

The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* BRIAN N. TUFTE

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Appeal 2007-2031  
Application 10/905,818  
Technology Center 3600

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Decided: August 28, 2007

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Before LINDA E. HORNER, ANTON W. FETTING, and DAVID B. WALKER,  
*Administrative Patent Judges.*

WALKER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 17-26. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We affirm.

## THE INVENTION

Appellant claims a boat cover system that may provide some level of protection to the interior of the boat when the boat is not in use, and also some level of protection to the occupants of the boat from the sun, rain and/or other elements when the boat is in use (Specification 2, Para 6). Claims 17 and 21, reproduced below, are representative of the subject matter on appeal.

17. A pontoon boat comprising:

a platform;

one or more side walls extending up from the platform around a perimeter of a protected area, wherein the side walls are adapted to prevent or substantially prevent windswept rain from passing through the side walls and into the protected area from a lateral direction;

a cover; and

two or more support members for supporting the cover above the platform, the two or more support members being adapted to allow the cover to be moved between a raised position and a lowered position, wherein, in the lowered position, a perimeter of the cover extends laterally out to at least the side walls of the pontoon boat to provide a cover for all or substantially all of the protected area, and in the raised position, the cover is suspended above the platform sufficiently far so that occupants of the pontoon boat can move about there under.

21. A pontoon boat comprising:

a platform;

one or more side walls extending up from the

platform around a perimeter of a protected area, wherein the side walls are adapted to prevent or substantially prevent windswept rain from passing through the side walls and into the protected area from a lateral direction;

a cover; and

moving mechanism for moving the cover between a first position and second position, wherein in the second position, the cover provides a cover for all or substantially all of the protected area, and wherein in the first position, the cover allows occupants of the pontoon boat to move about the protected area.

### THE REJECTIONS

The Examiner relies upon the following as evidence in support of the rejections:

Butler	US 3,805,724	Apr. 23, 1974
Oehler	US 5,016,558	May 21, 1991
Pepper	US 5,044,298	Sep. 3, 1991
Faber	US 5,058,946	Oct. 22, 1991
Heckman	US 2003/0217683 A1	Nov. 27, 2003

The following rejections are before us for review.

1. Claims 17, 20, 21, 24, and 26 are rejected under 35 U.S.C. § 103(a) as unpatentable over Heckman in view of Pepper.
2. Claims 18 and 19 are rejected under 35 U.S.C. § 103(a) as unpatentable over Heckman in view of Pepper and further in view of Faber.
3. Claims 22 and 23 are rejected under 35 U.S.C. § 103(a) as unpatentable over Heckman in view of Pepper and further in view of Butler.

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4. Claim 25 is rejected under 35 U.S.C. § 103(a) as unpatentable over Heckman in view of Pepper and further in view of Oehler.

### ISSUE

The issue before us is whether Appellant has shown that the Examiner erred in rejecting the following claims under 35 U.S.C. § 103(a): (1) claims 17, 20, 21, 24, and 26 as unpatentable over Heckman in view of Pepper; (2) claims 18 and 19 as unpatentable over Heckman in view of Pepper and further in view of Faber; (3) claims 22 and 23 as unpatentable over Heckman in view of Pepper and further in view of Butler; and (4) claim 25 as unpatentable over Heckman in view of Pepper and further in view of Oehler. The correctness of the above rejections turns on whether the references properly may be combined and whether, when combined, they yield the claimed invention.

Rather than repeat the arguments of Appellant and the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).

### FINDINGS OF FACT

We find the following enumerated findings to be supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427, 7

USPQ2d 1152, 1156 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Heckman discloses a pontoon boat comprising a platform (referred to as an inside deck area), a railing system 15 extending up from the platform to enclose a perimeter of a protected area, a cover 50, and two or more support members 40 for supporting the cover above the platform (Heckman, 2:[0033-0034]). When supported in a raised position, the cover is supported sufficiently far above the platform so that occupants of the boat can move about under the cover (Heckman, Fig. 1). Figure 2 shows that, when supported in a lowered position, a perimeter of the cover extends out to at least the side railings of the pontoon boat to provide a cover for all or substantially all of the protected area (the area inside the railings) (Heckman, Fig. 2).
2. Heckman teaches the use of telescoping support members that are extended and retracted pneumatically (Heckman, 2:[0035]).
3. Heckman does not disclose side walls that are adapted to prevent or substantially prevent windswept rain from passing through the side walls and into the protected area from a lateral direction (Heckman, *passim*).
4. Pepper teaches that a pontoon boat with one or more side walls extending up from deck around a protected area is conventional (Pepper, col. 2, ll. 48-50). Because the side walls are shown as solid, they are capable of preventing or substantially preventing windswept rain from passing through the side walls and into the protected area (Pepper, Fig. 1).

5. Pepper teaches a moving means for moving a canopy cover for the pontoon boat, which includes a hydraulic assembly 94 (including a piston cylinder arrangement) on each side of the boat connected to a hydraulic circuit 118 (which includes a reversible pump) (Pepper, col. 4, ll. 11-14 and 30-38). Each of the hydraulic assemblies is attached at one end to the side wall 34 and at the other to a support member 90 for a canopy cover 38 (Pepper, col. 4, ll. 14-18).
6. Faber teaches a hinged trailer and boat cover which include a pair of jack assemblies 80 mounted between the trailer body and boat cover (Faber, col. 4, ll. 46-54). The jack assemblies include piston and cylinder units that can be either pneumatic or hydraulic (Faber, col. 4, ll. 55-56). Faber also teaches the use of alternate linear actuators, including linear actuators with screw-threaded rods actuated by electric motors or various hand-powered actuating units (Faber, col. 4, ll. 56-62).
7. Butler teaches a sailboat canopy apparatus adapted to provide a water-tight cover for the upper portion of an access opening to an interior cabin (Butler, abstract). “The downward peripheral edge 44 of canopy 42 is adapted to be in contact with the ledge 40 and substantially cover the upper portion 34 of the access opening 26” (Butler, col. 2, ll. 44-47). Figure 6 shows that the perimeter of canopy thus extends past and overlaps in a vertical direction with ledge 40 (Butler, Fig. 6).

8. Oehler teaches a boat with a retractable roof that can be raised and lowered by human power, facilitated by assist or counter-balance means 42 (Oehler, col. 2, ll. 30-33).

#### PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of ordinary skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*,

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11 How. 248.” *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham*, 383 U.S. at 12, 148 USPQ at 464 (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The Supreme Court stated that there are “[t]hree cases decided after *Graham* [that] illustrate the application of this doctrine.” *Id.* at 1739, 82 USPQ2d at 1395. “In *United States v. Adams*, ... [t]he Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *Id.* at 1739-40, 82 USPQ2d at 1395. “*Sakraida and Anderson’s-Black Rock* are illustrative – a court must ask whether the

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improvement is more than the predictable use of prior art elements according to their established function.” *Id.* at 1740, 82 USPQ2d at 1395.

The Supreme Court stated that

[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.

*Id.* The Court explained,

[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

*Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that “[t]o facilitate review, this analysis should be made explicit.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

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The Supreme Court also addressed the breadth of problems that one of ordinary skill in the art might consider as reasons for combining elements from different sources in the prior art.

The first error of the Court of Appeals in this case was to foreclose this reasoning by holding that courts and patent examiners should look only to the problem the patentee was trying to solve. 119 Fed.Appx., at 288. The Court of Appeals failed to recognize that the problem motivating the patentee may be only one of many addressed by the patent's subject matter. The question is not whether the combination was obvious to the patentee but whether the combination was obvious to a person with ordinary skill in the art. Under the correct analysis, 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.

The second error of the Court of Appeals lay in its assumption that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem.

*KSR*, 127 S.Ct. at 1742, 82 USPQ2d at 1397. It is thus appropriate for the Examiner to consider problems outside those considered by the patentee in addressing whether it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine elements from different sources in the prior art.

## ANALYSIS

### **A. Rejection of claims 17, 20, 21, 24, and 26 under 35 U.S.C. § 103(a) as unpatentable over Heckman in view of Pepper.**

The Examiner correctly found that Heckman discloses all of the claim limitations of these claims except for 1) one or more side walls extending up from the platform around a perimeter of a protected area, wherein the side walls are adapted to prevent or substantially prevent windswept rain from passing through the side walls and into the protected area from a lateral direction as required by claims 17 and 21 (Heckman teaches side rails rather than walls); and 2) that the moving means discloses a motor, a power source for the motor, and a pump and one or more hydraulic cylinders as required in various combinations by claims 20, 24, and 26 (Answer 4-5, Finding of Fact 1-3). Pepper supplies the missing limitations (Findings of Fact 4-5).

In the pre-*KSR* Briefs, the Appellant's arguments in opposition to this rejection boil down to 1) to an extensive discussion in favor of a strict application of the teaching, suggestion, motivation test and challenging the Examiner's stated motivation (Answer 6) for replacing the side rails with side walls of preventing a small child from falling through the rails of Heckman (Br. 13-22); and 2) an argument that neither Heckman nor Pepper recognized the problem or solution addressed by the present invention (Br. 22-25). Neither argument is persuasive. First, *KSR* forecloses Appellant's argument that a specific teaching is required for a finding of obviousness. *KSR*, 127 S.Ct. at 1741, 82 USPQ2d at 1396. Second, *KSR* makes clear that it is not necessary for the prior art to recognize the same

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problem and solution as the Appellant. *KSR*, 127 S.Ct. at 1742, 82 USPQ2d at 1397 (“Under the correct analysis, 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”).

One of ordinary skill in the art would have been able to replace the side rails of Heckman with the conventional side walls of Pepper using methods known in the art at the time the invention was made. Moreover, each of the elements of Heckman and Pepper combined by the Examiner performs the same function when combined as it does in the prior art. Thus, such a combination would have yielded predictable results. *See Sakraida*, 425 U.S. at 282, 189 USPQ at 453.

Claim 17 is a combination which only unites old elements with no change in their respective functions and which yields predictable results. Thus, the claimed subject matter likely would have been obvious under *KSR*. In addition, neither Appellant’s Specification nor Appellant’s arguments present any evidence that the replacement of side rails with side walls is uniquely challenging or difficult for one of ordinary skill in the art. Moreover, the side walls of Pepper are a technique that has been used to improve one device (the pontoon boat of Pepper), and one of ordinary skill in the art would recognize that it would improve similar devices in the same manner.

Because Appellant has not shown that the application of the Pepper side walls to the pontoon boat of Heckman would have been beyond the skill of one of ordinary skill in the art, we find using the technique would have been obvious. Under those circumstances, the Examiner did not err in holding that it would have

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been obvious to one having ordinary skill in the art at the time the invention was made to replace the side rails of Heckman with the side walls of Pepper to prevent a small child from falling through the side rails (Answer 6). Because this is a case where the improvement is no more than the predictable use of prior art elements according to their established functions, no further analysis was required by the Examiner. *KSR*, 127 S.Ct. at 1740, 82 USPQ2d at 1396. Claims 20, 21, 24, and 26 were not argued separately, and fall with claim 17. *See* 37 C.F.R. § 41.37(c)(1)(vii). *See also In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991).

**B. Rejection of claims 18 and 19 under 35 U.S.C. § 103(a) as unpatentable over Heckman in view of Pepper and further in view of Faber.**

The Examiner found that Heckman does not disclose the use of screw drive motors to raise and lower the cover assembly (Answer 7). Faber supplies the missing limitation (Finding of Fact 6).

Appellant argues that because Heckman teaches the advantages of using a pneumatic lift to reduce the risk of releasing contaminating pollutants, one of ordinary skill in the art would not be motivated to replace the pneumatic lift of Heckman with the screw drive motors of Faber (Br. 26). This argument is not persuasive. Appellant provides no reason why a screw drive motor would be more likely than a pneumatic lift to release contaminating pollutants and we find none.

One of ordinary skill in the art would have been able to replace the pneumatic actuators of Heckman with the screw drive motors of Faber using methods known in the art at the time the invention was made. Moreover, each of

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the elements of Heckman, Pepper, and Faber combined by the Examiner performs the same function when combined as it does in the prior art. Thus, such a combination would have yielded predictable results. *See Sakraida*, 425 U.S. at 282, 189 USPQ at 453.

Claim 19 is a combination which only unites old elements with no change in their respective functions and which yields predictable results. Thus, the claimed subject matter likely would have been obvious under *KSR*. In addition, neither Appellant's Specification nor Appellant's arguments present any evidence that the substitution of screw drive motors for pneumatic actuators is uniquely challenging or difficult for one of ordinary skill in the art. In fact, Faber teaches screw drive motors as one possible alternative for a linear actuator that might be substituted for either a hydraulic or pneumatic actuator (Finding of Fact 7). Moreover, the screw drive motors of Faber are a technique that has been used to improve one device (the lift mechanism of Faber), and one of ordinary skill in the art would recognize that it would improve similar devices in the same manner.

Because Appellant has not shown that the application of the Faber screw motors to the cover moving mechanism of Heckman would have been beyond the skill of one of ordinary skill in the art, we find using the technique would have been obvious. Under those circumstances, the Examiner did not err in holding that it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the pneumatic actuators of Heckman with the screw drive motors of Faber to avoid the need of pneumatic circuits and switch means for them, which may leak leading to inoperativeness of the device (Answer 7),

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particularly where the Examiner noted the interchangeability of the two types of actuators taught by Faber (Answer 40). Because this is a case where the improvement is no more than the predictable use of prior art elements according to their established functions, no further analysis was required by the Examiner. *KSR*, 127 S.Ct. at 1740, 82 USPQ2d at 1396. Claim 18 was not argued separately, and falls with claim 19. *See* 37 C.F.R. § 41.37(c)(1)(vii). *See also In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991).

**C. Rejection of claims 22 and 23 under 35 U.S.C. § 103(a) as unpatentable over Heckman in view of Pepper and further in view of Butler.**

The Examiner found that Heckman does not disclose that the cover assembly extends laterally out past the sidewalls and overlaps in a vertical direction a top portion of one or more of the side walls (Answer 7). Butler teaches a sailboat canopy apparatus adapted to provide a water-tight cover for the upper portion of an access opening to an interior cabin, wherein the perimeter of the canopy extends past and overlaps in a vertical direction with ledge 40 on the outer edge of the access opening (Finding of Fact 7).

Appellant argues that the canopy of Butler only appears to cover part of the access opening, and the upper portion of the access opening that it does cover does not appear to extend laterally out to at least or laterally out past the side walls of the sail boat (Br. 28-29). However, the Examiner relies on Heckman for a cover that is coextensive with the side walls and only looks to Butler for the teaching to extend a cover past and overlap in a vertical direction with the side walls, which is analogous to the ledge on the outer edge of the access opening of Butler.

One of ordinary skill in the art would have been able to extend the cover of Heckman laterally out past the sidewalls and to overlap it in a vertical direction with a top portion of one or more of the side walls as taught by Butler using methods known in the art at the time the invention was made. Moreover, each of the elements of Heckman, Pepper, and Butler combined by the Examiner performs the same function when combined as it does in the prior art. Thus, such a combination would have yielded predictable results. *See Sakraida*, 425 U.S. at 282, 189 USPQ at 453.

Claims 22 and 23 are combinations which only unite old elements with no change in their respective functions and which yield predictable results. Thus, the claimed subject matter likely would have been obvious under *KSR*. In addition, neither Appellant's Specification nor Appellant's arguments present any evidence that extending the cover of Heckman laterally out past the sidewalls (claims 22 and 23) and to overlap it in a vertical direction with a top portion of one or more of the side walls (claim 23) is uniquely challenging or difficult for one of ordinary skill in the art. Moreover, the canopy of Butler is a technique that has been used to improve one device (the sailboat of Butler), and one of ordinary skill in the art would recognize that it would improve similar devices in the same manner.

Because Appellant has not shown that extending the cover of Heckman laterally out past the sidewalls and to overlap it in a vertical direction with a top portion of one or more of the side walls would have been beyond the skill of one of ordinary skill in the art, we find using the technique would have been obvious. Under those circumstances, the Examiner did not err in holding that it would have

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been obvious to one having ordinary skill in the art at the time the invention was made to do so to have the cover sit more securely on the side walls (Answer 7). Because this is a case where the improvement is no more than the predictable use of prior art elements according to their established functions, no further analysis was required by the Examiner. *KSR*, 127 S.Ct. at 1740, 82 USPQ2d at 1396.

**D. Rejection of claim 25 under 35 U.S.C. § 103(a) as unpatentable over Heckman in view of Pepper and further in view of Oehler.**

The Examiner found that Heckman does not teach that the moving means is human powered (Answer 8). Oehler teaches a boat with a retractable roof that can be raised and lowered by human power, facilitated by assist or counter-balance means (Finding of Fact 8).

Appellant repeats the arguments made against the combination of Heckman and Pepper with Faber, which are equally unpersuasive here. Appellant also argues against the combination of Oehler and Heckman because they are “substantially different systems” and it is difficult to see how the counter balance means of Oehler could be applied to the cover of Heckman and still achieve the straight up and down movement of Heckman (Br. 33). Because straight up and down movement is not a limitation of claim 25, this argument is not persuasive.

For the same reasons as cited for the substitution of the screw drive motors of Faber for the pneumatic actuators of Heckman, we find that the Examiner did not err in holding that it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the pneumatic actuators of Heckman with the human-powered lifting mechanism of Oehler to save cost by not

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providing powered apparatus to raise and lower the cover and to provide springs to assist raising the cover by manual power (Answer 8). We also note that Faber, not relied on in this rejection but relevant to the knowledge of one of ordinary skill in the art at the time the invention was made, teaches the interchangeability of various hand-powered actuating units for either hydraulic or pneumatic actuators (Finding of Fact 6). Because this is a case where the improvement is no more than the predictable use of prior art elements according to their established functions, no further analysis was required by the Examiner. *KSR*, 127 S.Ct. at 1740, 82 USPQ2d at 1396.

#### CONCLUSIONS

We conclude that Appellant has not shown that the Examiner erred in rejecting claims 17-26 under 35 U.S.C. § 103(a).

#### DECISION

The decision of the Examiner to reject claims 17-26 under 35 U.S.C. § 103(a) is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

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