

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**SHIMANO, INC.,**  
*Appellant,*

v.

**Teresa Stanek Rea, ACTING DIRECTOR, U.S.  
PATENT AND TRADEMARK OFFICE,**  
*Appellee,*

AND

**MBI CO., LTD.,**  
*Cross Appellant.*

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2012-1286, -1294

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Appeal from the United States Patent and Trademark  
Office, Board of Patent Appeals and Interferences in  
Reexamination No. 95/001,051.

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Decided: April 29, 2013

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JAMES A. DELAND, Deland Law Office, of Klamath River, California, argued for appellant.

JOSEPH G. PICCOLO, Associate Solicitor, Office of the Solicitor, United States Patent and Trademark Office, of Alexandria, Virginia, argued for appellee. With him on the brief were RAYMOND T. CHEN, Solicitor, and SCOTT C. WEIDENFELLER, Associate Solicitor.

RICHARD WYDEVEN, Rothwell, Figg, Ernst & Manbeck, P.C., of Washington, DC, argued for cross-appellant. With him on the brief were R. ELIZABETH BRENNER-LEIFER, JOO MEE KIM and MICHAEL V. BATTAGLIA.

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Before NEWMAN, BRYSON, and DYK, *Circuit Judges*.

BRYSON, *Circuit Judge*.

This is an appeal from an *inter partes* reexamination of U.S. Patent No. 6,478,711 (“the ’711 patent”), which is owned by the appellee/cross-appellant MBI Co., Ltd. The appellant, Shimano, Inc., sought the reexamination and now appeals from the decision of the Patent and Trademark Office Board of Patent Appeals and Interferences sustaining the patentability of various claims of the ’711 patent. MBI cross-appeals from the Board’s decision holding that the newly amended claim 7 of the ’711 patent is invalid. We affirm the Board on both the main appeal and the cross-appeal.

## I

The ’711 patent claims an apparatus for changing the speed of a bicycle by altering the gear ratios in a gear-shifting mechanism. The claimed gear-shifting mechanism contains one or more rings that control “pawls.” Through a mechanism controlled by the bicycle rider, the pawls can be caused to engage multiple “sun gears.” By engaging the sun gears, the pawls link those gears me-

chanically with other gears and with the bicycle's rear wheel shaft, thereby giving the rider the ability to change the gear ratio of the bicycle's drive mechanism.

The '711 patent was issued in 2002 with 15 claims. In 2008, Shimano requested reexamination of the '711 patent. In response, the PTO ordered reexamination of claims 1-8 and 11-15 of the patent. In the course of the reexamination, MBI amended original claim 7 and added new claims 16-25.

The examiner rejected all of the claims in the reexamination on several grounds. First, the examiner rejected claims 1-8, 13-20, 22, 24, and 25 as anticipated by a prior art patent to Nagano (U.S. Patent No. 5,078,664). Second, the examiner rejected claims 1-8, 11-20, and 22-25 as obvious over Nagano alone (claims 11 and 23) and over various combinations of Nagano and prior art patents to Huang (U.S. Patent No. 5,855,530) and Matsuo (U.S. Patent No. 5,785,625). Third, the examiner rejected claim 21 for indefiniteness and rejected claims 7, 22, and 23 for lack of written description. Fourth, the examiner rejected amended claim 7 on the ground that it enlarged the scope of the previously issued claims, in violation of 35 U.S.C. § 314.

On appeal, the Board reversed all of the rejections except for the written description rejections of claims 7 and 22. Both parties then appealed to this court. Shimano has sought reversal of the Board's rulings with respect to the claims on which the Board reversed the examiner's rejections. MBI has cross-appealed, seeking reversal of the Board's ruling sustaining the examiner's written description rejection of claim 7.

## II

The parties have skirmished at length as to what issues have been preserved for our review. We have examined the briefs before us and the record in this case with

care and have concluded that the only issues properly before this court on the main appeal are (1) whether the Board erred in its construction of the disputed language of claim 1; (2) whether various claims of the '711 patent are anticipated by the Nagano prior art reference; (3) whether claims 11 and 12 would have been obvious in light of Nagano, or Nagano in view of Matsuo; (4) whether the Board erroneously failed to address Shimano's "composite pawl-controlling ring" argument; and (5) whether claim 23 fails to satisfy the written description argument. The sole issue presented on MBI's cross-appeal is whether the Board's finding that claim 7 is unpatentable for lack of written description is not supported by the evidence. We accordingly confine our discussion to those issues.<sup>1</sup>

#### A

The main issue raised by Shimano on appeal is the construction of independent claim 1. The portion of claim 1 that is in dispute recites "a speed-change controlling portion, comprising . . . at least two sets of pawls engageable with and releasable from the ratchet-teeth of the sun

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<sup>1</sup> In post-argument submissions, the parties have debated whether particular arguments were made to the examiner and the Board during the reexamination proceedings. Rather than address those issues, we address the arguments made in the parties' opening briefs on appeal and cross-appeal. Arguments not made in the parties' opening briefs are ordinarily deemed waived, *see Aventis Pharma, S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1332-33 (Fed. Cir. 2012), and in a case such as this one, in which the record is very large and in which the parties have made a variety of different arguments at various stages of the proceedings, it is entirely appropriate to hold the parties to the specific arguments they have elected to present to this court in their opening briefs.

gears; [and] a pawl-controlling ring for controlling the position of the pawls.”

Shimano argues that the Board’s construction of that claim language was in error. Taking account of the language of both limitations together and the associated portions of the specification, the Board held that claimed device must contain at least one “pawl-controlling ring” that is capable of controlling the position of at least two sets of pawls. Shimano contends, instead, that “the pawls” referenced in the limitation reciting “a pawl-controlling ring for controlling the positions of the pawls” should be read to include “any subset of the ‘at least two sets of pawls’” referred to in the prior limitation.

We agree with the Board’s construction of the pertinent language of claim 1. The reference to “the pawls” in the limitation reciting a pawl-controlling ring is most naturally understood to refer back to the “at least two sets of pawls” in the immediately preceding limitation. Moreover, that interpretation is supported by the description in the specification of the pawl-controlling ring “controlling the position of two or more sets of pawls.” ’711 patent, col. 4, ll. 11-12.<sup>2</sup>

Shimano also argues that the Board’s claim construction is inconsistent with the embodiment illustrated in Figure 8 of the ’711 patent but that its own construction is not. According to Shimano’s brief, Figure 8 depicts an embodiment in which a control ring controls only one set of pawls associated with a single sun gear. In fact, however, Figure 8 is consistent with the Board’s construction.

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<sup>2</sup> As part of its challenge to the Board’s claim construction, Shimano argues that the Board improperly permitted MBI to “change the scope of Claim 1 by prosecution disclaimer.” We disagree. The Board based its claim construction on the language of the claims and the specification, not on any disclaimer by MBI.

It shows three sets of pawls (designated as 421, 422, and 423), and two pawl-controlling rings (both designated as 430). One of the two depicted pawl-controlling rings controls two of the sets of pawls (designated as 422 and 423), which are associated with the sun gears designated as 232 and 233, respectively. In other words, the figure shows a single pawl-controlling ring that controls two sets of pawls.

In its brief, Shimano acknowledges (Br. 43) that its anticipation argument depends on the court's acceptance of its proposed claim construction of the "pawl-controlling rings" limitation, because the structure in Nagano corresponding to the pawl-controlling ring was not shown to be capable of controlling two sets of pawls. We do not agree with Shimano's proposed construction of that limitation, and we therefore reject its argument that Nagano anticipates claims 1-8, 13-19, 24, and 25 of the '711 patent.

Shimano separately contends (Br. 54-55) that the Board improperly failed to address what it refers to as its "composite pawl-controlling ring" argument. That argument, at least as presented to the examiner and incorporated by reference in Shimano's brief to the Board, was that because the two structures disclosed in Nagano, identified as 80i and 80j, are rings and are connected by a bridging portion, they can be regarded as parts of a single pawl-controlling ring that controls two or more sets of pawls.

The Board addressed that argument by stating that Nagano's structures 80i and 80j were not shown to be part of a single pawl-controlling ring that controls two sets of pawls. What a prior art reference discloses is a question of fact as to which the Board's findings are entitled to deference under the "substantial evidence" standard. *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1378 (Fed. Cir. 2007). The Board found that the term "ring," as used in the '711 patent, would not be understood by one of skill

the art to include a structure having “an elongated circular or cylindrical configuration.” As MBI pointed out in its briefs to the Board, the “composite” structure comprising 80i, 80j, and a bridging portion, when viewed as a whole, has an elongated cylindrical configuration. Thus, the composite structure cannot be a “ring” within the meaning of the ’711 patent. It is undisputed that 80i and 80j individually are rings, but it is also undisputed that neither 80i nor 80j individually is capable of controlling two or more sets of pawls. Thus, the Board’s finding that Nagano does not teach a “pawl-controlling ring” is supported by substantial evidence.<sup>3</sup>

We also reject Shimano’s obviousness argument, which is directed solely at claims 11 and 12. Those arguments, which address additional limitations found in claims 11 and 12, depend on the acceptance of Shimano’s underlying claim construction argument as to the “pawl-controlling ring” limitation. Because we agree with the Board’s rejection of that argument, we likewise reject Shimano’s arguments as to dependent claims 11 and 12.

Shimano’s final argument is that claim 23 of the ’711 patent is invalid for failing to satisfy the written description requirement. Shimano contends that the limitation

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<sup>3</sup> The same can be said for Shimano’s contention that the “tube” disclosed in the prior art patent to Huang can be regarded as a “ring” that controls at least two sets of pawls. The Board found that Huang’s tube “has an elongated cylindrical configuration with a significant axial length relative to the diameter” and is “not a ‘ring,’ as that term would have been understood by one skilled in the relevant art given the enlightenment found in the 711 Patent Specification.” To the extent that Shimano is making a separate invalidity argument based in part or in whole on Huang, we reject that argument based on those factual findings by the Board.

in claim 23 reciting “a ring-engaging portion [of the pawl] adapted to be selectively engageable with the pawl-controlling ring” is not supported by the ’711 specification, because the specification shows that the pawls are always in contact with the inner surface of the pawl-controlling ring. The short answer to that argument is that the pertinent figures in the ’711 patent show that each pawl can be controlled so that it either engages the pawl-controlling ring through grooves or does not engage the grooves of the ring. “Engagement” in this context means more than mere contact, as the ’711 specification makes clear. The Board explicitly so found, based on Figures 9A through 9C of the patent, and we sustain the Board’s finding on that issue as amply supported by the evidence.

## B

In its cross-appeal, MBI argues that the Board erred by sustaining the examiner’s rejection of amended claim 7. We agree with the Board that the amendment to claim 7 during the reexamination had the effect of broadening that claim in a manner that was not supported by the specification. We therefore affirm that aspect of the Board’s decision as well.

Claim 7 depends from claim 6, which in turn depends from claim 1. Claim 6 recites that each pawl comprises a “sag portion positioned inside of the pawl-controlling ring” and a “stopper portion engageable with and releasable from the ratchet-teeth at the inner circumference of the sun gear.” In its original form, claim 7 recited the further limitation that the pawls “positioned relatively far from the pawl-controlling ring further comprise an extended portion that is thinner than the pawl bodies.” The portion of the specification supporting claim 7 described and depicted an extended portion of the pawl “that is thinner than the pawl body, so that it prevents the pawl . . . from engaging other elements.” ’711 patent, col. 4, ll. 51-52; Fig. 7.

In reexamination, MBI amended claim 7, broadening it to recite “an extended portion that is thinner than at least one of the sag portion and the stopper portion.” In effect, the amended claim, unlike the original claim, read on embodiments in which the extended portion would be as thick as, or thicker than, either the sag portion or the stopper portion of the pawl. The Board concluded, in accordance with the examiner’s findings, that the original patent disclosure did not show that the patentee had possession of an apparatus in which the extended portion of the pawl was as thick as, or thicker than, either the sag or stopper portions, and that the amended claim was therefore invalid for failure to comply with the written description requirement.

We sustain the Board’s ruling. Because the disclosure in the specification of the structure of the extended pawl was very detailed, and because the reason for the extended portion being narrower than the other portions of the pawl was explicitly identified, the effect of the amendment to the claim language was to extend the reach of that claim to structures not described in the specification, without any disclosure as to how those modified structures would perform the function designated for them by the patent. Accordingly, we agree with the Board that expanding the scope of claim 7 to reach structures not disclosed in the specification of the ’711 patent rendered that amended claim invalid.

**AFFIRMED**