

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

2006-1573  
(Reexamination No. 90/005,117)

IN RE ICON HEALTH AND FITNESS, INC.

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Appealed from: United States Patent and Trademark Office, Board of Patent Appeals and Interferences

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DECIDED: August 1, 2007

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Before MAYER, SCHALL, and PROST, Circuit Judges.

PROST, Circuit Judge.

ICON Health & Fitness, Inc. ("Icon") appeals from a decision by the Board of Patent Appeals and Interferences ("Board") during reexamination of Icon's U.S. Patent No. 5,676,624 ("the '624 patent"). Ex parte ICON Health & Fitness, Reexam. No. 90/005,117, Appeal No. 2006-0790 (B.P.A.I. May 16, 2006) ("Board Decision"). Finding no error in the Board's decision, we affirm its decision holding Icon's claims unpatentable as obvious.

## BACKGROUND

Icon owns the '624 patent, issued October 14, 1997, and sought reexamination by the Patent and Trademark Office ("PTO"). The '624 patent claims a treadmill with a

folding base, allowing the base to swivel into an upright storage position. Claim 1, from which all other claims on appeal depend, recites:

1. A treadmill comprising:

support structure having a base for stably positioning on a support surface to be free standing and having upright structure extending upwardly from said base;

a tread base having a frame that includes a front, a rear, a left side, a right side and an endless belt positioned between said left side and said right side, said frame being connected to said support structure to be moveable about an axis of rotation spaced from said front toward said rear between a first position in which said endless belt is position[ed] for operation by a user positioned thereon and a second position in which said rear of said frame is positioned toward said support structure;

handle means associated with said support structure positioned for grasping by a user for moving said support structure with said tread base in said second position between a use position in which said support structure has said base positioned on said support surface for stably positioning said support structure on a support surface and a moving position in which said support structure is rotatably displaced from said use position;

roller means adapted to said base for engagement with said support surface when said support structure is reoriented to said moving position for movement of said support structure by the user on said support surface; and

a gas spring connected between the tread base and the upright structure to assist in stably retaining said tread base in said second position relative to said upright structure with said tread base in said second position.

(emphasis added).

The present dispute involves only the final limitation, requiring a gas spring “to assist in stably retaining” the tread base in the upright position. On reexamination, the examiner rejected Icon’s claims as obvious under 35 U.S.C. § 103, based on the combination of an advertisement by Damark International, Inc. (“Damark”) and U.S. Patent No. 4,370,766 to Teague, Jr. (“Teague”).

Damark consists of an advertisement for a folding treadmill; Icon does not challenge the Board's finding that Damark demonstrates all claim elements other than the gas spring. The present inquiry, therefore, focuses on Teague's disclosure of gas springs and the applicability of Teague to Icon's invention. Teague describes a bed that folds up into a cabinet or recess. It purports to improve on prior art counterbalancing mechanisms by using a novel dual-action spring rather than the prior single-action springs. Single-action springs provide a force pushing the bed closed at all times. Teague's dual-action spring, on the other hand, reverses its force as the mechanism passes a neutral position; the neutral position in Teague occurs when the center of gravity of the bed aligns vertically with the pivot point. As the bed moves past the neutral position to the closed position, the mechanism opposes continued motion. The bed moves into the closed position under the pull of gravity. When fully closed, therefore, the mechanism in Teague provides an opening force, but not one sufficient to counteract the force of gravity. Essentially, Teague's dual-action spring partially supports the weight of the bed in both the closed and open positions. This provides the benefit of reducing the force required to open the bed from the closed position, while still reducing the force required to lift the bed from the open position.

The Board affirmed the examiner's determination that the combination of Teague and Damark rendered claim 1 obvious. First, the Board rejected Icon's argument that Teague does not provide analogous art. Specifically, because Teague and the current application both address the need to stably retain a folding mechanism, the Board found Teague reasonably pertinent to the current application. Further, it found that discussion

of a lifting force in the present application paralleled Teague's mechanism for creating a lifting force.

Next, the Board looked to the broad scope of the appealed claims and held that Teague's teachings fell within that broad scope. In particular, because claim 1 "does not limit the degree or manner in which the gas spring 'assist[s] in stably retaining' the tread base at the storage position," the broad claim scope could encompass the solution provided by Teague. Board Decision, slip op. at 24. The Board criticized Icon's failure to provide any record evidence beyond attorney argument and thus read the claim as covering Teague's mechanism. Concluding, the Board held claims 1–3 and 10–12 obvious in light of Damark and Teague.

Because Icon did not dispute that an additional reference, U.S. Patent No. 4,913,396 to Dalebout et al. ("Dalebout"), disclosed all additional limitations in claims 4–9, the Board further affirmed the examiner's rejection of those claims as obvious. The Board, however, reversed the examiner's rejection of claim 13, rejecting the conclusion of obviousness.

Icon timely appealed to this court, challenging both the use of Teague as analogous art and the ultimate conclusion of obviousness. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4).

## DISCUSSION

Although based on determinations of underlying facts, which we review for substantial evidence, the ultimate conclusion of obviousness is a legal question, which we review de novo. In re Gartside, 203 F.3d 1305, 1316 (Fed. Cir. 2000). Underlying facts include the scope and content of the prior art, the level of ordinary skill in the art at

the time of the invention, objective evidence of nonobviousness, and differences between the prior art and the claimed subject matter. Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17–18 (1966). The Board’s determination that a prior art reference is analogous art also presents an issue of fact, reviewed for substantial evidence. See In re Paulsen, 30 F.3d 1475, 1481 (Fed. Cir. 1994).

I

We initially consider the proper claim meaning and scope. Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343, 1351 (Fed. Cir. 2001). Although neither the Board nor Icon specifically argues for any particular construction of the gas spring limitation, each party’s obviousness argument turns on the breadth of that limitation. During reexamination, as with original examination, the PTO must give claims their broadest reasonable construction consistent with the specification. In re Am. Acad. of Sci. Tech Ctr., 367 F.3d 1359, 1364 (Fed. Cir. 2004). Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation. As this court has discussed, this methodology produces claims with only justifiable breadth. In re Yamamoto, 740 F.2d 1569, 1571 (Fed. Cir. 1984). Further, as applicants may amend claims to narrow their scope, a broad construction during prosecution creates no unfairness to the applicant or patentee. Am. Acad., 367 F.3d at 1364.

The claims at issue recite “a gas spring . . . to assist in stably retaining said tread base.” As the Board noted, “claim 1 does not limit the degree or manner in which the gas spring” assists in stably retaining. Board Decision, slip op. at 24. Icon, without arguing for any particular construction, takes the position that the gas spring must

provide a force continuing to urge the mechanism closed when in the closed position. The specification of the '624 patent provides only minimal discussion of the gas springs. It describes a "lift assistance assembly," which in the illustrated embodiment includes a gas spring to provide force to at least partially support the weight of the tread base. '624 patent, col. 15, ll. 3–25. When claiming the gas spring, the application makes no reference to lift assistance, only stable retention of the tread base.

The specification provides little further regarding a definition of "stably retain." It describes the treadmill's folding action, such that the center of gravity of the tread base passes over the pivot point to "stably retain" the base. Id. at col. 12, ll. 30–34. Accordingly, gravity creates a stable closed position; the gas spring claimed must only "assist" in stably retaining the tread base. Because Icon could have amended its claims to more clearly define "stably retain" and did not do so, it now must submit to the Board's interpretation. With little guidance from the specification, the Board's construction properly represents the broadest reasonable construction. Although the Board did not set out the specific construction for Icon's claim, it did so to the extent required. Indeed, an infringement or invalidity analysis provides the context for claim construction. See Wilson Sporting Goods Co. v. Hillerich & Bradsby Co., 442 F.3d 1326–27 (Fed. Cir. 2006). We therefore analyze the Board's factual findings and conclusion of obviousness while considering that Icon's claims encompass everything reasonably seen to assist in stably retaining the tread base.

II

A

Icon disputes the Board's conclusion that one skilled in the art would have found it obvious to combine the teachings of Teague and Damark. As the first of its two major arguments on appeal, Icon argues that Teague falls outside the "treadmill art" and addresses a different problem than the present application, removing it from the relevant prior art. We agree that, describing a folding bed, Teague comes from a different field than Icon's application. We disagree, however, that Teague addresses a different problem.

If reasonably pertinent to the problem addressed by Icon, Teague may serve as analogous art. Paulsen, 30 F.3d at 1481. "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." In re Clay, 966 F.2d 656, 659 (Fed. Cir. 1992). In other words, "familiar items may have obvious uses beyond their primary purposes." KSR Int'l Co. v. Teleflex, Inc., 127 S. Ct. 1727, 1742 (2007). We therefore have concluded, for example, that an inventor considering a hinge and latch mechanism for portable computers would naturally look to references employing other "housings, hinges, latches, springs, etc.," which in that case came from areas such as "a desktop telephone directory, a piano lid, a kitchen cabinet, a washing machine cabinet, a wooden furniture cabinet, or a two-part housing for storing audio cassettes." Paulsen, 30 F.3d at 1481–82.

Icon's invention provides a treadmill with a folding mechanism and a means for retaining that mechanism in the folded position. The application specifically discusses the gas spring as part of a "lift assistance assembly . . . to apply a force or torque urging the tread base" towards the closed position. '624 patent, col. 15, ll. 3–5. Nothing about Icon's folding mechanism requires any particular focus on treadmills; it generally addresses problems of supporting the weight of such a mechanism and providing a stable resting position. Analogous art to Icon's application, when considering the folding mechanism and gas spring limitation, may come from any area describing hinges, springs, latches, counterweights, or other similar mechanisms—such as the folding bed in Teague. Accordingly, we conclude that substantial evidence supports the Board's finding that Teague provides analogous art.

## B

Several factors support the Board's conclusion of obviousness. When analyzing Icon's application, we consider a variety of sources that may have led one skilled in the art to combine the teachings of Damark and Teague. Indeed, "any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." KSR, 127 S. Ct. at 1742.

First, Teague discusses prior art, single-action coil springs that always push the bed towards the closed position. As Teague recites, in those beds, "the coil springs also exert forces holding the bed in the fully closed position." Teague, col. 1, ll. 51–55. Such springs, in this application, would produce a force always urging the tread base towards the closed position—exactly the type of mechanism that Icon argues its claims

require. While the passage concerns coil springs rather than gas springs, Teague explicitly discusses the interchangeability of gas springs and coil springs. Teague, col. 3, ll. 61–65. Therefore, Teague provides an example of a mechanism clearly satisfying Icon's claim limitation.

Next, Icon's application discusses the gas spring in connection with a "lift assistance assembly." '624 patent, col. 15, ll. 3–25. Similarly, Teague is directed at a "counterbalancing mechanism," intended to support the weight of a bed as it opens and closes. Teague, col. 1, ll. 5–34. One skilled in the art would naturally look to prior art addressing the same problem as the invention at hand, and in this case would find an appropriate solution. Indeed, while perhaps not dispositive of the issue, the finding that Teague, by addressing a similar problem, provides analogous art to Icon's application goes a long way towards demonstrating a reason to combine the two references. Because Icon's broad claims read on embodiments addressing that problem as described by Teague, the prior art here indicates a reason to incorporate its teachings.

Finally, Teague provides a mechanism such that the bed "has two stable rest positions." Teague, col. 1, ll. 35–38. It describes, "as the center of gravity of the bed passes over the pivot axis . . . gravity tends to hold the bed in its fully closed position." Teague, col. 1, ll. 47–51. When folding the treadmill described in Icon's application, "[t]he tread base 434 is rotated until the center of gravity 440 is displaced clockwise past the vertical 446 a distance 448 selected to stably retain the tread base 434 in the second position." '624 patent, col. 12, ll. 29–32. The striking similarity between Icon's application and Teague clearly illustrates the similarity of problems they address and

solutions to that problem, further supporting the idea that one skilled in the art would combine Teague with Damark.

The aforementioned connections between Teague and Icon's application provide a sufficient basis to conclude that one skilled in the art would combine the teachings of Teague and Damark. Icon, however, argues that, rather than directing one skilled in the art towards Icon's claims, Teague teaches away from Icon's invention. Icon's teaching away argument takes two forms: (1) that Teague specifically directs one skilled in the art not to use single-action springs; and (2) that Teague does not satisfy the claim limitations, i.e., that the dual-action springs it teaches would render Icon's invention inoperable. We reject this argument.

"A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994); see KSR, 127 S. Ct. at 1739–40 (explaining that when the prior art teaches away from a combination, that combination is more likely to be nonobvious). Additionally, a reference may teach away from a use when that use would render the result inoperable. McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1354 (Fed. Cir. 2001).

Contrary to Icon's argument, the passage in Teague describing single-action springs does not indicate the undesirability of those springs for Icon's application. At most, Teague only teaches away from single-action springs in the context of decreasing the opening force. Icon argues that the gas spring limitation in its application must increase the opening force provided by gravity. As Icon recognizes, Teague instructs

that single-action springs provide exactly that result. Indeed, “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” KSR, 127 S. Ct. at 1739. Accordingly, Teague does not teach away from using single-action springs in Icon’s invention.

Icon next asserts that the dual-action mechanism disclosed in Teague provides exactly the wrong type of force for Icon’s purpose, rendering the combination inoperable. As we have discussed, Icon’s argument may have carried some weight with more narrow claims, which it could have obtained by amendment. But faced with broad claims encompassing anything that assists in stably retaining the tread base, we reject Icon’s argument. While Icon’s claim would also read on a mechanism providing a consistent closing force (a single-action spring), one skilled in the art could view the Teague mechanism (a dual-action spring) as assisting in stably retaining the tread base, just as it creates a stable rest position for the bed in Teague. See Teague, col. 1, ll. 35–38 (describing the invention as “an improved counterbalance mechanism in combination with a bed, whereby the bed has two stable rest positions”).

Finally, Icon argues that the counterweight mechanism from Teague uses a large spring that would overpower Icon’s treadmill mechanism, thus producing a result inoperable for its intended purpose. Icon correctly states the principle that a reference teaches away from a combination when using it in that combination would produce an inoperative result. See McGinley, 262 F.3d at 1354. But we do not ignore the modifications that one skilled in the art would make to a device borrowed from the prior art. Optivus Tech., Inc. v. Ion Beam Applications, S.A., 469 F.3d 978, 989–90 (Fed. Cir.

2006). One skilled in the art would size the components from Teague appropriately for Icon's application, therefore producing an embodiment meeting Icon's claims.

Therefore, Icon's arguments fail to convince us that Teague teaches away from Icon's claims. Teague discloses two types of mechanism that would satisfy Icon's gas spring limitation, and does not indicate the undesirability or unsuitability of either mechanism for Icon's purpose. To the contrary, one skilled in the art would naturally look to Damark and Teague, finding reason to combine them; forming that combination would produce a device meeting all of Icon's claim limitations.

#### CONCLUSION

Because we find no error in the Board's factual finding or legal conclusions, we affirm its decision holding claims 1–3 and 10–12 unpatentable as obvious in light of Damark and Teague, and claims 4–9 unpatentable in light of Damark, Teague, and Dalebout.

AFFIRMED