

United States Court of Appeals  
for the Federal Circuit

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RANDALL MFG.,  
*Appellant,*

v.

TERESA STANEK REA, Acting Director, United  
States Patent and Trademark Office,  
*Appellee,*

AND

FG PRODUCTS, INC.,  
*Appellee.*

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2012-1611

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Appeal from the United States Patent and Trademark  
Office, Board of Patent Appeals and Interferences in  
Reexamination No. 95/000,326.

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Decided: October 30, 2013

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MARK H. REMUS, Steptoe & Johnson, LLP, of Chicago,  
Illinois, argued for the appellant. With him on the brief  
was MEREDITH MARTIN ADDY.

FRANCES M. LYNCH, Associate Solicitor, United States  
Patent and Trademark Office, of Alexandria, Virginia,

argued for appellee United States Patent and Trademark Office. With her on the brief were NATHAN K. KELLEY, Deputy Solicitor, and LORE A. UNT, Associate Solicitor.

SCOTT A. McKEOWN, Oblon, Spivak, McClelland, Maier & Neustadt, LLP, of Alexandria, Virginia, argued for appellee, FG Products, Inc.

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Before RADER, *Chief Judge*, DYK, and TARANTO, *Circuit Judges*.

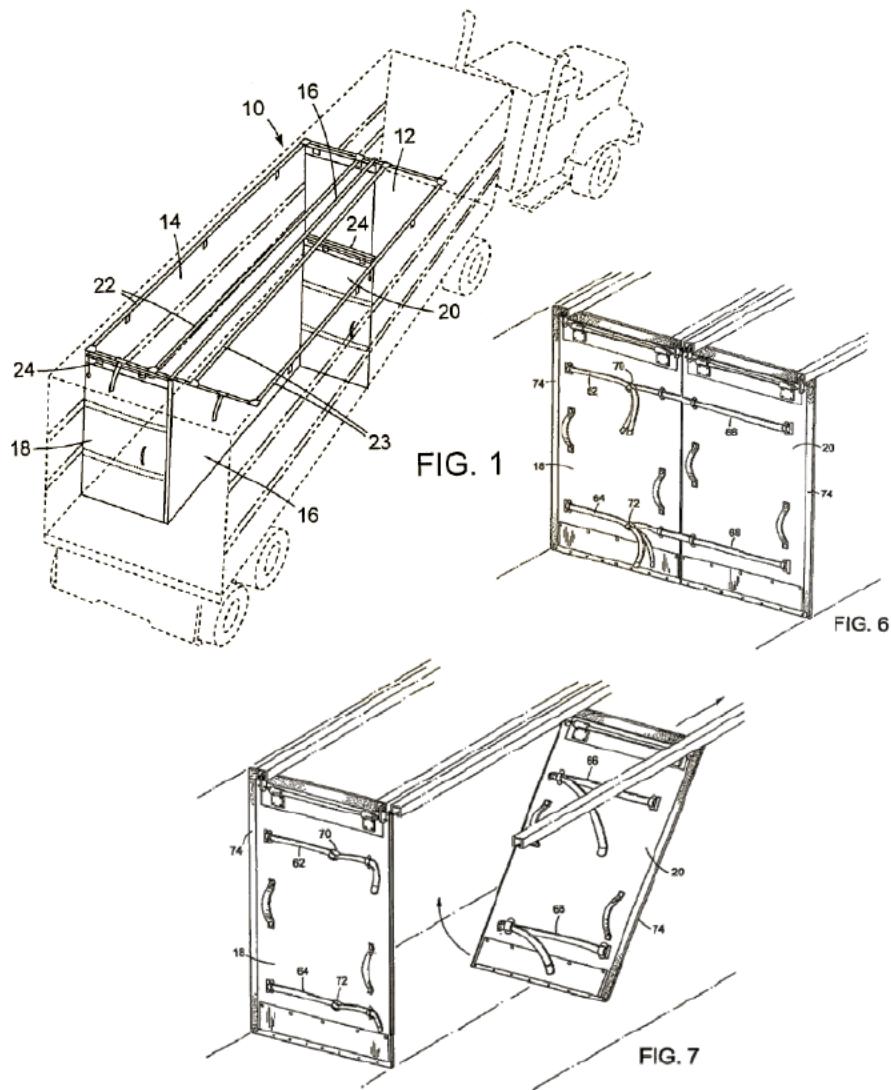
TARANTO, *Circuit Judge*.

FG Products owns U.S. Patent No. 7,214,017, which is directed to moveable bulkheads for partitioning cargo space in a shipping container. FG's competitor, Randall Manufacturing, requested inter partes reexamination of the '017 patent, and the Patent and Trademark Office examiner rejected a number of FG's claims as obvious over a combination of four prior-art references. On appeal, the Board of Patent Appeals and Interferences (now the Patent Trial and Appeal Board) reversed, unable to discern any reason that one of ordinary skill in the art would have been motivated to combine the cited references. Randall appeals the Board's determination to this court. Because the Board failed to consider a wealth of well-documented knowledge that is highly material to evaluating the motivation to combine references to arrive at the claimed invention, we vacate the Board's decision and remand the matter.

#### BACKGROUND

FG and Randall are competitors in selling products for refrigerated trucks. In particular, both parties manufacture moveable, track-mounted bulkheads (partitions) used for dividing cargo space. The '017 patent, issued on May 8, 2007, discloses partitioning apparatuses that include two half-width panels independently mounted on

the ceiling of a shipping container using rail-and-trolley assemblies, so that the panels may be strapped together to form a full-width partition, separately moved along the length of the container for separate positioning, or raised and stowed against the ceiling. Figures 1, 6, and 7 are illustrative:



On December 4, 2007, Randall requested inter partes reexamination of the '017 patent. The Examiner granted Randall's request and subsequently rejected all 15 original claims of the '017 patent. In response, FG amended or canceled its original claims and added 78 new claims. Three years of additional prosecution ensued, including consideration of dozens of prior-art references, resulting in a series of rejections, responses, and amendments. New claim 38 is representative of FG's claims on appeal:

An apparatus for separating cargo areas in a trailer, comprising:

a trailer that includes a cargo space;

first and second panels, each panel extending in a direction generally perpendicular to a longitudinal axis of the trailer, wherein when in a first operative position the first and second panels are arranged in a side-by-side configuration and abut one another along adjacent peripheral edges of the panels;

fastening straps that releasably secure the first and second panels together in the side-by-side configuration to form a full-width bulkhead that extends between opposing sidewalls of the cargo space of the trailer;

a mounting system that provides each of the first and second panels with a first degree of freedom to convey the panels in a longitudinal direction independently of one another and that provides each of the first and second panels with a second degree of freedom to raise the panels independently, the mounting system comprising a first set of two longitudinal rails to guide movement of the first panel and a second set of two longitudinal rails to guide movement of the second panel, the first and

second sets of two longitudinal rails being attached to at least one of a wall or a ceiling of the cargo space; and

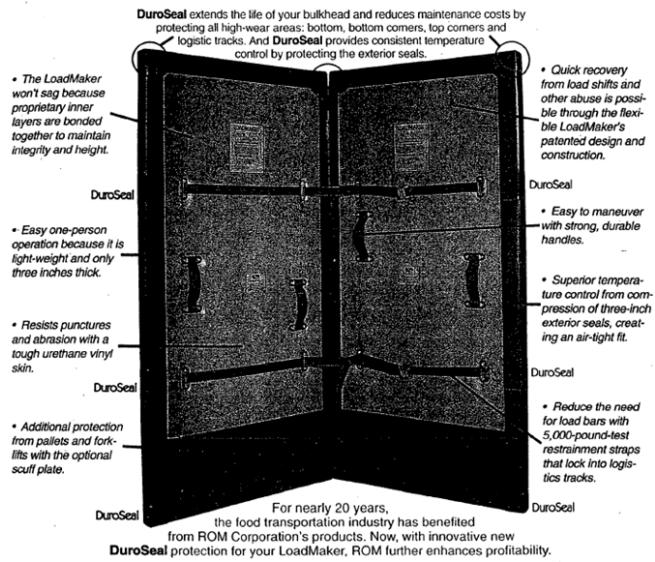
a first lift mechanism mounted proximate to a longitudinal end of at least one of the first set of two longitudinal rails, the first lift mechanism engaging a first strap or rope that is coupled proximate to a lower edge of the first panel so as to raise the lower edge of the first panel toward the ceiling when the first strap or rope is manually pulled; and

a second lift mechanism mounted proximate to a longitudinal end of at least one of the second set of two longitudinal rails, the second lift mechanism engaging a second strap or rope that is coupled proximate to a lower edge of the second panel so as to raise the lower edge of the second panel toward the ceiling when the second strap or rope is manually pulled.

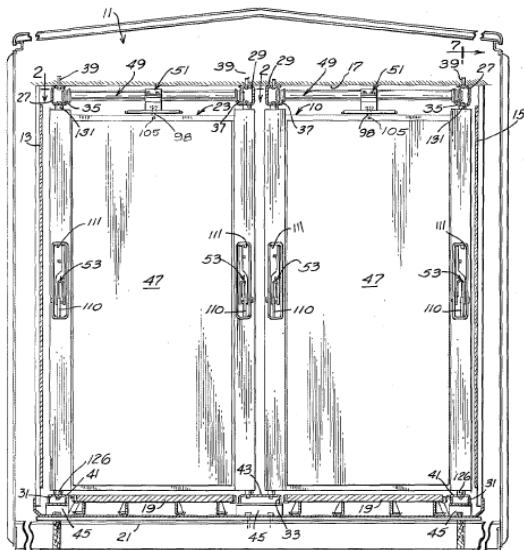
J.A. 691-92.

Ultimately, the Examiner allowed many of FG's new and amended claims, but rejected claims 10-12, 38-40, 48-56, 75-79, and 83-91 (and certain others, including claim 1, not here on appeal) as obvious over a combination of four references: two advertisements from third-party bulkhead manufacturer ROM; U.S. Patent No. 3,217,664, issued to Aquino; and U.S. Patent No. 1,193,254, issued to Gibbs. The Examiner cited the ROM references for their disclosure of half-width panels with straps for positioning and joining the panels together to form a full-width partition, as depicted below:

Reduce costs with a bulkhead that can last the life of your trailer.

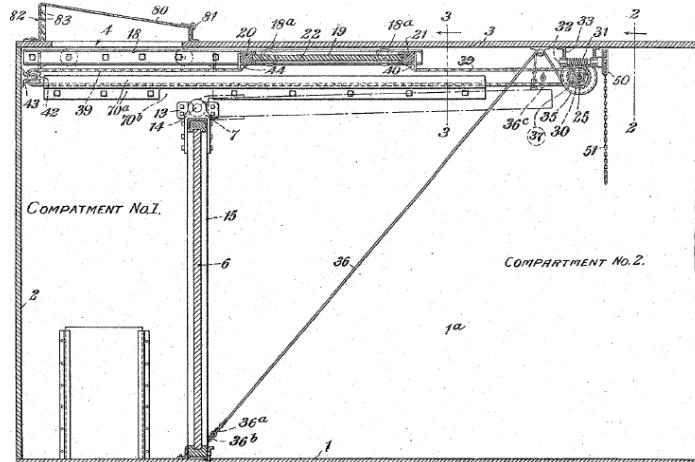


ROM Ad. No. 2. The Examiner cited Aquino for its disclosure of independently movable half-width panels mounted on the ceiling of a container using rail-and-trolley assemblies:



'664 patent, Fig. 1. The Examiner cited Gibbs for its disclosure of a panel that can be lifted by means of a lift

mechanism and stowed near the ceiling of a container:



'254 patent, Fig. 1. The Examiner concluded that all of the elements of the rejected claims were well known at the time of FG's application and that it would have been obvious to one of ordinary skill in the art to combine them.

FG appealed the Examiner's obviousness rejections to the Board, arguing that one of ordinary skill in the art would not have been motivated to combine the cited references, both because of alleged physical impediments to their combination and because the references each taught distinct features that were at cross-purposes with one another. In particular, FG argued that the lift mechanism of Gibbs would be incompatible with Aquino, that the panels of Aquino could not be lifted to the ceiling of the container without colliding with the rails on which they were mounted, and that Aquino, in providing for stowage of its panels against the wall of the container, taught away from ceiling stowage. FG supported its contentions with declarations from named inventor and FG co-owner Chad Nelson.

In its briefing before the Board, Randall argued that the state of the art and the level of skill at the time of

FG's application included well-known options for lifting moveable, track-mounted bulkheads and stowing them against the ceiling. As evidence of what one of ordinary skill in the art would have known, Randall cited a host of references that had been considered by the Examiner during the course of the reexamination—some of which had provided the basis for rejecting FG's original claims—including multiple references disclosing track- and trailer-mounted bulkheads that could be raised to the ceiling, and a variety of references teaching straps and lift mechanisms to assist in stowage. Randall also provided a declaration from its employee, Gregory Boyer, who confirmed that a bulkhead designer at the time of FG's application would have recognized that the panels of Aquino could be raised and stowed near the ceiling, noting references showing that it was well known how to adjust the geometry of a track-mounted assembly so that the rails would not interfere with lifting the panel.

At oral argument before the Board, patentee FG stated that “we concede that raising of doors is known” and that the “crux” of its appeal focused specifically on Aquino and “why one would modify Aquino when Aquino already provides a solution for stowing the door.” Transcript of May 11, 2012 Hearing at 7, 17. Randall, in contrast, stressed the broad range of knowledge demonstrated in the art “going back close to a hundred years,” arguing that “a person of ordinary skill in the art would think of this because raising panels to the ceiling, at this point in time, was so pervasive.” *Id.* at 11, 14. Randall contended that the side stowage of panels shown in Aquino was the exception rather than the rule, and that “raising them to the ceiling was the standard method of getting a panel out of the way.” *Id.* at 15.

In its decision reversing the Examiner on the rejections at issue here, the Board did not consider the background references Randall had cited as evidence of the knowledge of one of skill in the art. Instead, the Board

looked to “the content of the prior art relied upon in rejecting FG Products’ claim 1.” *Randall Mfg. v. FG Products, Inc.*, No. 2012-005371, 2012 WL 1616962, at \*4 (B.P.A.I. May 7, 2012).<sup>1</sup> Analyzing just Aquino, Gibbs, and the two ROM references, and focusing specifically on modifying Aquino to allow ceiling stowage, the Board found that it “simply does not follow” that ceiling stowage “would have been contemplated for Aquino’s assembly for which there is no need or intent for such a position.” *Id.* at \*5. The Board observed that “the nature and extent of the raising of the panels” was “at the center of the dispute,” *id.* at \*3, but unable to identify any reason that one of skill in the art would have sought to modify Aquino to include ceiling stowage, the Board reversed the Examiner’s obviousness rejections for (new or amended) claims 11-12, 38-40, 48-56, 75-79, and 83-91, now at issue. *Id.* at \*6-7.

The Board addressed amended claim 10 separately. That claim recites “first and second means for separating a cargo space” and

a means for mounting the first and second separating means, the mounting means being attached to at least one of a wall or a ceiling of the cargo space, wherein the mounting means provides each of the first and second separating means with a first degree of freedom to be moved independently in a longitudinal direction and provides each of the first and second separating means with a second degree of freedom to be raised independently.

*Id.* at \*6. The Board concluded that “means for separating” and “means for mounting” are means-plus-function

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<sup>1</sup> Except for claim 10, the Board rejected all of the claims at issue for the same reasons it gave for claim 1 (which itself is not at issue here). *Id.* at \*6-7.

terms, and thus limited to the structures described in the specification (and their equivalents) for performing the claimed functions. *Id.*<sup>2</sup> The Board identified panels 18 and 20 (the half-width bulkheads) as corresponding to the “means for separating” and determined that the corresponding structures for the “means for mounting” the panels were the rails, trolleys, rollers, hinges, and hinge rods. *Id.* The Board further stated that “the mounting arrangement . . . which corresponds to the ‘means for mounting’ of claim 10 is structured . . . so as to permit panels 18, 20 to be moved in a fore and aft direction of a trailer and to be raised like garage doors to the ceiling of the trailer.” *Id.* Evaluating the ROM references, Aquino, and Gibbs, the Board found that, whether taken individually or collectively, the references did not disclose such a mounting structure or its equivalent. *Id.* at \*7. Because the Board did not find the “means for mounting” to be disclosed by the prior art, it reversed the Examiner’s rejection of claim 10. *Id.*

Randall appeals the Board’s determinations of non-obviousness as to claims 10-12, 38-40, 48-56, 75-79, and 83-91. This court has jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

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<sup>2</sup> Although claims 11 and 12 depend on claim 10, the Board concluded that, unlike claim 10, claims 11 and 12 recited particular structure in connection with the mounting means. *Id.* at \*7. The Board then reversed the Examiner’s rejections of claims 11 and 12 for the same reason discussed for claims 38-40, 48-56, 75-79, and 83-91. *Id.*

## DISCUSSION

A claimed invention is unpatentable if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious to one of ordinary skill in the relevant art. 35 U.S.C. § 103. Whether a claimed invention would have been obvious is a question of law, based on factual determinations regarding the scope and content of the prior art, differences between the prior art and the claims at issue, the level of ordinary skill in the pertinent art, and any objective indicia of non-obviousness. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966). On appeal, we review the Board's compliance with governing legal standards de novo and its underlying factual determinations for substantial evidence. *In re Sullivan*, 498 F.3d 1345, 1350 (Fed. Cir. 2007).

### A

In *KSR*, the Supreme Court criticized a rigid approach to determining obviousness based on the disclosures of individual prior-art references, with little recourse to the knowledge, creativity, and common sense that an ordinarily skilled artisan would have brought to bear when considering combinations or modifications. *KSR*, 550 U.S. at 415-22. Rejecting a blinkered focus on individual documents, the Court required an analysis that reads the prior art in context, taking account of “demands known to the design community,” “the background knowledge possessed by a person having ordinary skill in the art,” and “the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 418. This “expansive and flexible approach,” *id.* at 415, is consistent with our own pre-*KSR* decisions acknowledging that the inquiry “not only permits, but *requires*, consideration of common knowledge and common sense.” *DyStar*

*Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006).

The Board's analysis in this case ran afoul of that basic mandate. By narrowly focusing on the four prior-art references cited by the Examiner and ignoring the additional record evidence Randall cited to demonstrate the knowledge and perspective of one of ordinary skill in the art, the Board failed to account for critical background information that could easily explain why an ordinarily skilled artisan would have been motivated to combine or modify the cited references to arrive at the claimed inventions. As *KSR* established, the knowledge of such an artisan is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious.

In recognizing the role of common knowledge and common sense, we have emphasized the importance of a factual foundation to support a party's claim about what one of ordinary skill in the relevant art would have known. See, e.g., *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1377 (Fed. Cir. 2012); *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328 (Fed. Cir. 2009). One form of evidence to provide such a foundation, perhaps the most reliable because not litigation-generated, is documentary evidence consisting of prior art in the area. Randall relied on just such evidence in citing to extensive references of record showing a familiar, even favored, approach to bulkhead stowage. For instance, Randall cited four U.S. patents (Nos. 1,148,382; 2,752,864; 2,866,419; and 4,019,442) that disclose bulkheads designed to be lifted and stowed near the ceiling, three of which (the '382, '864, and '419 patents) describe such stowage for movable, track-mounted panels. The significance of those and other references did not depend on any attempt to change the combination that formed the basis of the Examiner's rejections; rather, the references constitute important evidence of the state of the art and the

context in which the Examiner-cited combination should be evaluated.

The Board's failure to consider that evidence—its failure to consider the knowledge of one of skill in the art appropriately—was plainly prejudicial.<sup>3</sup> Once it is established that a prevalent, perhaps even predominant, method of stowing a bulkhead panel was to raise it to the ceiling, it is hard to see why one of skill in the art would not have thought to modify Aquino to include this feature—doing so would allow the designer to achieve the other advantages of the Aquino assembly while using a stowage strategy that was very familiar in the industry.<sup>4</sup> Moreover, although FG claims that, as depicted, the panels of Aquino may have been impeded by the rails from being raised all the way to the ceiling, there is no dispute that it would have been well within the capabilities of an ordinary bulkhead designer to adjust the geometry (e.g., drop the hinge axis down a few inches) so that the panels could be freely raised to the ceiling. There are no apparent functional concerns that would have discouraged a bulkhead designer of ordinary skill from attempting the combination.

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<sup>3</sup> Although the Examiner did not articulate this analysis, Randall, as the appellee before the Board, was entitled to defend the Examiner's rejection on this ground, which it had presented in the record. *Rexnord Indus., LLC v. Kappos*, 705 F.3d 1347, 1355-56 (Fed. Cir. 2013).

<sup>4</sup> Familiarity may be reason enough, but the widespread industry use of ceiling stowage may reflect particular judgments. At least in some situations, for instance, it may be more important to reserve space for cargo at the sides of a container than near the ceiling, as packing cargo against the walls helps distribute weight more evenly and may be easier than piling cargo toward the ceiling.

Particularly when viewed in the context of the background references Randall provided, the evidence strongly supports the notion that the bulkhead design FG claimed was nothing more than the “combination of familiar elements according to known methods,” “each performing the same function it had been known to perform,” “yield[ing] predictable results.” *KSR*, 550 U.S. at 416-17 (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)). In addition, neither FG nor the Board points to any objective indicia of non-obviousness. On this record, the Board’s finding of lack of motivation to combine is infected by prejudicial error. We accordingly vacate the Board’s reversal of the Examiner’s rejection of claims 11-12, 38-40, 48-56, 75-79, and 83-91 for obviousness.<sup>5</sup>

## B

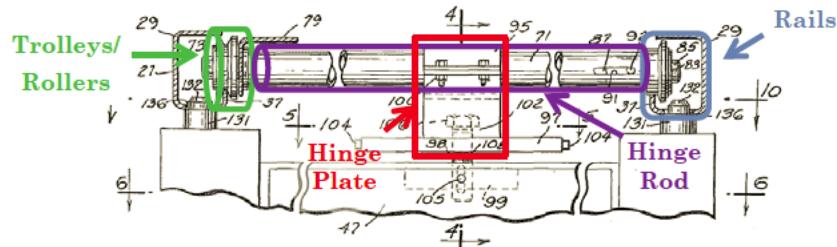
With respect to claim 10, Randall contends that the Board misconstrued “means for mounting” by improperly importing an unclaimed functional limitation into the corresponding structure. Specifically, Randall argues that the Board erred by including a requirement that the “means for mounting” permit the panels “to be raised like garage doors to the ceiling of the trailer,” while the claim requires only a “degree of freedom to be raised independently.” But we need not and do not reach that question.

Even if the structure must permit the panels to be raised to the ceiling, such a range of motion is clearly

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<sup>5</sup> Contrary to FG’s argument, Randall has not waived any argument that claims reciting “strap” limitations would have been obvious. Neither FG nor the Board has disputed that the cited references disclose straps for lifting a panel, and the Board’s reversal was based solely on the finding of a lack of motivation to modify Aquino so that the panels could be lifted.

disclosed by the combination of Aquino and Gibbs. Our conclusion that the Board committed prejudicial error in its analysis of the obviousness of that combination thus affects the ultimate obviousness analysis of claim 10. The raising-to-the-ceiling property is the only basis for the Board's claim 10 conclusion, because there is no serious dispute that the rails, trolleys, rollers, hinge plates, and hinge rod that the Board identified as the physical structure are disclosed by Aquino (as depicted below).



'664 patent, Fig. 3 (annotated). Accordingly, we vacate the Board's determination of non-obviousness as to claim 10 along with its determination as to the other claims at issue.

#### CONCLUSION

The Board's determination of non-obviousness as to claims 10-12, 38-40, 48-56, 75-79, and 83-91 is vacated, and the matter is remanded to the Board.

#### VACATED AND REMANDED