

United States Court of Appeals for the Federal Circuit

01-1615

SCHWING GMBH,

Plaintiff-Appellant,

v.

PUTZMEISTER AKTIENGESELLSCHAFT
and PUTZMEISTER, INC.,

Defendants-Appellees.

Thomas H. Jenkins, Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., of Washington, DC, argued for plaintiff-appellant. With him on the brief was F. Leslie Bessenger III, Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., of Atlanta Georgia.

George H. Solvenson, Andrus, Scales, Starke & Sawall, LLP, of Milwaukee, Wisconsin, argued for defendants-appellees. Of counsel on the brief was Walter M. Schey, Law Office of Walter M. Schey, of San Francisco, California.

Appealed from: United States District Court for the District of Minnesota

Judge Donovan W. Frank

United States Court of Appeals for the Federal Circuit

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DECIDED: September 24, 2002

Before CLEVINGER, Circuit Judge, PLAGER, Senior Circuit Judge, and BRYSON, Circuit Judge.

BRYSON, Circuit Judge.

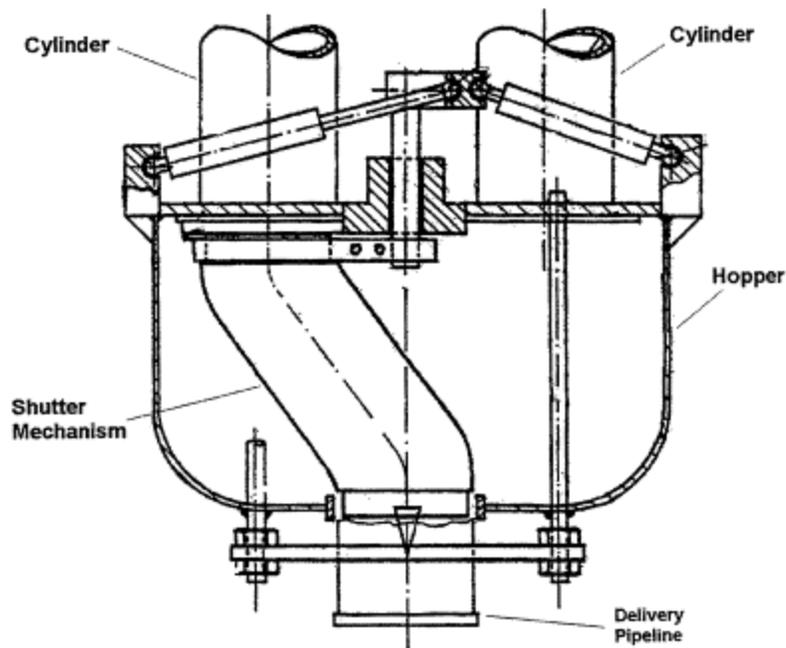
Schwing GmbH appeals an order of the United States District Court for the District of Minnesota entering summary judgment that two types of concrete pumps, manufactured by Putzmeister, Inc., and Putzmeister Aktiengesellschaft, do not infringe Schwing's U.S. Patent No. RE 32,657. The district court held that prosecution history barred Schwing from asserting that the two accused devices infringe the '657 patent. We uphold the district court's grant of summary judgment as to one accused device, but vacate the grant of summary judgment as to the other.

I

In the construction industry, concrete often must be moved over considerable distances, both horizontal and vertical, such as when constructing tall buildings. There is therefore a need for pumping

equipment that is capable of moving large volumes of heavy, viscous material. Such equipment needs reliable, long-lasting seals. This patent infringement action focuses on a sealing ring in a concrete pump that, in addition to acting as a simple barrier, operates as a spring to push certain parts of the pump together in order to maintain a tight seal over an extended period of time.

In the concrete pumping industry, pumping equipment is typically mounted on a truck. The equipment includes a reservoir, known as a hopper, into which concrete is poured. The hopper is connected to a two-cylinder pump. Concrete is drawn out of the hopper into one cylinder while it is simultaneously pumped out of the other cylinder and into the delivery pipeline located on the other side of the hopper. The operation of the two cylinders is synchronized so that while one cylinder is pumping, the other is filling.



As each cylinder pumps out concrete, the gap between the cylinder opening and the delivery pipeline is bridged by a shutter mechanism that pivots back and forth between the two cylinders during pumping cycles. For the pump to function properly, a tight seal must be maintained between the shutter mechanism and the pumping cylinder. An inadequate seal could allow water to escape from the concrete slurry, causing the concrete to become more viscous and increasing the difficulty of moving the concrete through the delivery pipeline.

The seal is formed between a steel “face plate,” which has two openings aligned with the open ends of the two cylinders, and a steel “cutting ring” (also known as a “wear ring”) mounted on the end of the shutter mechanism. The cutting ring slides back and forth across the surface of the face plate as the shutter mechanism pivots into alignment with each pumping cylinder. As the cutting ring slides across the face plate, it pushes concrete away from the filled cylinder opening and shears off rocks or other hard particles in the way. The seal between the cutting ring and the face plate must be repeatedly established and released as the shutter mechanism pivots back and forth from one cylinder opening to the other.

As the industry has required pumps to move concrete over increasingly larger distances, it has become more critical to maintain the tightness of the seal between the cutting ring and the face plate. In

addition, concrete pumps have had to pump drier and rockier mixes of concrete, including construction-grade concrete containing large-grain rocks and gravel. Pumping concrete under such conditions presents a harsh environment for the pump and increases wear on metal parts such as the cutting ring and the face plate. As the parts wear over time, it becomes increasingly difficult to maintain a tight seal.

Schwing's '657 patent discloses a concrete pump in which the tight metal-to-metal seal between the cutting ring and the face plate is maintained by the use of a flexible elastic ring that is compressed between the cutting ring and the shutter mechanism, shown below in cross-section in Figure 4 of the '657 patent.

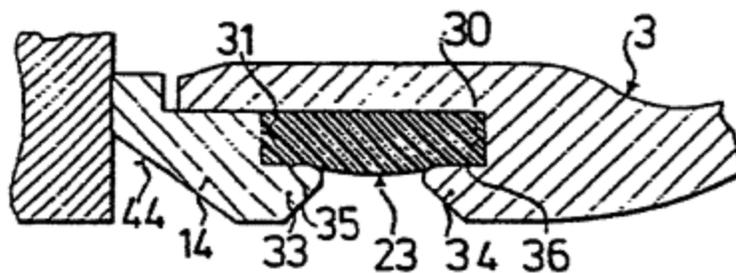


FIG. 4

The flexible elastic ring 23, located between shutter mechanism 3 and cutting ring 14, serves as a spring that pushes the cutting ring 14 tightly against the face plate. When the pump is assembled, the flexible elastic ring is mechanically pre-stressed. As the surfaces of the cutting ring and the face plate wear away, the compressed flexible elastic ring expands axially to compensate for the wear, thereby maintaining a tight seal between the cutting ring and the face plate. In order to prevent the flexible elastic ring from being dislodged from its seating by the intense compression of the parts, the '657 patent discloses the use of an annular extension 33 on the cutting ring 14, and a corresponding annular extension 34 on the shutter mechanism 3, to hold the flexible elastic ring in place.

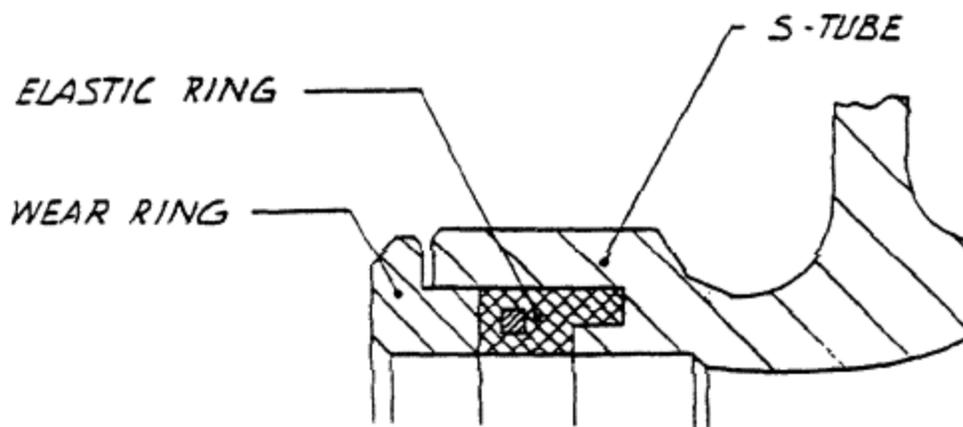
The '657 patent is a reissue of U.S. Patent No. 4,465,441. Claim 1 of the '657 patent, with emphasis on the disputed claim terms, reads as follows:

1. A two-cylinder pump for heavy flowable materials, such as concrete, comprising a shutter mechanism which is pivotable across an apertured face plate, the shutter mechanism being sealed against the face plate by means of a cutting ring which has a contact surface on its front end for contacting the face plate and which is axially movable relatively to the shutter mechanism and is supported thereon with its rear end engaging spring means having first and second sides which are aligned generally axially and first and second ends which are aligned generally radially with the first and second sides being of greater length than the first and second ends for urging the cutting ring resiliently against the face plate, means for locating the cutting ring, along a portion of its length, on the shutter mechanism, one of the shutter mechanism and the cutting ring having a support surface for engaging the first side of the spring means along essentially its entire length, a first seating for the first end of the spring means on the cutting ring which includes an annular extension which partly overlaps the second side of the spring means in the axial direction, a second seating for the

second end of the spring means on the shutter mechanism which includes an annular extension which partly overlaps the second side of the spring means in the axial direction, said annular extensions partly overlapping the second side of the spring means from opposite ends thereof so that a part of the second side surface of the spring means is left free between the annular extensions, and stops on the cutting ring and the shutter mechanism which limit the extent to which the cutting ring is inserted in said means for locating the cutting ring of the shutter mechanism.

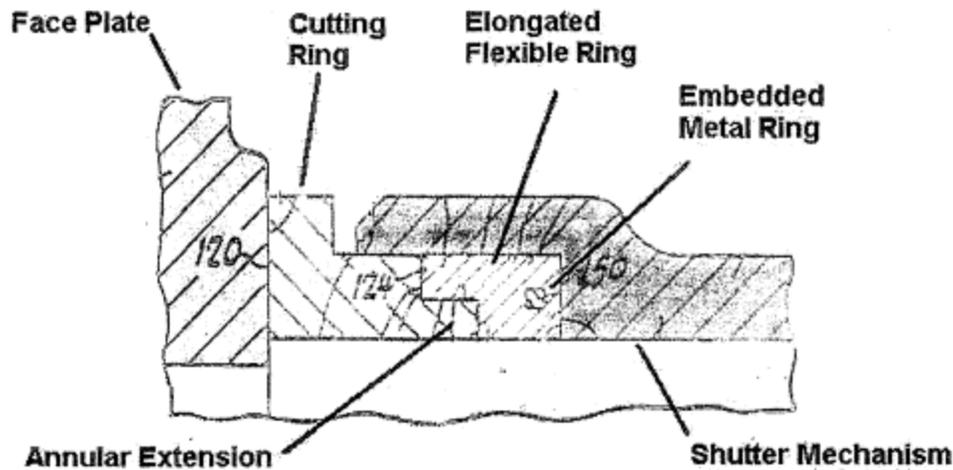
In 1989, Schwing and Putzmeister settled an infringement dispute regarding the '657 patent by entering into an agreement in which Putzmeister agreed to stop manufacturing concrete pumps in which the flexible elastic ring was held in place by the placement of annular extensions on both the cutting ring and the shutter mechanism. In return, Schwing agreed not to sue Putzmeister for infringement based on concrete pumps that held the flexible elastic ring in place with an annular extension on the shutter mechanism, but with no annular extension on the cutting ring. The parties also agreed that Putzmeister could optionally place a metal insert in the flexible elastic ring. Putzmeister referred to that configuration as the "Bastardring I."

Bastardring I



The Bastardring I was prone to failure due to the tendency of the elastic ring to be squeezed out of place. Putzmeister changed the configuration of its pumping technology in 1992 to the "Bastardring II." The Bastardring II has an annular extension on the cutting ring, but not on the shutter mechanism. Instead of the annular extension on the shutter mechanism, a metal ring is embedded in the flexible elastic ring near the shutter mechanism.

Bastardring II



Schwing filed a patent infringement action against Putzmeister, alleging that the Bastardring II infringed various claims of the '657 patent, both literally and under the doctrine of equivalents. During the litigation, Schwing discovered that Putzmeister also produced a modified version of the Bastardring II. The modified Bastardring II does not contain an embedded metal ring. Instead, the surface of the shutter mechanism that abuts the end of the flexible elastic ring is corrugated; small concentric ridges in the surface of the shutter mechanism help prevent the elastic ring from slipping out of place. Schwing alleged that the modified Bastardring II also infringed the '657 patent both literally and under the doctrine of equivalents.

The district court entered an order granting summary judgment in favor of Putzmeister, holding that the Bastardring II does not literally infringe the '657 patent because it does not have an annular extension on the shutter mechanism. A few months later, the district court entered a second order granting summary judgment that the modified Bastardring II does not literally infringe the '657 patent, and that Schwing's claims of infringement under the doctrine of equivalents as to both the Bastardring II and the modified Bastardring II were barred by prosecution history estoppel.

II

On appeal, Schwing challenges only the second of the district court's two summary judgment orders. Schwing argues that the district court erred in its construction of the phrase "annular extension," and that under the correct claim construction there is a genuine dispute of material fact as to literal infringement by the modified Bastardring II so as to preclude the entry of summary judgment on that issue. Schwing also argues that the district court erred as a matter of law in concluding that prosecution history estoppel barred Schwing's claims of infringement under the doctrine of equivalents.

Schwing's argument focuses on the district court's construction of the "annular extension" limitations in the '657 patent claims. The district court examined the prosecution history of the original '441 patent and concluded that the applicant had distinguished his invention from the prior art on the ground that the claimed annular extensions prevented or limited radial expansion of the elastic sealing ring so as to increase the axial force exerted by the sealing ring on the cutting ring. In light of the prosecution history, the district court interpreted the claims of the '657 patent to require that the annular extensions inhibit radial expansion of the sealing ring.

That interpretation, however, is not supported by the language of the claim. Claim 1 defines the

“annular extensions” in purely structural terms. The annular extensions on the cutting ring and the shutter mechanism are described as “partly overlapping the second side of the spring means from opposite ends thereof so that a part of the second side surface of the spring means is left free between the annular extension.” Where a claim uses clear structural language, it is generally improper to interpret it as having functional requirements. See Toro Co. v. White Consol. Indus., Inc., 266 F.3d 1367, 1371, 60 USPQ2d 1437, 1439 (Fed. Cir. 2001) (“An invention claimed in purely structural terms generally resists functional limitation.”). We find nothing in the claim language itself that requires the annular extensions to perform the function of inhibiting radial expansion of the sealing ring.

Putzmeister defends the district court’s claim construction on the ground that the “annular extensions” are part of the claimed “seatings,” and that they must share the function of ensuring that the spring means pushes the cutting ring against the face plate. Putzmeister relies on the written description of the ’657 patent to argue that the annular extensions must inhibit radial expansion of the spring means in order to provide the axial force required to push the cutting ring against the face plate. Although it is true that some annular extensions, including embodiments disclosed in the written description, inhibit radial expansion of the sealing ring, we find nothing in the ’657 patent that suggests that the function of “inhibiting radial expansion of the sealing ring” is a necessary limitation of the annular extensions recited in claim 1.

The prosecution history was the main focus of the district court’s claim construction analysis. During the prosecution of the original ’441 patent, the examiner rejected the claims as obvious over German Patent 28 29 181 (“Korthaus”) in light of U.S. Patent No. 4,382,752 (“Schlecht”). The applicant responded to the examiner’s rejection by amending claim 1 to require that the sealing ring be axially elongated and that there be a support surface on either the shutter mechanism or the cutting ring for engaging essentially the entire length of one side of the flexible ring. In remarks accompanying that amendment, the applicant characterized Schlecht as follows: “One disadvantage of the Schlecht device is that a mechanical compression of the elastic ring creates very small axial forces, since the seatings allow the flexible ring of Schlecht to deflect along the whole axial length of its inner surface.” The district court interpreted that statement as indicating that the applicant relinquished any claim to a device in which the means for retaining the sealing ring does not also inhibit radial expansion of that ring.

Although prosecution history can be a useful tool for interpreting claim terms, it cannot be used to limit the scope of a claim unless the applicant took a position before the PTO that would lead a competitor to believe that the applicant had disavowed coverage of the relevant subject matter. See, e.g., N. Telecom Ltd. v. Samsung Elecs. Co., 215 F.3d 1281, 1294, 55 USPQ2d 1065, 1075 (Fed. Cir. 2000) (holding that prosecution history statements did not provide a narrowing definition “with reasonable clarity and deliberateness”); IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1439, 54 USPQ2d 1129, 1141 (Fed. Cir. 2000) (holding that a patentee’s statements during prosecution and reexamination did not constitute clear disavowal of claim scope). Immediately after identifying the disadvantages of the Schlecht reference, the applicant explained the structure and operation of his invention:

With the present invention, the resilient force applied to the cutting ring to urge the contact surface of the cutting ring into contact with the face plate is provided by a long stroke spring in the form of a flexible rubber ring having a rectangular cross-section which is longer in the axial direction than in the radial direction. The shutter mechanism and the cutting ring combine to provide first and second seatings for the first and second ends of the flexible ring, and a support surface which engages the first side of the flexible ring along essentially its entire length. The second side of the flexible ring is only partly covered by a pair of annular extensions, one from the shutter mechanism and one from the cutting ring. Finally, the stops on the cutting ring and shutter mechanism limit the

extent of movement of the cutting ring in the axial direction so that the flexible rubber ring cannot be squeezed out and lifted from its seating.

In the next sentence, the applicant distinguished his invention from the Schlecht reference as follows: “At the same time, unlike the Schlecht patent, the present invention provides substantial axial resilient forces which urge the cutting ring toward the face plate because both the first and second ends and the first side are engaged by solid surfaces.”

Viewed as a whole, the prosecution history does not support the district court’s adoption of the functional limitation of “inhibiting radial expansion of the sealing ring.” The applicant’s remarks describe the annular extensions in purely structural terms, and do not suggest that the annular extensions are needed to achieve substantial axial forces. Furthermore, the final sentence distinguishing Schlecht does not mention the annular extensions or their role in inhibiting the radial expansion of the sealing ring. Instead, the applicant argued that “unlike the Schlecht patent, the present invention provides substantial axial resilient forces which urge the cutting ring toward the face plate because both the first and second ends and the first side are engaged by solid surfaces.” None of those solid surfaces include the claimed annular extensions, which engage the second side of the spring means. We therefore do not consider the applicant’s remarks as sufficient to overcome the general rule that functional limitations should not be read into purely structural claims.

Although we disagree with the district court’s claim construction, we nonetheless conclude that Schwing has not demonstrated that there is a genuine issue of material fact as to whether the modified Bastardring II literally infringes the claims of the ’657 patent, as properly construed. In particular, Schwing has not shown that the modified Bastardring II contains “a second seating for the second end of the spring on the shutter mechanism which includes an annular extension which partly overlaps the second side of the spring in the axial direction.”

In order to show a genuine dispute of material fact as to that issue, Schwing relies primarily on the following excerpt from a declaration by its expert, Mr. Hunter:

[W]hen the seal ring is assembled with a pre-load against the wear ring, the annular extensions in the shutter mechanism leave an impression of their shape in the material of the seal ring. This indicates to me that when the valve is assembled in operation and the seal ring is compressed between the wear ring and the shutter mechanism, the downstream end of the seal ring is extruded into the grooves formed by the annular extensions. The annular grooves in the shutter mechanism thus overlap an end portion of the seal ring from its inner circumferential surface to its outer circumferential surface so as to retain the seal ring in its seating when the pump is operated in a reverse, suction mode.

Schwing contends that Mr. Hunter’s statement shows that there is a genuine issue of material fact as to whether the innermost ridge on the grooved seat actually overlaps the second side of the flexible ring so as to satisfy the limitations of claim 1.

The problem with Schwing’s evidence is that claim 1 requires an annular extension of the shutter mechanism to overlap the “second side” of the spring means, not the “second end” as urged by Mr. Hunter. The phrase “from its inner circumferential surface to its outer circumferential surface” does no more than define the boundaries of the second end. Such expert declarations, often offered to avoid

summary judgment, are usually written with great care and attention to the language of the patent claims. In order to create a genuine dispute of material fact as to whether the innermost groove overlapped the second side of the spring means, Mr. Hunter would have had to declare that the grooved structure went beyond the inner circumferential surface of the second end of the spring means and extended over a portion of the second side. His declaration, however, does not go that far, and it thus does not support an inference that the innermost ridge of the grooved seat partly overlaps the second side of the spring means as required by claim 1.

Nor is any dispute of material fact demonstrated by the copies of photographs of the modified Bastardring II that Schwing has placed in the record. Those photographs, which are blurred and indistinct, make it difficult to determine precisely where the surface of the second side of the flexible ring ends and where the innermost groove on the shutter mechanism begins. We have examined the photographs with care and are unable to detect any overlap on the second side.

The only other evidence on which Schwing relies is the single sentence in Mr. Hunter's expert report stating that "each and every feature of the claims are literally found in the modified valve design." Without further support, that conclusory statement is insufficient to raise a genuine evidentiary dispute for trial. See Novartis Corp. v. Ben Venue Labs., Inc., 271 F.3d 1043, 1051, 60 USPQ2d 1836, 1841-42 (Fed. Cir. 2001); Arthur A. Collins, Inc. v. N. Telecom Ltd., 216 F.3d 1042, 1047-48, 55 USPQ2d 1143, 1147 (Fed. Cir. 2000). Schwing thus has failed to demonstrate a genuine issue of material fact as to whether the modified Bastardring II literally infringes claim 1 of the '657 patent.

III

The district court applied its analysis of the prosecution history of the original '441 patent not only to the question of claim construction, but also to the question whether prosecution history estoppel bars the application of the doctrine of equivalents. The district court concluded that the applicant's arguments in distinguishing his invention over the Schlecht reference give rise to an estoppel.

A

Schwing alleges that one element in each accused device is equivalent to the annular extension on the shutter mechanism recited in claim 1. On the Bastardring II, the alleged equivalent is the metal ring embedded in the flexible elastic ring near the shutter mechanism. On the modified Bastardring II, the alleged equivalent is the grooved surface of the shutter mechanism that abuts the end of the flexible elastic ring. We look to the prosecution history of the original '441 patent to determine whether the arguments made by the applicant surrendered either of those two alleged equivalents.

We have already described the relevant prosecution history. The district court focused on the applicant's remark that "[o]ne disadvantage of the Schlecht device is that a mechanical compression of the elastic ring creates very small axial forces, since the seatings allow the flexible ring of Schlecht to deflect along the whole axial length of its inner surface." That characterization of Schlecht, however, does not make clear whether the disadvantage of Schlecht is "small axial forces" or deflection of the flexible ring "along the whole axial length of its inner surface."

The applicant distinguished his invention from Schlecht on the basis that "the present invention provides substantial axial resilient forces which urge the cutting ring toward the face plate because both the first and second ends [of the elongated flexible ring] and the first side [of the elongated flexible ring] are engaged by solid surfaces." Because the "first and second ends" are engaged by radial surfaces of the seatings, and the "first side" is engaged by a solid support surface for engaging the first side along

essentially its entire length, that argument does not implicate the annular extensions, which are claimed as partly overlapping the “second side” of the elongated flexible ring. Thus, it appears that the applicant did not rely on the annular extensions to distinguish his invention over Schlecht.

The only mention of the annular extensions in the applicant’s remarks is a sentence stating that “[t]he second side of the flexible ring is only partly covered by a pair of annular extensions, one from the shutter mechanism and one from the cutting ring.” That remark is found in what appears to be a general recitation of the claimed elements, rather than in an argument distinguishing the prior art. If anything, the applicant’s use of the phrase “only partly covered” does not require the presence of annular extensions, but simply cautions against allowing the annular extensions to overlap the flexible ring completely. Thus, the applicant’s remarks with respect to the annular extensions are equivocal at best and do not preclude the application of the doctrine of equivalents to either the Bastardring II or the modified Bastardring II.

B

Although the district court’s treatment of prosecution history estoppel focused on arguments made by the applicant during the prosecution of the original ’441 patent, it is important to note that those remarks accompanied amendments to claim 1 that were made to overcome the examiner’s prior art rejection. Putzmeister asks us to affirm the district court’s grant of summary judgment on the alternative basis that those amendments bar the application of the doctrine of equivalents to either the Bastardring II or the modified Bastardring II.

As discussed above, during the prosecution of the original ’441 patent the examiner rejected the application as obvious over Korthaus in light of Schlecht. Korthaus disclosed a two-cylinder concrete pump in which the cutting ring was resiliently pushed against the face plate by a flexible intermediate element located in between the cutting ring and the shutter mechanism. The flexible intermediate element had a hexagonal cross-section, so that it was supported on both its inner and outer sides by annular extensions from both the cutting ring and the shutter mechanism. The outer surface of the flexible hexagonal ring in Korthaus was exposed to a hydrostatic cushion of pressurized oil or grease, which exerted pressure against the hexagonal ring causing the ring to press the cutting ring against the face plate.

Schlecht disclosed a two-cylinder concrete pump in which a flexible ring was placed between the cutting ring and an annular shoulder of the shutter mechanism. The examiner cited Schlecht, however, for its use of a stop member on the shutter mechanism of Korthaus in order to prevent the compression of the parts from crushing the flexible hexagonal ring.

In response to the examiner’s rejection, the applicant amended claim 1 as follows:

1. A two-cylinder pump for heavy flowable materials, such as concrete, comprising a shutter mechanism which is pivotable across an apertured face plate, the shutter mechanism being sealed against the face plate by means of a cutting ring which has a contact surface on its front end for contacting the face plate and which is axially movable relatively to the shutter mechanism and is supported thereon with its rear [side] end engaging a rectangular cross-section flexible rubber ring, the flexible ring having first and second sides which are aligned generally axially and first and second ends which are aligned generally radially, the first and second sides being of greater length than the first and second ends, whereby the cutting ring is urged resiliently against the face plate, means for locating the cutting ring, along a portion of its

length, on the shutter mechanism, one of the shutter mechanism and the cutting ring having a support surface for engaging the first side of the flexible ring along essentially its entire length, a first seating for the first end of the flexible ring on the cutting ring which includes an annular extension which partly overlaps the [longer cross-sectional] second side of the flexible ring in the axial direction, a second seating for the second end of the flexible ring on the shutter mechanism which includes an annular extension which partly overlaps the second [longer cross-sectional] side of the flexible ring in the axial direction, said annular extensions partly overlapping the second side of the flexible ring from opposite [sides] ends thereof so that a part of the second side surface of the flexible ring is left free between the annular extensions, and stops on the cutting ring and the shutter mechanism which limit the extent to which the cutting ring is inserted in said means for locating the cutting ring of the shutter mechanism.

The amendment deleted the matter that is enclosed in brackets and added the matter that is underlined.

The parties agree that the changes to the “annular extension” limitations pertain only to the location of the annular extensions. Before amendment, original claim 1 required “overlapping” of the ring from opposite sides, but did not specify on which side the overlapping was required. As amended, however, claim 1 not only specified that the first side must be completely covered by either the shutter mechanism or the cutting ring, but also required that the “overlapping” had to occur on the second side. Thus, the broader pre-amendment language allowed for overlapping to take place on either side, but the narrower post-amendment language limited it to a particular location, namely the “second side” of the flexible ring. Accordingly, it is clear that the “annular extension” limitations were amended and narrowed. The remaining question is whether that narrowing amendment bars the application of the doctrine of equivalents.

In Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558 (Fed. Cir. 2000) (en banc), this court held that prosecution history estoppel acts as a complete bar to the doctrine of equivalents, so that a claim limitation that has been narrowed by amendment must be limited to its strict literal terms. Shortly before oral argument in this case, the Supreme Court vacated our decision in that case. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 122 S. Ct. 1831 (2002). The Supreme Court rejected the “complete bar” approach and required instead an examination of the subject matter surrendered by the narrowing amendment. Id. at 1840. In so doing, the Court adopted a rebuttable presumption that the narrowing amendment surrendered the particular equivalent in question, and discussed several ways in which the patentee could overcome that presumption. Id. at 1842. The patentee can overcome the presumption that prosecution history estoppel bars a finding of equivalence, the Court explained, if the patentee can show that the asserted equivalent was unforeseeable, that the rationale underlying the amendment bears only a tangential relation to the equivalent in question, or that there is some other reason that the patentee could not reasonably be expected to have described the substitute in question. Id. at 1841-42.

At oral argument, Schwing contended that if we conclude that the amendment narrowed the annular extension limitations, we should remand the case to the district court to determine, in light of the Supreme Court’s Festo opinion, whether Schwing can successfully rebut that presumption. We agree with Schwing that, at least as to the modified Bastardring II device, the case should be remanded to the district court to determine, in the first instance, whether Schwing can rebut the Festo presumption. A remand is not necessary with respect to the Bastardring II device, however, because in light of the written description of the ’657 patent the embedded metal ring in the Bastardring II cannot be deemed equivalent to the annular extension on the shutter mechanism recited in claim 1.

In the “Background of the Invention” section, the ’657 patent describes the Schlecht reference as teaching the use of an embedded metal ring, a structure that the patent describes as a flaw in the Schlecht device: “Moreover, with metallic expanding devices which are used with a sealing ring consisting of an elastomer, it is not possible in practice to prevent this ring from being lifted from its seating.” ’657 patent, col. 2, lines 65-68. The ’657 patent thus specifically identifies and criticizes the use of embedded metal rings in the prior art. The applicant was aware of the possibility of holding the flexible ring in place with an embedded metal ring, but he dismissed such an approach and instead expressly described and claimed a pump in which the spring means is held in place by, inter alia, an annular extension on the shutter mechanism. Schwing cannot now overlook that deliberate decision and reclaim that subject matter through the doctrine of equivalents. See J & M Corp. v. Harley-Davidson, Inc., 269 F.3d 1360, 1368-69, 60 USPQ2d 1746, 1751-52 (Fed. Cir. 2001) (holding that a structure described in the specification as a flaw in the prior art could not infringe under the doctrine of equivalents). In light of that intrinsic evidence, the Bastardring II cannot be held to infringe the ’657 patent under the doctrine of equivalents. We therefore affirm the district court’s grant of summary judgment as to that device.

The modified Bastardring II, which has a grooved seating on the shutter mechanism, presents a different question. As discussed above, Mr. Hunter declared that “when the valve is assembled in operation and the seal ring is compressed between the wear ring and the shutter mechanism, the downstream end of the seal ring is extruded into the grooves formed by the annular extensions.” While Schwing has not provided any evidence that the innermost ridge overlaps the second side of the flexible elastic ring, its evidence does suggest that even if the innermost ridge of the grooved seating does not overlap the second side, it at least extends into the end of the spring means at a point just below the surface of the second side.

Accordingly, one could view the grooved seating as consisting of a series of small annular extensions, the innermost of which extends into the spring means just below the surface of the second side. A reasonable fact-finder could conclude that the two configurations could perform substantially the same function in substantially the same way to achieve substantially the same result, and that the differences between them are insubstantial. We therefore vacate the grant of summary judgment as to the modified Bastardring II and remand the case for a determination of whether that device infringes the ’657 patent under the doctrine of equivalents, including a determination as to whether Schwing has rebutted the presumption that the amendment to the annular extension limitations bars Schwing from asserting equivalence as to those limitations.

AFFIRMED IN PART, VACATED IN PART, and REMANDED.