

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASTERCRAFT BOAT COMPANY, LLC,
Petitioner,

v.

MALIBU BOATS, LLC,
Patent Owner.

Case IPR2016-01058
Patent 8,578,873 B2

Before JOSIAH C. COCKS, WILLIAM V. SAINDON, and
SCOTT A. DANIELS, *Administrative Patent Judges*.

COCKS, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Petitioner, MasterCraft Boat Company, LLC (“MasterCraft”), filed a Petition to institute an *inter partes* review of claims 27–29 of U.S. Patent No. 8,578,873 B2 (Ex. 1001, “the ’873 patent”). Paper 1 (“Pet.”). Patent Owner, Malibu Boats, LLC (“Malibu”), filed a Patent Owner’s Preliminary Response. (Paper 6, “PO Resp.”).

An *inter partes* review may not be instituted unless the information presented in the Petition shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). For the reasons set forth below, we conclude that the information presented in the Petition does not establish a reasonable likelihood of success with respect to claims 27–29 of the ’873 patent. We do not institute an *inter partes* review.

B. Related Matters

Both parties describe this *inter partes* review as being the subject of a pending lawsuit styled *Malibu Boats, LLC v. MasterCraft Boat Company, LLC*, Case No. 3:15-CV-276-TAV-HBG. Pet. 1; Paper 5, 1. The ’873 patent is also the subject of another petition for *inter partes* review involving the same parties (IPR2016-01057).

C. The ’873 Patent

The ’873 patent is titled “Surf Wake System for a Watercraft.” Ex. 1101, Title. More specifically, the ’873 patent characterizes its disclosed surf wake system as operating to modify a wake formed by a watercraft to

create a “surf wake.” *Id.* at 2:11–25. By way of background, the ’873 patent explains the following:

To facilitate surfing, a wake should be formed away from the stern of the watercraft, for example, about ten feet away, and with a waist-height peak, for example, about three feet or higher. Generally hundreds, and sometimes thousands, of pounds of additional weight or ballast to a rear corner of the watercraft to make the watercraft tilt to one side, displaces so more water, and hence generates a larger wake on that side. Such additional weight may be in the form of removable ballast bags, installed ballast tanks or bladders, or passengers positioned to one side of the watercraft, which is primarily used to tip the watercraft to that side. Using such additional weight to produce larger wakes, however, poses several disadvantages. For example, such additional weight may take up significant space and capacity that may otherwise reduce the passenger capacity of the watercraft. Also, such additional weight may unbalance the watercraft creating difficulties in control. Moreover, the additional weight generally must be moved from one side of the water craft to the other in order to generate a wake on the other side of the water craft. Shifting such additional weight may require significant time and effort.

Id. at 1:45–65.

In lieu of the use of additional weight or ballast noted above, the surf wake system of the ’873 patent includes a pair of independently moveable upright water diverters operable to create a “starboard surf wake” and a “port surf wake.” *Id.* at 2:11–25. Figure 1 is reproduced below:

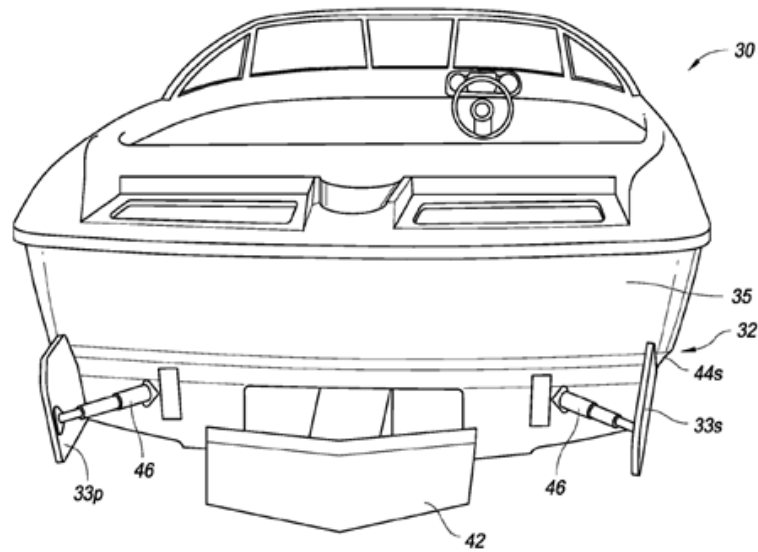


FIG. 1

Figure 1 illustrates “a rear perspective view of an exemplary surf wake system” according to the invention. Ex. 1101, 4:13–15. Watercraft 30 includes actuators 46 connected to flap assemblies 33p and 33s, located respectively, on the port and starboard sides of the watercraft. *Id.* at 6:66–7:12. Figures 5 and 6 are reproduced below:

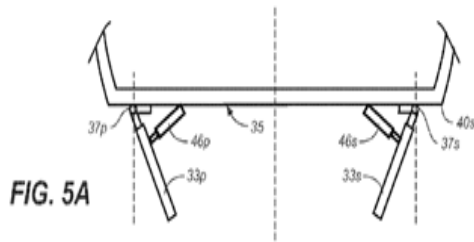


FIG. 6A

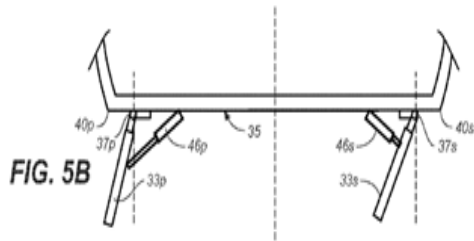
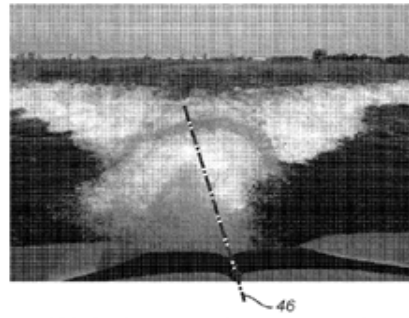


FIG. 6B

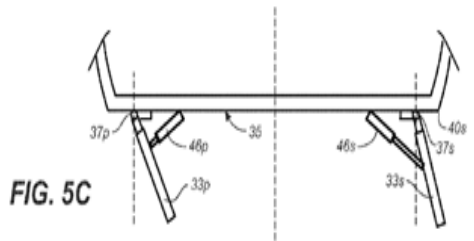
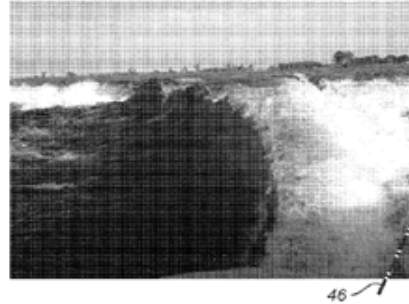
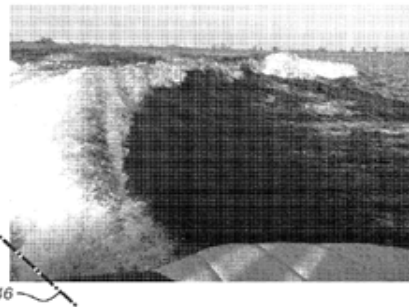


FIG. 6C



Figures 5a–c depict “schematic views of an exemplary surf wake system of FIG. 1 in which the flap assemblies are positioned for cruising, a starboard side surf wake, and a port side surf wake, respectively.” Ex. 1101, 4:23–26. Figures 6a–c depict “conventional, starboard surf, and port surf wakes, respectively, as produced by the surf wake system of FIG. 1.” *Id.* at 4:27–29.

D. Illustrative Claims

Claim 27 is independent, and claims 28 and 29 depend therefrom. Claim 27 is reproduced below.

27. A boat configured to create an asymmetrical wake suitable for wake surfing, said boat comprising:

first and second upright wake modifiers, said first wake modifier configured to engage to form a right side asymmetrical wake, said second wake modifier configured to engage to form a left side asymmetrical wake, each of said right and left side asymmetrical wakes different from a non-surf wake of said boat moving through water without said first and second wake modifiers engaged; and

a controller responsive to one or more safety features to override engagement of said first or second upright wake modifiers.

E. References Relied Upon

Reference	Date	Exhibit No.
U.S. Patent No. 6,520, 104 B1 to Svensson (“Svensson”)	Feb. 18, 2003	1103
U.S. Patent No. 3,159,134 to Winnen (“Winnen”)	Dec. 1, 1964	1104
Eugene P. Clement & Donald L. Blount, <i>Resistance Tests of a Systematic Series of Planing Hull Forms</i> , 71 TRANSACTIONS 491 (“Clement”)	1964	1105
U.S. Patent No. 4,763,219 to Nakamura (“Nakamura”)	Aug. 9, 1988	1106
U.S. Patent No. 5,263,432 to Davis (“Davis”)	Nov. 23, 1993	1107

F. The Alleged Grounds of Unpatentability

MasterCraft contends that claims 27–29 are unpatentable under 35 U.S.C. on the following grounds:

Reference(s)	Basis	Claims Challenged
Svensson and Nakamura	§ 103	27 and 29
Svensson, Nakamura, Clement	§ 103	27 and 29
Winnen	§ 102	27 and 28
Winnen and Clement	§ 103	27 and 28
Winnen and Davis	§ 102	27 and 28
Winnen, Davis, and Clement	§ 103	27 and 28

In support of the above-noted grounds, MasterCraft relies on the declaration testimony of Dr. Brant R. Savander (Ex. 1102).

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Consistent with the broadest reasonable construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Here, MasterCraft addresses claim construction in connection with two the following two phrases: (1) “wake suitable for wake surfing,” and (2)

“first and second upright wake modifiers, said first wake modifier configured to engage to form a right side asymmetrical wake, said second wake modifier configured to engage to form a left side asymmetrical wake.”

1. *“asymmetrical wake suitable for wake surfing”*

As a part of its preamble, claim 27 recites “[a] boat configured to create an asymmetrical wake suitable for wake surfing.” Mastercraft first urges the phrase “wake suitable for wake surfing,” as a preamble phrase, does not limit the claim. Alternatively, MasterCraft contends that the phrase should be construed to mean either: (1) “a modified wake produced by a watercraft travelling through water,” or (2) “a wake whose size, shape, or other characteristics have been enhanced to make it more suitable for surfing than it otherwise would be.” Pet. 4.

Malibu disagrees with MasterCraft. In particular, Malibu contends that the phrase in question should be regarded as a limitation of the claim. Furthermore, pointing to content of the ’873 patent, and also to its declarant, Dr. Kevin J. Maki, Malibu contends that a “wake suitable for wake surfing” is “a wake whose size shape, or other characteristics have been enhanced to make it suitable for surfing.” *Id.* (citing Ex. 1101, 5:46–51 and Ex. 2001 ¶¶ 46–51.)

We observe that while the phrase “asymmetrical wake suitable for wake surfing” appears in the preamble of claim 27, the body of the claim includes recitation of particular structures, i.e. “first and second upright wake modifiers” that operate to form left side and right side “asymmetrical wakes.” We determine that the preamble of claim 27 provides informative context for the type of asymmetrical wakes that are generated by the upright wake modifiers. In that respect, the produced asymmetrical wakes must be

understood as suitable for surfing. Indeed, that determination is also consistent with other language of claim 27. In particular, the body of claim 27 further recites that each of the asymmetrical wakes generated are “different from a non-surf wake.” It follows logically that if asymmetrical wakes must be different from non-surf wakes, then the asymmetrical wakes are understood as surf wakes, or wakes suitable for surfing.

Accordingly, we conclude that the asymmetrical wakes produced by the upright wake modifiers in claim 27 must be those recognizable as suitable for surfing. We turn now to the meaning of “wakes suitable for surfing”

As discussed above, the parties disagree as to the meaning of “wakes suitable for surfing.” For the following reasons, we agree with the meaning that is offered by Malibu. At the outset, we do observe that the ’873 patent describes that “[o]ne aspect of the present invention is directed to a surf wake system for modifying a wake formed by a watercraft travelling through water.” Ex. 1001, 2:11–13. We, however, do not share MasterCraft’s view that such description establishes the meaning of the type of “wakes” described in claim 27. We agree with Malibu that an asymmetrical wake of claim 27 that is “different from a non-surf wake” and which is characterized as being “suitable for surfing” is a wake that must be suitable for surfing. MasterCraft’s proposal that simply any wake that has been “modified” amounts to a “wake suitable for surfing” is not correct, in our view, as that meaning would encompass wakes that, although modified, are not suitable for surfing.

The alternative meaning that MasterCraft offers also has deficiencies, as it too includes within its ambit wakes that are unsuitable for

surfing. We do not conclude that a wake that is “more suitable for surfing than it otherwise would be” amounts to a wake that would be regarded as the asymmetrical wakes suitable for surfing expressed in claim 27. Indeed, a wake that is “more suitable for surfing than it otherwise would be” is not necessarily suitable for surfing.

The '873 patent describes the following:

Generally, the present invention relates to a surf wake system for a watercraft that is concerned with flow management of water passing the stern as the water craft is moving forward through a body of water, so that water is directed in such a manner to enhance size, shape and/or other characteristics [of] the resulting wake of the watercraft.

Ex. 1001, 5:46–51. The '873 also provides context for to the types of characteristics that make a wake suitable for surfing. In that regard, the '873 explains that “[t]o facilitate surfing, a wake should be formed away from the stern of the watercraft, for example about ten feet away, and with a waist-height peak, for example about three feet or higher.” Ex. 1001, 1:45–48.

In light of the record before us, we consider that the “asymmetrical wake” recited in claim 27 is a “wake whose size shape, or other characteristics have been enhanced to make it suitable for surfing.” As noted above, claim 27 requires that each asymmetrical wake is created by a structure termed an “upright water modifier.” We regard an “upright water modifier” as a component that is structured and configured to create an asymmetrical wake that is different from a non-surf wake and, thus, suitable for surfing.

2. *“first and second upright wake modifiers, said first wake modifier configured to engage to form a right side asymmetrical wake, said second wake modifier configured to engage to form a left side asymmetrical wake.”*

MasterCraft contends that the above-note claim phrase “is a means-plus-function limitation subject to 35 U.S.C. § 112, ¶6 (pre-AIA), because it fails to ‘recite sufficiently definite structure’ and recites ‘function without reciting sufficient structure for performing that function.’” Pet. 5 (citations omitted). To that end, MasterCraft contends that the allegedly corresponding structure disclosed in the Specification are variants of types of “water diverters” or “flaps.” *Id.* at 8. Malibu disagrees that the noted phrase invokes § 112, ¶ 6, contending instead that the noted phrase describes structural details of a wake modifier. PO Resp. 26–27.

For purposes of this Decision, we determine that it is not necessary to ascertain whether the pertinent phrase is a means-plus-function limitation. In particular, we determine that it is only necessary to consider that the noted phrase requires that the wake modifiers are components that are structured and configured to create asymmetrical wakes that are suitable for surfing.

3. *Claim terms generally*

We have given all claim terms their ordinary and customary meaning and discern that it is not necessary to make explicit that meaning for any terms other than those for which we expressly do above. *Cf. Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed.Cir.1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

B. Grounds based on Svensson

MasterCraft contends that claims 27 and 29 are unpatentable over either Svensson and Nakamura, or Svensson, Nakamura, and Clement.

1. Overview of Svensson

Svensson is titled “Arrangement and Method for Dynamic Control of the Movements and Course of a High-speed Ship Hull.” Ex. 1103, Title. In particular, Svensson describes the following in connection with an object of its invention:

[T]o provide an arrangement for dynamic control of the movements and course of a high-speed vessel hull, which arrangement improves both the course stability and the manoeuvrability and also counteracts pitching and rolling tendencies of a high-speed vessel hull without resulting in any losses in speed.

Id. at 1:40–46.

Svensson’s Figure 3 is reproduced below:

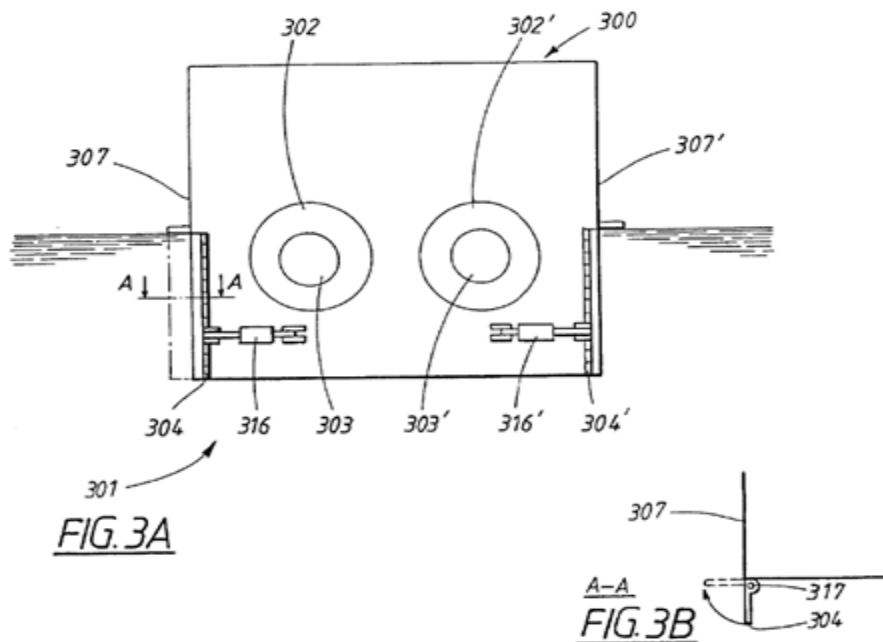


Figure 3A shows a plan view from the rear of a high-speed vessel hull equipped with an arrangement according to the invention. Ex. 1103, 4:61–64. Figure 3B “shows diagrammatically one rear corner of the vessel shown in FIG. 3A, seen from above along the section A—A in FIG. 3A.” *Id.* at 4:65–67. As illustrated, single-hull vessel 300 includes propulsion members 302, 302’, and flap members 304, 304’ that are rotatable about vertical bearing point 317. *Id.* at 6:12–30. Adjustment of Svensson’s flap members allows for changes in movement and course of the vessel. *Id.* at 2:47–54.

2. Discussion –Svensson and Nakamura

MasterCraft contends that most of the features required by claims 27 and 29 are disclosed in Svensson.¹ In particular, according to MasterCraft, Svensson’s flap members, such as flap members 304 and 304’, constitute the required first and second upright wake modifiers. Pet. 26. MasterCraft also takes the view that those flaps when deployed “inherently” produce right side and left side asymmetrical wakes. *Id.* Malibu does not agree that any of Svensson’s disclosed flaps produce a wake that is suitable for surfing or are structured so as to produce such a wake. PO Resp. 40. We share Malibu’s disagreement.

Svensson is silent as to the characteristics of any wake produced by its flaps. Those flaps serve a particular purpose in controlling vessel movement that is unconcerned with the generation of any particular wake. MasterCraft evidently basis its unpatentability position here on the theory that an

¹ Nakamura is titled “Overload Protection for DC Motor-Drive Linear Actuator.” Ex. 1106, Title. MasterCraft relies on Nakamura solely for features of claim 27 and 29 pertaining to a particular safety feature of a recited controller.

asymmetrical surf wake that is different from a non-surf wake is generally any modified wake produced by a watercraft travelling through water. *See, e.g.,* Pet. 22 (characterizing a non-surf wake as a wake that is “non-modified.”) As discussed above, however, that is not the correct construction of the particular asymmetrical wakes set forth in the claims.

We have considered the record, including the content of Svensson and the testimony of Dr. Savander (Ex. 1102). We are unpersuaded that Svensson’s flap members, whose purpose is distinct in controlling vessel maneuvering and course as Dr. Savander points out, are structured or configured to produce an asymmetrical wake that is different than a non-surf wake and is suitable for surfing. *See* Ex. 1102 ¶ 20. Indeed, it is clear from Svensson that the arrangement for such vessel control, of which the flaps are a part, operates “without resulting in any losses in speed [of a vessel].” Ex. 1103, 2:45–46. Yet, the types of upright water diverters called for by the claims are structured to deliberately create constructive interference (i.e., a surf wake) that would seemingly impose speed loss on a vessel. Ex. 1101, 8:21–25. We credit Dr. Maki’s testimony that the surf wake system of the ’873 patent is one understood as “inefficient” in that respect. Ex. 2101 ¶ 87. We are not satisfied that Svensson’s flaps are structured or configured as upright water modifiers that create asymmetrical wakes different than non-surf wakes.

MasterCraft has not shown where all the features required by claims 27 and 29 are disclosed in Svensson or Nakamura. Accordingly, we are not persuaded that MasterCraft has shown a reasonable likelihood of success in its challenge to those claims as anticipated by Svensson.

3. *Discussion –Svensson, Nakamura, and Clement*

MasterCraft also proposes that claims 27 and 29 are unpatentable when Clement’s teachings are also taken with those of Svensson and Nakamura. Clement is an article titled “Resistance Tests of a Systematic Series of Planing Hull Forms.” Ex. 1105, 3. MasterCraft relies on Clement for its disclosure of vessel hulls, and contends that a person of ordinary skill in the art would have implemented Svensson’s flap arrangements onto Clement’s vessel hulls.² *See, e.g.*, Pet. 30–39.

We observe that Clement does not describe an intent or an objective of forming any particular type of wake. The primary thrust of MasterCraft’s obviousness assertions is that Svensson’s flaps would “inherently” produce a surf wake when employed on a vessel hull, such as that of Clement. *Id.* at 34. In making those assertions, MasterCraft relies in large part on the testimony of Dr. Savander. According to MasterCraft, Dr. Savander developed a “3-D computer assisted design (‘CAD’) model of a particular ‘Clement Model 4666 hull’ receiving flap members, and that based on a the output of “computational fluid dynamics (‘CFD’) simulations” the required wake allegedly results. *Id.* at 28–29. We observe that Dr. Savander testifies as follows:

The geometric definition for the four different flaps used are given in Figures 16 through 19. Svensson provides no geometric guidance as to the height and width of the flaps.

² The assessments by the parties’ declarants concerning the level of ordinary skill in the art do not align. *Compare* Ex. 1102 ¶ 9 *with* Ex. 2101 ¶¶ 18–22. In essence, the parties disagree as to the level and type of education possessed by a person of ordinary skill in the art. For purposes of this Decision, we credit MasterCraft’s declarant, Dr. Savander (Ex. 1002) as to the level of ordinary skill in the art.

Accordingly, a POSA would have reasonably estimated, the flap height to be approximately 50% of the hull side height, or 18.2 inches, in order for the flap to start at the lower chine and extend above the water surface. Similarly a POSA would have explored a range of flap widths that would reasonably fall into the range of 2, 3, and 4 inches, as also shown in Figures 16 through 18. A POSA would reasonably conclude that flaps larger than 4 inches in width would be excessive in size, and similarly, that a flap width less than 2 inches may not be large enough to be effective. Svensson Figure 2, found herein for convenience in Figure 1, style flap is an extension of upright diverter 3, but now wrapping around the chine as shown in Figure 19.

Ex. 1102 ¶ 35.

In light of that testimony, we understand that Dr. Savander's computer modeling is based on specific assumptions as to sizing and positioning of flaps when placed on a vessel hull so as to allegedly produce an asymmetrical wake that is different than a non-surf wake. Dr. Savander provides no persuasive reasoning as to why those assumptions are derived appropriately from the teachings of the prior art. Indeed, while noting that Svensson, itself, provides "no geometric guidance as to the height and width of the flaps," as noted above, Dr. Savander proceeds to "estimate[]" without adequate reasoning that a flap height of "approximately 50% of the hull side height, or 18.2 inches" would be used "in order for the flap to start at the lower chine and extend above the water surface." *Id.* Dr. Savander also theorizes that flap width would "fall into the range of 2, 3, and 4 inches." *Id.* It simply does not follow on the record before us that the particular flap dimensions and positioning would have been derived from the teachings of the prior art. Yet, those parameters are crucial to MasterCraft's position that claims of the '873 patent would have been obvious based on Svensson. We are not satisfied that those obviousness challenges are guided by the

teachings of the prior art rather than formulated, in-part, from hindsight with the intention of creating the upright water diverters disclosed in the '873 patent.

We also find lacking in the Petition suitable articulated reasoning as to why a skilled artisan would have adequate reason to combine the teachings of the prior art. In particular, MasterCraft simply concludes that Svensson's teachings have "broad applicability" and on that basis a person of ordinary skill in the art generally would have been motivated to apply those teachings to any given boat hull, such as that disclosed in Clement. Pet. 28. That is not, in our view, sufficiently articulated reasoning with rational evidentiary underpinnings that is necessary to demonstrate an adequate reason to combine prior art teachings. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

We have considered the Petition and Malibu's Patent Owner Response. On the record before us, we are not satisfied that MasterCraft has accounted for the upright water modifiers structured to produce asymmetrical wakes that are different than non-surf wakes and, thus, suitable for surfing wakes that are required by claims 27 and 29. Accordingly, we are not persuaded that MasterCraft has shown a reasonable likelihood in any of its obviousness challenges based on Svensson. We do not institute an *inter partes* review based on any of those challenges.

C. Grounds based on Winnen

MasterCraft contends that claims 27 and 28 are anticipated by Winnen, or alternatively would have been obvious based on Winnen taken with one or more of Clement and Davis. Similar to Svensson, Winnen describes speed steering control for jet propelled power boats. Ex. 1104,

1:10–11. That steering control is accomplished by rudder assembly 30 which includes rudders 39 positioned at the rear of a boat hull. *Id.* at 2:48–72. According to MasterCraft, “asymmetrical wakes are the inherent result of alternately engaging Winnen’s rudders.” Pet. 36. As with Svensson, Winnen does not disclose that any particular wake is produced by its rudders. For essentially the same reasons discussed above with respect to alleged anticipation by Svensson, we are not persuaded that Winnen’s steering control rudders are structured or configured as upright water modifiers that create asymmetrical wakes different from non-surf wakes, and which, thus, are suitable for surfing.

MasterCraft’s obviousness ground based on Winnen and Clement has largely the same defects noted above in connection with MasterCraft’s ground based on Svensson and Clement. MasterCraft relies extensively on computer modeling proposed by Dr. Savander based on a theoretical combination of Winnen and Clement. Once again, although Dr. Savander notes that “Winnen provides no specific geometric guidance as to the height and width of the rudders,” other than a single illustration of the rudders in its Figure 1, Dr. Savander employs “estimated” dimensions as a part of the modeling without appropriate explanation as to how those dimensions were derived from the teachings of the prior art. Also, as was the case with the Svensson grounds, we are not persuaded on the record before us that MasterCraft has articulated suitable reasoning as to why a person of ordinary skill in the art would have combined the teachings of Winnen and Clement.

We are also not persuaded that MasterCraft’s proposed grounds based on Winnen and Davis, and Winnen, Davis, and Clement account suitably for the required water upright diverters producing structured and configured to

produce asymmetrical wakes. Davis is titled “Automatic Trim Tab Control for Power Boats.” Ex. 1107, Title. Davis describes that its invention “concerns an automated system for optimally adjusting a motor boat’s power trim tabs at each of several different operational ranges of the boat so that the boat’s performance, comfort and versatility may be improved.” *Id.* at 1:11–15. “Trim tabs are variable in position so to change the attitude of the hull of a moving boat with respect to the horizontal.” *Id.* at 1:41–43. MasterCraft does not explain adequately why trim tab components that operate to optimize a boat’s trim demonstrates or suggests upright water diverters for producing right side and left side asymmetrical wakes that are different than non-surf wakes.

Correspondingly, we have considered the record before us but are not persuaded that MasterCraft has shown a reasonable likelihood of success in any of its unpatentability grounds premised on Winnen. We do not institute *inter partes* review based on those grounds.

III. CONCLUSION

Having evaluated the Petition and Malibu’s Preliminary Response, we determine that MasterCraft has not shown a reasonable likelihood of success in any of its challenges to claims 27–29 of the ’873 patent.

IV. ORDER

It is ORDERED that the Petition is *denied*, and no trial is instituted.

Case IPR2016-01058

Patent 8,578,873 B2

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