

NOTE: This disposition is nonprecedential.

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

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**BLACKBIRD TECH LLC, DBA BLACKBIRD  
TECHNOLOGIES,**  
*Appellant*

v.

**FITBIT, INC., WAHOO FITNESS LLC,**  
*Appellees*

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2019-1879

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Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in Nos. IPR2017-  
02012, IPR2018-00275.

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Decided: August 6, 2020

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Before PROST, *Chief Judge*, REYNA and TARANTO, *Circuit Judges*.

TARANTO, *Circuit Judge*.

Blackbird Tech LLC, d/b/a Blackbird Technologies, owns U.S. Patent No. 6,434,212, which describes and claims a device that counts an individual's steps and, based on the length and rate of those steps, provides the individual with information such as distance traveled and speed. Fitbit, Inc. and Wahoo Fitness LLC each sought an inter partes review of claims 2, 5, and 6 of the '212 patent. The Patent Trial and Appeal Board of the Patent and Trademark Office instituted the requested reviews and consolidated the proceedings. The Board ultimately determined that Fitbit had proven claim 6 of the '212 patent unpatentable for obviousness but had not proven claims 2 and 5 unpatentable. *See FitBit, Inc. v. Blackbird Tech, LLC*, No. IPR2017-02012, 2019 WL 1118863 (P.T.A.B. Mar. 11, 2019). Blackbird appeals the Board's ruling on claim 6. We affirm.

I

A

The '212 patent describes purported improvements in a pedometer, *i.e.*, a device “for determining the distance a person travels on foot.” '212 patent, col. 1, lines 18–19. The basic components of the assertedly inventive pedometer are a step counter, a wearable receiver, and a data processor programmed to use the step count, as well as the stride length and the rate of steps, to derive information such as

distance traveled or speed. *See id.*, col. 2, line 15–23. The patent “recognizes the interdependency of stride length and stride rate” (how many steps per unit of time), *id.*, col. 2, lines 24–25, and provides for adjusting the stride length with new data—based on, *e.g.*, the wearer’s actual walking—to improve accuracy in calculating the figures of interest, such as distance or speed, *id.*, col. 2, at lines 25–26, 33–35.

For example, starting with an initially input “base stride length,” *id.*, col. 3, lines 56–64, the device can use a wearer’s actual walking to “correct[]” the base stride length to “arrive at an accurate Actual Stride Length,” *id.*, col. 4, lines 30–46. Once the walker’s “actual stride length is calculated for a given period of time, the value can be multiplied by the number of strides in that period to obtain a total distance for that period.” *Id.*, col. 6, lines 33–38. This total distance can then be used to calculate speed. *See id.*, col. 6, lines 43–45.

Claim 6, the only claim at issue here, recites:

6. A pedometer comprising:

a step counter;

a transmitter in communication with the step counter to generate a step count signal corresponding to each step and transmit the step count signal;

a receiver mountable on a user body portion to receive the step count signal transmitted from the transmitter; and

a data processor programmed to calculate a distance traveled by multiplying a number of steps counted by a stride length that varies according to a rate at which steps are taken, and further programmed to derive an actual stride

length from a range of stride lengths calculated from a range of corresponding stride rates.

*Id.*, col. 8, lines 5–19.

## B

In August 2017, Fitbit petitioned for an inter partes review of claims 2, 5, and 6 of the '212 patent. Fitbit argued that the claims are unpatentable on three grounds: *first*, claims 2 and 5 are anticipated by U.S. Patent No. 6,241,684 (Amano); *second*, claims 2 and 5 are unpatentable for obviousness over Amano; and *third*, claim 6 is unpatentable for obviousness over a combination of Amano and U.S. Patent No. 5,033,013 (Kato). In December 2017, Wahoo petitioned for an inter partes review of claims 2, 5, and 6, relying on the same grounds as Fitbit.

The Board instituted a review based on Fitbit's petition, though not on the first ground. The Board then instituted a review based on Wahoo's petition and joined Wahoo to the Fitbit proceeding. After the Supreme Court's decision in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018), the Board added the first ground to the proceedings.

In its final written decision, the Board determined that Fitbit had not proven claims 2 and 5 unpatentable but that Fitbit had proven claim 6 unpatentable for obviousness over a combination of Kato and Amano. *FitBit*, 2019 WL 1118863, at \*11–14. Blackbird timely appealed; Fitbit and Wahoo did not appeal. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

## II

On appeal, Blackbird limits its challenge to one point, contending that the Board erred in finding that Kato discloses claim 6's limitation "a data processor programmed to calculate a distance traveled by multiplying a number of steps counted by a stride length." Although we review the Board's determination of obviousness de novo, we review

its underlying factual findings for substantial evidence support, *Personal Web Technologies, LLC v. Apple, Inc.*, 848 F.3d 987, 991 (Fed. Cir. 2017), and “findings as to the scope and content of the prior art” are factual findings, *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1364 (Fed. Cir. 2015). Accordingly, we review the Board’s finding as to what Kato taught a relevant skilled artisan for whether it is supported by substantial evidence, *i.e.*, “whether a reasonable fact finder could have arrived at the agency’s decision” on the record as a whole. *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366 (Fed. Cir. 2016); *In re Gartside*, 203 F.3d 1305, 1312 (Fed. Cir. 2000).

Kato discloses a processing means that uses a walker’s stride length, along with the walker’s “pitch,” to determine the walker’s speed. When the walker’s foot hits the ground, a detector notifies the processing means of the contact. Kato, col. 3, line 67, through col. 4, line 3. Over a “predetermined unit of time,” the processing means counts the number of contacts received to obtain the walker’s “pitch,” *i.e.*, the walker’s step rate (number of steps per selected time unit). *Id.*, col. 4, lines 4–6; *see id.*, col. 4, line 16 (“PI is the pitch in number of steps every 10 seconds”). Because of a “predetermined empirical relationship” between the walker’s pitch, height, and stride length, Kato explains, obtaining the walker’s pitch also allows the processing means to calculate the walker’s stride length (which Kato just calls “stride”). *See id.*, col. 4, lines 7–10. Then, “the stride is multiplied by the pitch [] to obtain a walking speed of the walker in said unit of time.” *Id.*, col. 4, lines 50–51. Kato expresses this step in the form of a simple equation:

$$SP = ST \times PI$$

*Id.*, col. 4, line 27. In this equation, SP is “speed of walking,” ST is “stride in meters,” and PI is “pitch in number of steps every 10 seconds” (*i.e.*, steps/unit of time). *Id.*, col. 4, lines 17–19, 25–27.

Using the “same steps as in the method of measuring walking speed,” Kato discloses calculating the distance traveled by the walker over a given period of time by adding an extra step—“multiplying the walking speed by said unit of time.” *Id.*, col. 4, lines 59–68. Although Kato does not present this calculation in equation form, the equation form of those words is simply  $D = SP \times T$ , where  $D$  is distance in meters and  $T$  is the period of time in seconds. Because Kato has just explained that  $SP = ST \times PI$ , it is evident from Kato that:

$$D = ST \times PI \times T.$$

Substantial evidence supports the Board’s finding that a relevant skilled artisan would read Kato as teaching a “data processor programmed to calculate a distance traveled by multiplying a number of steps counted by a stride length.” As the Board noted, Kato’s equation for calculating distance can be expressed “in measurement terms: meters \* (steps/time) \* (time).” *FitBit*, 2019 WL 1118863, at \*11. That is directly supported by the above equation, because  $ST$  is the stride length in meters,  $PI$  is steps/time, and  $T$  is the period of time (for which the distance is being derived). Given that “[n]othing in Kato precludes the period of time and unit time from being the same,” the Board observed, the “period of time” in the numerator and the “unit time” in the denominator cancel out. *Id.* at \*12. In other words,  $D = ST \times \text{steps}$ . As a result, the Board explained, Kato’s method for calculating distance travelled can be expressed as simply “determining the number of steps and multiplying them by a stride length.” *Id.*

On appeal, Blackbird argues that the Board was obligated to explain why a relevant skilled artisan would have taken the steps of expressing pitch as “steps/time” and cancelling out the numerator-time with the denominator-time. According to Blackbird, the Board “worked backward, with knowledge of the claimed invention, to modify the Kato

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reference in such a way so as to arrive at the claimed invention.” Appellant’s Br. at 13.

But the Board’s conclusion of unpatentability did not rely on a modification of Kato’s equation—it relied on a finding that a relevant skilled artisan would consider Kato’s equation to teach claim 6’s limitation. To determine the “meaning of a prior art reference,” the Board must incorporate “the understanding of an artisan of ordinary skill.” *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1336 (Fed. Cir. 2008). Here, the Board determined that a relevant skilled artisan would be an engineer with either a master’s degree or multiple years of work experience. *Fit-Bit*, 2019 WL 1118863, at \*5. The Board could readily find that such a person would understand Kato’s teaching of a very simple multiplicative relationship to teach the form of that relationship that involves the elementary process of unit cancellation between numerator and denominator. Accordingly, the Board had a sufficient basis to find that a relevant artisan would have considered Kato’s method for calculating distance traveled to be identical to claim 6’s limitation.

### III

For the foregoing reasons, the Board’s decision is affirmed.

Costs awarded to appellees.

**AFFIRMED**