving equivalence at trial, summary judgment against Schoell is appropriate. See Celotex, 477 U.S. at 322-23 ("[T]he plain language of Rule 56(c) mandates the entry of summary judgment . . . against a party who fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial.").

The doctrine of equivalents is not a talisman that entitles a patentee to a jury trial on the basis of suspicion; it is a limited remedy available in special circumstances, the evidence for which is the responsibility of the proponent. See Zelinski v. Brunswick Corp., 185 F.3d 1311, 1317, 51 USPQ2d 1590, 1594 (Fed. Cir. 1999) (affirming the district court's grant of Brunswick's motion for summary judgment of noninfringement under the doctrine of equivalents because the only evidence submitted by patentee was a conclusory statement by a patent law expert). Accordingly, we affirm the district court's grant of Regal's motion for summary judgment of noninfringement under the doctrine of equivalents.

CONCLUSION

The decision of the district court granting summary judgment in Regal's favor is

AFFIRMED.

*
_ Judge Plager assumed senior status on November 30, 2000.

[1] These figures, taken directly from Schoell's opening brief, are modified versions of the drawings in the '202 patent, with extraneous section lines and reference numerals removed and labels added for clarity.

[2] We note that since oral argument was heard in this case, the '202 patent has reissued as U.S. Patent No. Re36,879. The reissue patent contains twenty-two additional claims. The issues of claim construction and infringement with respect to the added claims were not before either the district court or this court on appeal.