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# United States Court of Appeals for the Federal Circuit

00-1161

PANDROL USA, LP and PANDROL LIMITED,

Plaintiffs-Appellants,

v.

AIRBOSS RAILWAY PRODUCTS, INC., AIRBOSS OF AMERICA CORP.,  
ROBERT M. MAGNUSON, AND JOSE R. MEDIAVILLA,

Defendants-Appellees.

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DECIDED: March 27, 2001

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Before CLEVENGER, Circuit Judge, SMITH, Senior Circuit Judge,\* and DYK, Circuit Judge.

CLEVINGER, Circuit Judge.

Pandrol USA, LP and Pandrol Limited (collectively, "Pandrol") appeal from the decision of the United States District Court for the Western District of Missouri granting summary judgment of noninfringement to Airboss Railway Products, Inc., Airboss of America Corp., Robert M. Magnuson, and Jose R. Mediavilla (collectively, "Airboss"). Pandrol USA, LP v. Airboss Ry. Prods., Inc., No. 99-0182-CV (W.D. Mo. Dec. 3, 1999) ("Pandrol I"). We affirm-in-part, vacate-in-part, and remand.

I

Pandrol, the largest supplier of restraint systems for holding railroad track in place on railroad ties, is the exclusive licensee of both patents in suit, U.S. Patents Nos. 4,463,898 ("the '898 patent") and 5,110,046 ("the '046 patent"). The patents relate to two parts of a railroad track restraint system--rail fasteners and seat assemblies.

A

Rail fasteners typically keep rails in place on railroad ties by exerting a downward force on the flange of a rail. The '898 patent is directed at an improved rail fastener which is able to exert both a horizontal force as well as a downward force on the rail. The additional horizontal force helps reduce "rail creep," or the tendency of the rails to move in the direction of the train's travel.

The claim at issue in the '898 patent is claim 1, which reads in relevant part:

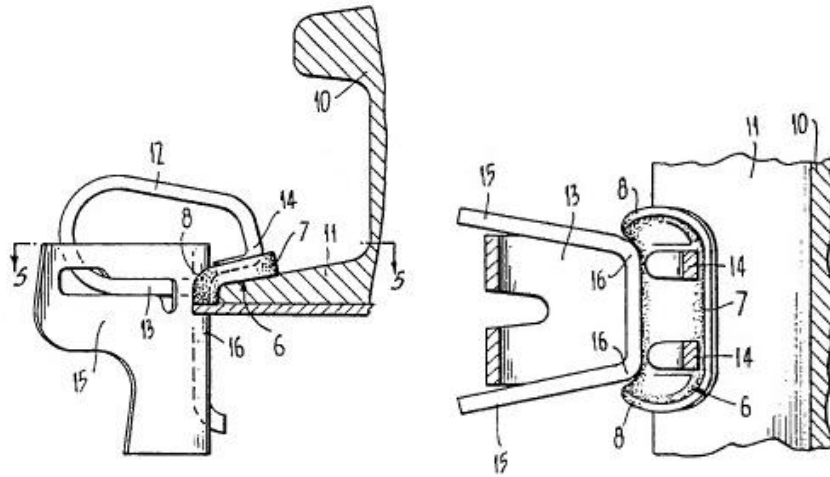
A rail fastening system comprising an elastic rail clip, a clip holder adapted to hold the clip in position on the flange of the rail and a locking element being adapted to lie between the rail flange, the rail clip and the clip holder,

....

said clipholder having an external face complementary in shape with said locking element to provide a wedge-like interfitting, the complementary shape being in the form of a U wherein the corners of the U have a radius of curvature sufficient to provide a wedging action which translates said movement of said locking element into said lateral pressure and where each side of the U is inclined at an angle to the base of the U sufficient to provide a wedging action which translates movement of said locking element into said lateral pressure.

'898 patent, col. 3, line 43 - col. 4, line 20.

The following figures depict the claimed rail fastener from a side and top view, respectively:



In brief, claim 1 of the '898 patent calls for a "locking element" (7) that is held in place on the rail flange by an elastic rail clip (12). The rail clip, in turn, is held in a clip holder (15) which itself is anchored into the concrete rail tie. The downward force is produced by the rail clip bearing down on the locking element, which sits atop the rail flange. The additional horizontal force is produced when the locking element, with its unique wedge-shaped ends (8), is dragged by the "creeping" rail in one direction or another, thereby causing a "wedging" action to occur between the rail clip and the rail flange.

Seat assemblies are inserted between the rail and the tie for various purposes, including electrical insulation, noise and vibration reduction, and abrasion resistance. The '046 patent is directed at a rail seat with an improved seat assembly that is designed to lessen the erosion of the concrete tie by interposing, among other things, a metal abrasion resistant plate between the concrete tie and the rail.

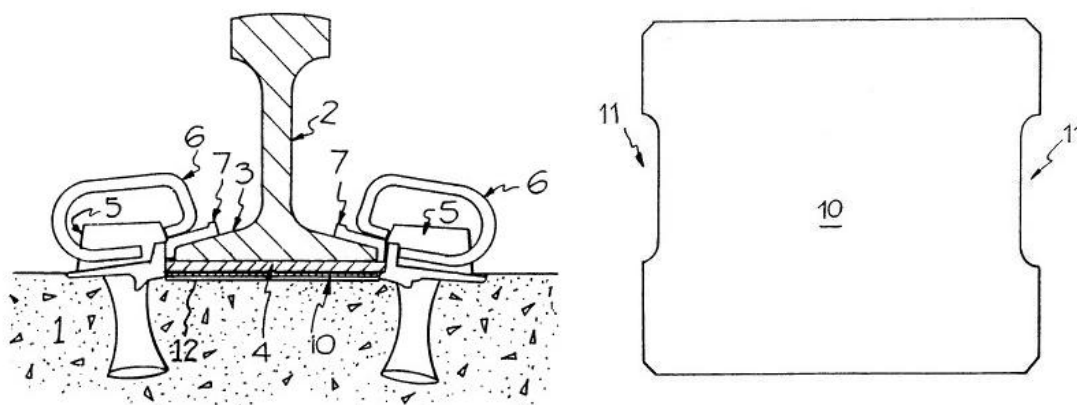
The claims at issue in the '046 patent are claims 1 and 3, which read in relevant part as:

1. An abrasion resistant rail seat for securing a rail to a concrete rail tie of the type in which . . . an elastomeric rail pad insulates the rail from the rail tie, the improvement comprising interposing an abrasion resistant plate between said rail pad and said rail tie, said abrasion resistant plate forming a water tight seal with said rail tie, said abrasion resistant plate being wider than said rail and extending beyond the flange of said rail, and a layer of adhering material between said abrasion resistant rail plate and said rail tie for adhering said plate to said tie, said material being the sole means for adhering said plate to said tie so that replacement of said abrasion resistant rail plate is facilitated.

3. A rail seat as claimed in claim 2, wherein said adhering material is a closed cell foam pad of one to two millimetres in thickness and of similar shape to said plate.

'046 patent, col. 2, ll. 46 - 66.

The following figure depicts a cross-sectional view of the improved seat assembly (with rail and rail fasteners) as well as an enlarged top view of the abrasion resistant plate:



In simple terms, the improved rail seat assembly is composed of three layers, from top to bottom: an elastomeric rail pad (4), an abrasion resistant plate (10), and a layer of "adhering material" (12). The sides of the abrasion resistant plate contain "recesses" (11) to accommodate clip holders that are positioned on both sides of the plate. The claimed rail seat assembly is designed for use with concrete rail ties, which have been found to be prone to wear, particularly in sandy locations. The wear occurs when sand particles become imbedded in the relatively soft rail pad and grind against the concrete face when the pad deflects horizontally under heavy loads.

Airboss is the manufacturer of the two accused products, a three-piece seat assembly similar in type to the one disclosed in the '898 patent, and a locking element used in rail fastening systems such as the one disclosed in the '046 patent.

## B

Pandrol commenced this suit on February 19, 1999, accusing Airboss of inducement of infringement and contributory infringement by making and selling a three-piece seat assembly and a locking element. Following a Markman hearing on October 8, 1999, the district court issued an order construing the disputed claim terms. Pandrol USA, LP v. Airboss Ry. Prods., Inc., No. 99-0182-CV (W.D. Mo. Oct. 18, 1999) ("Pandrol II"). The district court construed "complementary" in the '898 patent to require that both the internal face of the locking element and the external face of the clip holder be in "the shape of a U with curved corners." Id., slip. op. at 5. With respect to the '046 patent, the district court construed "wider than said rail" to mean that the abrasion resistant plate "must be wider than the rail along [its] entire length, including within the cutout portions [*i.e.*, recesses]." Id., slip. op. at 6. It also construed "adhering material" to be "a layer of adhesive, such as a glue or epoxy, that bonds the plate to the tie." Id., slip. op. at 5.

After considering briefs from both parties, the district court concluded that Airboss's products do not infringe Pandrol's patents, and granted Airboss's motion for summary judgment.

Pandrol now appeals.

## II

We review the grant of a summary judgment *de novo*. See Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 988, 50 USPQ2d 1607, 1609 (Fed. Cir. 1999). In doing so, we must keep in mind that summary judgment is appropriate only if there is no genuine issue as to any material fact. See Fed. R. Civ. P. 56(c). To this end, we draw all reasonable factual inferences in favor of the nonmovant. See Reeves v. Sanderson Plumbing Prods., Inc., 530 U.S. 133, \_\_\_, 120 S. Ct. 2097, 2110 (2000). Furthermore, summary judgment is proper only when no "reasonable jury could return a verdict for the nonmoving party." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986).

An infringement analysis is "a two-step process in which we first determine the correct claim scope, and then compare the properly construed claim to the accused device to determine whether all of the claim limitations are present either literally or by a substantial equivalent." Renishaw PLC v. Marposs Societa' Per Azioni, 158 F.3d 1243, 1247-48, 48 USPQ2d 1117, 1120 (Fed. Cir. 1998). The relevant structure in the accused products is undisputed in this case. Hence, whether Airboss's products infringe Pandrol's claims in either the '898 patent or the '046 patent turns on the interpretation of those claims. See, e.g., Athletic Alternatives, Inc. v. Prince Mfg., Inc., 73 F.3d 1573, 1578, 37 USPQ2d 1365, 1370 (Fed. Cir. 1996).

## A

With respect to the '898 patent, Pandrol concedes that if the district court was correct in construing the term "complementary" so as to require both the locking element and the clip holder to have faces in "the shape of a U with curved corners," then Airboss's accused locking element, having no curves, does not infringe. Hence, we must determine whether the district court's construction of "complementary" was in fact correct.

Pandrol urges us to adopt a construction of the term "complementary" that would simply mean "a shape that accomplishes the function specified in the claim." Specifically, Pandrol argues that infringement should turn on "whether the accused [locking element] provides the lateral force that reduces rail creep." Under this construction, any conceivable shape would suffice, so long as the "wedging action" is produced. This construction is too broad.

The fact that the patentee chose to include the term "complementary" in the claim language must be given due significance. Perhaps, the term by itself does not require that the two faces be congruent, but at the very least, it indicates that the inside face of the locking element should bear some resemblance to the outside face of the clip holder. The actual claim language refers to the clip holder's outside face as "being in the form of a U wherein the corners of the U have a radius of curvature sufficient to provide a wedging action . . . ." '898 patent, col. 4, ll. 12-15. As noted by the district court in its claim construction order, this language indicates that a "complementary" locking element would at least have "a shape that is rounded to fit the clip [holder]." Pandrol II, slip. op. at 5. Hence, we hold that the district court did not err when it construed claim 1 so as to require both the locking element and the clip

holder to possess "the shape of a U with curved corners."

Since Pandrol concedes that the accused locking element does not have curved corners, the accused device does not fulfill the requirement that the locking element be "complementary" with the clip holder.

## B

We must now address the district court's construction with regard to two phrases in the '046 patent--"wider than said rail" and "adhering material."

## 1

Claim 1 of the '046 patent describes an abrasion resistant rail seat for use with concrete ties in which an elastomeric rail pad insulates the rail from the rail tie. The improvement is comprised of "interposing an abrasion resistant plate between said rail pad and said rail tie, . . . said abrasion resistant plate being wider than said rail and extending beyond the flange of said rail." '046 patent, col. 2, ll. 50-55 (emphasis added). In its claim construction order, the district court construed the phrase "wider than [said] rail" so as to require the abrasion resistant plate to be "wider than the rail along it's [sic] entire length, including within the cutout portions." Pandrol II, slip. op. at 6. In its subsequent infringement analysis, the district court concluded that the accused product was "effectively the same width as the rail," and did not meet the "wider than said rail" limitation. Pandrol I, slip. op. at 8. However, we do not have to determine whether the district court's infringement analysis was correct, because we conclude that the district court's claim construction of "wider than said rail" improperly required the abrasion plate to be wider than the rail along its entire length, including within the cutout portions.

The prosecution history of the '046 patent reveals that the "wider than said rail" language was introduced as part of a broader limitation which was added by amendment to distinguish a prior art patent issued to John Buekett, U.S. Patent No. 4,925,094 ("Buekett"). The broader limitation, "being wider than said rail and extending beyond the flange of said rail," was added to distinguish the Buekett abrasion plate that was "substantially the same width as said rail flange." Buekett, col. 4, ll. 11-12. Accompanying the claim amendment was a chart prepared by the inventor to highlight the differences between the claimed invention and Buekett. One entry in the chart stated the following:

Plate extends significantly beyond the rail flange which is essential to prevent significant abrasion occurring beneath the outer pad edges. Although there is very little vertical pressure in this area there is a great deal of horizontal pad movement which causes slurry like material to wear the concrete. One of the reasons for the shoulder cut out is to enable the abrasion plate to extend well beyond the edges of the rail flange.

J. App. at 504 (emphasis added). As Pandrol correctly points out, the above statements relate only to the corner "extensions" of the plate, as opposed to the cutout portions. Based on this chart fragment, we conclude that the single limitation of "being wider than said rail and extending beyond the flange of said rail" only applies to the corner portions of the plate, and not along the rail's entire length.

## 2

With regard to the district court's construction of the "adhering material" limitation, Airboss persuaded the district court and now maintains before us that "adhering" essentially means "bonding." Although "bonding" indeed was used in the specification, the passage in which it appears could be read so that the term refers to the epoxy resin adhesives that comprised the first of two preferred embodiments of the invention. '046 patent, col. 2, ll. 37-38. The second preferred embodiment contemplates the use of "an HDPE closed cell foam" in lieu of the epoxy resin adhesives. '046 patent, col. 2, ll. 38-39. Furthermore, the dictionary definition of "adhere" indicates that bonding is not the only way to get two objects to "adhere" to one another. For instance, magnets, solder, and Velcro strips can all be used to "adhere" objects together, but in altogether different ways. Even the prosecution history suggests that a broader meaning is appropriate in that the PTO examiner used the word "adhere" to describe a plate being fastened down by nails or spikes. J. App. at 401. In short, the district court unduly restricted the limitation of "adhering material" to "a layer of adhesive, such as a glue or epoxy, which bonds the plate to the tie." Pandrol I, at 10.

The district court's construction is not only unnecessarily narrow, but also violates at least two basic canons of statutory construction. First, the district court's construction is in direct conflict with the plain language of a neighboring claim, namely, claim 3, which specifies "wherein said adhering material is a closed cell foam pad." '046 patent, col. 2, ll. 63-64 (emphasis added). According to our decision in Georgia-Pacific Corp. v. U.S. Gypsum Co., 195 F.3d 1322, 1331, 52 USPQ2d 1590, 1598 (Fed. Cir. 1999), "a claim term cannot be given a different meaning in the various claims of the same patent." Id. The clear language of claim 3 indicates that a closed cell foam pad is an "adhering material." The district court, however, construed "adhering material" in claim 1 in such a way that would necessarily exclude a closed cell foam pad. Since the patent does not otherwise provide for such inconsistent definitions, the claim construction is in error. Second, the district court's construction effectively reads out one of the preferred embodiments of the claims, namely, the use of HDPE foam as an "adhering material." According to our decision in Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 39 USPQ2d 1573 (Fed. Cir. 1996), a construction that would cause a preferred embodiment to fall outside of the scope of the patent claims is strongly disfavored. Id., 90 F.3d at 1583-84, 39 USPQ2d at 1578 ("Such an interpretation is rarely, if ever, correct and would require highly persuasive evidentiary support."); see also Hoechst Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1581, 38 USPQ2d 1126, 1130 (Fed. Cir. 1996) ("[I]t is unlikely that an inventor would define the invention in a way that excluded the preferred embodiment, or that persons of skill in this field would read the specification in such a way."). Given that the district court's definition of "adhering material" would exclude an HDPE closed cell foam, claim 3 of the '046 patent would no longer cover what was disclosed in one of its preferred embodiments. A claim construction that produces such a result cannot stand.

Based on the foregoing analysis, we affirm the district court's judgment with respect to the '898 patent since the accused locking element does not satisfy the "complementary" limitation. However, because the district court incorrectly construed "wider than said rail" and "adhering material," we vacate the district court's judgment with respect to the '046 patent and remand for further proceedings consistent with this opinion.

#### FOOTNOTES:

- \* Senior Judge Smith heard oral argument in this appeal and participated in consideration

of the case, but died on March 22, 2001, and did not participate in the final decision, which is made by the remaining judges in accordance with Fed. Cir. R. 47.11.

[1] "adhere: to hold fast or stick by or as if by gluing, suction, grasping, or fusing."  
Webster's New Collegiate Dictionary 56 (9th ed. 1985).