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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* YOSHIMITSU MIKI<sup>1</sup>

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Appeal 2017-005306  
Application 14/096,636  
Technology Center 3600

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Before JENNIFER D. BAHR, WILLIAM A. CAPP, and JILL D. HILL,  
*Administrative Patent Judges.*

BAHR, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–6 and 8–10. We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing in accordance with 37 C.F.R. § 41.47 was held on January 16, 2019.

We AFFIRM.

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<sup>1</sup> Shimano, Inc. (Appellant) is the applicant as provided in 37 C.F.R. § 1.46 and is identified as the real party in interest. Appeal Br. 3.

### THE CLAIMED SUBJECT MATTER

Claims 1 and 10 are independent. Claim 1, reproduced below from page 12 of the Appeal Brief (Claims Appendix), with pertinent limitations italicized for emphasis, is representative of the claimed subject matter.

1. A bicycle control device comprising:
  - a base member configured to be fixed to a bicycle part;
  - an operating member movably coupled relative to the base member, and being configured to perform a braking operation upon being moved along a braking path and to perform a shifting operation upon being moved along a shifting path differing from the braking path;
  - a shifting unit coupled to the base member, and being configured to be actuated in response to movement of the operating member along the shifting path, the shifting unit including a movable part at least partially disposed within the base member and a cable passageway extending through the movable part, the cable passageway extending along a passage axis and being sized and configured to receive at least an inner cable; and
    - a hollow cable receiving shaft attached to an attached part of the base member between the shift unit and the operating member, and the cable passageway extending through the hollow cable receiving shaft and the attached part of the base member,*
    - the operating member including a receiving portion configured to receive an end portion of the inner cable, the receiving portion being a hole into which the end portion of the inner cable is capable of being fitted, and disposed along the passage axis of the cable passageway.

### REJECTIONS

- I. Claims 1–5, 8, and 9 stand rejected under 35 U.S.C. § 103 as unpatentable over Jordan (US 2010/0083788 A1, published Apr. 8, 2010) and Miki (US 7,950,307 B2, issued May 31, 2011).

- II. Claims 6 and 10 stand rejected under 35 U.S.C. § 103 as unpatentable over Jordan, Miki, and Regis (FR 2 705 079 A1, published Nov. 18, 1994).<sup>2</sup>

## DISCUSSION

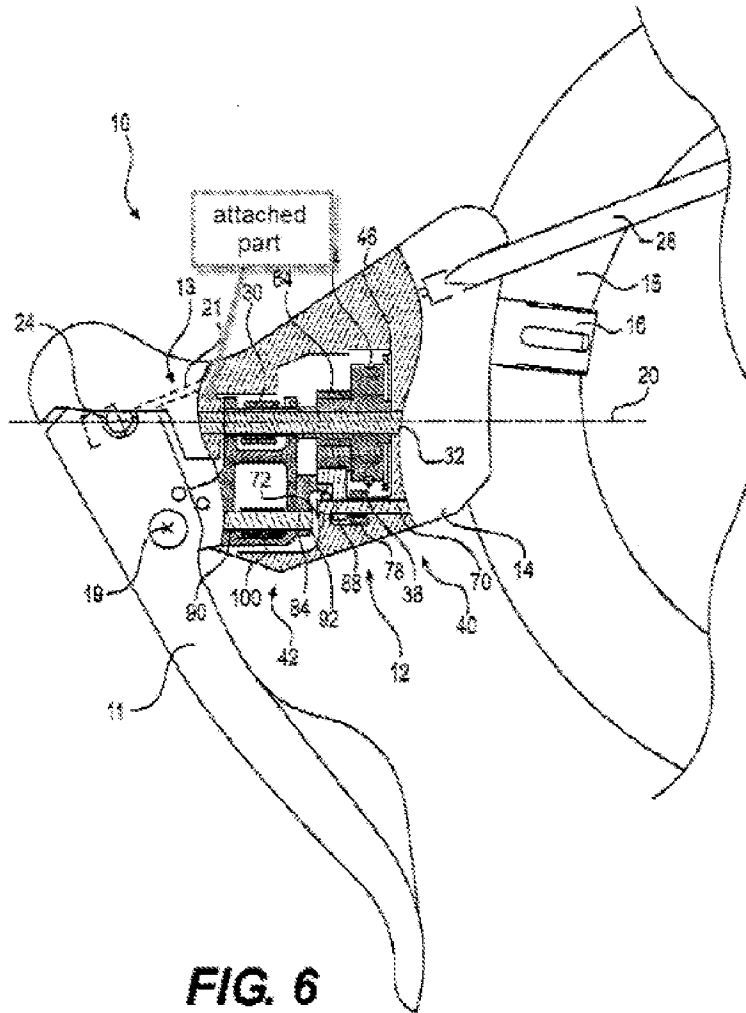
### *Rejection I*

The Examiner finds that Jordan discloses a bicycle control device substantially as claimed in independent claim 1, including a receiving shaft (shaft 32) attached to an attached part of the base member (housing 14), except that Jordan fails to disclose “a cable passageway extending through the movable part” and the shaft being “a hollow cable receiving shaft with the cable passageway extending through the hollow cable receiving shaft and the attached part of the base member.” Ans. 2–3 (with reference to an “annotated figure below”); *see* Final Act. 4 (Examiner’s annotated version of Jordan’s Figure 6).<sup>3</sup> The Examiner’s annotated version of Jordan’s Figure 6, which is presented on page 4 of the Final Action, is reproduced below.

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<sup>2</sup> An English language Abstract is included with the Regis document in the electronic application file. *See* Foreign Reference entry dated June 5, 2015.

<sup>3</sup> The Examiner does not reproduce the annotated Figure 6 of Jordan in the Answer. *See* Ans. 3. However, we understand the Examiner’s reference to “annotated figure below” on page 3 of the Answer to be a reference to the annotated Figure 6 of Jordan on page 4 of the Final Action.



The version of Jordan's Figure 6 provided by the Examiner "is a partial cross-sectional view of [Jordan's] bicycle control device" and contains an annotation "attached part" pointing to the portion of Jordan's housing 14 (corresponding to the claimed "base member") on which the Examiner reads the claimed "attached part of the base member." Final Act. 4; Jordan ¶ 12.

The Examiner finds that Miki teaches "providing a cable passageway, for a brake cable, through a movable part of a shifting unit of a bicycle" and

“a hollow cable receiving shaft,” with “the cable passageway extending along a passage axis and through a rotational center of the movable [part],” wherein “the cable passageway extend[s] through the hollow cable receiving shaft and the attached part.” Ans. 3 (citing Miki, Fig. 6). The Examiner determines that it would have been obvious to modify Jordan’s shaft 32 to provide “a cable passageway, as taught and/or suggested by the known hollow shaft and cable routing shown in Miki, in order to provide the same predictable result of allowing the braking function to be used” and to “provide further protection to the cable as it is threaded through other components as well as avoiding the need to provide an outer orifice to [Jordan’s] housing 14 which in turn is exposed to debris and/or external elements.” *Id.* at 4. The Examiner additionally points out that “rerouting through the shaft 32 or providing a hollow shaft would give a more direct route towards the rear of the bicycle.” *Id.*

The Examiner explains that “one having ordinary skill in the art would have found it obvious to modify [Jordan’s] shaft and corresponding attached part to include a hollow cable passage as taught and/or suggested by Miki.” *Id.* at 5; *see also* Final Act. 10 (explaining that “[i]t follows that once the combination is made and shaft 32 in Jordan is modified to become a hollow shaft having a cable passageway therein, it would be clear that passageway would extend through the shaft and the attached part already disclosed in Jordan”). According to the Examiner, “one having ordinary skill in the art would have the knowledge and expertise to modify Jordan so as to provide the cable passage which connects to the brake lever.” Ans. 6. “In other words,” the Examiner continues, “if the brake cable is being routed through a hollow shaft to the brake lever it would follow that the passage

would need to extend through the intervening attached structure of the support bracket.” *Id.*

Appellant contends that “there is no disclosure in Jordan that the portion of shaft 32 between the shift control mechanism 12 and the lever 11 is attached to an attached part of the housing 14.” Appeal Br. 8. In particular, Appellant submits that Jordan’s Figure 6 shows “a break in the longitudinally extending member 32,” and, thus, the portion of shaft 32 between shift control mechanism 12 and lever 11 “appears to be separate from the shaft 32.” Reply Br. 3. “In other words,” according to Appellant, “shaft 32 appears to terminate at the end of the shift control mechanism 12, and another portion appears to be disposed outside the shift control mechanism.” *Id.* at 3–4. Further, Appellant argues that “there is no apparent reason[] to modify Jordan so as to attach the shaft 32 to the housing 14, since Miki specifically discloses that the support shaft 220 is mounted to the bracket in a position away from the operating unit.” Appeal Br. 8. According to Appellant, “if one of ordinary skill were to modify Jordan with Miki, the modified shaft would be attached to the housing 14 on a side distal or away from the lever 11, *not* between the shift control mechanism 12 and the lever 11.” Reply Br. 5.

We begin our analysis by construing the limitation “attached to an attached part of the base member between the shift unit and the operating member” in claim 1. Appellant’s drawings depict base member 24 as a one-piece, unitary component. *See, e.g.*, Figs. 1, 2, 4, 5. Appellant’s Specification does not describe physically discrete components of the base member attached to one another in the conventional sense. *See Spec. passim.* In fact, Appellant’s Specification does not use the term “attached

part” to describe any portion of the base member. Appellant first introduced the terminology “attached part of the base member” into the present application with the amendments to claims 1 and 10 in the Amendment dated April 28, 2016. Appellant does not specifically identify the portion of the base member corresponding to the claimed “attached part,” but we understand the “attached part” in the claim limitation “attached part of the base member between the shift unit and the operating member” to be the portion of base member 24 extending downwardly between bracket 38 and operating member 26. *See* Figs. 1, 2, 4, 5. Thus, consistent with Appellant’s disclosure, an “attached part of the base member between the shift unit and the operating member” is construed as any portion of the base member between the shift unit and the operating member, whether formed as one unitary piece with the remainder of the base member or otherwise attached thereto.

Having construed the limitation “attached part of the base member between the shift unit and the operating member,” we turn next to the limitation that the shaft be “attached” to said “attached part of the base member between the shift unit and the operating member.” As we have already noted, Appellant’s Specification does not mention an “attached part of the base member,” and, thus, does not explicitly disclose that hollow cable receiving shaft 44 is attached to such an “attached part.” *See* Spec. *passim*. Appellant’s Specification discloses only that “hollow cable receiving shaft 44 is attached to the base member 24.” *Id.* ¶ 53. Appellant’s Specification does not provide any details as to the particular manner in which shaft 44 is attached to base member 24. Figure 5, which is the only figure that clearly shows shaft 44, depicts shaft 44 in contact with base



member 24 in two places — to the left of bracket 38 of shifting unit 28 and to the right of wire take up member 50 of shifting unit 28. However, Figure 5 lacks sufficient detail to convey with any certainty the particular means of attaching shaft 44 to base member 24, much less where such means are located. In summary, the disclosure in Appellant’s Specification and drawings conveys possession of cable receiving shaft 44 being attached, in some undisclosed manner, to base member 24, wherein base member 24 includes a portion (the “attached part”) disposed between shifting unit 28 and operating member 26. Consistent with Appellant’s disclosure, cable receiving shaft 44, thus, is attached to the attached part of base member 24 between shifting unit 28 and operating member 26 by virtue of the “attached part” being unitary with the remainder of base member 24 and shaft 44 being attached to base member 24.

Thus, given the disclosure in the present application, we construe the limitation “shaft attached to an attached part of the base member between the shift unit and the operating member” as requiring a shaft attached to a base member having an “attached part” between the shift unit and the operating member, wherein the “attached part” is either formed as one piece with, or otherwise attached to, the remainder of the base member. A shaft attached to the base member in any manner is also attached to the “attached part” by virtue of the “attached part” being formed as one piece with, or otherwise attached to, the remainder of the base member. In other words,

the point of attachment of the shaft to the base member need not be between the shift unit and the operating member.<sup>4</sup>

Jordan's Figure 6 depicts shaft 32 disposed in, and in contact with, housing 14 in much the same manner as Appellant's Figure 5 depicts shaft 44 in contact with base member 24. Much like the depiction of Appellant's shaft 44 in Appellant's Figure 5, the lines marking the top and bottom of shaft 32 and the cross-hatching for shaft 32 in Jordan's Figure 6 extend continuously all the way across the sectioned/exposed interior portion of housing 14, including into the portion of housing 14 disposed between bracket 18 of Jordan's shift control mechanism 12 and lever 11. Further, Jordan discloses that "bracket 18 is rotatably mounted to the housing 14 about a shift axis 20," which, in the embodiment shown, is "a shaft 32 extending through the housing 14." *See* Jordan ¶ 16 (boldface omitted). Jordan also discloses that "takeup member 22 . . . is rotatably mounted on the shaft 32 extending through the housing." *Id.* ¶ 17.

In order for Jordan's bracket 18 to be rotatably mounted to housing 14 about shaft 32, shaft 32 must be attached, in some manner, to housing 14. Further, housing 14 has an attached part (identified by the label "attached part" in the Examiner's annotated version of Jordan's Figure 6, reproduced above) disposed between shift control mechanism 12 (to the left of bracket 18) and lever 11. Thus, Jordan's shaft 32 is attached to the "attached part," by virtue of the "attached part" being formed as one piece with the remainder of housing 14 and shaft 32 being attached to housing 14. In other

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<sup>4</sup> The present application does not provide written description support, pursuant to 35 U.S.C. § 112(a), for a limitation requiring such a point of attachment.

words, Jordan's shaft 32 satisfies the limitation "shaft attached to an attached part of the base member between the shift unit and the operating member," construed as explained above.<sup>5</sup>

We appreciate that Jordan's Figure 6 includes a solid line extending along the left edge of bracket 18 and across shaft 32. However, we do not agree with Appellant (*see* Reply Br. 3) that this would in any way suggest that shaft 32 is broken at this line. Rather, a person having ordinary skill in the art, considering the entirety of Jordan's disclosure, including, in particular, the disclosures in paragraphs 16 and 17 discussed above, and the cross-hatching of shaft 32 shown in Figure 6, would have understood that this line is an errant continuation of the left edge of bracket 18 across shaft 32. "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). What a reference teaches a person of ordinary skill is not limited to what a reference specifically "talks about" or what is specifically "mentioned" or "written" in the reference. *Syntex (U.S.A.) LLC v. Apotex, Inc.*, 407 F.3d 1371, 1380 (Fed. Cir. 2005). An artisan must be presumed to know something about the art apart from what the references disclose. *See In re Jacoby*, 309 F.2d 513, 516 (CCPA 1962). Moreover, skill is presumed on the part of those practicing in the art. *See In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985). A break in shaft 32 at the line alluded to by Appellant

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<sup>5</sup> If the disclosure in the present application is deemed sufficient to provide written description support, pursuant to 35 U.S.C. § 112(a), for a point of attachment of the shaft to the base member between the shift unit and the operating member, then the disclosure in Jordan of bracket 18 being rotatably mounted to housing 14 about shaft 32 and the illustration of shaft 32 and housing 14 in Figure 6 of Jordan must be deemed sufficient to establish such a point of attachment of Jordan's shaft 32 to housing 14.

would leave shaft 32 mounted to housing 14 in a cantilevered manner with its free end under bracket 18. *See* Jordan, Fig. 6. A skilled artisan would not have understood Jordan to teach cantilevering shaft 32, which supports takeup member 22 and bracket 18, in this manner.

Appellant also argues that modifying Jordan's shaft to be a hollow shaft, as taught by Miki, would not permit the brake cable to extend to brake cable receiving portion 24 because the cable passageway would have to "extend through the solid attached part of the housing between the shift unit and the operating member." Appeal Br. 8; *see also* Reply Br. 5 (arguing that "the internal area of the housing 14 in Jordan has no open space"). These arguments fail to address the Examiner's explanation that "one having ordinary skill in the art would have found it obvious to modify [Jordan's] shaft *and corresponding attached part* to include a hollow cable passage as taught and/or suggested by Miki." Ans. 5 (emphasis added); *see also* Final Act. 10 (explaining that "[i]t follows that once the combination is made and shaft 32 in Jordan is modified to become a hollow shaft having a cable passageway therein, it would be clear that passageway would extend both through the shaft and the attached part already disclosed in Jordan"). The Examiner's reasoning has rational underpinnings. A person skilled in the art, when routing a brake cable to receiving portion 24 of lever 11 through Jordan's shaft 32, would not have provided a brake cable passageway leading only partway there. Such a person would have readily appreciated that, in order to reach receiving portion 24, the cable passageway must pass through the "attached part" of housing 14, as well as through shaft 32.

Appellant further submits that there is uncertainty as to how far shaft 32 extends in housing 14 and, thus, the modification proposed by the

Examiner “may result in a significant angle formed by the end of the brake cable and the portion of the brake cable disposed in the so-called cable passageway during a braking operation,” thereby potentially yielding “a structure [that] may not be operable.” Appeal Br. 9. Appellant’s assertion is speculative and amounts to unsupported attorney argument entitled to little weight. *See In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997). When Jordan’s lever 11 is moved from the rest position shown in Jordan’s Figures 2 and 6 to the braking position shown in Jordan’s Figure 3, thereby displacing cable receiving portion 24 downward away from shift axis 20 (and away from the cable passageway extending through hollow shaft 32 and the “attached part” of housing 14), the brake cable exiting housing 14 will extend at an angle from the cable passageway extending along shift axis 20, much like the brake cable in Appellant’s invention (*see* Appellant’s Fig. 2). However, Appellant does not provide any evidence or persuasive technical reasoning to show that such an angle would be problematic or render Jordan’s brake control mechanism incapable of operating in the intended manner.

For the above reasons, Appellant fails to apprise us of error in the rejection of claim 1 as unpatentable over Jordan and Miki. Accordingly, we sustain the rejection of claim 1, as well as claims 2–5, 8, and 9, which depend from claim 1 and for which Appellant does not present any separate arguments (*see* Appeal Br. 10), under 35 U.S.C. § 103 as unpatentable over Jordan and Miki.

### *Rejection II*

In contesting the rejection of claims 6 and 10 as unpatentable over Jordan, Miki, and Regis, Appellant relies solely on the arguments presented

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against the rejection of claim 1. *See* Appeal Br. 10. These arguments, which fail to apprise us of error in the rejection of claim 1, for the reasons discussed above, likewise fail to apprise us of error in the rejection of claims 6 and 10. Accordingly, we also sustain the rejection of claims 6 and 10 under 35 U.S.C. § 103 as unpatentable over Jordan, Miki, and Regis.

#### DECISION

The Examiner's decision rejecting claims 1–6 and 8–10 is  
AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED