Trials@uspto.gov
Tel: 571-272-7822

Paper 33
Entered: December 30, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NHK SEATING OF AMERICA, INC.,
Petitioner,

v.

LEAR CORPORATION,
Patent Owner.

Case IPR2014-01026
Patent 6,655,733 B2

Before NEIL T. POWELL, MITCHELL G. WEATHERLY, and CARL M. DeFRANCO, *Administrative Patent Judges.*

WEATHERLY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a)

I. INTRODUCTION

A. BACKGROUND

NHK Seating of America, Inc. ("NHK") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 10–12, 14, 15, and 17–21 of U.S. Patent No. 6,655,733 B2 (Ex. 1001, "the '733 patent"). NHK supported the Petition with a declaration from Richard W. Kent, PhD (Ex. 1010). Lear Corporation ("Lear") timely filed a Preliminary Response.

Paper 6 ("Prelim. Resp."). On December 31, 2014, based on the record before us at the time, we instituted an *inter partes* review of claims 10–12, 14, 15, and 17–21, Paper 7 ("Institution Decision" or "Dec."), on the following grounds:

Reference(s)	Basis	Claims
European Patent Application No. 1,053,907 ("Kage") (Ex. 1003)	§ 102(a)	10, 11, 14, 19, and 20
Japanese Unexamined Patent Application Publication No.: H11-34708 ("Nakano") (Ex. 1004 with certified translation at Ex. 1005)	§ 102(b)	10, 11, 14, 19, and 20
International Publication No. WO 98/09838 A1 ("Wiklund") (Ex. 1006)	§ 102(b)	10, 11, 14, 15, 19, and 20
Wiklund and International Publication No. WO 00/35707 A1 ("Humer") (Ex. 1007)	§ 103	12, 17, 18, and 21
U.S. Patent No. 5,378,043 ("Viano") (Ex. 1008)	§ 102(b)	10, 11, 19, and 20

Dec. 12.

After we instituted this review, Lear filed a Patent Owner Response in opposition to the Petition (Paper 12, "Resp.") that was supported by the declaration of David C. Viano, PhD (Ex. 2005). Lear also filed a statutory disclaimer of claims 10 and 12. Resp. 1; Ex. 2010. Accordingly, the only claims remaining for our consideration at trial are claims 11, 14, 15, and 17–21 ("the challenged claims"). *See* 35 U.S.C. § 253 (disclaimer of claims considered effective as if part of original patent); 37 C.F.R. § 42.107 (Board will not institute trial on disclaimed claims). NHK filed a Reply in support

of the Petition (Paper 15, "Reply") that was supported by an additional declaration from Dr. Kent (Ex. 1013).

Lear also filed a Motion to Strike and/or Exclude the Testimony of NHK's Expert, Richard W. Kent. Paper 20 ("Motion" or "Motion to Exclude"). NHK opposed the Motion to Exclude. Paper 23 ("Mot. Opp."). Lear filed a Reply in support of the Motion. Paper 24 ("Mot. Reply"). Lear did not move to amend any claim in the '733 patent.

We heard oral argument on September 10, 2015. A transcript is entered as Paper 32 ("Tr.").

For the reasons expressed below, we conclude that NHK has demonstrated, by a preponderance of evidence, that claims 11, 14, and 17–21 are unpatentable, but NHK has failed to demonstrate that claim 15 is unpatentable. We also deny Lear's Motion to Exclude.

B. Related Matters

NHK identified as a related proceeding the co-pending district court litigation of *Lear Corporation v. NHK Seating of America, Inc.*, No. 2:13-cv-12937-SJM-RSW (E.D. Mich.), filed July 5, 2013. Pet. 1.

C. The '733 Patent

The '733 patent relates to "a variable movement headrest arrangement for providing support to the head of an occupant of a vehicle upon vehicle impact." Ex. 1001, 1:13–15. Among the originally challenged claims, claims 10 and 19 are independent and are directed to a "vehicle seat and headrest arrangement." Claims 10 and 19, which are illustrative, recite:

> 10. A vehicle seat and headrest arrangement for use with a seat having a seatback in a vehicle, the vehicle seat and headrest arrangement comprising:

a headrest arrangement including a headrest, the headrest arrangement having at least one impact target and at least one of a guide member and a follower;

the seatback having the other at least one of a guide member and follower,

the guide member having a guideway and

the follower extending laterally and engaging the guideway of the guide member such that upon impact to the vehicle one of a rearward load by the occupant upon the impact target and the forward inertia of the headrest irrespective of whether occupant is in contact with the seatback will cause the follower to engage the guideway in such a manner as to cause the headrest to move in a manner so as to support a head of an occupant.

Ex. 1001, 12:56–13:5 (third and fourth line breaks added for clarity).

19. A vehicle seat and headrest arrangement for use with a seat having a seatback in a vehicle, the vehicle seat and headrest arrangement comprising:

a headrest arrangement including a headrest and a headrest extension, the headrest extension having one of a guide member and a follower and an impact target located below the one of a guide member and a follower;

a seatback frame of the seatback having the other one of a guide member and follower,

the guide member having a guideway and

the follower extending laterally and slidingly engaging the guideway of the guide member such that upon impact to the vehicle one of a rearward load by the occupant upon the impact target and the forward inertia of the headrest irrespective of whether occupant is in contact with the seatback will cause the follower to be slidably guided by the guideway such that the headrest is moved in a first and second manner.

Id. at 14:1–17 (third and fourth line breaks added for clarity).

The Specification describes an embodiment of the claimed seat by referring to Figures 2 and 3. We reproduce below versions of Figures 2 and 3 that are colorized to aid understanding of the disclosed seat with a headrest arrangement.

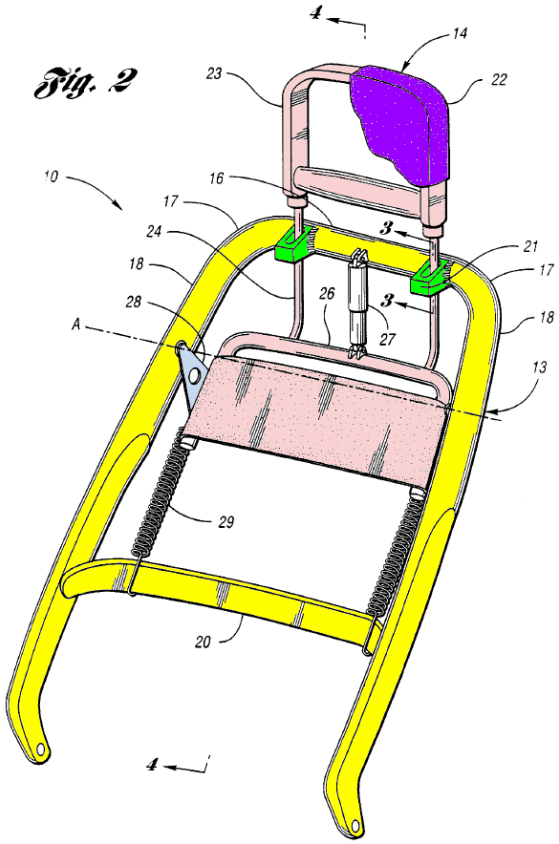


Figure 2 of the '733 patent is a perspective schematic view of headrest arrangement 14 incorporated into seatback frame 13.

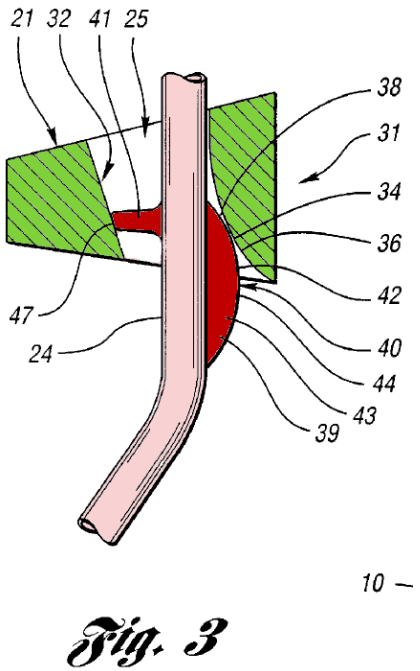


Figure 3 of the '733 patent is a detailed cross section view of follower 39 and guide (unnumbered but green) with guideway 25.

Upon a rearward load being applied to impact target 26 (pink), connectors 28 (blue) pivot about axis A and impact target 26 (pink) moves rearward and upward. *Id*. at 8:18–21. Movement of impact target 26 (pink) causes headrest extensions 24 (pink) to slide upward through guideway 25 of guide members 21 (green). *Id*. at 8:21–26. Follower 39 (red) on headrest

extension 24 (pink) slides along the interior walls of guideway 25 as headrest extension 24 (pink) carrying headrest 22 (purple) moves upward, which results in headrest 22 (purple) moving in first and second manners. *Id*. at 8:26–41.

II. CLAIM INTERPRETATION

"A claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears." 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278 (Fed. Cir. 2015) ("We conclude that Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA."). When applying that standard, we interpret the claim language as it would be understood by one of ordinary skill in the art in light of the specification. *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010). Thus, we give claim terms their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) ("The ordinary and customary meaning 'is the meaning that the term would have to a person of ordinary skill in the art in question.'"). Only terms which are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc*., 200 F.3d 795, 803 (Fed. Cir. 1999).

After our Institution Decision, the parties dispute only the meaning of "first manner" and "second manner." Resp. 12–19; Reply 6. The first and second manner are recited as limitations on the headrest in claims 11, 14, 15, and 19–21, but not in claims 17 and 18. Claim 11 recites that its headrest "may be moved in a first manner and a second manner." Ex. 1001, 13:8–9. Claim 14 recites that its headrest must "move in a first manner and a second

manner," *id*. at 13:30–31, and claim 15 depends from claim 14, *id*. at 13:32. Claim 19 recites "the headrest is moved in a first and second manner," *id*. at 14:17, and claims 20 and 21 depend directly or indirectly from claim 19, *id*. at 14:18, 25. Dependent claims 17 and 18, which depend from claim 12, which depends from claim 10, do not require that the headrest move in a first and second manner. *Id*. at 13:14 (claim 12), 13:52 (claim 17 corrected in Certificate of Correction), 13:55 (claim 18 corrected in Certificate of Correction).

For purposes of instituting this trial, we found that NHK's proposed interpretation of movement in "a first and a second manner" as referring to movement in "any two different ways" was appropriate. Dec. 6–9. We also rejected Lear's attempt to limit "first and second manner" to mean "[a]t least one of the first forward velocity and first trajectory of the first manner is different than one of the second forward velocity and second trajectory of the second manner." *Id*. at 7. We rejected Lear's preliminary argument because it improperly attempted to incorporate limitations of preferred embodiments into the claims without express limitations to those embodiments. *Id*.

After institution, Lear argues that movement in "a first and a second manner" refers to movement "in a first trajectory and a second trajectory." Resp. 12–19. NHK counters that, because "trajectory" is never recited in any claim in the '733 patent and Lear added "trajectory" to claims in related U.S. Patent No. 6,631,955 B2 to distinguish prior art, we must interpret "a first manner and a second manner" more broadly than "a first trajectory and a second trajectory." Reply 6. We are persuaded by NHK's counter argument, but must consider whether our prior interpretation of "first

manner and second manner" as meaning "any two different ways" is too broad. For the reasons that follow, we determine that "in a first manner and a second manner" does refer to movement in "any two different ways."

The Specification broadly introduces the concepts of "first manner" and "second manner" as follows:

> As will be described in greater detail below, headrest 22 moves variably upon vehicle impact. In the embodiment shown, such variable movement occurs in first and second manners wherein the first and second manners relate to first and second forward velocities respectively, those being the velocities of the headrest 22 forward toward the occupant or the front of the vehicle, and first and second trajectories respectively, those being the trajectories or paths of headrest 22. *Such variable movement could be along any suitable combination of trajectories and velocities. As long as at least one of the first forward velocity and first trajectory is different than one of a second forward velocity and second trajectory, movement in first and second manners, variable movement, has been achieved.*

Ex. 1001, 5:9–22 (emphasis added). This passage is consistent with interpreting "first manner and second manner" as meaning "any two different ways." As described in this quoted passage, if either the forward velocity or the trajectory of the headrest, or both changes, then movement in a first and second manner has occurred. For example, if the headrest were to move forward at one velocity and then merely slow down (or speed up) on the same trajectory, then movement would occur in a first and second manner.

Lear bases its argument for equating "manner" with "trajectory" on quoted portions of the Specification that are altered to remove broadening language indicating that a first and second manner refers to a change in velocity or a change in trajectory. Resp. 14–15 (quoting with alterations

Ex. 1001, 5:9–18; 8:25–33, 8:42–46, 9:8–19). Lear, by altering its selected portions of the Specification, ignores the clearly broader description of first and second manner quoted above as referring to any change in forward velocity or trajectory or both.

Other portions of the Specification, however, indicate a preferred relationship between the first and second manner in which the headrest moves quickly immediately upon impact (i.e., in a first manner) and slows down as it approaches the occupant's head (i.e., in a second manner). For example, the Specification states in the sentence immediately following the broad description quoted above:

> However, as will be explained in more detail, in the event of a vehicle impact, it is preferable that the headrest move in a first manner so as to more quickly lessen the gap between the head of an occupant and the headrest 22 and move in a second manner so as to decrease the forward velocity and provide support upon contact with the occupant's head.

Ex. 1001, 5:22–28. In this passage, the headrest first moves quickly toward the head and then slows down to support the head as it contacts the head. In the more detailed remaining portions of the Specification relating to "first and second manner," the Specification describes the first manner as moving more quickly toward the head and the second manner as moving more slowly to support the head. *E.g.*, *id*. at 8:64–9:4, 9:14–26, 9:37–50. In all these portions, the headrest slows as it approaches the occupant's head because both the forward velocity and the trajectory change. *Id*.

The claims are not expressly limited, however, to these preferred types of movement in a first and second manner. We interpret claims according to their broadest reasonable interpretation that is consistent with the specification, but we take care not to incorporate limitations that appear only

in the specification. *In re Prater*, 415 F.2d 1393, 1404–05 (CCPA 1969). Additionally, the U.S. Court of Appeals for the Federal Circuit has noted that:

> To act as its own lexicographer, a patentee must "clearly set forth a definition of the disputed claim term" other than its plain and ordinary meaning. . . . It is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all embodiments, the patentee must "clearly express an intent" to redefine the term.

Thorner v. Sony Computer Entm't Am. LLC, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (internal citations omitted). Lear does not identify any portion of the Specification indicating a clear intent to limit "manner" as Lear proposes. Citing to examples in the Specification of preferred "first and second manners" while ignoring broader descriptions of them does not redefine "first manner and second manner," which has a plain and ordinary meaning. Because the Specification broadly introduces the concepts of "first manner" and "second manner" to encompass movements in any two different ways, we maintain our preliminary interpretation of "in a first manner and a second manner" as meaning "in any two different ways."

III. THE CHALLENGES TO PATENTABILITY

We instituted a review of the patentability of claims 11, 14, 15, and 17–21 of the '733 patent on the grounds that those claims may be anticipated or obvious in light of various prior art references including: Kage, Nakano, Wiklund, Humer, and Viano. Dec. 9–24.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). The Supreme Court in *KSR International Co. v. Teleflex*

Inc., 550 U.S. 398 (2007) reaffirmed the framework for determining obviousness as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). As observed by the Court in *KSR*, the factual inquiries set forth in *Graham* that are applied for establishing a background for determining obviousness under 35 U.S.C. § 103(a) are summarized as follows:

1. Determining the scope and content of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

KSR, 550 U.S. at 406. With these standards in mind, we address each challenge below.

A. THE PARTIES' POST-INSTITUTION ARGUMENTS

In our Institution Decision, we concluded that the argument and evidence adduced by NHK demonstrated a reasonable likelihood that: (1) Kage anticipated claims 11, 14, 19, and 20, Dec. 10–12; (2) Nakano anticipated claims 11, 14, 19, and 20, *id*. at 12–17; (3) Wiklund anticipated claims 11, 14, 15, 19, and 20, *id*. at 17–20; (4) the combination of Wiklund and Humer rendered claims 17, 18, and 21 obvious, *id*. at 20–22; and (5) Viano anticipated claims 11, 19, and 20, *id*. at 22–24. We must now determine whether NHK has established by a preponderance of the evidence that these combinations of prior art render the specified claims unpatentable. 35 U.S.C. § 316(e). In this connection, we previously instructed Lear that "any arguments for patentability not raised in the [Patent Owner Response] will be deemed waived." Paper 8, 2–3; *see also* 37 C.F.R. § 42.23(a) ("Any

material fact not specifically denied may be considered admitted."). Additionally, the Board's Trial Practice Guide states that the Patent Owner Response "should identify all the involved claims that are believed to be patentable and state the basis for that belief." Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

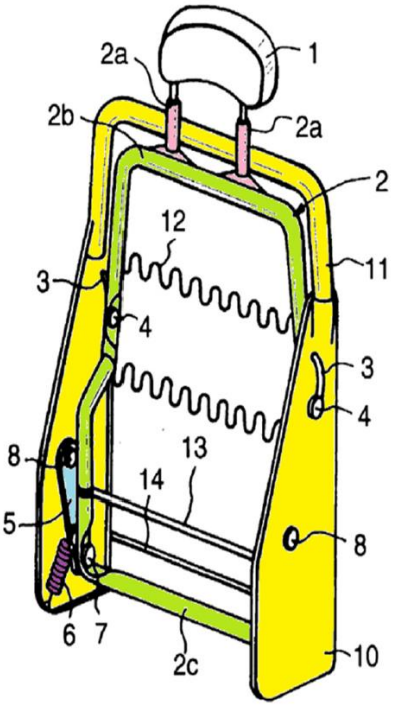
Accordingly, with regard to all limitations of the claims other than those that Lear identifies in the Response as being novel over the prior art, the record now contains unrebutted arguments and evidence presented by NHK regarding the merits of the teachings of Kage, Nakano, Wiklund, Humer, and Viano. We agree with and adopt NHK's factual contentions set forth in the Petition and the Reply with regard to these limitations. We find that the preponderance of the evidence of record developed at trial supports our conclusion that NHK has set forth how the alleged prior art teaches or suggests the uncontested limitations of the reviewed claims. Accordingly, we do not address these uncontested limitations in our discussion below.

B. ANTICIPATION OF CLAIMS 11, 14, 19, AND 20 BY KAGE

Claims 11, 14, 19, and 20 all require that the headrest move in a first and second manner. Ex. 1001, 13:6–13 (claim 11), 13:25–32 (claims 14 and 15), 14:1–18 and Certificate of Correction (claims 19 and 20). We preliminarily determined that NHK had established a reasonable likelihood of showing that Kage anticipates claims 11, 14, 19, and 20. Dec. 10–12. Lear argues that Kage does not anticipate these claims because Kage fails to describe a headrest that moves in a first and second manner. Resp. 22–24.

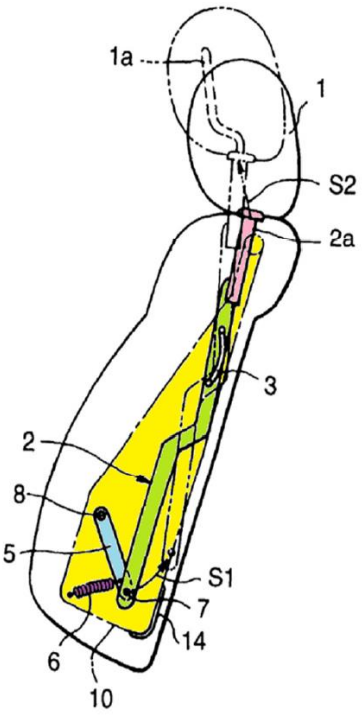
1. Overview of Kage

The operation of Kage is illustrated in the colorized versions of Kage's Figs. 1 and 2 (reproduced below).



Kage Fig. 1

Kage's colorized Figure 1 depicts movable frame 2 with headrest supports 2a mounted within fixed frame 10.



Kage Fig. 2

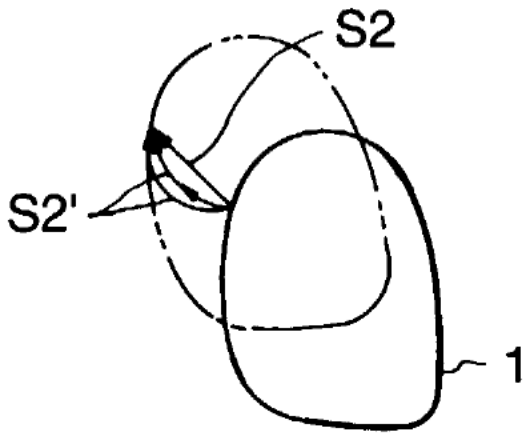
Kage's colorized Figure 2 depicts how movable frame 2 and headrest supports 2a move within fixed frame 10 upon impact.

Kage relates to a seat that "can receive load from a passenger's waist and the headrest can be quickly and stably moved forward . . . ." Ex. 1003, 2:42–44. Kage's seat includes stationary seat frame 10, 11, 14 (yellow) and movable seat frame 2 (green) from which headrest support guides 2a (pink) extend to support headrest 1. *Id*. at 7:21–36, 7:55–8:1. Guide shafts 4 extend from moveable frame 2 (green) and slidably engage guide holes 3. *Id*. at 7:42–50. Link members 5 (blue) are pivotally connected to movable frame 2 (green) at pivot axes 7 and to fixed frame 10 (yellow) at link shafts 8. *Id*. at 8:8–15.

When rearward force is applied to seat frame 2c (green), link members 5 (blue) pivot upward and frame 2c (green) is guided along

moving path S1. *Id*. at 8:43–48. Guide shafts 4 slide within guide holes 3 as movable frame 2 moves upward. *Id*. As a result, the headrest 1 moves along linear moving path S2, which is defined by a combination of moving path S1 and the shape of guide holes 3. *Id*. at 8:49–54.

Kage illustrates its linear path S2 in the pertinent portion of its Figure 3, which is reproduced at right, as the path through which a point on the front-facing surface of headrest 1 moves as link members 5 move along moving path S1. The pertinent portion of Kage's Figure 3 also illustrates an alternative moving path S2' for the same point on headrest 1, which Kage describes as follows:



> [I]f the guide holes 3 are formed to have a linear shape or a shape which is convex toward the front side of the vehicle body, the headrest 1 is displaced forward with respect to the vehicle body at an early timing of its movement, and is then displaced upward, as indicated by a path S2' in Fig. 3. *In such case, the distance between the passenger's head and headrest can be shortened quickly at an early timing of movement of the headrest 1, and when the passenger's head contacts the headrest in practice, the relative speed between the passenger's head and headrest can be minimized (since the moving direction of the headrest has changed in the upward direction).*

Id. at 8:58–9:5 (emphasis added). The emphasized portion of the quotation establishes that Kage's headrest moves differently at the beginning and end of its path S2'. Namely, Kage's headrest moves quickly toward the occupant's head at the beginning of path S2' and more slowly toward the occupant's head at the end of path S2'.

2. Analysis

NHK provides argument and evidence explaining how Kage describes all elements of claims 11, 14, 19, and 20. Pet. 9–20. NHK relies upon the variable movement of Kage's headrest along path S2' as describing movement of the headrest in first and second manners. Lear argues that Kage fails to describe a headrest that moves in a first trajectory and a second trajectory because paths "S2 and S2' are single trajectories." Resp. 23. Lear also argues that both experts agree that the alleged "single trajectory" path S2' constitutes movement in a "single way." *Id*. (citing Ex. 2005 ¶¶ 117–22; Ex. 2008, 33:14–35:5).

Lear's argument is unpersuasive because it relies upon Lear's interpretation of "a first manner and a second manner" as meaning "a first trajectory and a different second trajectory." Resp. 21–24. We reject Lear's interpretation for the reasons discussed in part II above. Additionally, we are not persuaded by Lear's reliance on expert testimony to establish that Kage's headrest moves in "one way" along path S2' for two reasons. First, and most importantly, the testimonial evidence plainly contradicts Kage's explanation of how headrest 1 moves along path S2' in one way early in its travel and another way later in its travel (i.e., "*the moving direction of the headrest has changed in the upward direction."*). Ex. 1003, 9:8–12. Second, Lear's cited portion of Dr. Kent's testimony fails to establish that path S2' constitutes movement in one way. Dr. Kent's testimony merely establishes that Kage's headrest moves more forwardly early in path S2' and more upwardly in the latter part of path S2'. Ex. 2008, 34:20–35:5. We, therefore, conclude that Dr. Kent's testimony fails to establish that movement along path S2' is movement in "one way."

3. Conclusion

For the reasons described above, NHK persuades us by a preponderance of evidence that Kage describes a headrest that moves in a first manner and a second manner. As stated in part III.A above, we also are persuaded that NHK has established by a preponderance of evidence that Kage describes all other elements of claims 11, 14, 19, and 20. Accordingly, we conclude that NHK has established by a preponderance of evidence that Kage anticipates claims 11, 14, 19, and 20 under 35 U.S.C. § 102(a).

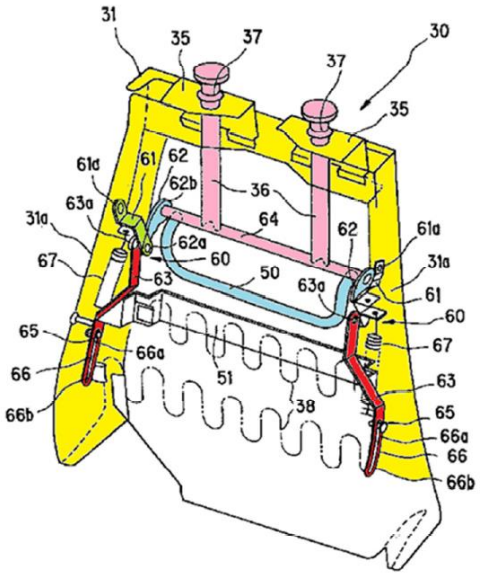
C. ANTICIPATION OF CLAIMS 11, 14, 19, AND 20 BY NAKANO

We preliminarily determined that NHK had established a reasonable likelihood of showing that Nakano anticipates claims 11, 14, 19, and 20. Dec. 12–17.

1. Overview of Nakano

The operation of Nakano is illustrated in the colorized versions of Nakano's Figure 4 (reproduced below left) and Figures 5(a)–(d) (reproduced below right).

【図４】



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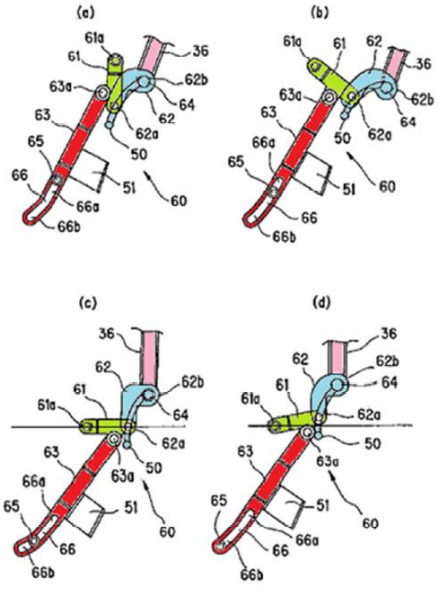
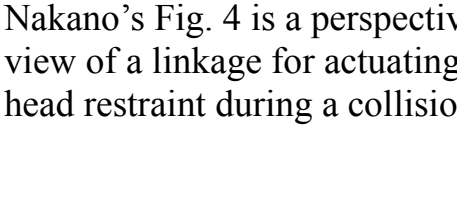
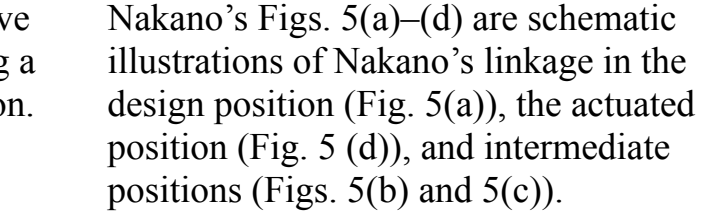


Nakano's Fig. 4 is a perspective view of a linkage for actuating a head restraint during a collision.



Nakano's Figs. 5(a)–(d) are schematic illustrations of Nakano's linkage in the design position (Fig. 5(a)), the actuated position (Fig. 5 (d)), and intermediate positions (Figs. 5(b) and 5(c)).



Nakano's linkage includes frame 31 (yellow), first link arm 61 (green), second link arm 62 (blue), third link arm 63 (red), load receiving member 50 (blue), and head rest holder brackets 36 (pink). Ex. 1005 ¶¶ 16–20. During impact, load bearing members 50, 51 receive load and transfer that load through link arms 61, 62, 63 to raise head rest 40 (*id.*, Fig. 6) to an actuated position. *Id*. at ¶ 19. Under normal conditions, coil spring 67 biases first link arm 61 (green) clockwise as seen in Figures 5(a)–(d) so that the linkage is held in the design position. *Id*. at ¶¶ 23, 25, Figs. 4, 5(a). During impact, forces extend coil spring 67 and move the linkage to an actuated position in which first link arm 61 and second link arm 62 rotate counterclockwise and third link arm 63 rotates clockwise and slides upward. *Id*. at ¶¶ 25–29. The sliding of third link arm 63 is constrained and guided by pin 65, which projects from side portion 31a of frame 31 and engages guide hole 66 in third link arm 63. *Id*. at ¶ 22. The head rest holder brackets 36 (pink) are supported within and slide through brackets 35 (yellow), which are attached to frame 31 (yellow), as the linkage moves the headrest from the design to the actuated position. *Id*. at ¶ 17, Figs. 2, 6.

2. Lear's Arguments

Lear argues that Nakano does not anticipate some or all these claims for four reasons. First, Lear contends that Nakano fails to describe a headrest that moves in a first and second manner as required in all these claims. Resp. 26–31. Second, Lear argues that Nakano fails to describe the "follower" recited in claims 19 and 20. *Id*. at 31–34. Third, Lear argues that

the structures in Nakano that NHK identifies as the follower and guideway of claims 11 and 14 do not "cause the headrest to move in first and second manners." *Id*. at 34–36. Fourth, Lear argues that the structures in Nakano that NHK identifies as the follower and guideway of claims 19 and 20 do not cause the headrest to move "in a first and second manner." We address each argument below.

a) Claims 11, 14, 19, and 20: First and Second Manners

NHK provides argument and evidence explaining how Nakano describes all elements of claims 11, 14, 19, and 20. Pet. 21–31. To establish movement of the headrest in first and second manners, NHK relies upon testimony of Dr. Kent explaining his kinematic model of Nakano's linkage that purportedly illustrates the path through which Nakano's headrest moves during actuation. *Id*. at 26 (citing Ex. 1010 ¶ 41). Dr. Kent used the drawings in Nakano as the input for his kinematic modeling effort. Ex. 1010 ¶ 41, Attachment B. NHK also relies upon Nakano's description of the movement of its headrest as being raised by "a designated stroke" and "subsequently" lifted "obliquely forward." *Id*. at 25 (citing Ex. 1005 ¶¶ 29, 33, Figures 5a–d); Reply 9 (citing Ex. 1005 ¶¶ 22, 26, 29). Nakano describes the movement of its headrest as follows:

> [A]s shown in Fig. 5 (b), . . . the coordinated operation of the first, second and third link arms 61, 62, 63 raises the holder bracket 36 fastened to the joint bar 64 between the second link arms 62, 62, *lifting up the head rest 40*.

Ex. 1005 ¶ 26 (emphasis added).

> Subsequently, as shown in Fig. 5 (d), the third link arm 63, 63 is moved by the lower load-bearing member 51, and in particular, guide pin 65 slides through the arc-shaped portion 66b of guide hole 66, causing the third link arm 63, 63 to rise along this arc-shaped trajectory, accompanying which the first

> link arm 61, 61 rotates counterclockwise in the drawing and the second link arm 62, 62 operates in coordination, *lifting* the holder bracket 36 fastened to the second link arm 62, 62 and *the head rest 40 obliquely forward*, carrying it to a position where it is close to the passenger's head, thereby ensuring that support is provided to the head.

Id., ¶ 29 (emphasis added).

Lear argues that NHK failed to demonstrate that Nakano describes a headrest that moves in a first manner and a second manner because Dr. Kent's original modeling of Nakano's headrest failed to account for the constraint imposed by brackets 35. Resp. 26–29. Lear further contends that its expert, Dr. Viano, "correctly model Nakano" and determined that brackets 35 were "essential" to predicting the motion of Nakano's headrest. *Id*. at 29. Lear also argues that movement of Nakano's headrest may be defined mathematically by a single equation, which allegedly demonstrates that Nakano's headrest moves along "a single trajectory." *Id*. at 30–31 (citing Ex. 2005 ¶¶ 133–35). Lear contends that Dr. Kent "admits" that a path of motion that can be expressed by a single equation establishes movement in only one manner. *Id*. at 31 (citing Ex. 2008, 17:3–14). Our review of the cited testimony, reveals that it does not support Lear's contention. We also do not understand Dr. Viano's testimony to support a conclusion that a "single equation" defines the movement of Nakano's headrest. Dr. Viano refers to Exhibit 2014 as reflecting his derivation of the mathematical relationships that define movement of Nakano's headrest. Ex. 2005 ¶ 134 (citing Ex. 2014). Exhibit 2014 demonstrates that one equation defines the movement of Nakano's headrest in the x-direction and another equation defines it in the y-direction. Ex. 2014, 1. Dr. Viano never provides an exemplary output of these two equations to illustrate how

Nakano's headrest would actually move. More importantly, however, Lear does not explain how Nakano's express description that the coordinated operation of links 61, 62, and 63 lifts its headrest (as shown in Figure 5b) and subsequently lifts the headrest obliquely forward (as shown in Figure 5d) fails to constitute movement in a first and second manner.

NHK persuades us by a preponderance of evidence that Nakano describes a headrest that moves in a first and second manner. More specifically, Nakano expressly states that it lifts the headrest (a first manner) and then subsequently lifts the headrest obliquely forward (a second manner). We need not determine whether Dr. Kent's first or second kinematic model or Dr. Viano's kinematic or geometric model accurately depicts the movement of Nakano's headrest because Nakano expressly describes movement in first and second manners.

b) Claims 19 and 20: Follower Extending Laterally and Slidingly Engaging the Guideway

Independent claim 19 recites, among other limitations, "the headrest extension having one of a guide member and a follower . . . the follower extending laterally and slidingly engaging the guideway of the guide member." Ex. 1001, 14:5–12. NHK identifies bracket 35 as the guide member and the combination of holder 36 and stay holder 37 as the follower that extends laterally. Pet. 29–30 (citing Nakano, Figures 4 and 6). Lear argues that the prosecution history of the '733 patent precludes any structure having a constant diameter from constituting a follower that is "extending laterally." Resp. 31–33. If we were to accept Lear's argument about the scope of "extending laterally," Lear contends that holder 36 cannot be a follower because it has a constant diameter and stay holder 37 cannot be a

follower because it does not slidingly engage the identified guideway (bracket 35). *Id*. at 34.

We are persuaded that the combination of holder 36 and stay holder 37, which NHK identifies as the follower constitutes the claimed follower that extends laterally and engages the guideway. Our conclusion remains the same even if we were to accept Lear's argument that constant diameter structures cannot constitute the claimed "follower." The combined structure of holder 36 and stay holder 37 is not a constant diameter structure because stay holder 37 is of greater diameter than holder 36 and extends laterally from holder 36. Lear does not contest that holder 36 slidingly engages bracket 35. Accordingly, we are persuaded by a preponderance of evidence that Nakano describes the follower of claims 19 and 20.

c) Claims 11 and 14: Whether the Structures Identified by NHK Cause the Headrest to Move in First and Second Manners

Claims 11 and 14 require that a follower engage a guide member such that the headrest moves in first and second manners. *See* Ex. 1001, 12:59–13:5 (introducing guide member and follower in independent claim 10), 13:6–9 (claim 11 requiring causation of first and second manner), 13:29–31 (claim 14 requiring causation of first and second manner). NHK identifies Nakano's guide holes 66 and guide pins 65 as the claimed guide member and follower that cause the headrest to move in the first and second manners. Pet. 21–24. Lear argues that guide holes 66 and guide pins 65 do not cause movement in the first and second manners. Resp. 34–36. Instead, Lear contends that link arms 61 (green), which rotate around fixed fulcrum 61a, completely defines the movement of the headrest and that guide pins 65 moving in guide holes 66 have no effect on how the headrest moves. *Id*.

at 35–36. Lear cites testimony from Drs. Viano and Kent as support for its contention. *Id*. (citing Ex. 2005 ¶¶ 154–59; Ex. 2008 73:21–76:15, 78:24–79:7).

We determine that both experts undermine Lear's contention by testifying that movement of guide pin 65 through guide hole 66 constrains movement of link 63 and defines the length of the path through which Nakano's headrest travels. Ex. 2005 ¶ 159; Ex. 2008, 75:1–21, 78:24–79:7. Additionally, Nakano repeatedly describes that it is the coordinated movement of link arms 61, 62, and 63 that affects how the headrest moves. *E.g.*, Ex. 1005 ¶¶ 8–10, 12, 13, 19, 26, 27, 30–33. Accordingly, NHK persuades us by a preponderance of evidence that Nakano's guide hole 66 and guide pin 65 constitute a claimed guide member and follower that are among the elements of Nakano that causes the headrest to move in a first and a second manner as required in claims 11 and 14.

d) Claims 19 and 20: Whether the Structures Identified by NHK Cause the Headrest to Move in First and Second Manners

Claims 19 and 20 require that a follower slidingly engage a guide member such that the headrest moves in a first and second manner. *See* Ex. 1001, 14:10–17 (independent claim 19), 14:18 and Certificate of Correction (claim 20 depending from claim 19). NHK identifies Nakano's bracket 35 and the combination of headrest extension 36 and holder 37 as the claimed guide member and follower that cause the headrest to move in the first and second manner. Pet. 27–30. Lear argues that Dr. Kent's initial modeling of how Nakano's headrest moves, which does not constrain movement of the headrest by bracket 35, demonstrates that bracket 35 does

not influence movement of Nakano's headrest and thus cannot cause the headrest to move in a first and second manner. Resp. 36–37.

Lear's argument is unpersuasive. Nakano's bracket 35 indisputably constrains the manner in which headrest extension 36 slides through bracket 35 and thus, at least in part, causes headrest to move in a first and second manner. *See* Ex. 1005 ¶ 14 (stating that Figures 1–7 depict "same vehicle seat"), ¶ 17 (brackets 35 support pipe-shaped holder bracket 36); Ex. 2005 ¶ 129 ("bracket 35 is essential to control the movement of the head restraint); Ex. 2007, 107:2–16 (bracket 35 constrains lateral movement of headrest extensions 36). Accordingly, NHK persuades us by a preponderance of evidence that Nakano's bracket 35 constitutes a claimed guide member and the combination of holder 36 and stay holder 37 constitutes a claimed follower that are among the elements of Nakano that cause the headrest to move in a first and second manner as required in claims 19 and 20.

3. Conclusion

For the reasons described above, NHK persuades us by a preponderance of evidence that Nakano describes a headrest that moves in a first manner and a second manner as required in claims 11, 14, 19, and 20. NHK also persuades us by a preponderance of evidence that Nakano describes a follower that extends laterally and slidingly engages the guide member as required in claims 19 and 20. NHK also persuades us that the structures it identifies in Nakano cause the headrest to move in first and second manners as required in claims 11, 14, 19, and 20. As stated in part III.A above, we also are persuaded that NHK has established by a preponderance of evidence that Nakano describes all other elements of

claims 11, 14, 19, and 20. Accordingly, we conclude that NHK has established by a preponderance of evidence that Nakano anticipates claims 11, 14, 19, and 20 under 35 U.S.C. § 102(b).

D. ANTICIPATION OF CLAIMS 11, 14, 15, 19, AND 20 BY WIKLUND

We preliminarily determined that NHK had established a reasonable likelihood of showing that Wiklund anticipates claims 11, 14, 15, 19, and 20. Dec. 17–20.

1. Overview of Wiklund

The colorized versions of Wiklund's Figures 2–4 (shown below) illustrate Wiklund's active head restraint system and the manner in which Wiklund's headrest moves during a collision.

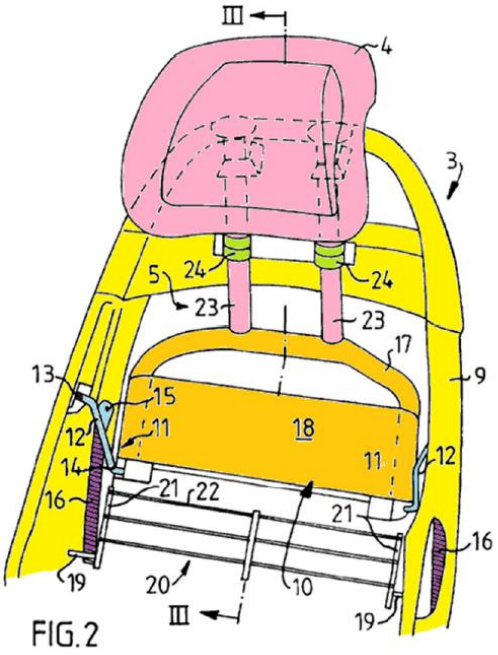


FIG. 2

Wiklund's Fig. 2 is a perspective view of elements that move headrest 4 during a collision.

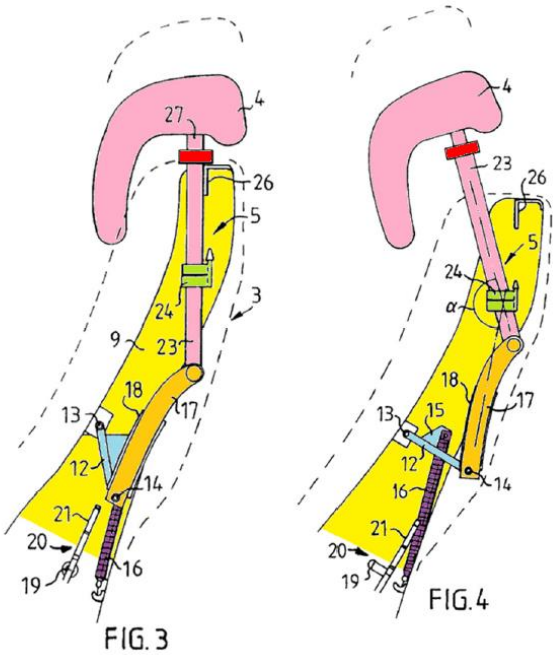


FIG. 3 FIG. 4

Wiklund's Figs. 3 and 4 are side views illustrating the manner in which headrest 4 moves during a collision.

During a rear collision, the occupant is forced backwards against Wiklund's maneuvering means 10 (orange). Ex. 1006, 5:28–30. Movement of

means 10 causes link arms 12 (blue) to rotate counterclockwise (as shown in Figs. 3 and 4), which lifts and rotates frame part 17 (orange). *Id*. at 5:28–6:1. This movement of frame part 17 slides holders 23 upward through supports 24 to lift headrest 4 and rotates holders 23 to move headrest 4 forward. *Id*.

2. Lear's Arguments

Lear argues that Wiklund does not anticipate some or all these claims for three reasons. Resp. 37–51. First, Lear contends that Wiklund fails to describe a headrest that moves in a first and second manner as required in all these claims. *Id*. at 37–43. Second, Lear argues that Wiklund fails to describe the "follower" extending laterally or slidingly engaging the guideway as recited in all these claims. *Id*. at 43–46. Third, Lear argues that the structures in Wiklund that NHK identifies as the follower and guideway of claim 15 do not have the claimed first and second surface portions. *Id*. at 46–51. We address each argument below.

a) Claims 11, 14, 15, 19, and 20: First and Second Manners

NHK contends that Wiklund's movement of its headrest upward while rotating forward constitutes movement in a "first and second manner." Pet. 35–36, 41–42 (citing Ex. 1006, 5:25–6:4), 38 (citing Ex. 1006, Fig. 4 and Ex. 1010 ¶¶ 56 and 57). Wiklund describes the movement of its headrest as follows:

> [D]uring a rear end collision, the support mechanism 5 can be made to take up the position shown in Fig. 4, where the neck support 4 has been moved forwards and upwards relative to the back 3 in order to support the head 6 of the person in the chair. During such a rear end collision the manoeuvering means 10 is subjected to such a large force backwards relative to the frame 9 by the back of the person that it is moved and, with the help of the link arms 12, guided in such a way that the *holders 23*

> *slide upwards in the support 24 at the same time as they are bent forwards*.

Ex. 1006, 5:25–6:1 (emphasis added).

Lear cites the same passage from Wiklund as establishing that Wiklund's headrest moves "simultaneously upward and forward along a single trajectory." Resp. 40. Lear also relies upon Dr. Viano's testimony to support its contention that Wiklund's headrest moves along a single trajectory. *Id*. (citing Ex. 2005 ¶¶ 166–89). Dr. Viano concludes that Wiklund moves in single trajectory based on two models of the movement of Wiklund's headrest. Ex. 2005 ¶¶ 166–89. Dr. Viano's first model is a kinematic model of Wiklund's linkage derived using dimensions in Wiklund's figures as input data that simulates the movement of Wiklund's headrest as the linkage moves. Ex. 2005 ¶ 166. Dr. Viano's second model is a mathematical model of a "simplified linkage that is analogous" to Wiklund's arrangement. *Id*. ¶ 172.

We determine Dr. Viano's modeling to be inconclusive on the issue of how Wiklund's headrest would actually move. Lear criticizes Dr. Kent's use of patent illustrations as a basis for a kinematic model of a prior art linkage as being improper. Resp. 10–11 (citing *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1148 (Fed. Cir. 2005) (holding that because "patent drawings do not define the precise proportions of the elements" the district court erred in determining invalidity based on "models made from [such] drawings."); *In re Olson*, 212 F.2d 590, 592 (C.C.P.A. 1954) ("drawings which accompany an application for a patent are merely illustrative of the principles embodied in the alleged invention."). Lear never explains why we should reject Dr. Kent's reliance on patent illustrations as input for his kinematic modeling while simultaneously relying upon Dr. Viano's reliance on patent

illustrations as input for his kinematic modeling of Wiklund. Accordingly, we do not rely upon Dr. Viano's kinematic modeling of Wiklund's headrest.

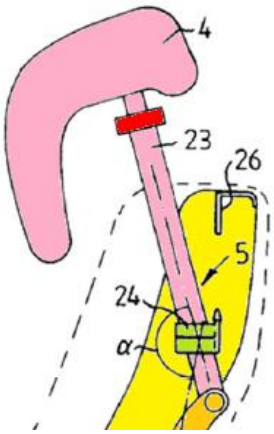
NHK contends that Dr. Viano's mathematical modeling is "improper" based on testimony by Dr. Kent. Reply 19 (citing Ex. 1013 ¶¶ 16–22). According to NHK, Dr. Viano's mathematical modeling oversimplifies Wiklund's linkage. *Id*. Even if we were to assume that Dr. Viano's mathematical model of Wiklund's linkage were valid, Lear never proffers evidence of the shape of the path through which Wiklund's headrest would actually move according to Dr. Viano's mathematical model.

Nevertheless, even if we were to accept Dr. Viano's modeling as accurate and Lear's contention that Wiklund's headrest moved in a "single trajectory" as true, Lear's argument would be unpersuasive because it is based on Lear's argument that we should equate "manner" with "trajectory." As explained in part II above, we interpret moving in a first manner and a second manner broadly to cover movement in two different ways. Wiklund plainly states its headrest moves in two different ways because holders 23 of headrest 4 simultaneously slide upward through support 24 and bend forward. Accordingly, NHK persuades us by a preponderance of evidence that Wiklund describes a headrest that moves in first and second manners.

b) Claims 11, 14, 15, 19, and 20: Follower Extending Laterally and Slidingly Engaging the Guideway

Claims 11, 14, and 15, via independent claim 10 from which all three claims ultimately depend, recite a "follower extending laterally and engaging the guideway of the guide member." Ex. 1001, 12:64–65. Independent claim 19 recites, among other limitations, "the headrest extension having one of a guide member and a follower . . . the follower extending laterally and slidingly engaging the guideway of the guide

member." *Id*. at 14:5–12. NHK identifies the combination of holder 23 (pink) holder part 27 (pink) and unnumbered stay (red), which are illustrated in the portion of the colorized version of Wiklund's Figure 4 reproduced at right, to be the follower extending laterally and slidingly engaging the guideway of the guide member (support 24 (green)). Pet. 33–35.



Lear argues that holder 23 and holder parts 27 cannot be the claimed follower because no portion of holder part 27 ever contacts support 24 and, therefore, holder parts 27 do not engage the guide member. Resp. 45. Lear also contends that holders 23 do not extend laterally because they have a constant diameter. *Id*.

Lear's argument is unpersuasive because it fails to address the entire combination of elements that NHK identifies as the follower, namely holder 23, holder parts 27, and the unnumbered stay (red). NHK persuades us that the stay (red) extends laterally from holder 23, which slides within support 24. Our conclusion remains the same even if we were to accept Lear's argument that constant diameter structures cannot constitute the claimed "follower." The combined structure of holder 23 and stay (red) is not a constant diameter structure because the stay is of greater diameter than holder 23 and it extends laterally from holder 23. Lear does not contest that holder 23 slidingly engages support 24. Accordingly, NHK persuades us by a preponderance of evidence that Nakano describes the follower of claims 11, 14, 15, 19, and 20.

c) Claim 15: Guideway Wall with First and Second Portions and Follower with First and Second Surface Portions

Claim 15 recites details of how the follower engages the guideway within the guide member as follows:

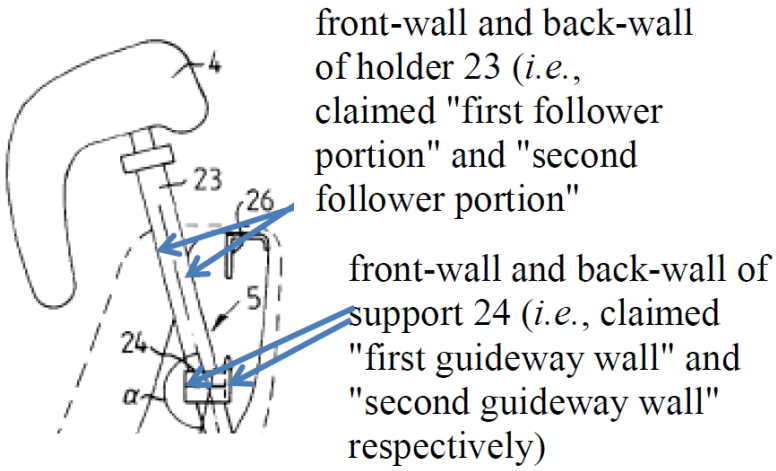
> the guideway has a first guideway wall and a second guideway wall and the follower has a first follower portion and a second follower portion which engage the first guideway wall and second guideway wall respectively . . . .

Ex. 1001, 13:26–29.

> the second guideway wall has a first contact portion and a second contact portion and the second follower portion has a first surface portion and a second surface portion such that upon impact to the vehicle, the first surface portion slidingly engages the first contact portion while the first follower portion slidingly engages the first guideway wall so as to cause the headrest to move in a first manner before the second surface portion slidingly engages the second contact portion as the first follower portion continues to slidingly engage the first guideway wall so as to cause the headrest to move in a second manner.

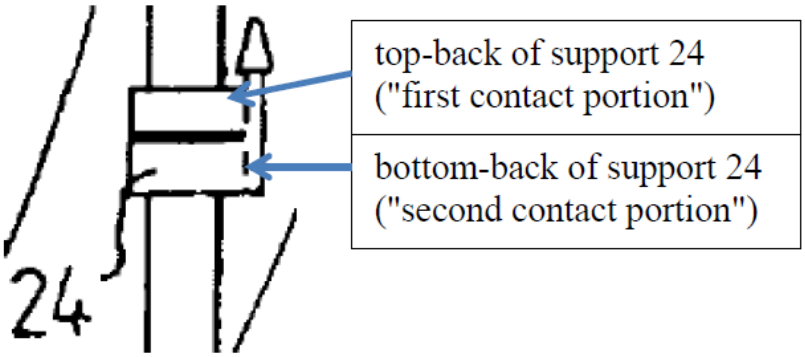
Id. at 13:33–43.

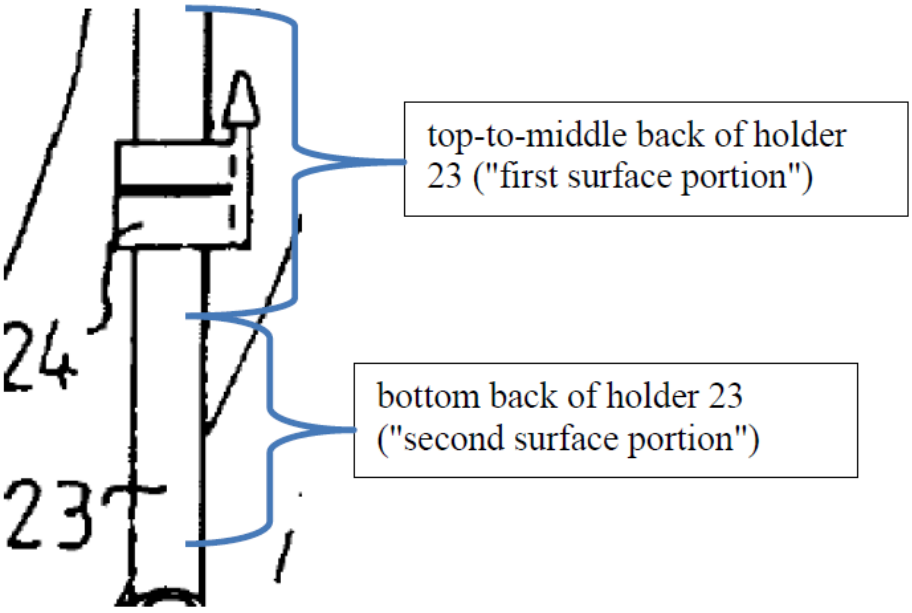
NHK identifies various parts of Wiklund's support 24 as meeting the limitations on the guide member and various parts of holders 23 as meeting the limitations on the follower as shown in the two annotated versions of portions of Wiklund's Figure 3 reproduced below. Pet. 36–38.



The annotated version of a portion of Wiklund's Figure 3 illustrates the alleged follower and guideway.

NHK identifies the respective front and back wall portions of Wiklund's support 24 and holder 23 as the limitations directed to first and second walls of the guideway and first and second portions of the follower that are introduced in claim 14. *Id*. at 37.





The annotated portion of Wiklund's Figure 3 illustrates portions of holder 23 and support 24 allegedly corresponding to the claimed follower and guideway.

NHK identifies the specific portions of support 24 and holder 23 as meeting the detailed limitations on the guideway within the guide member and the follower that are introduced in claim 15. *Id*. at 38. NHK proffers Dr. Kent's testimony to explain how holder 23 and support 24 function in accordance with these limitations on the follower and guide member. *Id*. at 37–38 (citing Ex. 1010 ¶¶ 56, 57). The only evidence that Dr. Kent cites to support his testimony is the annotated figures from Wiklund reproduced above and

Wiklund's description of how holder 23 slides within support 24. Ex. 1010 ¶¶ 56, 57.

Lear recognizes that support 24 must permit holder 23 to tilt forward within the opening inside support 24. Resp. 49. Nevertheless, Lear argues that Dr. Kent's testimony about the internal details of support 24 reflects "speculative assumptions" and that Wiklund's Figure 3 fails to show any specific type of contact between the exterior of holder 23 and the internal surfaces of support 24. *Id*. Dr. Kent's deposition testimony illustrates Dr. Kent's uncertainty about the internal structure of support 24. For example, Dr. Kent testifies:

> Q And the interior surface of 24, whether it'd be a bushing or otherwise, we don't know if it's a cylindrical shape, or it may be some other shape, correct?
>
> A I believe that's correct.

Ex. 2008, 197:11–15; *see also id*. at 148:12–20, 149:13–150:7, 195:2–6 (describing possible different internal configurations of support 24). Because of the uncertainties about the internal structure of support 24, Lear argues that Wiklund fails to describe either explicitly or inherently the required two sequential types of contact between the claimed follower and guide member. Resp. 50–51. Lear's argument is persuasive.

"An expert's conclusory testimony, unsupported by the documentary evidence, cannot supplant the requirement of anticipatory disclosure in the prior art reference itself." *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1473 (Fed. Cir. 1997). Dr. Kent admits that the internal structure of support 24 may take a number of different forms that permit holder 23 to tilt within support 24. Ex. 2008, 148:12–20, 149:13–150:7, 195:2–6, 197:11–15. NHK responds to Lear's arguments by proffering an additional

declaration from Dr. Kent in which he describes the specific way in which parts of holder 23 contact the internal structure of support 24 in the way required by claim 15. Reply 20–21 (citing Ex. 1013 ¶ 49). Dr. Kent cites nothing but the same ambiguous portions of Wiklund's description to support his testimony. Additionally, Dr. Kent's additional declaration contradicts his deposition testimony and is therefore entitled to little if any weight. We are not persuaded by NHK's argument and evidence relating to the manner in which Wiklund's holder 23 contacts the undisclosed internal surfaces of support 24. To demonstrate anticipation, "the reference must disclose each and every element of the claim with sufficient clarity to prove its existence in the prior art." *Motorola*, 121 F.3d at 1473. "Although this disclosure requirement presupposes the knowledge of one skilled in the art of the claimed invention, that presumed knowledge does not grant a license to read into the prior art reference teachings that are not there." *Id*. We find Dr. Kent's testimony to be speculation that is insufficient to demonstrate that Wiklund explicitly or inherently describes the type of contact between the follower and guide member that is required in claim 15. Accordingly, we are not persuaded by a preponderance of evidence that Wiklund anticipates claim 15.

3. Conclusion

For the reasons described above, NHK persuades us by a preponderance of evidence that Wiklund describes a headrest that moves in a first manner and a second manner as required in claims 11, 14, 15, 19, and 20. NHK also persuades us by a preponderance of evidence that Wiklund describes a follower that extends laterally and slidingly engages the guide member as required in claims 11, 14, 15, 19, and 20. NHK fails to persuade

us by a preponderance of evidence, however, that Wiklund describes all the limitations of claim 15. As stated in part III.A above, we also are persuaded that NHK has established by a preponderance of evidence that Wiklund describes all other elements of claims 11, 14, 19, and 20. Accordingly, we conclude that NHK has established by a preponderance of evidence that Wiklund anticipates claims 11, 14, 19, and 20 under 35 U.S.C. § 102(b), but NHK has failed to do so with regard to claim 15.

E. Obviousness of Claims 17, 18, and 21 in View of Wiklund and Humer

NHK contends that the combination of Wiklund and Humer renders claims 12, 17, 18, and 21 obvious and sets forth the evidence from Wiklund and Humer to support its contentions in detailed claim charts. Pet. 43–46. NHK also proffers Dr. Kent's testimony to explain the manner in which Wiklund describes the requirements recited in these claims. Ex. 1010¶¶ 60–69. Claims 12 and 21 depend from claims 10 and 20, respectively, and further recite a "damper connected between the headrest arrangement and the seatback." Ex. 1001, 13:15–16 (claim 12), 14:26–27 (claim 21). NHK relies upon Humer for its disclosure of a damper as recited in these claims. Pet. 44–46. More specifically, NHK contends that Humer teaches using a damper 118 to improve "energy absorptions" of the Saab SAHR headrest. Pet. 43 (citing Ex. 1007, 7:27–8:4). NHK also contends that Wiklund is directed to the same Saab SAHR headrest. Pet. 43 (citing Ex. 1010 ¶ 60). NHK therefore concludes that an ordinary artisan would have found it obvious to improve Wiklund by adding Humer's damper between the headrest arrangement and the seatback. Pet. 43–44. NHK contends that an ordinary artisan would have found it obvious to add a damper to Wiklund to "provide 'some energy absorption to cause more even and controlled contact

with the head during impact' because without the damper 118 'the head tends to oscillate after impacting a headrest cushion.'" *Id.* at 44 (citing Ex. 1007, page 8:1–4; Ex. 1010 ¶¶ 60, 61, and 63).

Claims 17 and 18, which depend from claim 12, recite additional elements ("movement-allowing connector" in claim 17 and "biasing member" in claim 18). Ex. 1001, 13:52–59, Certificate of Correction. NHK relies upon Wiklund as describing structures corresponding to the "movement-allowing connector" introduced in claim 17 and the "biasing member" introduced in claim 18. Pet. 44–45.

Lear argues that the combination of Wiklund and Humer fails to describe elements of intervening base claims 10[1] or 19 as explained earlier in its Response. Resp. 51–52. Lear does not argue that the combination of Wiklund and Humer fails to describe the limitations introduced in claim 12 or that it is improper to combine teachings of Wiklund and Humer as suggested by NHK. *Id*. For the reasons expressed in parts III.D.2.a)–b) above, NHK persuades us that Wiklund describes all elements of intervening claims 10 and 19. Accordingly, NHK persuades us by a preponderance of evidence that the combination of Wiklund and Humer renders claims 17, 18, and 21 unpatentable as obvious under 35 U.S.C. § 103.

F. ANTICIPATION OF CLAIMS 11, 19, AND 20 BY VIANO

We preliminarily determined that NHK had established a reasonable likelihood of showing that Viano anticipates claims 11, 19, and 20. Dec. 22–

[1] Lear incorrectly identifies claim 11 as the independent claim from which claims 17 and 18 ultimately depend. Resp. 51. Claim 17 depends from claim 12, which depends from claim 10. Ex. 1001, Certificate of Correction (claim 17 depending from claim 12), 13:15–16 (claim 12 depending from claim 10).

24. Lear argues that Viano does not anticipate these claims because Viano fails to describe a headrest that moves in a first and second manner. Resp. 52–57.

1. Overview of Viano

The operation of Viano is illustrated in the colorized versions of Viano's Figures 4 and 5 (reproduced below).

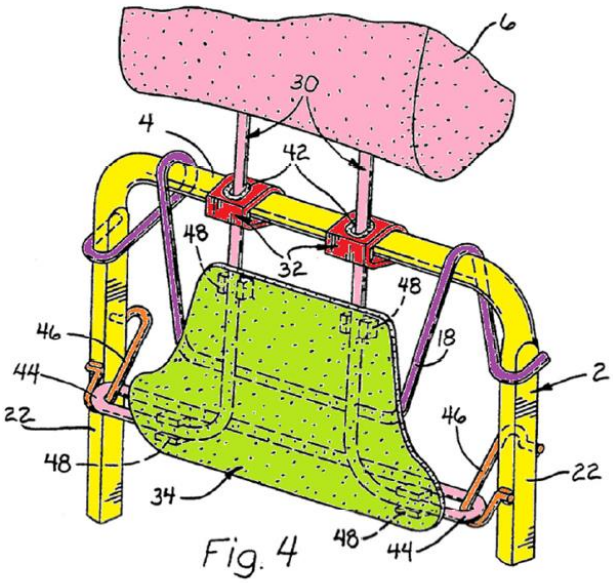


Fig. 4

Viano's Figure 4 is a perspective view of the top portion of its active head restraint system.

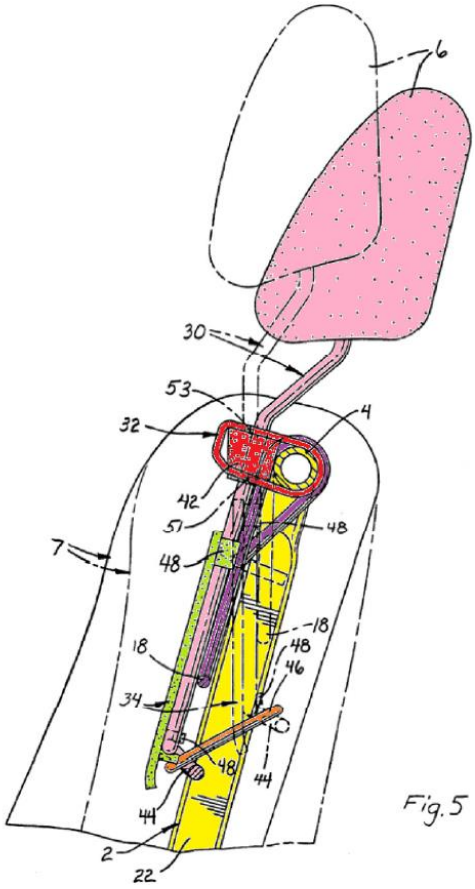


Fig. 5

Viano's Figure 5 is a side view of the internal components that move the headrest in response to a collision.

Viano discloses a seat back frame 2 having sides 22 (yellow) joined by cross frame member 4 (yellow). Ex. 1008, 1:38–40. Headrest arrangement 7 includes posts 30 (pink) and headrest cushion 6 (pink). *Id.* at 2:15–18. Posts 30 (pink) slidingly penetrate through elastomeric

bushings 42 (red) mounted in clip 32 (red) fitted on cross member 4 (yellow). *Id*. Posts 30 (pink) also extend downwardly, having loop sections 44 (pink) directed by two sloping cam guides 46 (orange). *Id.* Impact plate 34 (green) is attached to posts 30 (pink) by clips 48. *Id.* at 2:22–23. Spring 18 (purple), which wraps around the intersection of sides 22 (yellow) and cross member 4 (yellow), biases headrest cushion 6 (pink) against rotation. *Id.* at 2:23–24. During impact, a force on plate 34 (green) causes loop sections 44 (pink) to slide up cam guides 46 (orange) causing posts 30 (pink) to be slidingly translated upward with respect to clips 32 (red) while at the same time pivoting about axis of rotation 51 which is "constant with respect to the clips 32 [(red)]." *Id.* at 2:24–40. As a result, headrest cushion 6 (pink) is rotated to a higher and more forward position. *Id.* at 2:34–38. Viano describes the movement of headrest cushion 6 as follows:

> A force placed upon the plate 34 causes the posts 30 to have a variable axis of rotation with respect to the cross member 4 since the cam guides 46 will cause the posts 30 to *rise upwardly* after a sufficient force has 30 been imparted to the plate 34. Also, the interaction of loop sections 44 with the cam guides 46 will cause the headrest cushion 6 to be *rotated slightly forwardly*.

Id. at 2:26–33 (emphasis added).

2. Analysis

NHK relies upon the quoted portion of Viano immediately above as evidence that Viano's headrest moves in a first and second manner. Pet. 49 (for claim 11), 51 (for claims 19 and 20). More specifically, NHK contends that "rise upwardly" refers to movement in a first manner and "rotated slightly forwardly" refers to movement in a second manner. Reply 21.

NHK also contends that during prosecution of the related '955 patent, Lear amended claims to add "trajectory" language to distinguish claims rejected over Viano that already recited a first and second manner. *Id*.

Lear contends that the Viano's description of its headrest rising upwardly and rotating forwardly refers to movement in "'one way' along a single arcuate path or trajectory about a variable axis." Resp. 56. Lear contends that the '733 patent characterizes this type of movement as being in a "first manner." *Id*. at 56–57 (citing Ex. 1001, 6:29–35, 8:29–33, 8:42–46, 8:49–9:18). Lear also contends that both experts agree that such movement along a single path defined by an equation is movement along a single trajectory.

NHK persuades us that Viano describes moving a headrest in first and second manners, with the first manner being "rising upwardly" and the second manner being "rotated slightly forwardly." Lear's argument to the contrary depends upon interpretation of "manner" as meaning "trajectory." As explained in part II above, we are not persuaded by Lear's claim interpretation argument.

3. Conclusion

For the reasons described above, NHK persuades us by a preponderance of evidence that Viano describes a headrest that moves in a first manner and a second manner. As stated in part III.A above, we also are persuaded that NHK has established by a preponderance of evidence that Viano describes all other elements of claims 11, 19, and 20. Accordingly, we conclude that NHK has established by a preponderance of evidence that Viano anticipates claims 11, 19, and 20 under 35 U.S.C. § 102(b).

IV. LEAR'S MOTION TO EXCLUDE

We have reviewed Lear's Motion to Exclude, NHK's Opposition to the Motion, and Lear's Reply in support of the Motion. Based on our review, we deny the Motion in all respects for one or both of the following reasons: (1) the Motion is moot because it seeks to exclude evidence not considered or relied upon in rendering this Decision or (2) the Motion addresses issues more appropriate to determining the weight ascribed to the evidence rather than the admissibility of evidence. In rendering this Decision, we determine and ascribe the appropriate weight to all proffered evidence and, when appropriate, comment upon the weight ascribed.

V. CONCLUSION

For the reasons expressed above, we determine that NHK has shown by a preponderance of the evidence that:

(1) Kage anticipates claims 11, 14, 19, and 20 of the '733 patent;

(2) Nakano anticipates claims 11, 14, 19, and 20 of the '733 patent;

(3) Wiklund anticipates claims 11, 14, 19, and 20 of the '733 patent;

(4) Wiklund and Humer renders claims 17, 18, and 21 unpatentable as obvious; and

(5) Viano anticipates claims 11, 19, and 20 of the '733 patent.

We also determine that NHK has not established by a preponderance of evidence that claim 15 is anticipated by Wiklund.

VI. ORDER

For the reasons given, it is:

ORDERED that claims 11, 14, and 17–21 of the '733 patent are held *unpatentable*;

FURTHER ORDERED that claim 15 of the '733 patent is held *not unpatentable*;

FURTHER ORDERED that Lear's Motion to Exclude is *denied*; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

PETITIONER:

William H. Mandir
SUGHRUE MION PLLC
wmandir@sughrue.com

John F. Rabena
STITES & HARBISON, PLLC
jrabena@sughrue.com

PATENT OWNER:

Frank A. Angileri
John M. Halan
BROOKS KUSHMAN P.C.
fangileri@brookskushman.com
jhalan@brookskushman.com