United States Court of Appeals for the Federal Circuit

PHILIP W. WYERS
AND WYERS PRODUCTS GROUP, INC.,
Plaintiffs-Appellees,

v.

MASTER LOCK COMPANY,
Defendant-Appellant.

2009-1412

Appeal from the United States District Court for the District of Colorado in case no. 1:06-CV-00619, Senior Judge Lewis T. Babcock.

Decided: July 22, 2010

MARK LEE HOGGE, Greenberg Traurig LLP, of Washington, DC, argued for plaintiffs-appellees. With him on the brief were ROBERT PHILLIP CHARROW and LAURA METKOFF KLAUS. Of counsel on the brief was AARON P. BRADFORD, Lathrop & Gage LLP, of Denver, Colorado.

ALDO NOTO, Andrews Kurth, LLP, of Washington, DC, argued for defendant-appellant. With him on the brief were FREDERICK S. FREI and LORI EDEN BURGESS.

Before LOURIE, LINN, and DYK, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* DYK.

Concurring opinion filed by *Circuit Judge* LINN.

DYK, *Circuit Judge*.

Master Lock Company LLC ("Master Lock") appeals from a final judgment of the United States District Court for the District of Colorado in favor of Philip W. Wyers and Wyers Products Group, Inc. (collectively, "Wyers"). A jury found that Master Lock failed to show by clear and convincing evidence that claims 15, 19, 21, and 24 of U.S. Patent No. 6,672,115 (the "'115 patent"), claim 1 of U.S. Patent No. 7,165,426 (the "'426 patent"), and claims 1, 9, and 11 of U.S. Patent No. 7,225,649 (the "'649 patent" or the "seal patent"), would have been obvious. The district court denied Master Lock's renewed motion for judgment as a matter of law ("JMOL"). *Wyers v. Master Lock Co.*, No. 06-cv-00619-LTB, 2009 WL 1309774 (D. Colo. May 8, 2009) ("*JMOL Order*"). We reverse, as we find that the claims in the patents-in-suit would have been obvious as a matter of law.

BACKGROUND

The patents at issue in this case cover hitch pin locks that secure trailers to cars and sport utility vehicles. A hitch pin secures a draw bar or tow ball mount to a hitch receiver attached to a motor vehicle. The hitch pin passes through aligned apertures in the trailer hitch receiver and draw bar in order to secure the two members together. The patents describe a barbell-shaped lock with a stop portion on one end, a locking head on the other end, and a shank portion which passes through the aligned apertures of the hitch receiver and the towball mount.

The use of a lock in a trailer hitch receiver was well known in the art prior to the '115 and '426 patents. Like the patented inventions, U.S. Patent No. 5,664,445 (the "Chang patent") discloses a lock with a lock head, a shackle having a stop member, a shank, and a latch. The lock is shown being used as a hitch pin lock. The following figure shows the prior art configuration:

Chang Patent, Figure 8

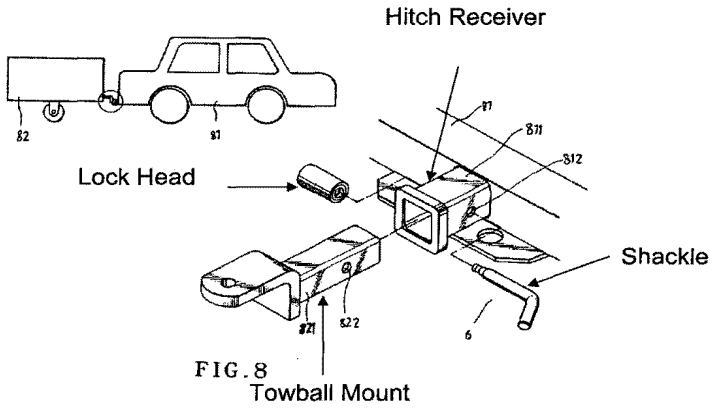
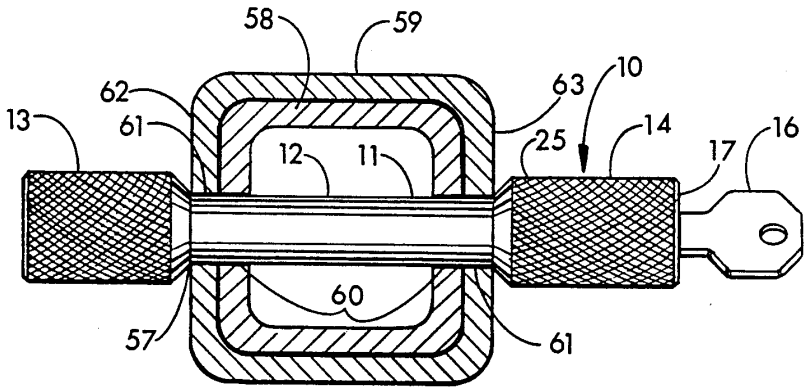


FIG. 8

The use of barbell-shaped locks, such as those described in the patents-in-suit, was also well known in the prior art. U.S. Patent No. 4,711,106 (the "Johnson patent") discloses a hitch pin lock. *See* Johnson patent col.1 ll.6-11; *see also* U.S. Patent No. 5,284,038 patent col.1. ll.6-10. The Johnson patent shows a barbell-shaped lock being used as a trailer hitch receiver lock:

Johnson Patent, Figure 1



Wyers' own patent, U.S. Patent No. 6,055,832 (the "'832 patent"), discloses a barbell-shaped locking device comprising a locking head, a shackle having a stop member, a shank, and a latch. *See* '832 patent col.5 ll.37-57. The '832 patent also shows a barbell-shaped lock being used as a hitch pin lock in a manner very similar to Figure 1 of the Johnson patent. *See id.* figs.1-2.

The patents-in-suit claim improvements to the prior art locks. The '115 patent and '426 patent[1] (collectively, "the sleeve patents") claim a hitch pin lock having a removable sleeve to increase the shank's diameter, and a method for providing a hitch pin lock with a removable sleeve on the shank.[2] Figure 5 of the '115 patent depicts the claimed invention.

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[1] The '426 patent was filed as a divisional of the '115 patent application.

[2] Some of the asserted claims are more broadly directed to a "locking device" rather than a locking hitch pin device, *see, e.g.*, '115 patent col.2 ll.56-57, and the specification indicates that "the present invention may also be used as a coupler lock, as a watercraft lock, cross bolt gate

'115 Patent, Figure 5

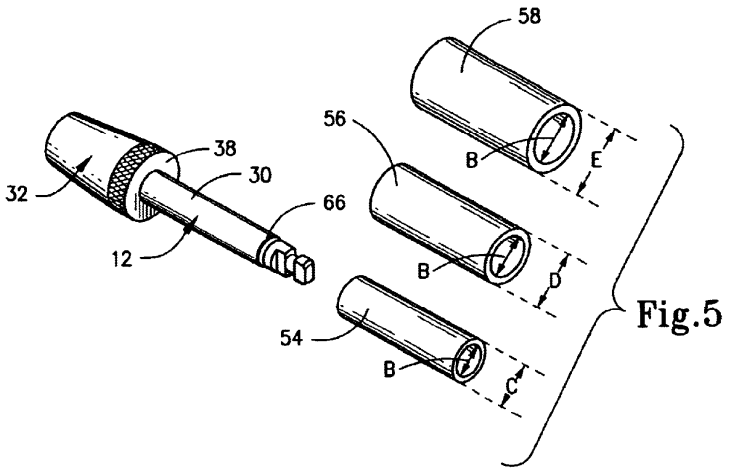

Fig.5

The claimed sleeve slides over the shank of the hitch pin lock, increasing the diameter of the shank and enabling use with trailer hitch receivers of different apertures, *see* '115 patent Abstract, particularly the 1/2 inch and 5/8 inch apertures that are the industry standard for certain towing applications. The '115 patent touts the invention's primary benefit, namely its size adaptability. *Id.* col.1 ll.15-18, col.2 ll.20-36, 45-47. The removeable sleeve is not claimed to improve the locking or towing functions, but is claimed to be desirable because it allows for "a single locking unit [to] be used for a number of varied size locking requirements," *id.* col.2 ll.32-34, thus saving retailers shelf space. Claim 15 of the '115 patent is representative:

> 15. A locking hitch pin device for interconnecting a hitch bar with a hitch receiver, said bar and receiver each including apertures disposed therein for

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lock, spare tire lock, bike carrier lock, a cable lock and any other similar locking structure." *Id.* col.4 ll.41-45.

receiving the hitch pin device, said device comprising:

> (a) a hitch pin shank having first and second end portions and a thickness dimension;
> (b) a latch portion disposed at said first end portion;
> (c) a locking head member moveable between locked and unlocked states and configured for selective engagement with said latch portion;
> (d) a stop member disposed at said second end portion;
> (e) a sleeve for selective engagement with said hitch pin shank to selectively vary the thickness dimension thereof to match the size diameter of the hitch bar and the receiver apertures to permit snug engagement therewith; and
> (f) a retaining apparatus operative to resist removal of said sleeve from said hitch pin shank when said locking head member is in the unlocked state and removed from said latch portion.

'115 patent col.10 ll.21-41. The '426 patent claims a "method for varying the diameter of the linear shank [of a locking device] to adapt the locking device to variable sized apertures in components to be locked with said device." '426 patent col.11 ll.17-20. The specifications for the '115 patent and '426 patent are very similar.

The '649 patent claims an improved locking device with an external seal designed to insulate the locking mechanism of the lock from the ingress of contaminants.

'649 patent col.7 ll.13-15. Claim 1 of the '649 patent is representative:

> 1. A locking device, comprising:
>
> (A) a shackle member including (1) an elongated shank portion having a longitudinally extending axis,
>
> (2) a stop portion at a first end of said shank portion, and
>
> (3) a latch portion at a second end of said shank portion, said shank portion having an outer surface margin adjacent to said latch portion;
>
> (B) a locking head including a casing having a surrounding sidewall surface and a generally flat transverse inner head face with an entryway sized and adapted to mate with said latch portion in a longitudinal axial direction and a locking mechanism disposed in said casing, said locking mechanism being moveable between
>
> (1) a locked state to lockably retain said latch portion in said locking head when said latch portion is in an engaged state and
>
> (2) an unlocked state to release said latch portion therefrom; and
>
> (C) a head cover including
>
> (1) a cover portion operative to engage the sidewall surface of said casing in surrounding relation thereto and extending therealong in the longitudinal axial direction so as to be secured thereto, and
>
> (2) a flexible, resilient flange portion extending inwardly from said cover por-

> tion to define an opening having a surrounding flange edge that defines a seal structure, the opening being sized such that said latch portion may be inserted into and removed from said locking head through the opening with said seal structure operative when said latch portion is in the engaged state to sealably engage the outer surface margin of said shank portion.

Id. col.8 ll.13-47. The head cover, which encases the locking head, is preferably made of a "stiff yet resilient material," and the seal structure is formed by the flange portion that extends inwardly from the cover. *Id.* col.3 ll.48-50; *id.* col.7 ll.7-15.

A major manufacturer, Master Lock, offered for sale locks that allegedly fell within the claims of the '115, '426, and '649 patents. In April of 2006, Wyers filed this lawsuit, ultimately asserting infringement of claims 15, 19, 21, and 24 of the '115 patent, claim 1 of the '426 patent, and claims 1, 9, and 11 of the '649 patent.[3] The case was tried to a jury over nine days in March of 2009. At the close of evidence, the district court granted Wyers' motions for JMOL on infringement. Master Lock contended, however, that all of the patents-in-suit would have been obvious over the prior art. At trial, Wyers admitted that both the Chang and Johnson references disclosed every limitation of the '115 and '426 patent claims except the use of the sleeve to adjust the operative thickness of the

[3] Wyers also asserted infringement of claims 17 and 18 of the '832 patent. In May of 2008, the district court granted Master Lock's motion for summary judgment of non-infringement with respect to the '832 patent. The claims of the '832 patent are not involved in this appeal.

shank. Moreover, it was undisputed that Wyers' own Trimax T2 and T3 barbell-shaped locks on sale prior to the '115 patent priority date also satisfied every limitation of the asserted claims of the '115 and '426 patents but those for the sleeve. Master Lock asserted that the sleeve claims would have been obvious over the combination of the prior art locking devices, inter alia, in combination with U.S. Patent No. 3,963,264 (the "Down patent"), or in combination with Master Lock's 37D padlock. Thus, as the district court described, the relevant question for the jury's consideration with respect to the asserted sleeve patent claims was "whether Master Lock presented clear and convincing evidence that the use of a sleeve to adjust the operative thickness of a shank would have been obvious." *See JMOL Order*, 2009 WL 1309774, at *3.

Similarly, the external seal is concededly the only feature of the '649 seal patent that distinguishes it from the Chang patent and the '832 patent.[4] Master Lock argued that the patented device would have been obvious over the combination of the prior art locking devices with any of the following: the Master Lock 6121 padlock, U.S. Patent No. 5,156,029 (the "Heald patent"), U.S. Patent No. 3,858,419 (the "Hampton patent"), and U.S. Patent No. 3,848,440 (the "Manuel patent"). Thus, as the district court noted, the sole question for the jury's consideration with respect to the seal patent was "whether Master Lock presented clear and convincing evidence that the use of an external flat flange seal would have been obvious." *See JMOL Order*, 2009 WL 1309774, at *5.

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[4] The '832 patent is Wyers' own patent, and thus is not prior art against the '649 patent under 35 U.S.C. § 102(a). However, it is prior art against the '649 patent under 35 U.S.C. § 102(b), as the '832 patent issued more than one year prior to the filing date of the '649 patent.

The question of obviousness on the disputed claims of the '115 patent, the '426 patent, and the '649 patent was submitted to the jury, which returned a verdict finding that the asserted claims were not obvious, and awarded Wyers $5.35 million in damages as a reasonable royalty. The district court granted Wyers' motion for a continuing injunction against Master Lock for future infringement, and entered judgment in favor of Wyers in the form of a 24% royalty for any infringing products Master Lock has sold or does sell prior to the effective date of the injunction, plus $1,137,920 in pre-judgment interest. *See Wyers v. Master Lock Co.*, No. 06-cv-00619-LTB-MJW, dkt. No. 325 (D. Col. May 28, 2009) (Judgment). After trial, Master Lock renewed its JMOL motion on obviousness. The district court denied the motion, and upheld the jury verdict. *JMOL Order*, 2009 WL 1309774, at *3. Master Lock timely appealed, and we have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

A patent is invalid for obviousness "if 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." 35 U.S.C. § 103(a). Obviousness is a question of law based on underlying findings of fact. *In re Kubin*, 561 F.3d 1351, 1355 (Fed. Cir. 2009). The underlying factual inquiries include: (1) the scope and content of the prior art, (2) the differences between the prior art and the claims at issue, (3) the level of ordinary skill in the art, and (4) any relevant secondary considerations, such as commercial success, long felt but unsolved needs, and the failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). Here the scope of the claims of the patents in suit are not at issue and the level of skill

of one of ordinary skill in the art is not contested. The primary factual issues alleged to be in dispute are (1) whether the prior art references are in the same field of endeavor as the patented invention; (2) whether there was sufficient motivation to combine the references; and (3) the existence and significance of pertinent secondary considerations. We address each in turn.

I Relevant Prior Art

Two criteria are relevant in determining whether prior art is analogous: "(1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1351 (Fed. Cir. 2010) (quoting *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992)). Whether a reference in the prior art is "analogous" is a fact question. *In re Clay*, 966 F.2d at 658.

With respect to the sleeve patents, the district court concluded that the jury could implicitly find that the Down patent was outside the scope of the relevant art. *See JMOL Order*, 2009 WL 1309774, at *3. However, the Down patent is specifically directed to a trailer-towing application, adaptable to "a motor vehicle such as an automobile for towing by fitting a rear towing attachment for releasably attaching the tow-bar of a trailer such as a boat trailer, horse box, caravan or other vehicle." Down patent col.1 ll.9-12. Thus, the Down patent is clearly within the same field of endeavor as the sleeve patents.

With respect to the seal patent, the district court concluded that the jury could implicitly find that padlock seals were not relevant prior art. *JMOL Order*, 2009 WL 1309774, at *5. The district court instructed the jury

without objection that obviousness must be determined "based on the perspective of a person of ordinary skill in the field of locksmithing." J.A. 3332. Given that this jury instruction appears to define the field of endeavor as "locksmithing," there is no reason why padlocks should be excluded from the relevant prior art. Tellingly, the '649 patent itself refers to "the prior art padlock" in the background of the invention. '649 patent col.1 ll.24. Moreover, the '649 patent itself defines its scope broadly, and makes clear that the claims are directed to "locking device[s]" generally. *See id.* col.1 ll.9, col.4 ll.65-66.

Even if the prior art padlocks were not within the same field of endeavor, they are nonetheless clearly "reasonably pertinent" to the problem that the inventor was trying to solve. *See In re Clay*, 966 F.2d at 659. The Supreme Court's decision in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007), directs us to construe the scope of analogous art broadly, stating that "*familiar items may have obvious uses beyond their primary purposes*, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 402 (emphasis added). Here, the prior art padlocks were clearly directed toward the same problem the inventor was trying to solve in the '649 patent, namely, preventing the ingress of contaminants into the locking mechanism. Thus, as a matter of law, the prior art Down patent and the padlock seals were pertinent prior art in the '649 patent, and the district court erred in finding that they were not. We need not determine whether the Master Lock 37D was pertinent prior art.

II Motivation to Combine

The second question for our consideration is whether there was motivation to combine the sleeve with the prior art barbell locks, and similarly, whether there was moti-

vation to combine the prior art locks with an external sealing mechanism. Before the Supreme Court's decision in *KSR*, we required that a patent challenger show that a person of ordinary skill in the art would have had motivation to combine the prior art references and would have had a reasonable expectation of success in doing so. *See PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007); *Noelle v. Lederman*, 355 F.3d 1343, 1351-52 (Fed. Cir. 2004). We had also held that "[t]he reason, suggestion, or motivation to combine may be found explicitly or implicitly: 1) in the prior art references themselves; 2) in the knowledge of those of ordinary skill in the art that certain references, or disclosures in those references, are of special interest or importance in the field; or 3) from the nature of the problem to be solved." *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665 (Fed. Cir. 2000); *see In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). *KSR*, however, instructs courts to take a more "expansive and flexible approach" in determining whether a patented invention was obvious at the time it was made. 550 U.S. at 415. In particular, the Court emphasized the role of "common sense": "[r]igid preventative rules that deny factfinders recourse to common sense . . . are neither necessary under our case law nor consistent with it." *Id.* at 421.

Before *KSR*, we had also consistently treated the question of motivation to combine prior art references as a question of fact. *See, e.g.*, *Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1289 (Fed. Cir. 2006); *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). While *KSR* did not change this rule, *KSR* and our later cases establish that the question of motivation to combine may nonetheless be addressed on summary judgment or JMOL in appropriate circumstances. *See KSR*, 550 U.S. at 427; *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1330 (Fed.

Cir. 2009); *Ball Aerosol & Specialty Container, Inc. v. Limited Brands, Inc.*, 555 F.3d 984, 993 (Fed. Cir. 2009); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1325-26 (Fed. Cir. 2008); *Sundance, Inc. v. DeMonte Fabricating, Ltd.*, 550 F.3d 1356, 1366-67 (Fed. Cir. 2008).

KSR featured fairly straightforward technology—an adjustable throttle pedal for an automobile, U.S. Patent No. 6,237,565 ("the Engelgau patent"). The patented technology combined an adjustable pedal with an electronic sensor to measure the pedal depression. Both features were present in the prior art, namely U.S. Patent No. 5,010,782 ("Asano") disclosing an adjustable pedal and U.S. Patent 5,819,593 ("Rixon") disclosing an electronic sensor for detecting the pedal's position. When Teleflex, Inc. ("Teleflex") sued KSR International Company ("KSR") for infringement, the district court invalidated the Engelgau patent on summary judgment on the grounds of obviousness. *Teleflex, Inc. v. KSR Int'l Co.*, 298 F. Supp. 2d 581, 595 (E.D. Mich. 2003). This court reversed, holding that there were genuine issues of material fact as to whether there was a teaching, suggestion, or motivation to combine the prior art references. *Teleflex, Inc. v. KSR Int'l Co.*, 119 F. App'x 282, 290 (Fed Cir. 2005). The Supreme Court reversed again, concluding that summary judgment was appropriate. This was so because one skilled in the art starting with Asano would have found it obvious to put the sensor on a fixed pivot point, and one skilled in the art starting with Rixon would have found it obvious to avoid the problem of wire-chafing by combining Rixon with the adjustable pedal of Asano. *KSR*, 550 U.S. at 423-24.

The Court also made clear that expert testimony concerning motivation to combine may be unnecessary and, even if present, will not necessarily create a genuine issue of material fact. *See id.* at 427. We had held that the

district court erred in granting summary judgment, as the affidavits of Teleflex's two experts stating their opinion that the invention was non-obvious created a material issue of fact. We had noted that "[a]t the summary judgment stage of a proceeding, it is improper for a district court to make credibility determinations." *Teleflex*, 119 F. App'x. at 290. The Supreme Court disagreed:

> In considering summary judgment on that question the district court can and should take into account expert testimony, which may resolve or keep open certain questions of fact. That is not the end of the issue, however. The ultimate judgment of obviousness is a legal determination. . . . *Where, as here, 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.* Nothing in the declarations proffered by Teleflex prevented the District Court from reaching the careful conclusions underlying its order for summary judgment in this case.

KSR, 550 U.S. at 427 (emphasis added).

KSR and our later cases establish that the legal determination of obviousness may include recourse to logic, judgment, and common sense, in lieu of expert testimony. *See, e.g.*, *Perfect Web*, 587 F.3d at 1329; *Ball Aerosal*, 555 F.3d at 993. In *Perfect Web*, the patented technology involved a method of managing bulk e-mail comprising essentially the steps of targeting a group of recipients, sending e-mail to those recipients, calculating the number of successfully delivered e-mails, and repeating the first three steps until reaching the desired quantity. It was undisputed that the first three steps were disclosed in the

prior art. With respect to the last step, the district court explained: "If 100 email deliveries were ordered, and the first transmission delivered only 95, common sense dictates that one should try again. One could do little else." *Perfect Web*, 587 F.3d at 1330. We affirmed the district court's obviousness determination and endorsed its "common sense" reasoning. *Id.* We furthermore concluded that no expert opinion was required to support the obviousness determination, because the technology was "easily understandable." *Id.* at 1329-30 (quoting *Centricut, LLC v. Esab Group, Inc.*, 390 F.3d 1361, 1369 (Fed. Cir. 2004)); *see also Sundance*, 550 F.3d at 1365.[5]

Thus, in appropriate cases, the ultimate inference as to the existence of a motivation to combine references may boil down to a question of "common sense," appropriate for resolution on summary judgment or JMOL. *See Perfect Web*, 587 F.3d at 1330. Other recent cases have confirmed the appropriateness of this approach. In *Ball Aerosol*, the sole disagreement between the parties and

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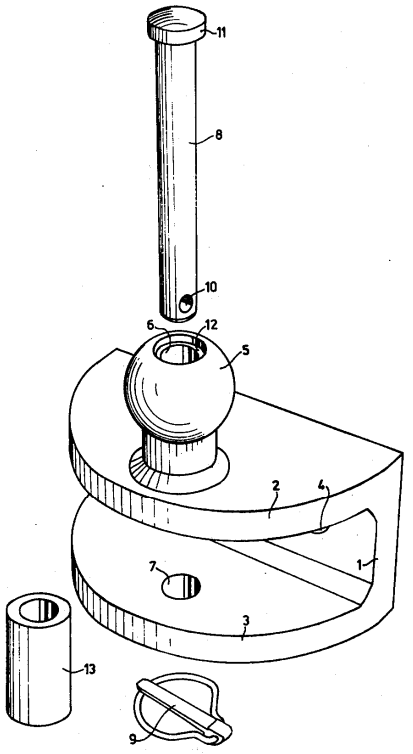
[5] However, as we noted in *Centricut*, "expert testimony regarding matters beyond the comprehension of laypersons is sometimes essential," particularly in cases involving complex technology. 390 F.3d at 1369-70 (requiring expert testimony to establish infringement); *Proveris Scientific Corp. v. Innovasystems, Inc.*, 536 F.3d 1256, 1267 (Fed. Cir. 2008) (holding that expert testimony was required to establish invalidity on grounds of anticipation and obviousness where the subject matter is sufficiently complex to fall beyond the grasp of an ordinary layperson). In such cases, expert testimony may be critical, for example, to establish the existence of certain features in the prior art, *see Koito Mfg. Co., Ltd. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1152 n.4 (Fed. Cir. 2004), or the existence (or lack thereof) of a motivation to combine references, *see Alza Corp. v. Mylan Labs., Inc.*, 464 F.3d 1286, 1294-95 (Fed. Cir. 2006).

the basis for the district court's denial of the accused infringer's motion for summary judgment of obviousness was whether a motivation to combine the prior art references existed. 555 F.3d at 991. We held that where all of the limitations of the patent were present in the prior art references, and the invention was addressed to a "known problem," "*KSR* . . . compels the grant of summary judgment of obviousness." *Id.* at 993. Similarly, in *Sundance*, we reversed a denial of JMOL on the issue of obviousness, noting that the factual inquiries underlying the determination of obviousness were not in material dispute, and concluding that the patent, which combined two prior art references, was obvious as a matter of law. 550 F.3d at 1365.

With these principles in mind, we consider whether the evidence established the existence of a motivation to combine references as to the sleeve patents. The above-referenced Down patent discloses a trailer towing attachment, adaptable to "a motor vehicle such as an automobile for towing by fitting a rear towing attachment for releasably attaching the tow-bar of a trailer such as a boat trailer, horse box, caravan or other vehicle." Down patent col.1 ll.9-12.

Down Patent, Figure 1



The invention is embodied by a

> support plate . . . with two parallel flat lugs [2,3] which, when the plate is mounted on a towing vehicle, project rearwardly from the plate and are spaced apart one above the other in respective horizontal planes, the upper lug being provided on its upper surface with an upstanding spherical boss [5] upon which a socket of a tow-bar can be seated, a bore extending through the centre of the boss and through the two lugs, and a pin engageable in the bore [11].

Id. col.1 ll.45-54. The towing attachment accepts either a tow-bar eye or tow-ball arrangement. In the tow-bar eye arrangement, the pin passes between the two lugs and through the towing eye and then is "locked in position." *Id.* col.1 l.20. The patent describes that "[a] locking element [9] may be provided for engagement in a transverse hole in the lower end of the pin . . . . The locking element may be of any convenient known type, preferably with a spring retaining means." *Id.* col.2 ll.3-8. The patent also discloses a "steel sleeve" as an "optional feature [that] fits over the portion of the pin which spans the space between the two lugs." *Id.* col.3 ll.15-17. The external diameter of the sleeve is such that the towing eye can be secured between the lugs with the sleeve interposed between the pin and the eye.

The existence of different aperture sizes in standard hitch receivers was a known problem: as the sleeve patent acknowledge, industry standards require hitch receivers to use pins of different sizes for different applications, thus resulting in inconvenience and added expense. *See* '115 patent col.2 ll.28-32 ("[A] number of different locking devices having different sized shanks are needed to meet varied particular applications. This is cumbersome and expensive. Therefore, there is a need for a locking mechanism using a linear shank that is convertible for various applications."); '426 patent col.2 ll.37-41. Moreover, as Philip Wyers himself acknowledged, it was also a known problem that among mass retailers such as Wal-Mart, space is at a premium. J.A. 4295. The Down patent clearly teaches that sleeves of different external diameter "may be provided for the attachment of trailer towing eyes of different internal diameter." Down patent col.3 ll.20-23. When the sleeve is used, the pin accommodates larger diameter towing eyes; without the sleeve, the pin fits smaller ones. It is simply a matter of common sense

that the sleeve used in Down, in a towing attachment quite similar to a hitch receiver/tow bar arrangement, could be combined with a barbell-shaped hitch pin lock in order to address the known problem of different aperture sizes in standard hitch receivers and the shelf-space problem experienced by retailers. *See KSR*, 550 U.S. at 421 ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense."); *Ball Aerosol*, 555 F.3d at 993. Likewise, it is clear that a skilled artisan would have perceived a reasonable expectation of success as a result of combining these two elements of the prior art references. *See In re O'Farrell*, 853 F.2d 894, 904 (Fed. Cir. 1988) ("For obviousness under § 103, all that is required is a reasonable expectation of success.").

None of Wyers' arguments to the contrary is convincing. First, Wyers argues that Master Lock did not consider Down to be invalidating prior art in its own patent application for its convertible sleeve. Wyers filed the '115 patent application in April of 2000. Master Lock independently filed a patent application in February of 2001 that issued as U.S. Patent No. 6,862,905 (the "'905 patent"), claiming a pin lock with a cylindrical locking mechanism that includes a locking disc; the patent also claimed a "sleeve dimensioned to slide over . . . a portion of said first locking member." '905 patent col.6 ll.49-50. However, Master Lock's '905 patent application, while claiming a convertible sleeve, *see id.* col.6 ll.50-52, did not claim that the sleeve represented a novel aspect of the invention. Moreover, Master Lock's patent application should be treated no differently than a patent application

by a third party. Obviousness protects the public at large, not a particular infringer, and one is not estopped from asserting the invalidity of a patent by the fact that one has previously made an attempt to procure a patent for substantially the same invention. As the Supreme Court concluded in *Haughey v. Lee*, 151 U.S. 282, 332-33 (1894), "the defense of want of patentable invention in a patent operates, not merely to exonerate the defendant, but to relieve the public from an asserted monopoly, and the court cannot be prevented from so declaring by the fact that the defendant had ineffectually sought to secure the monopoly for himself." *See also Paramount Publix Corp. v. Am. Tri-Ergon Corp.*, 294 U.S. 464, 477 (1935) ("However inconsistent this early attempt to procure a patent may be with petitioner's present contention of its invalidity for want of invention, this Court has long recognized that such inconsistency affords no basis for an estoppel, nor precludes the court from relieving the alleged infringer and the public from the asserted monopoly when there is no invention."). The Master Lock application thus does not defeat an assertion of obviousness. The failure of Master Lock employees to cite the Down patent as prior art in internal idea disclosure forms when Master Lock was considering filing its own patent application similarly does not defeat an argument of obviousness. What Master Lock employees subjectively knew or believed at the time they were considering filing the '905 patent application is irrelevant. The relevant inquiry is what a hypothetical ordinarily skilled artisan would have gleaned from the prior art references at the time that the patent applications leading to the sleeve patents were filed. *See, e.g.*, *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1364 (Fed. Cir. 2001).

Second, Wyers argues that Down could not be considered because Master Lock introduced no expert testimony

directed to Down. However, as we noted above, expert testimony is not required when the references and the invention are easily understandable. *Perfect Web*, 587 F.3d at 1329.

Third, Wyers argues that there are differences between the sleeve arrangement disclosed in the Down patent and the sleeve arrangement in the patents-in-suit. In the Down patent, the hitch arrangement is vertical, *see* Down patent, fig.1, whereas in the patents-in-suit it is horizontal, *see* '115 patent, fig.1; '426 patent, fig.1. Moreover, in Down, the sleeve covers only the middle portion of the pin, whereas in the patents-in-suit, the sleeve covers the entire shank. Wyers also asserts that the pin in the Down patent is not designed to fit tightly through a metal eye, while in the '115 and '426 sleeve patents, it fits snugly. However, we do not find these slight distinctions to be material.

Finally, Wyers suggests that an ordinary skilled artisan would not have had a reasonable expectation of success with the patented invention, because of the expectation that a sleeve would weaken the strength of the pin against "shear forces" due to a welding seam in the sleeve. J.A. 4078. Shear forces are the scissoring actions that are exerted by the load during towing due to stopping and starting, bumps in the road, or other sudden impacts. The claims do arguably require that the hitch pin be load-bearing; the very purpose of a "locking hitch pin device for interconnecting a bar with a hitch receiver" necessarily implies a limitation that the hitch pin be capable of bearing a load. *See* '115 patent col.10 ll.21-22. However, the claims do not require any particular resistance to shear forces or any particular towing strength associated with the towing pin or sleeve; the sole benefit of the sleeve described in the patent is its size adaptability. *See id.* col.2 ll.20-36; *id.* col.5 ll.52-57. Moreover, one skilled in

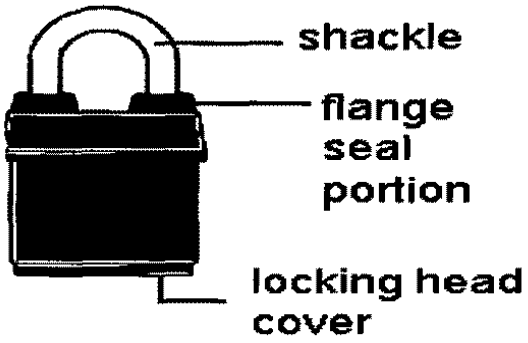
the art would have known from the Down patent that a size-adapting sleeve could work on a load-bearing towing pin. Wyers himself conceded that Down discloses a load-bearing pin with a sleeve. *See* Appellee's Br. 25 ("[T]he bushing and pin appear to be load-bearing . . . ."); J.A. 4328 ("Q. But it would be a load-bearing surface, wouldn't it? A. Sure."). Thus, one skilled in the art would have had a reasonable expectation of success in combining the sleeve with the barbell lock to solve the problem of size adaptability, in light of the prior art teachings. *See Amgen, Inc. v. F. Hoffman-La Roche, Ltd.*, 580 F.3d 1340, 1362 (Fed. Cir. 2009).

We conclude that it was a matter of common sense to combine the Down patent with the prior art barbell locks in order to arrive at the invention claimed in the '115 and '426 patents, and that one of ordinary skill in the art would have had a reasonable expectation of success in doing so.

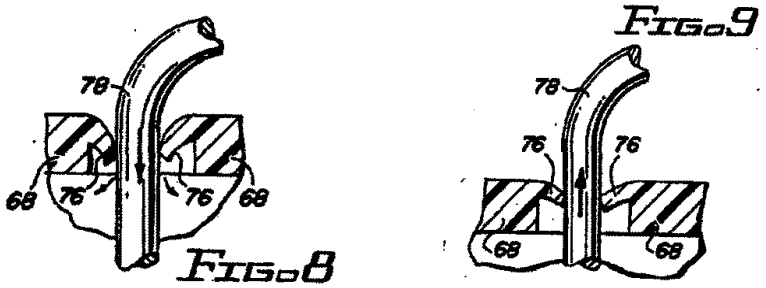
We next address the question of whether there was motivation to combine the prior art barbell locks with an external sealing mechanism. Some of the prior art hitch pin locks, such as the '832 patent and the Chang patent, used internal sealing mechanisms. The Chang patent claims an internal seal consisting of a sealing ring placed in a groove on the shank of the lock. Chang patent col.4 ll.54-57. Wyers' '832 patent claims an "o-ring" seal located on a groove on the latch that serves to prevent the ingress of unwanted substances into the locking head, essentially moving the sealing ring of Chang from an internal to an external position. *See* '832 patent col.7 ll.52-57. Additionally, at trial Master Lock also introduced a number of padlocks having a variety of external seal configurations. The Master Lock 6121 series padlock includes an external seal at the entry point of the shackle into the lock head. *See* J.A. 762. The Heald patent simi-

larly discloses an external flange seal that grips the circumference of the shackle arms to form "a weatherproof seal." Heald patent col.3 ll.62-col.4 l.3.

Master Lock 6121



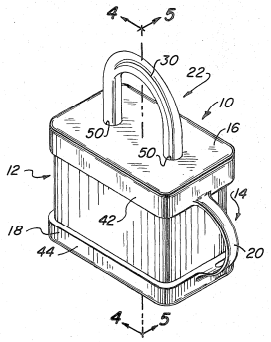
Figures 8 and 9 of the Heald Patent



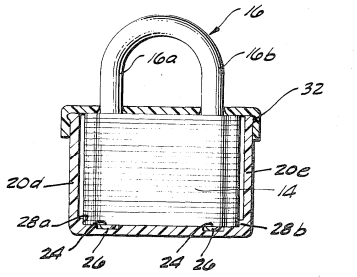
The Hampton patent discloses a padlock with an external seal covering the locking head. The flat cover lid in the Hampton patent incorporates holes with shackle receiving edges through which the padlock shackle passes to provide a seal around the shackle. Hampton patent col.4 ll.3-7. The seal is intended, in part, to protect the locking mechanism from the elements and the ingress of such contaminants as "dirt and ice." *Id.* col.1 ll.18-29. The Manuel patent also discloses a padlock with a flat exter-

nal seal covering the locking head, in which the holes are beveled and adapted to receive the shackle legs. Manuel patent col.1 ll.33-35.

Hampton Patent, Figure 1



Manuel Patent, Figure 2



Thus, at the time of the invention, there were two known ways to protect a lock's locking head from the ingress of contaminants—an external or an internal seal—and both design options were common and widely used in locks in the prior art. It is a matter of common sense that a flat external seal used in the prior art padlocks could be combined with a barbell-shaped hitch pin lock. Indeed, the district court described the difference between the invention of the '649 patent and the prior art as "slight indeed." *Wyers v. Master Lock Co.*, No. 06-cv-00619, 2008 WL 2168977, at *12 (D. Colo. May 22, 2008). Wyers himself admitted that an external flange seal would work the same way on a padlock as it does on a barbell-shaped lock, and that the purpose of the seals was the same in the prior art padlocks as in the patented device. We conclude that the invention of the '649 patent represents no more than "the predictable use of prior art elements according to their established functions," *KSR*, 550 U.S. at 417, and as such, the claims of the '649 patent are obvious as a matter of law.

Wyers argues that one of ordinary skill in the art would not have had a reasonable expectation of success in using an external flange seal on a barbell lock, because a "turtleneck" seal such as the one appearing in the Master Lock 6121 would "limit the shackle usage as it encroaches up the shackle," and would subject the seal to "deformation, possible damage." J.A. 4192. However, even if this is in fact the case, flat external seals that do not extend up the shank of the shackle also existed in the prior art. Both the Manual patent and the Hampton patent disclose a flat, external flange seal covering the locking head. *See* Manuel patent col.1 ll.33-35; Hampton patent, col.4 ll.3-7.

Wyers again argues that Master Lock's own patent application on a similar external seal filed in July of 2003 "admitted" that the external seal was "novel, nonobvious and useful and therefore warranted patent protection." Appellee's Br. 31. Master Lock filed a patent application in July of 2003 for a barbell-shaped coupler lock which included an external seal in the form of a protective covering with an opening that resulted in an "interference fit between the seal and the shaft." J.A. 11465.[6] Furthermore, Wyers argues, Master Lock's patent application fails to list any of the prior art that Master Lock now claims is invalidating. Appellee's Br. 32. However, the fact that Master Lock claimed that its external seal was novel bears no evidentiary significance; Master Lock's patent application should be treated no differently than a patent application by a third party, as discussed above.

Thus, we conclude that it was a matter of common sense to combine the prior art barbell locks with an

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[6] This patent application never issued, apparently because Master Lock's application was denied in light of Wyers' earlier application for the '649 patent.

external sealing mechanism in order to arrive at the claimed invention of the '649 patent, and that one of ordinary skill in the art would have had a reasonable expectation of success in doing so.

III Secondary Considerations

At trial, Wyers presented evidence of secondary indicia of nonobviousness, including commercial success, copying, and unexpected results. Wyers argued that commercial success was established by Master Lock's success in marketing and selling its infringing product, the invention's success among retailers such as WalMart who sought to save shelf-space, and Master Lock's failure to find a non-infringing substitute. Wyers also argues that competitors' copying and marketing of convertible shank hitch pin locks shortly after the invention's existence became known supports a finding of nonobviousness.

We reject Wyers' contention that secondary considerations of obviousness are sufficient to support the jury verdict of nonobviousness. Our case law clearly establishes that the patentee must establish a nexus between the evidence of commercial success and the patented invention. *See In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (holding that the proponent must offer proof "that the sales were a direct result of the unique characteristics of the *claimed invention*") (emphasis added); *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) ("For objective [evidence of secondary considerations] to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the *claimed invention*.") (emphasis added). Here, Wyers essentially concedes that he is unable to prove a nexus to the seal patent, and provides no independent evidence for the commercial success of the seal patent. Even with respect to the sleeve patents, Wyers relies solely on Master Lock's

$20 million in sales of the accused product, and established no direct nexus to the sleeve feature.

Additionally, Wyers failed to establish copying. Not every competing product that arguably falls within the scope of a patent is evidence of copying; otherwise, "every infringement suit would automatically confirm the nonobviousness of the patent." *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004). 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. *Iron Grip*, 392 F.3d at 1325; *see Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1196-97 (Fed. Cir. 2003); *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1285-86 (Fed. Cir. 2000). Wyers introduced no such evidence here.

Moreover, secondary considerations of nonobviousness—considered here by the district court—simply cannot overcome a strong prima facie case of obviousness. *See Asyst Techs., Inc. v. Emtrak, Inc.*, 544 F.3d 1310, 1316 (Fed. Cir. 2008); *Agrizap, Inc. v. Woodstream Corp.*, 520 F.3d 1337, 1344 (Fed. Cir. 2008); *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (holding that the objective considerations of nonobviousness presented, including substantial evidence of commercial success, praise, and long-felt need, were inadequate to overcome a strong showing of primary considerations that rendered the claims at issue invalid); *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1371 (Fed. Cir. 2006) ("The

presence of certain secondary considerations of nonobviousness are insufficient as a matter of law to overcome our conclusion that the evidence *only* supports a legal conclusion that claim 1 would have been obvious."). Here, where the inventions represented no more than "the predictable use of prior art elements according to their established functions," *KSR*, 550 U.S. at 417, the secondary considerations are inadequate to establish nonobviousness as a matter of law.

Thus, we conclude that the asserted claims of the '115, '426, and '649 patent would have been obvious as a matter of law. We reverse the district court's holding that the asserted claims of the '115, '426, and '649 patents were nonobvious. In light of our disposition, we do not reach issues concerning the calculation of damages.

REVERSED

COSTS

Costs to Appellant.

United States Court of Appeals for the Federal Circuit

PHILIP W. WYERS AND WYERS PRODUCTS GROUP, INC.,
Plaintiff-Appellees,

v.

MASTER LOCK COMPANY,
Defendant-Appellant.

2009-1412

Appeal from the United States District Court for the District of Colorado in case no. 1:06-CV-00619, Senior Judge Lewis T. Babcock.

LINN, *Circuit Judge*, concurring.

While I concur both in the conclusion reached and the reasoning expressed in Judge Dyk's opinion for the Court, I write to address concerns raised following the Supreme Court's decision in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007) with respect to general verdicts relating to obviousness.

It is well established that whether an invention would have been obvious at the time the invention was made is a mixed question of law and fact. *See, e.g.*, *Takeda Chem. Indus., Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350,

1355 (Fed. Cir. 2007). The ultimate determination of obviousness is a question of law, which we review de novo. *Id.* This determination is based on the underlying factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966), which we review for clear error. *Id.*

In *KSR*, the Supreme Court confirmed that "[t]he ultimate judgment of obviousness is a legal determination." 550 U.S. at 427. This acknowledgement did not change longstanding precedent permitting the submission of obviousness questions to a jury for a general verdict, provided the jury has received proper instruction on the law. As stated by this Court in *Connell v. Sears, Roebuck & Co.*:

> [I]t is not error to submit the question of obviousness to the jury. No warrant appears for distinguishing the submission of legal questions to a jury in patent cases from such submissions routinely made in other types of cases. So long as the Seventh Amendment stands, the right to a jury trial should not be rationed, nor should particular issues in particular types of cases be treated differently from similar issues in other types of cases. Scholarly disputes over use of jury trials in technically complex cases relate to the right to trial by jury itself, and center on whether lay juries are capable of making correct fact determinations, not over the propriety of submitting legal questions to juries. The obviousness issue may be in some cases complex and complicated, on both fact and law, but no more so than equally complicated, even technological, issues in product liability, medical injury, antitrust, and similar cases. Indeed, though the analogy like most is not perfect, the role of the jury in determining obvious-

> ness is not unlike its role in reaching a legal conclusion respecting negligence, putting itself in the shoes of one "skilled in the art" at the time the invention was made in the former and in the shoes of a "reasonable person" at the time of the events giving rise to the suit in the latter.

722 F.2d 1542, 1547 (Fed. Cir. 1983); *see also Harbor Tug & Barge Co. v. Papai*, 520 U.S. 548, 554 (1997) (stating that where an "inquiry is a mixed question of law and fact . . . it often will be inappropriate to take the question from the jury") (internal citations omitted); *United States v. Gaudin*, 515 U.S. 506, 511-16 (1995) (stating that the determination of whether a statement is "material" is ultimately a legal question, based on several underlying questions of "purely historical fact," which "has typically been resolved by juries" and "[j]uries at the time of the framing could not be forced to produce mere 'factual findings,' but were entitled to deliver a general verdict pronouncing the defendant's guilt or innocence"); *McDermott Int'l, Inc. v. Wilander*, 498 U.S. 337, 356 (1991) (holding that the mixed law and fact question of who is a "seaman" under the Jones Act is a question for the jury, which "finds the facts and . . . applies the legal standard"); *White v. Jeffrey Mining Mach. Co.*, 723 F.2d 1553, 1558 (Fed. Cir. 1983) ("Jeffrey argues that the judge improperly submitted this question of law to the jury and adopted its conclusion as his own, without the benefit of underlying findings of fact. The argument is without merit. Submission of such a question of law to a jury, accompanied by appropriate instructions, is proper." (citing *Connell*, 722 F.2d at 1542)).

While, "the judge must remain the ultimate arbiter on the question of obviousness," this role is properly exercised on "giving proper instructions on the law to the jury

before it considers its verdict" and again "when presented with a motion for JNOV or new trial." *R.R. Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1515 (Fed. Cir. 1984). To facilitate review and reveal more clearly the jury's underlying factual findings, this Court has encouraged trial court judges to provide juries with special interrogatories on obviousness. *Agrizap, Inc. v. Woodstream Corp.*, 520 F.3d 1337, 1343 n.3 (Fed. Cir. 2008); *Richardson-Vicks, Inc. v. Upjohn Co.*, 122 F.3d 1476, 1484-85 (Fed. Cir. 1997); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984). However, we set forth no hard and fast rule, and "it must be left to the sound discretion of the trial court what form of verdict to request of a jury." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707 (Fed. Cir. 1984).

Absent any special interrogatories, we must presume the "existence of findings necessary to support the verdict the jury reached." *Perkin-Elmer*, 732 F.2d at 893. Our review of a general verdict on obviousness thus entails two steps. "We first presume that the jury resolved the underlying factual disputes in favor of the verdict winner and leave those presumed findings undisturbed if they are supported by substantial evidence. Then we examine the legal conclusion *de novo* to see whether it is correct in light of the presumed jury fact findings." *Jurgens v. McKasy*, 927 F.2d 1552, 1557 (Fed. Cir. 1991) (internal citations omitted); *see also Boston Scientific Scimed, Inc. v. Cordis Corp*, 554 F.3d 982 (Fed. Cir. 2009); *Agrizap*, 520 F.3d 1337; *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342 (Fed. Cir. 2007).

Because there is no way to determine from a general verdict on obviousness the specific findings of fact made by a jury on the factual questions underlying its verdict, the court in examining the first part of the obviousness

question is left to infer whether substantial evidence existed from which the jury could have made the factual findings necessary to support the verdict. Here, the majority examined the record and after considering the factual inferences concluded that support was lacking and that the claims at issue would have been obvious as a matter of law. With both the analysis and the conclusion, I fully agree.