

United States Court of Appeals  
for the Federal Circuit

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ZUP, LLC,  
*Plaintiff-Appellant*

v.

NASH MANUFACTURING, INC.,  
*Defendant-Appellee*

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2017-1601

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Appeal from the United States District Court for the Eastern District of Virginia in No. 3:16-cv-00125-HEH, Judge Henry E. Hudson.

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Decided: July 25, 2018

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MATTHEW MICHAEL WAWRZYN, Wawrzyn & Jarvis LLC, Glenview, IL, argued for plaintiff-appellant.

JOSEPH F. CLEVELAND, JR., Brackett & Ellis, Fort Worth, TX, argued for defendant-appellee.

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Before PROST, *Chief Judge*, NEWMAN and LOURIE,  
*Circuit Judges*.

Opinion for the court filed by *Chief Judge* PROST.

Dissenting opinion filed by *Circuit Judge* NEWMAN.

PROST, *Chief Judge*.

Appellant ZUP, LLC (“ZUP”) appeals the decision of the United States District Court for the Eastern District of Virginia, which granted summary judgment in favor of Appellee Nash Manufacturing, Inc. (“Nash”). The district court invalidated claims 1 and 9 of U.S. Patent No. 8,292,681 (“the ’681 patent”) as obvious and, in the alternative, held that Nash does not infringe claim 9. We affirm the district court’s holding that claims 1 and 9 are invalid as obvious and do not reach the infringement question.

## I

ZUP and Nash are competitors in the water recreational device industry. Nash has been a part of the industry for over fifty years and has designed and manufactured water skis, knee boards, wake boards, and other similar recreational devices. Meanwhile, ZUP is a relative newcomer to the industry, having entered the market in 2012 with its “ZUP Board.” The ZUP Board is designed to assist riders who have difficulty pulling themselves up out of the water into a standing position while being towed behind a motorboat.

## A

ZUP owns the ’681 patent, which includes twelve claims. Generally, the claims of the ’681 patent cover a water recreational board and a method of riding such a board in which a rider simultaneously uses side-by-side handles and side-by-side foot bindings to help maneuver between various riding positions. According to the patent, this allows a rider to more readily move from lying prone, to kneeling, to crouching, and then to standing.

Claims 1 and 9 of the '681 patent are at issue in this case. Claim 1 states:

1. A water recreation device comprising:
    - a riding board having a top surface, a bottom surface, a front section, a middle section, and a rear section;
    - a tow hook disposed on the front section of the riding board;
    - first and second handles disposed side-by-side on the front section of the top surface of the riding board aft of the tow hook;
    - first and second foot bindings disposed side-by-side on the middle section of the top surface of the riding board aft of the first and second handles; and
    - a plurality of rails protruding from the bottom surface of the riding board and extending substantially the full length of the riding board;
- wherein the tow hook includes a rearward-facing concave section sized to receive a tow rope bar and positioned to allow the riding board to be pulled in a forward direction by a tow rope attached to the tow rope bar,
- wherein the first and second handles and the first and second foot bindings are configured for simultaneous engagement by a rider to position the rider in a crouching stance facing in a forward direction,
- wherein the plurality of rails are disposed relative to a longitudinal axis along the bottom surface of the riding board, the longitudinal axis projecting rearwardly from a reference location substantially central to the front section, and each of the plurality of rails is laterally spaced closer to the longitudinal axis nearest the rear section of the riding board

than the each of the plurality of rails is laterally spaced from the longitudinal axis nearest the front section of the riding board thereby allowing the water that moves across the bottom surface nearest the front section of the riding board to funnel towards the bottom surface nearest the rear section of the riding board for the purpose of generating lift force against the bottom surface of the riding board.

'681 patent, claim 1. Likewise, claim 9 states:

9. A method of riding a water recreation device on a body of water comprising:

placing a water recreation device into a body of water, the water recreation device comprising:  
a riding board having a top surface, a bottom surface, a front section, a middle section, and a rear section;

a tow hook disposed on the front section of the riding board;

first and second handles disposed side-by-side on the front section of the top surface of the riding board aft of the tow hook; and

first and second foot bindings disposed side-by-side on the middle section of the top surface of the riding board aft of the first and second handles;

attaching a tow rope to said tow hook, said tow rope also attached to a water vehicle;

grasping the first and second handles of the water recreation device to establish a prone start position by a rider;

maintaining said prone start position by the rider until the riding board has achieved a substantially parallel position relative to the surface of the water;

achieving a kneeling position by the rider by placing both knees on the top surface of the riding board;

achieving a crouching position by the rider by placing a first foot into the first foot binding and then placing a second foot into the second foot binding;

grasping the tow rope by the rider by releasing the first and second handles;

removing the tow rope from the tow hook by the rider;

standing on the riding board by the rider while continuing to grasp the tow rope.

'681 patent, claim 9.

In sum, claims 1 and 9 contain the following elements: (1) a riding board; (2) a tow hook on the front of the riding board; (3) a plurality of rails on the bottom surface of the riding board; (4) side-by-side handles on the front of the riding board; (5) side-by-side foot bindings on the middle of the riding board; and, at least as stated in claim 1, (6) the ability to simultaneously engage the handles and foot bindings to position the rider in a crouching stance.

## B

In 2013, ZUP and Nash began discussions about a potential joint manufacturing venture for the ZUP Board. Their negotiations eventually fell through, and Nash brought the accused product, the “Versa Board,” to market in May 2014.

Like the ZUP Board, the Versa Board has a tow hook on the front section of the board. Unlike the ZUP Board, however, the Versa Board has several holes on the top surface of the board that allow users to attach handles or foot bindings in various configurations. *See* J.A. 427–29. Although Nash warns against having the handles attached to the board while standing, *see* J.A. 430 ¶¶ 22–23,

a user could theoretically ignore Nash's warnings and attach the handles and foot bindings in a configuration that mirrors the configuration of the ZUP Board, *see* J.A. 139.

After seeing the Versa Board displayed at a surf expo in 2014, Glen Duff, ZUP's Chief Innovative Officer and inventor of the '681 patent, approached Keith Parten, Nash's president, to express concern that the Versa Board infringed the '681 patent. After another failed attempt to secure a partnership with Nash, ZUP turned to litigation.

In its complaint, ZUP alleged: (1) contributory infringement of the '681 patent; (2) induced infringement of the '681 patent; (3) trade secret misappropriation under the Virginia Uniform Trade Secrets Act; and (4) breach of contract. Nash counterclaimed, seeking declaratory relief as to non-infringement and invalidity.

The district court granted Nash's summary judgment motion with respect to invalidity, thus rendering the infringement claims moot. Specifically, the district court held claim 1 obvious over U.S. Patent No. 5,163,860 ("Clark") in view of U.S. Patent No. 6,306,000 ("Parten '000"); U.S. Patent No. 7,530,872 ("Parten '872"); U.S. Patent No. 5,979,351 ("Fleischman"); U.S. Patent No. 5,797,779 ("Stewart"); and U.S. Patent No. 6,585,549 ("Fryar"). *ZUP, LLC v. Nash Mfg., Inc.*, 229 F. Supp. 3d 430, 446 (E.D. Va. 2017). The district court also held claim 9 obvious over Clark in view of Parten '000, Stewart, and U.S. Patent No. 4,678,444 ("Monreal"). *Id.* at 447.

Although the district court recognized that its invalidity decision rendered ZUP's contributory and induced infringement claims moot, *id.* at 450, it nonetheless conducted an alternative analysis, stating that it would have granted Nash's summary judgment motion with respect to non-infringement of claim 9, *id.* at 450–55. Finally, the district court granted summary judgment in

Nash's favor with respect to the non-patent claims. *Id.* at 455–56.

ZUP timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

## II

We review a grant of summary judgment under the law of the regional circuit. *Memorylink Corp. v. Motorola Sols., Inc.*, 773 F.3d 1266, 1270 (Fed. Cir. 2014). The Fourth Circuit reviews a grant of summary judgment de novo, using the same standard applied by the district court. *Gallagher v. Reliance Standard Life Ins. Co.*, 305 F.3d 264, 268 (4th Cir. 2002), *as amended* (Oct. 24, 2002). Disposition of a case on summary judgment is appropriate “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a).

Depending on the record in a particular case, “summary judgment of invalidity for obviousness may be appropriate.” *Intercont’l Great Brands LLC v. Kellogg N. Am. Co.*, 869 F.3d 1336, 1344 (Fed. Cir. 2017). In particular, where “the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007).

## A

The primary issue in this case is whether claims 1 and 9 of the ’681 patent are invalid as obvious under 35 U.S.C. § 103(a).<sup>1</sup> Although the “ultimate judgment of

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<sup>1</sup> Section 103 has since been amended. *See Leahy Smith America Invents Act*, Pub. L. No. 112-29, sec. 3(c), § 103, 125 Stat. 284, 287 (2011) (“AIA”). Because the

obviousness is a legal determination,” *KSR*, 550 U.S. at 427, it is based on underlying factual inquiries, including (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) any secondary considerations of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Likewise, whether one of skill in the art would have had a motivation to combine pieces of prior art in the way claimed by the patent is also a factual determination. *Intercont’l Great Brands*, 869 F.3d at 1343.

Here, there appears to be no dispute with respect to the content of the prior art or the differences between the prior art and the ’681 patent. And, the parties agree that the relevant level of skill in the art is “a person with at least 3–5 years’ experience in the design and manufacture of water recreational devices or [who has] a bachelor’s degree in mechanical engineering.” *ZUP*, 229 F. Supp. 3d at 438; Appellant’s Br. 13. The only issues raised on appeal pertain to (1) whether a person of ordinary skill in the art would have been motivated to combine the prior art references in the way claimed in the ’681 patent, and (2) whether the district court properly evaluated ZUP’s evidence of secondary considerations.

## 1

A “motivation to combine may be found explicitly or implicitly in market forces; design incentives; the ‘interrelated teachings of multiple patents’; ‘any need or problem known in the field of endeavor at the time of invention

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application that led to the ’681 patent was filed before March 16, 2013, pre-AIA § 103(a) applies. *See id.* sec. 3(n)(1), 125 Stat. at 293; *Redline Detection, LLC v. Star Envirotech, Inc.*, 811 F.3d 435, 449 n.7 (Fed. Cir. 2015).

and addressed by the patent'; and the background knowledge, creativity, and common sense of the person of ordinary skill." *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013) (citing *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328 (Fed. Cir. 2009) (quoting *KSR*, 550 U.S. at 418–21)).

The district court first found that all the elements of the claimed invention existed in the prior art. Specifically, the district court pointed to earlier patents on water recreational boards that included the same elements used in the '681 patent: a riding board, a tow hook, handles, foot bindings, and a plurality of rails on the bottom surface of the riding board. *ZUP*, 229 F. Supp. 3d at 446–47. From this, the district court explained that the '681 patent "identifie[s] known elements in the prior art that aided in rider stability while engaging a water recreational device and simply combined them in one apparatus and method." *Id.* at 447. The district court then concluded that one of ordinary skill in the art would have been motivated to combine the various elements from the prior art references, noting that such motivation would have stemmed from a desire "to aid in rider stability, to allow a wide variety of users to enjoy the device, and to aid users in maneuvering between positions on a water board"—all motivations that were "a driving force throughout the prior art and have been shared by many inventors in the water recreational device industry." *Id.*

The record evidence supports the district court's analysis. Although *ZUP* contends that a person of skill in the art would have been focused on achieving rider stability in a *predetermined* riding position, the evidence contradicts this assertion. Helping riders switch between riding positions had long been a goal of the prior art. *See Clark* at 1:25–34 (describing the difficulty of maneuvering from a prone position to a kneeling position and lessening this difficulty by eliminating the need for the rider to hold the tow rope while moving to a kneeling position); *id.* at 1:40–

45 (“As the towing speed increases, the user may either remain prone, pull himself into a kneeling position, or rise to a standing position without worrying about holding the tow rope.”); *see also* Parten ’000 at 2:53–54 (describing a rider changing from prone, to kneeling, to sitting, to standing); Parten ’872 at 3:52–58 (“The present invention . . . increases the likelihood that a young, weak or otherwise inexperienced rider of the aquatic recreational device will achieve proper body positioning on the aquatic recreational device.”). And the only evidence ZUP points us to is the testimony of its expert, noting the “general frustration to the industry that there was no product that would enable the weakest and most athletically challenged members of the boating community to ski or wakeboard.” Reply Br. 4 (citing J.A. 414 ¶ 15).

The prior art accomplished this goal of helping riders maneuver between positions by focusing on rider stability. Indeed, ZUP even admits that achieving rider stability is an “age-old motivation in this field.” Appellant’s Br. 22. Such stability was enhanced in the prior art through the same components employed in the ’681 patent: tow hooks, handles, foot bindings, and other similar features. *See* Fleischman at 2:45–46 (describing handles that “allow the riders to hang on while being towed”); *id.* at fig. 1 (depicting side-by-side handles on the front section of a water sled); U.S. Patent No. 5,083,955 (“Echols”) at 1:39–40 (describing “a pair of stirrups for the rider’s feet”); *id.* at fig. 1 (depicting foot bindings); Clark at 2:30–34 (describing how a rider may hold a leash attached to the riding board to aid in rider stability); Stewart at 2:57–63 (describing a “palm grip which provides a rider handhold” to increase stability).

In the face of the significant evidence presented by Nash regarding the consistent desire for riders to change positions while riding water recreational boards (and the need to maintain stability while doing so), and given that the elements of the ’681 patent were used in the prior art

for this very purpose, there is no genuine dispute as to the existence of a motivation to combine.<sup>2</sup>

## 2

ZUP’s second argument on appeal relates to the district court’s analysis of ZUP’s evidence of secondary considerations. Secondary considerations “help inoculate the obviousness analysis against hindsight.” *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1378 (Fed. Cir. 2012); *see also Graham*, 383 U.S. at 36. As explained below, however, ZUP’s minimal evidence of secondary considerations does not create a genuine dispute of fact sufficient to withstand summary judgment on the question of obviousness.

ZUP contends that the district court improperly shifted the burden to prove non-obviousness to ZUP, stating that “the District Court could not possibly find an absence of material fact when Nash—the challenger with the burden of proof—introduced no evidence [as to secondary considerations] and ZUP submitted two affidavits demonstrating secondary considerations.” Reply Br. 5; *see also* Appellant’s Br. 23–25.

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<sup>2</sup> To the extent ZUP argues that the prior art references do not teach or suggest combining the various stability components for *simultaneous* use, this is unavailing. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421. Given the consistent focus on rider stability in this industry, it would have been obvious to one of skill in the art to have a rider use both the handles and the foot bindings at the same time while maneuvering between riding positions. This is simply “the predictable use of prior art elements according to their established functions.” *Id.* at 417.

Any concerns regarding improper burden allocation can be quickly dismissed. Our precedent is clear that “the burden of persuasion remains with the challenger during litigation because every issued patent is entitled to a presumption of validity.” *Novo Nordisk A/S v. Caraco Pharm. Labs., Ltd.*, 719 F.3d 1346, 1353 (Fed. Cir. 2013). While this burden of persuasion remains with the challenger, a patentee bears the burden of production with respect to evidence of secondary considerations of non-obviousness. *Id.* Here, the district court adhered to our precedent in analyzing the evidence presented. Although ZUP takes issue with the court’s statement that “ZUP has failed to establish either that a long-felt but unresolved need existed in the water recreational device industry or that its product somehow solved any such need,” *see* Appellant’s Br. 23–24 (quoting *ZUP*, 229 F. Supp. 3d at 449), the district court was merely referring to the burden of production with respect to such evidence, *see, e.g., ZUP*, 229 F. Supp. 3d at 449 (finding “that ZUP has provided no evidence apart from conclusory statements made by its expert that any long-felt but unresolved need existed in the industry”; “that ZUP has failed to provide any evidence that others in the industry attempted and failed to make a board with stabilizing features”; and that “ZUP has provided no evidence that Nash attempted to independently create the device described in the ’681 patent and failed”); *see also Prometheus Labs., Inc. v. Roxane Labs., Inc.*, 805 F.3d 1092, 1102 (Fed. Cir. 2015) (rejecting the same argument based on similar language in a district court opinion where we were persuaded that the district court had merely been referring to the patent owner’s burden of production). It is clear that the district court kept the ultimate burden of persuasion on the patent challenger throughout the obviousness analysis. Any argument that the district court improperly shifted the burden is therefore without merit.

ZUP's argument also suggests that summary judgment could not be granted based on the record evidence. This argument is similarly unavailing.

Obviousness is ultimately a legal determination, and a strong showing of obviousness may stand "even in the face of considerable evidence of secondary considerations." *Rothman v. Target Corp.*, 556 F.3d 1310, 1322 (Fed. Cir. 2009); *see also Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472 (Fed. Cir. 1997) ("In reaching an obviousness determination, a trial court may conclude that a patent claim [was] obvious, even in the light of strong objective evidence tending to show non-obviousness.").

Before the district court, ZUP presented evidence of three secondary considerations: long-felt but unresolved need; copying; and commercial success. On appeal, ZUP focuses only on long-felt but unresolved need and copying. *See* Appellant's Br. 24–25. Accordingly, we do not address any evidence of commercial success.

With respect to long-felt but unresolved need, ZUP proffered testimony from its expert, James Emmons, stating that "[f]or over 50 years, advances in the water-sports market focused on creating stability for a rider strictly within one of the three segments (tubing, knee-boarding, or skiing/wakeboarding)" and that "it was a general frustration to the industry that there was no product that would enable the weakest and most athletically challenged members of the boating community to ski or wakeboard." Appellant's Br. 24 (citing J.A. 414 ¶¶ 15–16). ZUP contends that it then corroborated this testimony with Nash's "enthusiastic acceptance" of the ZUP Board, pointing to a statement by Nash's president, Mr.

Parten.<sup>3</sup> Appellant’s Br. 24. During an initial phone conference in 2014, Mr. Parten complimented the ZUP Board, telling ZUP: “You have a great product by the way!” J.A. 139 ¶ 23. Further, after Mr. Duff explained his goal to market the ZUP Board to “Wally Weekender,” Mr. Parten agreed, stating: “Think you are spot on with Wally Weekender. Same guy that rides a kneeboard and tube. Want to be able to do it the first time every time.” J.A. 139 ¶ 23. In ZUP’s view, Mr. Parten’s positive response to the ZUP Board demonstrates the existence of a long-felt but unresolved need for a water recreation device that eases the process of achieving a standing position.

As we have said before, “[w]here the differences between the prior art and the claimed invention are as minimal as they are here, however, it cannot be said that any long-felt need was unsolved.” *Geo. M. Martin Co. v. All. Mach. Sys. Int’l LLC*, 618 F.3d 1294, 1304–05 (Fed. Cir. 2010). That is true here, where the differences between the claimed invention and the prior art are minimal. Moreover, the record evidence indicates that the claimed invention was not the first to achieve the goal of helping users maneuver between positions on a water recreational board. *See id.* (noting that the alleged unresolved need had been met by prior art devices); *see also* Clark at 1:25–34 (describing the difficulty of maneuvering from a prone position to a kneeling position and lessening this difficulty by eliminating the need for the rider to hold the tow rope while moving to a kneeling position); *id.* at 1:40–45 (“As the towing speed increases, the user may either remain prone, pull himself into a kneeling position, or rise to a standing position without worrying about holding the tow rope.”).

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<sup>3</sup> Mr. Parten is the named inventor on several patents, including two of the prior art references relevant to this appeal—Parten ’000 and Parten ’872.

ZUP presented even less compelling evidence of copying. See J.A. 139–40 (Emmons Decl.); J.A. 417 ¶¶ 6–7 (Duff Decl.). “Our case law holds that copying requires evidence of efforts to replicate a specific product, which may be demonstrated through internal company documents, direct evidence such as disassembling a patented prototype, photographing its features, and using the photograph as a blueprint to build a replica, or access to the patented product combined with substantial similarity to the patented product.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010). Nash did obtain a sample product from ZUP during the parties’ initial business discussions. J.A. 419 ¶ 5 (Parten Decl.). But, the evidence ZUP points us to suggests that, for Nash’s Versa Board to resemble the claimed invention, a user would need to ignore Nash’s instructions on how to use the Versa Board—instructions that specifically discourage users from keeping the handles attached to the board while standing. See Appellant’s Br. 25 (emphasizing the district court’s statement that “it is feasible for a user to ignore [Nash’s] instructions and attach both the handles and the foot bindings in a configuration that is nearly identical to the ZUP Board”); see also J.A. 139.

In sum, we agree with the district court’s assessment of the summary judgment record. Even drawing all reasonable inferences in favor of ZUP, such evidence is insufficient to withstand summary judgment on the question of obviousness. The weak evidence of secondary considerations presented here simply cannot overcome the strong showing of obviousness. See *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1344 (Fed. Cir. 2013) (“[W]here a claimed invention represents no more than the predictable use of prior art elements according to established functions, as here, evidence of secondary indicia are frequently deemed inadequate to establish non-obviousness.”).

We have considered ZUP's remaining arguments and find them unpersuasive. As such, we hold that summary judgment as to obviousness is appropriate on this record.

### B

ZUP also appeals the district court's alternative holding that Nash does not infringe claim 9 of the '681 patent. Because this court affirms the district court's holding of invalidity, we do not address the district court's alternative holding as to non-infringement.

### III

For the foregoing reasons, this court affirms the district court's holding that claims 1 and 9 of the '681 patent are invalid as obvious.

**AFFIRMED**

# United States Court of Appeals for the Federal Circuit

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ZUP, LLC,  
*Plaintiff-Appellant*

v.

NASH MANUFACTURING, INC.,  
*Defendant-Appellee*

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2017-1601

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Appeal from the United States District Court for the Eastern District of Virginia in No. 3:16-cv-00125-HEH, Judge Henry E. Hudson.

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NEWMAN, *Circuit Judge*, dissenting.

A wakeboard is not a complicated device, but its enjoyment in water sports has long challenged weak and inexperienced riders attempting to stand up on a fast-moving board while bouncing on wake.<sup>1</sup> Sportsman Glen Duff knew the problem and, after four years of experimentation, he devised a wakeboard that facilitated usage

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<sup>1</sup> A wakeboard is “a short board with foot bindings on which a rider is towed by a motorboat across its wake and especially up off the crest for aerial maneuvers.” Merriam-Webster dictionary online.

regardless of a rider's strength or athleticism. He obtained U.S. Patent No. 8,292,681 ("the '681 Patent"), assigned to ZUP, LLC. Mr. Duff exhibited his "ZUP Board" at the Surf Expo, a trade show for the water sports industry. Thereafter ZUP and Keith Parten, President and CEO of Nash Manufacturing, Inc. ("Nash"), a leading producer of water sports equipment including wakeboards, discussed a possible commercial arrangement. Parten told Duff: "You have a great product by the way!" Maj. Op. at 14. However, commercial discussions broke down, and soon thereafter Nash introduced a similar wakeboard, the "Versa Board," the product that is charged with infringement.

The district court granted summary judgment of patent invalidity, and alternatively summary judgment of non-infringement. There was no trial. My colleagues affirm the judgment of invalidity, and do not reach infringement. These rulings, however, were rendered on incorrect application of the law of obviousness and without regard to the principles of summary judgment.

I respectfully dissent.

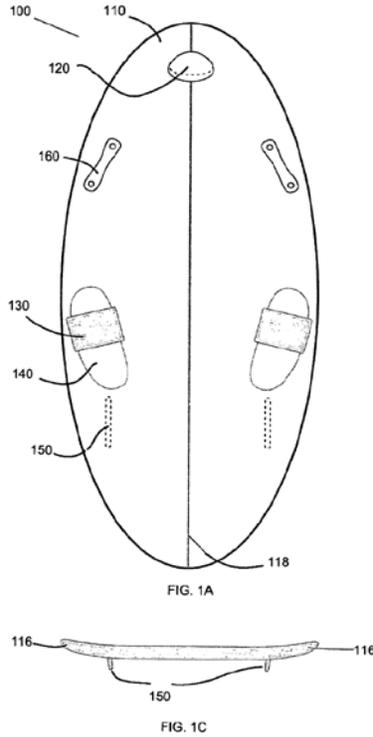
#### DISCUSSION

#### **ZUP's U.S. Patent No. 8,292,681**

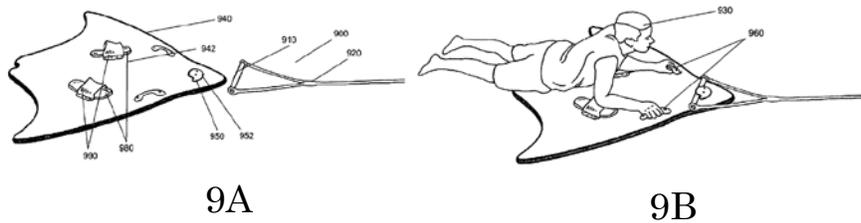
The '681 Patent, in its Abstract, describes the ZUP Board as

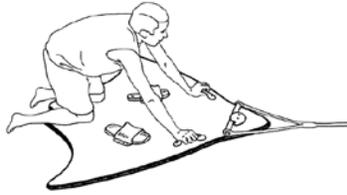
having advantages such as improved stability, maneuverability and ease of use. Embodiments of the contemplated water recreation device include a riding board, handles and a tow hook assembly that are configured to allow a rider to more easily transition to a standing forward-facing position while riding the device. The contemplated device may also include foot bindings or foot grips for added ride stability.

'681 Patent, Abstract. Patent Figures 1A and 1C describe this new wakeboard's top and underside:



Patent Figures 9A–H illustrate the method of use of the wakeboard; showing the handles, foot grips, and tow hook, whereby the rider rises from a prone to a standing position with the assistance of these elements:





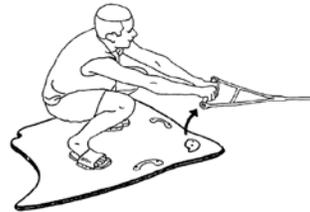
9C



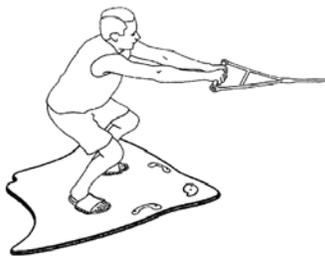
9D



9E



9F



9G



9H

Claims 1 and 9 are representative, with claim 1 directed to the wakeboard's structure and claim 9 to the method of use. Claim 1 recites:

1. A water recreation device comprising:
  - a riding board having a top surface, a bottom surface, a front section, a middle section, and a rear section;
  - a tow hook disposed on the front section of the riding board;

first and second handles disposed side-by-side on the front section of the top surface of the riding board aft of the tow hook;

first and second foot bindings disposed side-by-side on the middle section of the top surface of the riding board aft of the first and second handles; and

a plurality of rails protruding from the bottom surface of the riding board and extending substantially the full length of the riding board;

wherein the tow hook includes a rearward-facing concave section sized to receive a tow rope bar and positioned to allow the riding board to be pulled in a forward direction by a tow rope attached to the tow rope bar,

wherein the first and second handles and the first and second foot bindings are configured for simultaneous engagement by a rider to position the rider in a crouching stance facing in a forward direction,

wherein the plurality of rails are disposed relative to a longitudinal axis along the bottom surface of the riding board, the longitudinal axis projecting rearwardly from a reference location substantially central to the front section, and each of the plurality of rails is laterally spaced closer to the longitudinal axis nearest the rear section of the riding board than the each of the plurality of rails is laterally spaced from the longitudinal axis nearest the front section of the riding board thereby allowing the water that moves across the

bottom surface nearest the front section of the riding board to funnel towards the bottom surface nearest the rear section of the riding board for the purpose of generating lift force against the bottom surface of the riding board.

The parties, the district court, and my colleagues all agree that the structure and the placement of handles and foot bindings is novel. However, the district court and my colleagues hold that because some prior art wakeboards have handles and some have foot supports, nothing more is needed for summary judgment of obviousness. The district court stated:

It is evident to the Court that Duff identified known elements in the prior art that aided in rider stability while engaging a water recreational device and simply combined them in one apparatus and method. The elements in Claim 1 and 9 are used for the exact same purpose as they were in the prior art and, as expected, lead to the anticipated success of assisting riders in reaching a standing position.

*ZUP, LLC v. Nash Mfg., Inc.*, 229 F. Supp. 3d 430, 447 (E.D. Va. 2017) (“Dist. Ct. Op.”). However, only Duff achieved the district court’s “anticipated success.” The criteria for summary judgment of obviousness are not met, as I next discuss:

### **The district court’s judgment**

Summary judgment of patent invalidity requires that all reasonable factual allegations are resolved in favor of the non-movant, *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1323 (Fed. Cir. 2002) (citing *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986)), and that when so resolved, there is clear and convincing evidence that the patented invention would have been obvious to a

person of ordinary skill. *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011). The district court strayed from these long-recognized rules.

Although the prior art is close, the novelty of the '681 Patent's wakeboard is not disputed. On the issue of obviousness, my colleagues apply an incorrect analysis of the standard factual considerations, as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The four *Graham* factors are: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the field of the invention; and (4) objective considerations of obviousness. *Id.* at 17–18; see also *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 399 (2007) (reaffirming the four *Graham* factors).

My colleagues hold that only three of the four *Graham* factors are considered in order to establish a *prima facie* case of obviousness, and that the fourth *Graham* factor is applied only in rebuttal, whereby the fourth factor must be of sufficient weight to outweigh and thereby rebut the first three factors. Maj. Op. at 15. However, as stated in *Apple Inc. v. Samsung Electronics Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc), “determination of whether a patent claim is invalid as obvious under § 103 requires consideration of all four *Graham* factors, and it is error to reach a conclusion of obviousness until all those factors are considered.” The Court in *Graham* explored the interaction among the four factors, and explained how each may affect judicial understanding of the others. The Court recognized that the fourth factor, the objective indicia, are “more susceptible of judicial treatment than are the highly technical facts often present in patent litigation,” and that such indicia “may lend a helping hand to the judiciary.” *Graham*, 383 U.S. at 35–36. In *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1539 (Fed. Cir. 1983), this court observed that the “so-called secondary considerations . . . may often be the most probative and cogent evidence in the record,” for they

place the invention in the context in which it arose, and aid judges in understanding obviousness of the invention as perceived by persons in the relevant field.

A ruling of invalidity on the ground of obviousness requires more than that the claim elements were previously known. As the Court instructs in *KSR*:

[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.

*Id.* at 418–19. However, my colleagues apply the flawed reasoning against which *KSR* warned, and hold that the concededly novel ZUP Board would have been “*prima facie* obvious”<sup>2</sup> because it uses known components; my

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<sup>2</sup> Black’s Law Dictionary (10th ed. 2014) defines “*prima facie* obviousness” as:

A procedural tool used in the examination of U.S. patent applications in which the patent examiner must make an initial showing of obviousness before the applicant must produce evidence of non-obviousness. The patent examiner bears the initial burden of establishing obviousness. A *prima facie* case of obviousness is established when the examiner articulates nonconclusory, explicit reasons for obviousness that are rationally supported by the factual record.

colleagues relegate to rebuttal the evidence of long-felt need, failure of others, copying, and commercial success, and conclude that “[t]he weak evidence of secondary considerations presented here simply cannot overcome the strong showing of obviousness.” Maj. Op. at 15.

The requirement that the secondary considerations “overcome” the conclusion based on the first three factors is incorrect, for the obviousness determination must be based on the invention as a whole including the evidence of all four *Graham* factors. It is incorrect to convert the fourth *Graham* factor into “rebuttal,” requiring it to outweigh the other three factors. Consideration of the objective indicia “is not just a cumulative or confirmatory part of the obviousness calculus, but constitutes independent evidence of nonobviousness.” *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1365 (Fed. Cir. 2008). This evidence must be considered together with the other evidence, and not separated out and required to outweigh or rebut the other factors. All of the factors must be considered in connection with proving invalidity by clear and convincing evidence. *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc).

The fourth *Graham* factor is of particular analytic value in guarding against judicial hindsight. The majority’s decision is a textbook example of hindsight, where the

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The concept of *prima facie* obviousness based solely on prior art is a procedural tool of *ex parte* examination. See *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984) (“The concept of *prima facie* obviousness in *ex parte* patent examination is but a procedural mechanism to allocate in an orderly way the burdens of going forward and of persuasion as between the examiner and the applicant.”).

inventor's teaching is used as a template to render the invention obvious. Precedent warns against this fallacy, *see, e.g., KSR*, 550 U.S. at 421 (“A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.”); *Polaris Industries, Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1068 (Fed. Cir. 2018) (“We have observed that the prejudice of hindsight bias often overlooks that the genius of invention is often a combination of known elements which in hindsight seems preordained.”) (internal quotation marks omitted); *In re Ethicon*, 844 F.3d 1344, 1355–56 (Fed. Cir. 2017) (the “‘insidious’ exercise of decisional hindsight, whereby that which the inventor taught is used by the decision-maker to reconstruct the invention.”); *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1320 (Fed. Cir. 2004) (“[W]e are mindful of the repeated warnings of the Supreme Court and this court as to the danger of hindsight bias.”). The district court and the panel majority do not identify any suggestion in the prior art to make the specific wakeboard modifications made by Duff—the only source of these modifications is judicial hindsight.

My colleagues also err in their analysis of the objective indicia. For example, the panel majority concedes that Nash obtained the patented wakeboard and used it to develop a wakeboard that “resembled the claimed invention.” Maj. Op. at 15. Yet the panel majority holds that because ZUP did not give Nash a “blueprint” of the ZUP Board, the evidence of copying is somehow diminished. *Id.* at 15. No precedent, no logic, requires a “blueprint” in order to copy a simple structure in plain view and possessed by the accused infringer.

The district court also misapplied the factor of long-felt need. The court reasoned that since improvement in wakeboards was known to be desirable, this sufficed to provide the motivation to make the improvement achieved by Duff. Dist. Ct. Op. at 447. Motivation to

solve a known problem is not motivation to make a specific solution, as the district court erroneously equated:

Additionally, the Court finds that one of ordinary skill in the art would have been motivated in 2008 to combine these elements in order to aid in rider stability, to allow a wide variety of users to enjoy the device, and to aid users in maneuvering between positions on a water board. These motivations are a driving force throughout the prior art and have been shared by many inventors in the water recreational device industry. And the specific desire to aid users in maneuvering between positions on a water board has been a consistent motivation in the prior art for decades.

Dist. Ct. Op. at 447 (internal citations omitted). The panel majority adopts this reasoning, although neither my colleagues nor the district court find that Duff's novel combination was suggested in the prior art as the path to long-sought improvement. To the contrary, Duff's realignment of known elements in a crowded field, achieving benefits not previously achieved, weighs against obviousness.

The sport of wakeboarding has long challenged inexperienced and weak riders. The prior art has long sought improvement, yet no one presented the specific structure created by Duff. And I repeat the words of Nash's CEO, himself an inventor of water sports products, that "you have a great product by the way!"

On the proper analysis, summary judgment of obviousness was improperly granted. *See Surowitz v. Hilton Hotels Corp.*, 383 U.S. 363, 373 (1966) ("The basic purpose of the Federal Rules is to administer justice through fair trials, not through summary dismissals as necessary as they may be on occasion."). On consideration of all of the *Graham* factors, applied to the invention as a whole, clear and convincing evidence of obviousness was not present-

ed. From my colleagues' contrary ruling, I respectfully dissent.