

Yita, LLC v. MacNeil IP, LLC

# Presentation of MacNeil IP

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IPR2020-01139 and IPR2020-01142

October 12, 2021

MacNeil Exhibit 2193  
Yita v. MacNeil IP, IPR2020-01139

# Index to MacNeil Presentation

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# Claim Construction

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## ***Issues:***

- Whether there is proper construction of “closely conforming to a first footwell wall”

## ***NO DISPUTE:***

- This limitation concerns the conformance between the outer surface of each panel and the surface of the first footwell wall.

# Claim Construction—“closely conforming”

1. A vehicle floor tray thermoformed from a sheet of thermoplastic polymeric material of substantially uniform thickness, comprising:

- a central panel substantially conforming to a floor of a vehicle foot well, the central panel of the floor tray having at least one longitudinally disposed lateral side and at least one transversely disposed lateral side;
- a first panel integrally formed with the central panel of the floor tray, upwardly extending from the transversely disposed lateral side of the central panel of the floor tray, and **closely conforming** to a first foot well wall, the first panel of the floor tray joined to the central panel of the floor tray by a curved transition;

Ex. 1001 of IPR 1139  
'186 Patent

## Claim Construction—“closely conforming”

floor trays. In a preferred embodiment, at least throughout the top one-third of the areas of these panels that is adjacent a vehicle tray top margin 150, at least ninety percent of the points on the outer surface of the peripheral or side panels 130-136 are no more than about one-eighth of an inch from the corresponding points on the surfaces that they are formed to mate with. This close conformance occurs even where the underlying vehicular surface is complexly curved or angled.

Ex. 1001 of IPR 1139 at 7:61-67, 8:1

# Claim Construction—Petitioner's Expert Understood Definition

Q. And so when you indicated that a person would have had an expectation of success to achieve a floor tray that closely conforms to a vehicle footwell, was the definition of "closely conforms" you were applying in paragraph 58 the definition that we just discussed where at least 90 percent of the points on the outer surface of the peripheral or side panels are no more than about one-eighth of an inch from the corresponding points on the surfaces that they are formed to mate with?

A. Yes.

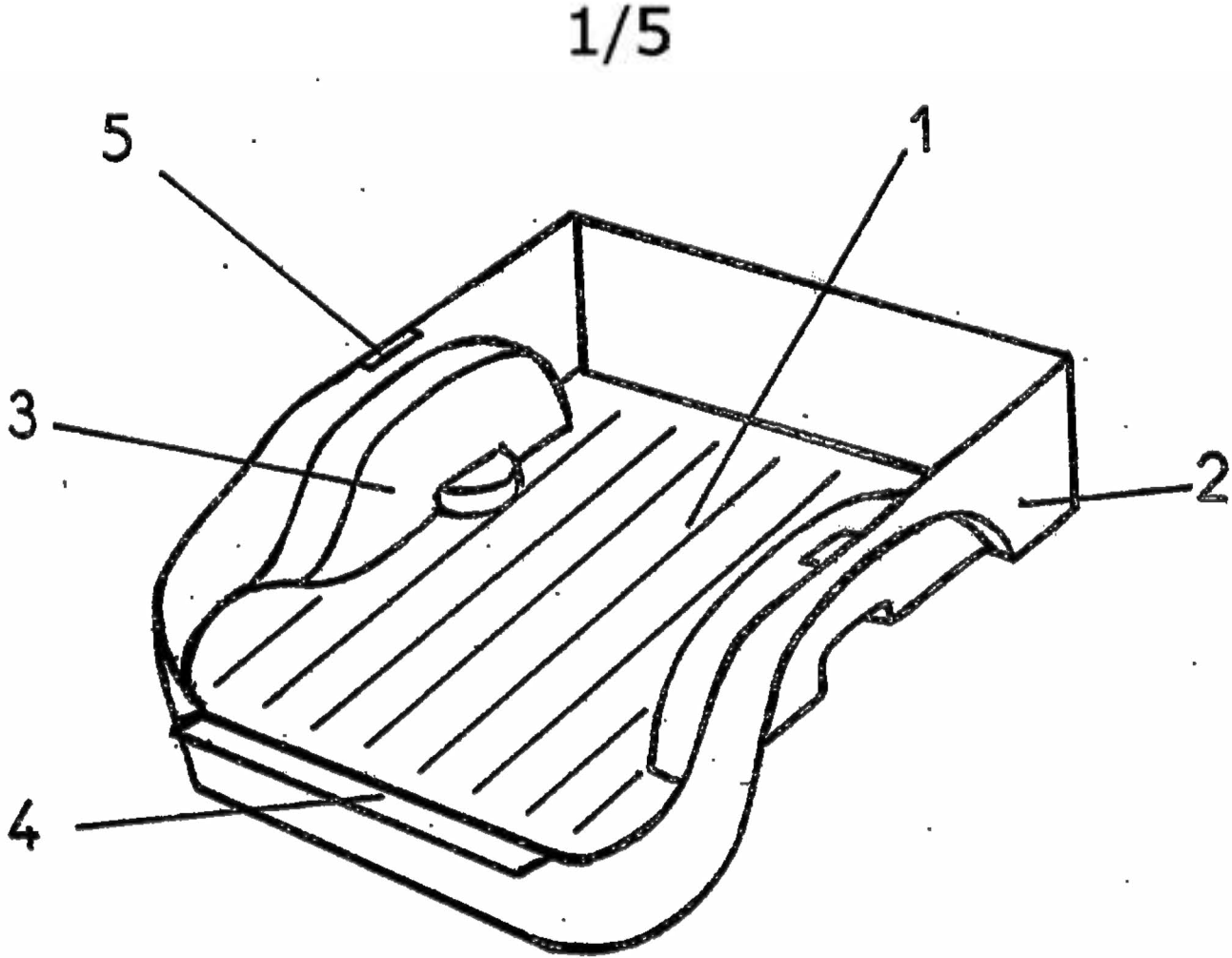
Ex. 2185 at 49:20–50:5; see also Ex. 1049, 97:1–21, 116:22–118:3  
Testimony of Dan Perreault

# Rabbe

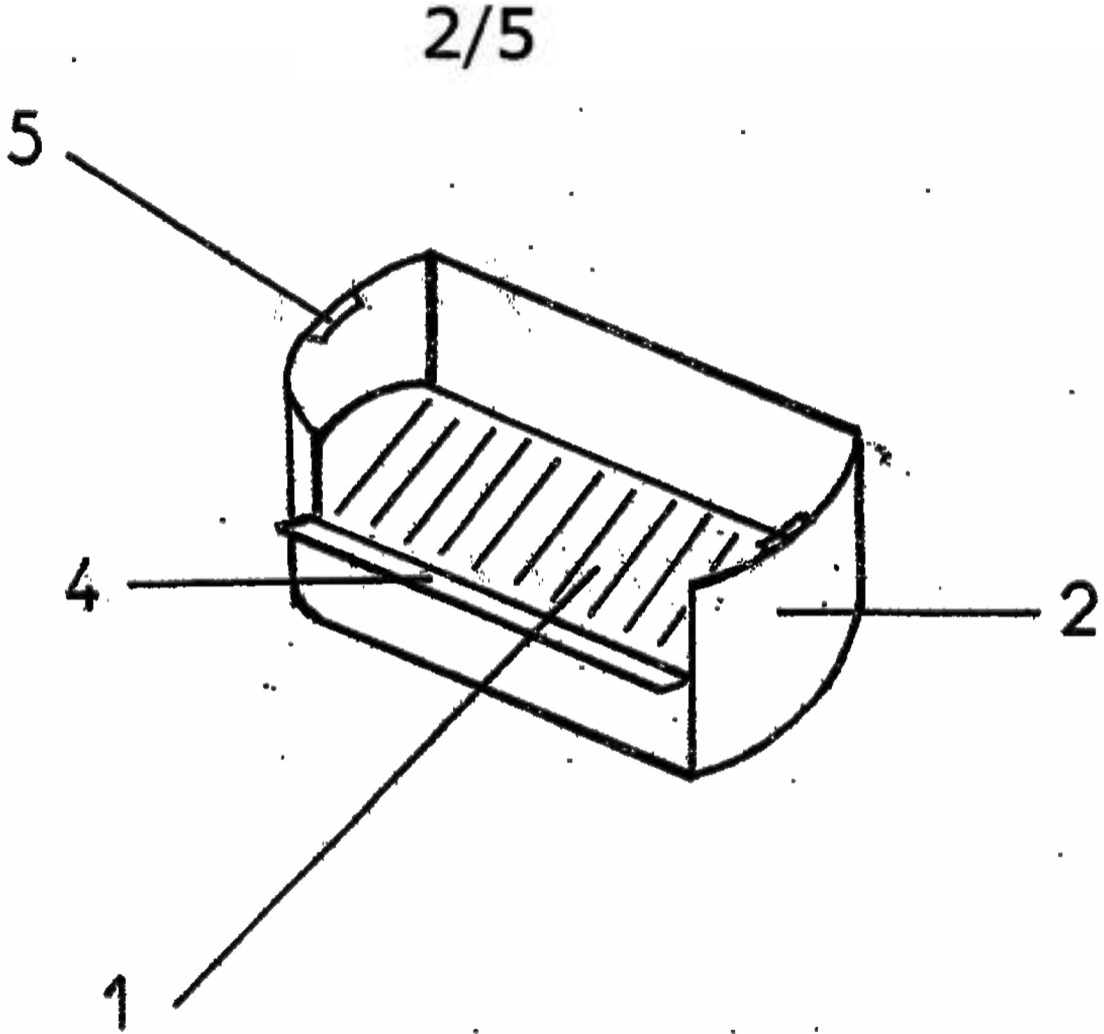
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# Rabbe Figure 1

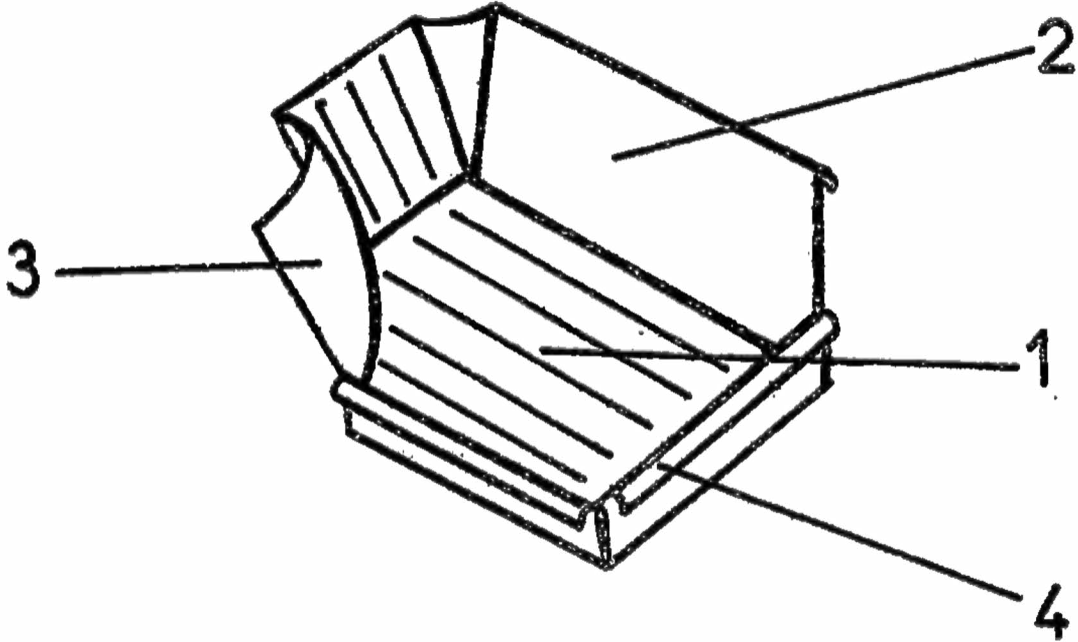


# Rabbe Figure 2



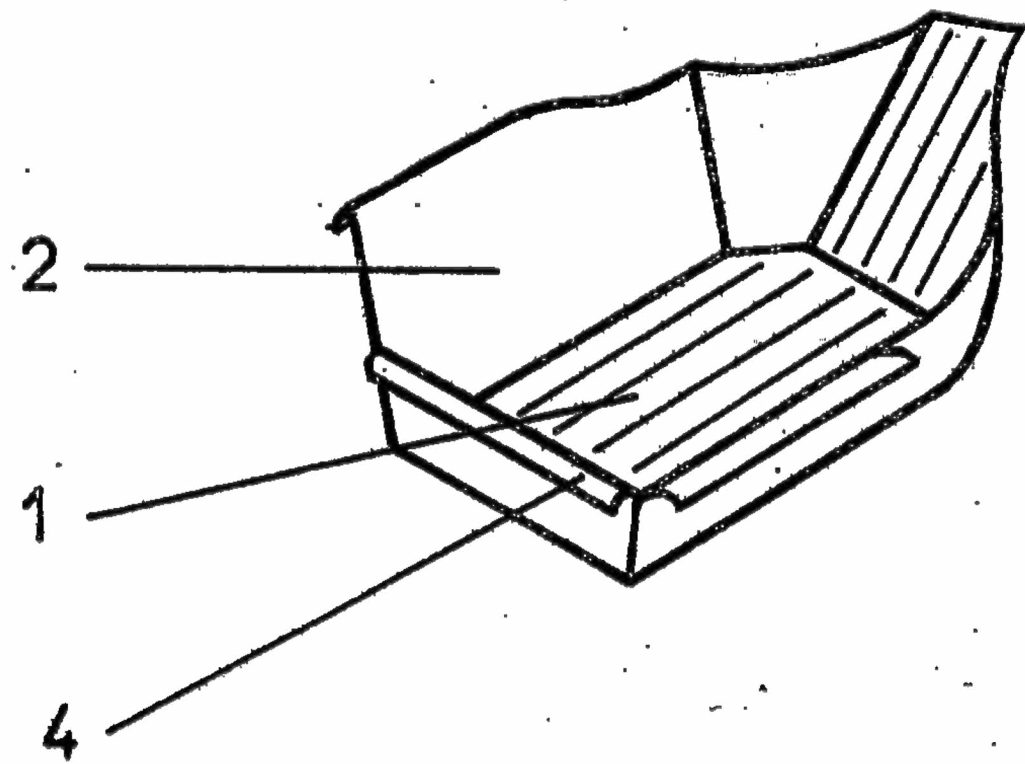
# Rabbe Figure 3

3/5



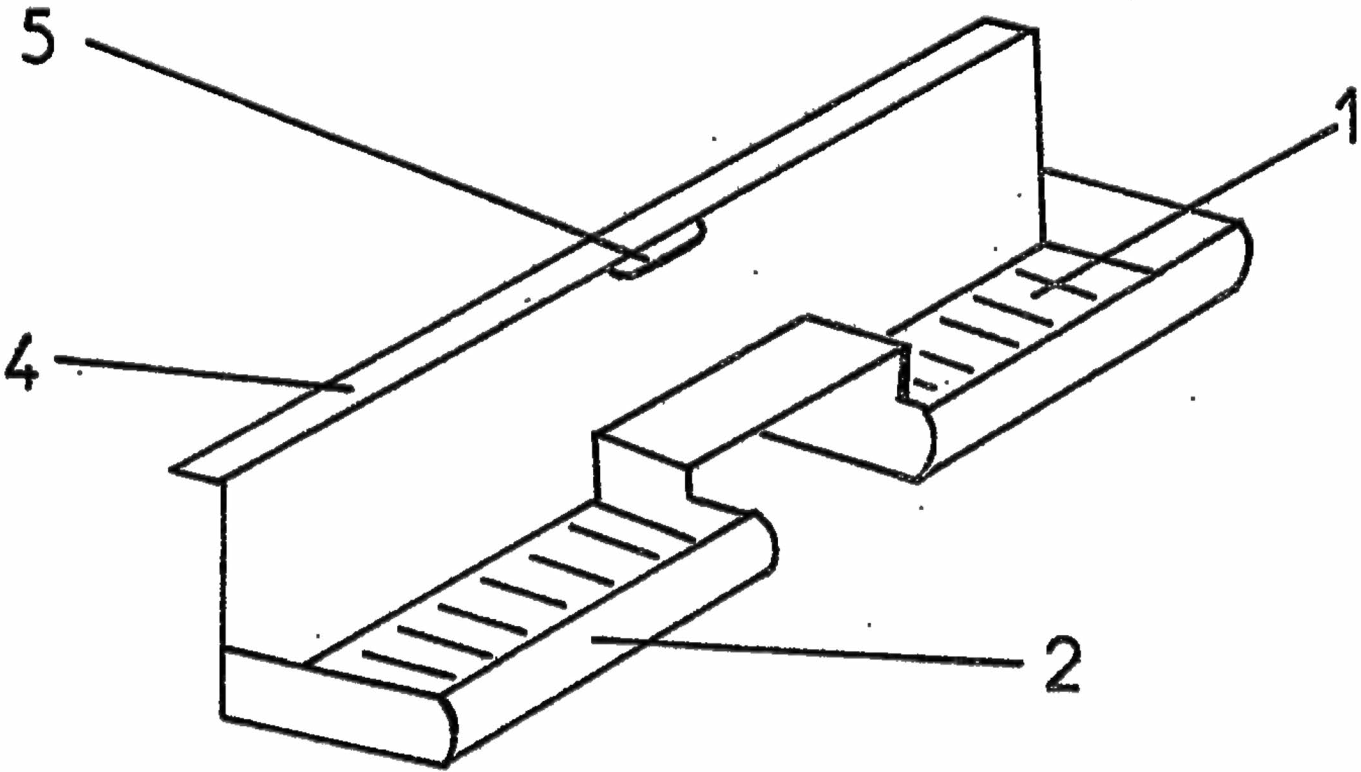
# Rabbe Figure 4

4/5



# Rabbe Figure 5

5/5



# 1. The Petition Relies on an Erroneous Translation of Rabbe

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# Rabbe: The 1142 Institution Decision Relies Upon the “Perfectly Conforms” Language

Rather, we agree with Petitioner’s reading of Rabbe. Specifically, we agree with Petitioner’s position that Rabbe’s disclosure of **sidewalls that “perfectly conform** to the contour of the vehicle interior at the feet of the driver . . . encompasses ‘substantially conform[ing].’” Pet. 36 (citing Ex. 1003 ¶ 134).

1142 Paper 17 (Institution Decision) at p. 28

Ex. 1003 ¶ 150. We also find persuasive Dr. Koch’s testimony that a POSITA “would have understood that Rabbe’s **“perfect[.]” conformation** to the vehicle interior was well within 1/8th of an inch because so-called **“perfect[.]” conformity** would have left very little or no space between the contours of the vehicle foot well and the outer surface of the floor tray.” *Id.* ¶ 149. We do not find Rabbe’s disclosure to be vague on this point.

1142 Paper 17 (Institution Decision) at p. 34

# Rabbe: The 1139 Institution Decision Relies Upon the “Perfectly Conforms” Language

Rather, we agree with Petitioner’s reading of Rabbe. Specifically, we agree with Petitioner’s position that Rabbe’s disclosure of **sidewalls that “perfectly conform** to the contour of the vehicle interior at the feet of the driver . . . encompasses ‘closely conform[ing].’” Pet. 41 (citing Ex. 1003 ¶ 132) (emphasis omitted).

1139 Paper 17 (Institution Decision) at p. 20



## Petitioner’s Translation

The purpose of the present invention is the protection of the floors and side walls of vehicle interiors; it concerns automobile floor mats, in the form of a tray, the sides of which perfectly conform to the contour of the vehicle interior at the feet of the driver, those of front and rear passengers as well as front or rear trunks, for the purpose of ensuring effective protection against any soiling.

Ex. 1005 at p. 4, ll. 1–6

## Petitioner’s Translator Concedes Inaccuracy

Q. Yes. And do you see there you translated "rebords" to "sides"?

A. I do.

Q. Okay. Do you believe that you should have translated "rebords" to mean "flanges" there, consistent with your other four translations of the word "rebords"?

A. I do.

Ex. 2040 at 32:4–10  
Deposition Testimony of John Dawson

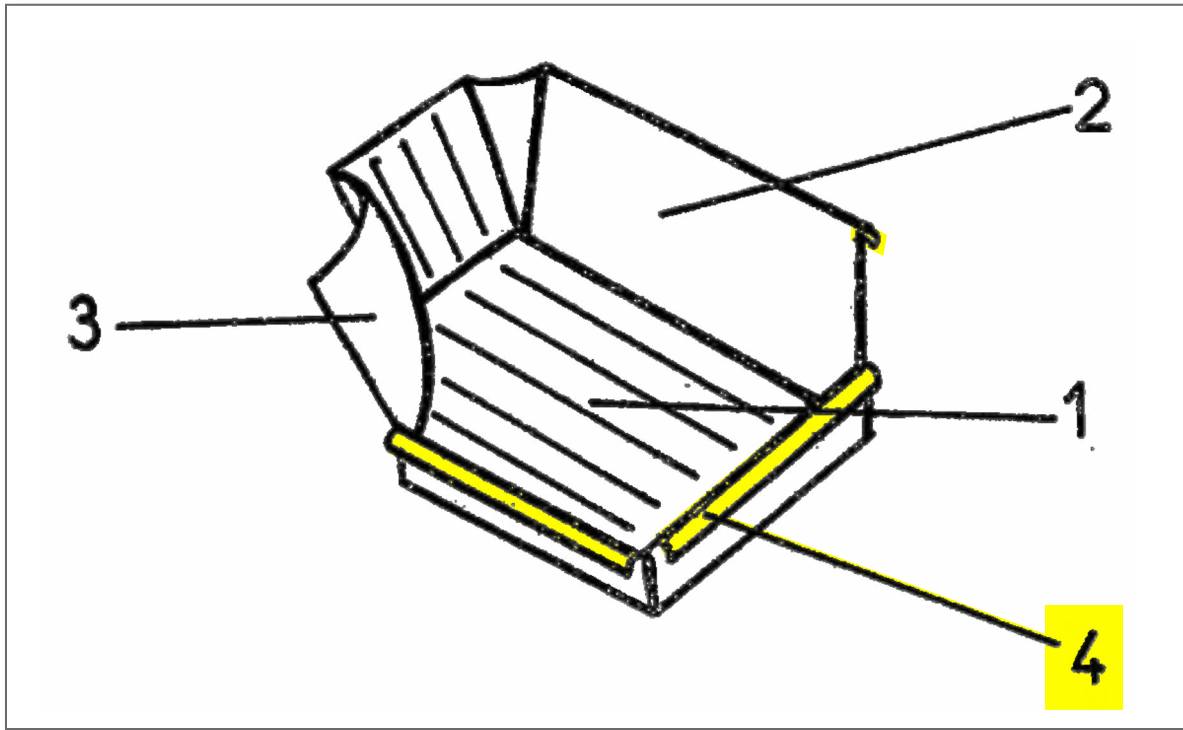
# Rabbe: Consistently Used “Rebord” to Refer to Rims/Flanges–Not Sides

<b>Location</b>	<b>Petitioner’s Translation</b>
Rabbe Claim 4 (Ex. 2024, ¶ 13)	“the flanges (4) can be retentive” REFERENCE: Ex. 1005 at 6 & 16
Rabbe p. 2 (Ex. 2024, ¶ 20)	“Some flanges (4) will be retentively shaped” REFERENCE: Ex. 1005 at 5 & 15
Rabbe, Cover (Ex. 2024, ¶ 21)	“Some flanges (4) are retentive” REFERENCE: Ex. 1005 at 3 & 13
Rabbe Claim 6 (Ex. 2024, ¶ 22)	“the flanges can be equipped with” REFERENCE: Ex. 1005 at 6 & 16

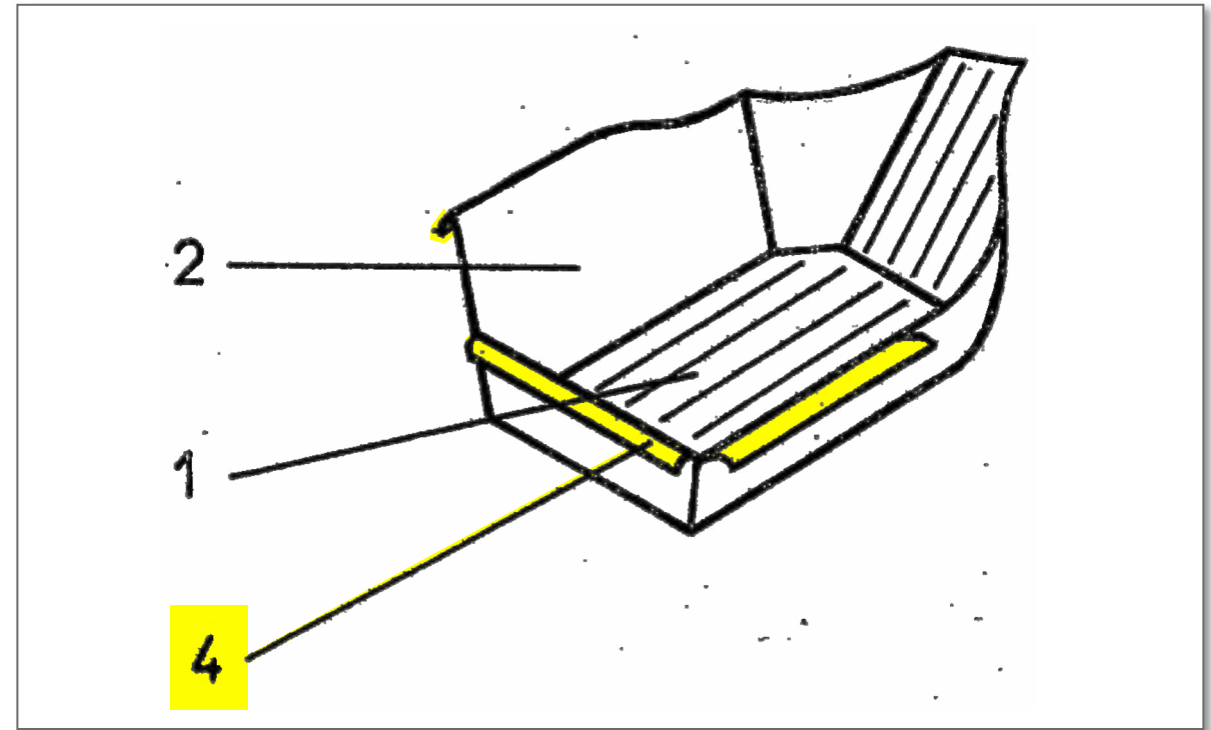
# Rabbe: Consistently Used “Rebord” to Refer to Rims/Flanges—Not Sides

4) The protective tray according to claims 1, 2 and 3, characterized in that the flanges (4) can be retentive in order to augment the stability of the unit.

Ex. 1005 at p. 6, Claim 4  
Petitioner’s Translation



Ex. 1005 at p. 9, Fig. 3 (See also Ex. 2024 at ¶ 13)



Ex. 1005 at p. 10, Fig. 4 (See also Ex. 2024 at ¶ 13)

# Rabbe: Used “walls” When He Wanted to Refer to “walls”

As shown, the protection-tray comprises: a) a striated bottom (1) covering the entire floor; b) raised edges (2) with unequal heights following the interior relief of the vehicle, in particular the wheel wells (3). **The walls and the bottoms** are made of semi-rigid rubber or another material having the same properties. **Pressure exerted on the walls**, by using judiciously arranged handles (5), **folds the walls** and serves to release the protection-tray in order for it to be withdrawn from the vehicle compartment.

Some **rims will have retentive shape** (4) so as to get a better stability of the assembly. The present invention may equip any vehicle, whether they are for tourism or utility.

Ex. 2024 at p. 12 II. 1–8  
MacNeil’s Translation

“les parois” was translated as “walls” while “rebords” was translated as “rims”

**The subject matter of the present invention is the protection of floors and lateral walls of vehicle interiors; the invention relates to car floormats, in tray form for which rims perfectly conform to the relief of the vehicle interior, near the driver's feet, front and rear passengers' feet and also the front and rear trunks, for the purpose of assuring effective protection against any dirt.**

Ex. 2024 at p. 11 ll. 1–5  
MacNeil's Translation

## **2. Rabbe Sought to Patent A Tray with Varying Height**

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# Rabbe: Sought to Patent Varying Height of Edges To Match Footwell “Relief”

- 1) A protection-tray for automobile or other vehicle, characterized by the fact that the protective edges are raised over the entire perimeter, by unequal heights according to the relief encountered, in order to form a tray, made of semi-rigid rubber or another material having the same properties, intended to protect the floor and the interior walls of the vehicle against any dirt.

Ex. 2024 at p. 13, Claim 1  
MacNeil’s Translation

*encountered, in order to form a tray[.]” Id., 13:2-4.* Thus, what Rabbe thought was inventive was that the *varying height* of the flanges/rims/edges would match the “relief” of the footwell. EX2024, 11:12-13, 13:3-4. In other words, rather than

Ex. 2041 at ¶ 118  
Declaration of Dr. Tim Osswald

# Rabbe: Intent Is Further Informed by the Choice of the Word “Relief”

**relief** /rɪˈliːf/ n.<sup>2</sup> E17. [Fr. f. It. rilievo, † rilievo, f.

presentation. L18. 3 (The extent of) variation in elevation of an area, geographical feature, etc.; difference in height from the surrounding terrain. M19.

Ex. 2049 at p. 4  
The New Shorter Oxford English Dictionary

118. A POSITA would understand that the “relief” to which Rabbe’s flanges/rims/edges purportedly conform refers to the differences in height of the interior of the vehicle. See EX2049 (defining “relief” to mean “(The extent of)

Ex. 2041 at ¶ 118  
Declaration of Dr. Tim Osswald



# Properly Translated, the Specification Is Consistent

## MacNeil's Proper Translation

perimeter thereof and serve to keep the dirt inside the tray thus formed. The protection-tray, made of semi-rigid rubber or another material having the same properties, follows the relief of the passenger compartment and because of the pliability thereof the handling and placement thereof are simple. The stiffness of the material used flattens the assembly against

Ex. 2024 at p. 11, ll. 13–16

## Petitioner's Erroneous Translation

possible to keep the dirt inside the tray thus formed. The protective tray, produced from semi-rigid rubber or another material having the same properties, conforms to the contour of the vehicle interior, and thanks to the flexibility thereof, handling and installation are easy. The rigidity of the

Ex. 1005 at p. 4, ll. 16–19

# Properly Translated, the Specification Is Consistent

## MacNeil's Proper Translation

As shown, the protection-tray comprises: a) a striated bottom (1) covering the entire floor; b) raised edges (2) with unequal heights following the interior relief of the vehicle, in particular the wheel wells (3). The walls and the bottoms are made of semi-rigid rubber or another material having the same properties. Pressure exerted on the walls, by using judiciously arranged handles (5), folds the walls and serves to release the protection-tray in order for it to be withdrawn from the vehicle compartment.

Ex. 2024 at p. 12, ll. 1-6

## Petitioner's Erroneous Translation

As shown, the protective tray comprises: a) a corrugated bottom (1) totally covering the floor; b) raised edges (2) of unequal heights conforming to the interior contour of the vehicle, particularly the location of the wheels (3).

Ex. 1005, p. 5, ll. 7-10

# Again, Petitioner's Translation Is Inaccurate

- “Les reliefs” properly translates to “the relief,” not the contour

**relief** *m* / *relievo*, **relief** *ll ~s m pl (lam)* / *bulges pl ll en ~*  
(*techn*) / raised, embossed *ll en ~*, tridimensionnel  
(*opt*) / in relief, stereoscopic, threedimensional *ll en*

Ex. 2038 at p. 3  
Ernst Scientific Translation Dictionary

Q. Okay. Any other reasonable translations of relief?

A. Well, "relief" as used in English.

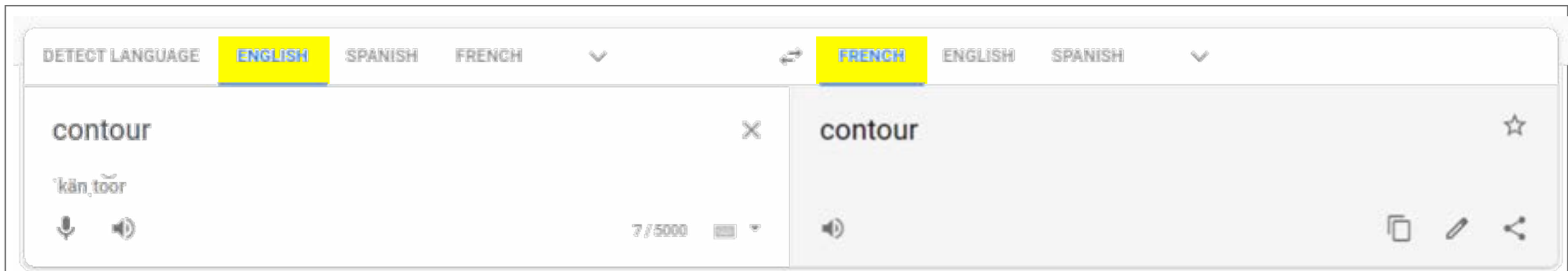
Q. Okay. In other words, one reasonable translation of relief is just the term "relief"?

A. It's a possibility, yes.

Ex. 2040 at p. 16:14–19  
Testimony of Petitioner's Translator

- Petitioner offers no contrary evidence

# The French Word for “Contour” Is “Contour”



Ex. 2033 at p. 1

- Petitioner offers no contrary evidence

# Petitioner's Reliance on Claim 2 Is Misplaced

- “Conform to the relief” is slightly more strict than “according to the relief” of Claim 1, but is the same concept.

1) A protection-tray for automobile or other vehicle, characterized by the fact that the protective **edges are raised** over the entire perimeter, by unequal heights **according to the relief encountered**, in order to form a tray, made of semi-rigid rubber or another material having the same properties, intended to protect the floor and the interior walls of the vehicle against any dirt.

Ex. 2024 at p. 13, Claim 1  
MacNeil's Rabbe Translation

2) The protection-tray according to claim 1, characterized in that the **raised edges conform to the relief of the passenger compartment** (3).

Ex. 2024 at p. 13, Claim 2  
MacNeil's Rabbe Translation

# 3. Rabbe Discloses An Interference Fit

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# Rabbe: Teaches That the Rims/Flanges “Perfectly Conform”

The subject matter of the present invention is the protection of floors and lateral walls of vehicle interiors; the invention relates to car floormats, in tray form **for which rims perfectly conform to the relief** of the vehicle interior, near the driver’s feet, front and rear passengers’ feet and also the front and rear trunks, for the purpose of assuring effective protection against any dirt.

Ex. 2024 at p. 11, ll. 1–5  
MacNeil’s Rabbe Translation

5[d]-[e], 5[h], 9[d]-[e] and 9[h] of the ’834 Patent. In other words, to the extent Rabbe teaches conformance, it is at the upper perimeter of its tray at the edges, **not the sides.**

Ex. 2041 at ¶ 113  
Declaration of Dr. Tim Osswald

# Rabbe: Consistently Used “Rebords” to Refer to “Flanges” (4)

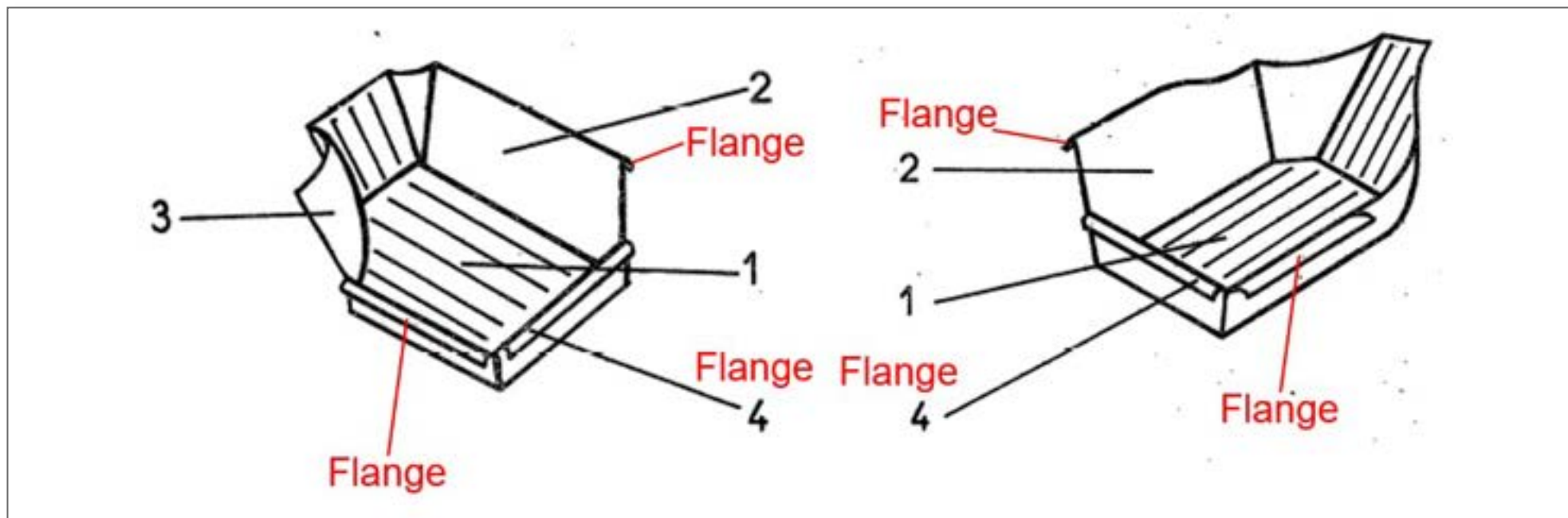
Location	Petitioner’s Translation
Rabbe Claim 4 (Ex. 2024, ¶ 13)	“the flanges (4) can be retentive” REFERENCE: Ex. 1005 at 6 & 16
Rabbe p. 2 (Ex. 2024, ¶ 20)	“Some flanges (4) will be retentively shaped” REFERENCE: Ex. 1005 at 5 & 15
Rabbe, Cover (Ex. 2024, ¶ 21)	“Some flanges (4) are retentive” REFERENCE: Ex. 1005 at 3 & 13



# Rabbe—"Flanges" (4) Hold Rabbe's Tray in Place

114. A POSITA would have recognized that Rabbe's flanges are intended to hold Rabbe's tray in place by pressing against the sides of the foot well.

Ex. 2041 at ¶ 114  
Declaration of Dr. Tim Osswald



Ex. 2041 at ¶ 114  
Declaration of Dr. Tim Osswald  
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE | MACNEIL 33

# Use of Rims/Flanges to Hold Tray in Place Was Common in Prior Art



Ex. 2043 at p. 68-69 (See also Ex. 2043 at ¶¶ 83 and 98)

# Use of Rims/Flanges to Hold Tray in Place Was Common in Prior Art

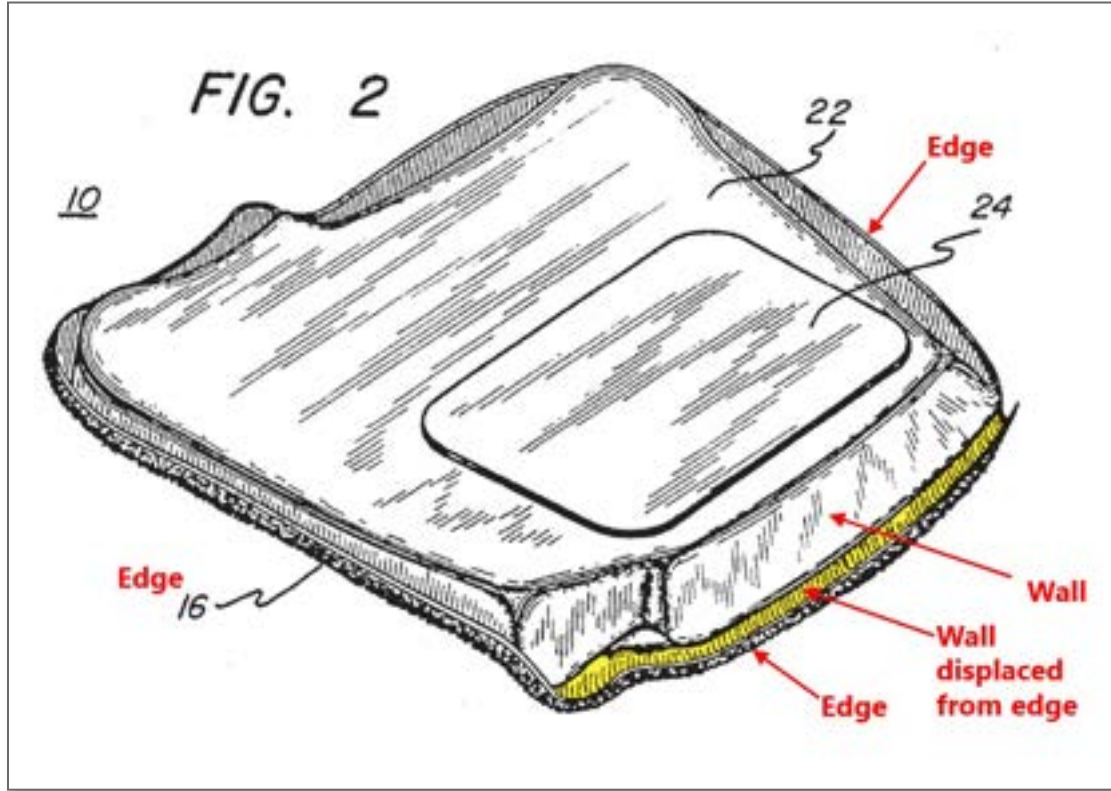


Ex. 2126 at ¶ 172 (See also Ex. 2126 at ¶ 172)

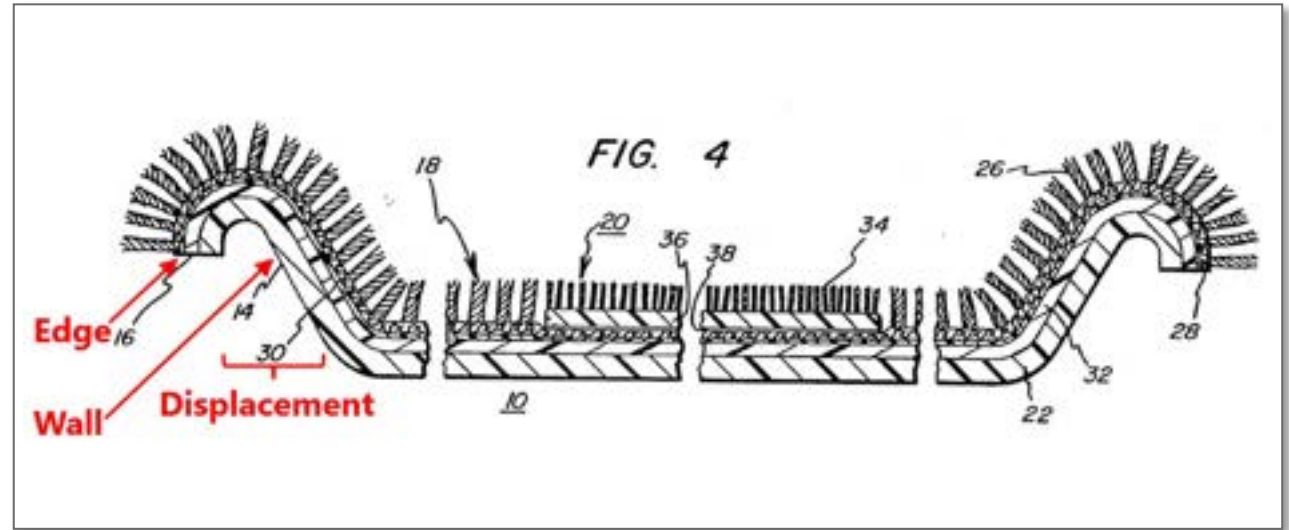
173. When a cargo liner thus molded is placed into a cargo area for which the liner is thermoformed, the top edge of the peripheral liner sidewall is placed into an interference fit with the cargo area sidewalls. The liner sidewalls are forced inward by the vehicle sidewalls.

Declaration of Ryan Granger, Ex. 2126 at ¶ 173

# Use of Rims/Flanges to Hold Tray in Place Was Common in Prior Art



Ex. 1053 at Fig. 2 (annotated) (See also 1142 Paper 70 at p. 11)  
Bailey Patent



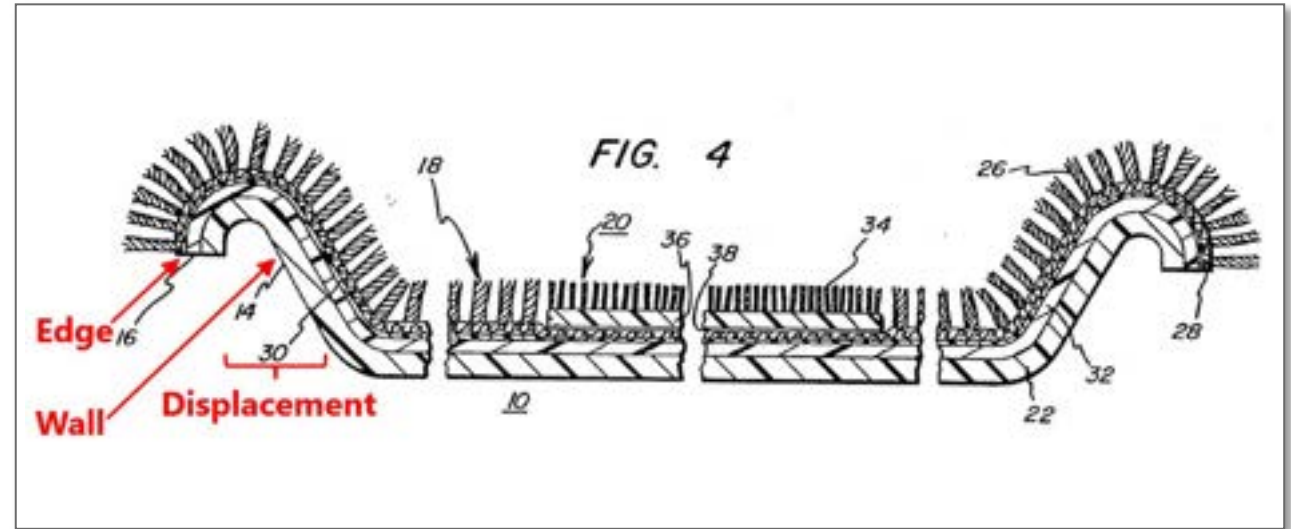
Ex. 1053 at Fig. 4 (annotated) (See also 1142 Paper 70 at p. 11)  
Bailey Patent



# Use of Rims/Flanges to Hold Tray in Place Was Common in Prior Art

or carpeted floor well 62 in front of driver's seat 64. The mat is custom molded to match the contour of the floor well and nest therein so that the edges of raised borders 14 abut against the periphery of the floor well, i.e. against carpeted surfaces of side sill 66, firewall 68, rear wall 69 and central (transmission) tunnel 70. As illus-

Ex. 1053 at 5:59-68  
Bailey Patent



Ex. 1053 at Fig. 4 (annotated)  
Bailey Patent





# Rims/Flanges Push Remainder of the Side Panel Away from the Wall

walls as required by the '834 Patent. Specifically, a POSITA would understand that when a flange or retentive shape 4 contacts the foot well wall, the retentive shape pushes the side panel *away* from the adjacent foot well and prevents that side panel from closely conforming to the surface of the vehicle foot well walls as required by limitations 1[c] and 1[e] of the '186 Patent or meeting the specific, numerical conformance requirements recited in limitations 1[d]-1[e], 1[h], 5[d]-5[e], 5[h], 9[d]-[e] and 9[h] of the '834 Patent.

Ex. 2041 at ¶ 115  
Declaration of Dr. Tim Osswald

93. In my opinion, the rims in Rabbe's tray would prevent close conformance between the sides of the tray and the sides of the vehicle foot well. These rims would press against the walls of the vehicle interior, pushing the outer surfaces of the tray side walls *away* from the walls of the vehicle interior. EX1005,

Ex. 2043 at ¶ 93  
Declaration of Ray Sherman

## Dr. Koch Agrees

33. Rabbe's teaching of only encroaching upon the space designed by the vehicle manufacturer by a few millimeters is another example of Rabbe's disclosure aligning with my understanding that Rabbe's floor tray conforms to the relief or the contour throughout the area. *See* EX1005, 1:24-26; EX2024, 11:20-22. If close conformance was limited to the top perimeter, the floor tray would encroach upon far more than a few millimeters of space.

Ex. 1041 at ¶ 33  
Declaration of Dr. Koch

# Rabbe's Approach Is Incompatible With MacNeil's

- Rabbe's Approach makes the tray **APPEAR** to conform while actively pushing the sides of the tray away from the footwell  
(Ex. 2043, ¶ 103) Declaration of Ray Sherman
- MacNeil's approach creates a nesting or caging effect where the tray is **retained** due to the conformance of the side panels  
(Ex. 2043, ¶ 103) Declaration of Ray Sherman

# Rabbe: Petitioner Relies on Language that Favors MacNeil

Pressing the unit against the sidewalls with the upper rim is how an interference fit works

flexibility thereof, handling and installation are easy. The rigidity of the material used presses the unit against the side walls of the vehicle. Once the

Ex. 1005 at p. 4, ll. 19–20  
Rabbe Reference

“against the side walls of the vehicle.” EX2024, 11:16-17; EX1005, 4:19-20. In my experience molding floor mats, floor trays, and bedliners, it was common for manufacturers to include a “rim” like this that pressed against the vehicle to aid retention of the tray or liner in the vehicle and prevent slipping. *See supra* § VIII.A,

¶83.

Ex. 2043 at ¶ 93  
Declaration of Ray Sherman

# 4. Rabbe Was Not Trying to Perfectly Match the Contour

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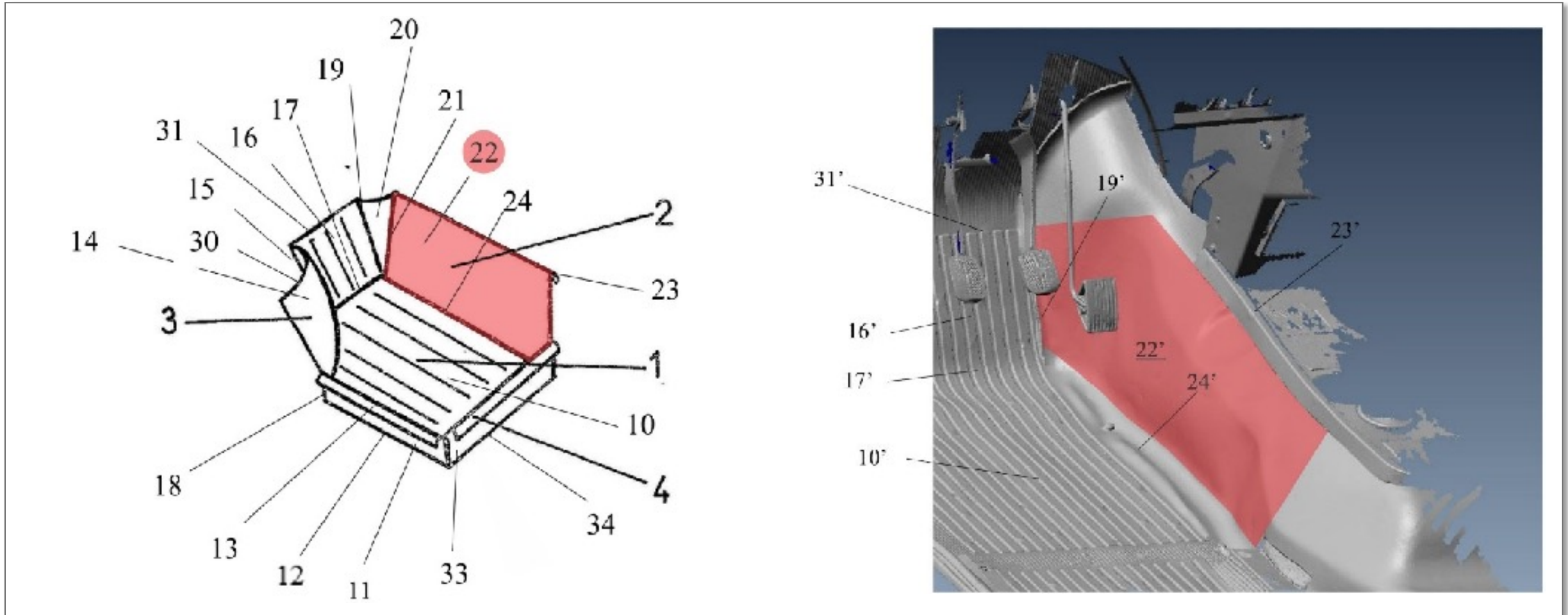
- All Lada Niva Models had the same footwell from 1977-1993
  - Ex. 2031, ¶¶ 3–16,
  - Ex. 1051, 68:17–69:10; 33:18–20; 105:14–106:7
  - Ex. 2126, 95–101
- MacNeil Acquired a 1984 Lada Niva and Scanned It
  - Ex. 2126, ¶¶ 102–109
- Petitioner was permitted to inspect and scan the Lada Niva

- A POSITA is presumed to have knowledge of all prior art, including the physical Lada Niva vehicle.

See, e.g., *Standard Oil Co v. Am Cyanamid Co*, 774 F.2d 448, 454 (Fed. Cir. 1985)

- A POSITA would be aware that Rabbe was not trying to create a tray with sidewalls that tracked the footwell's complex curves.
- Thus, a POSITA familiar with the Lada Niva when reading Rabbe would immediately know Rabbe's tray walls do not closely conform to the footwell walls.

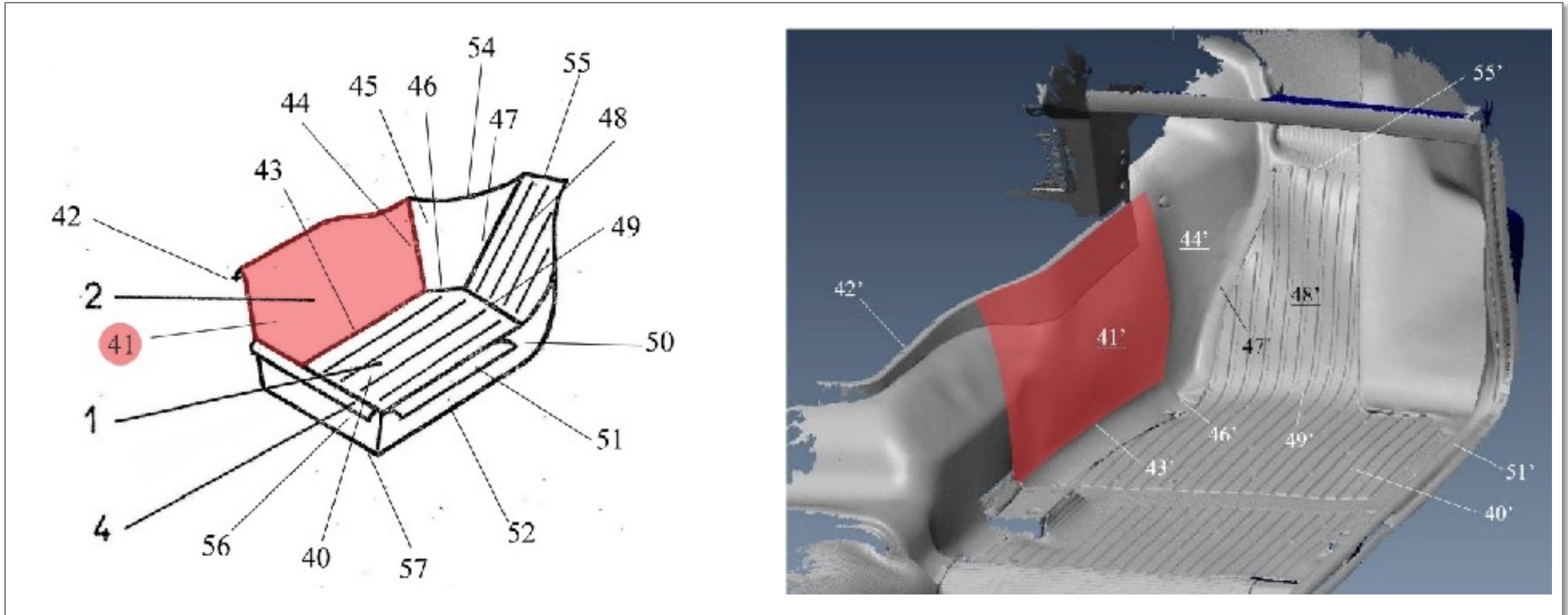
# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



Ex. 2126 at ¶ 126  
Declaration of Ryan Granger

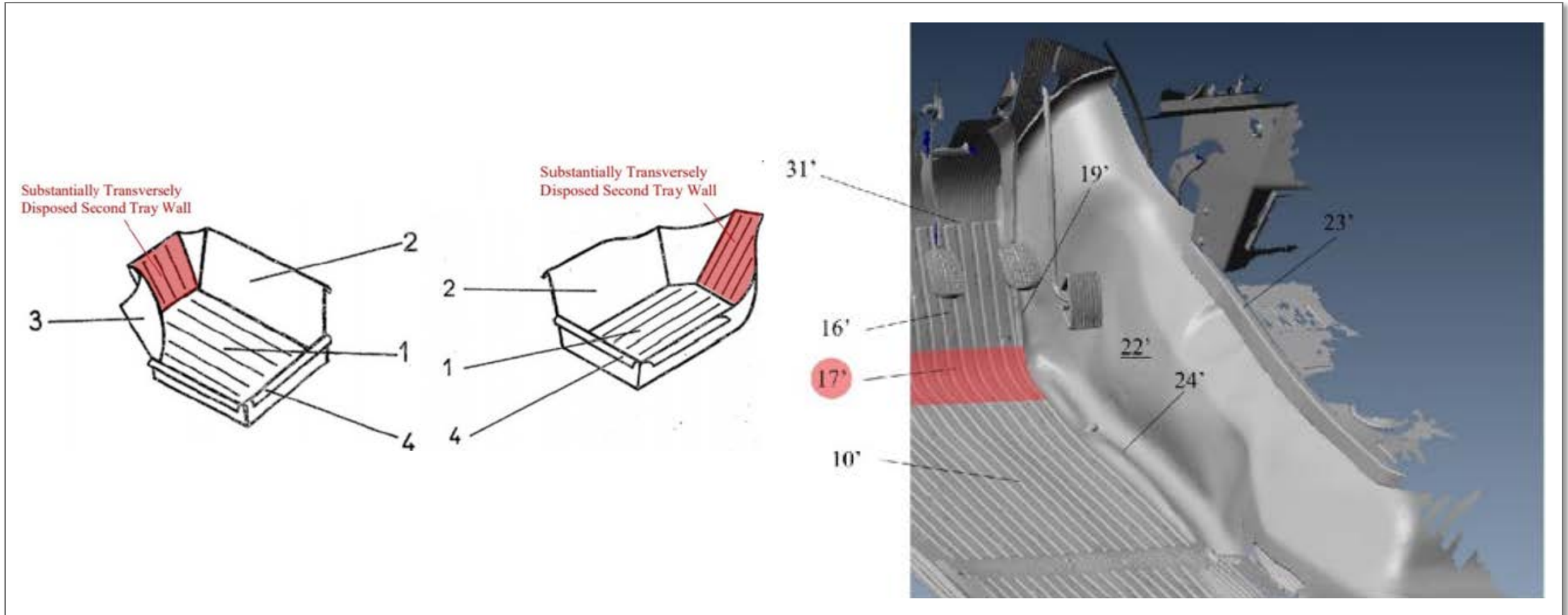


# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



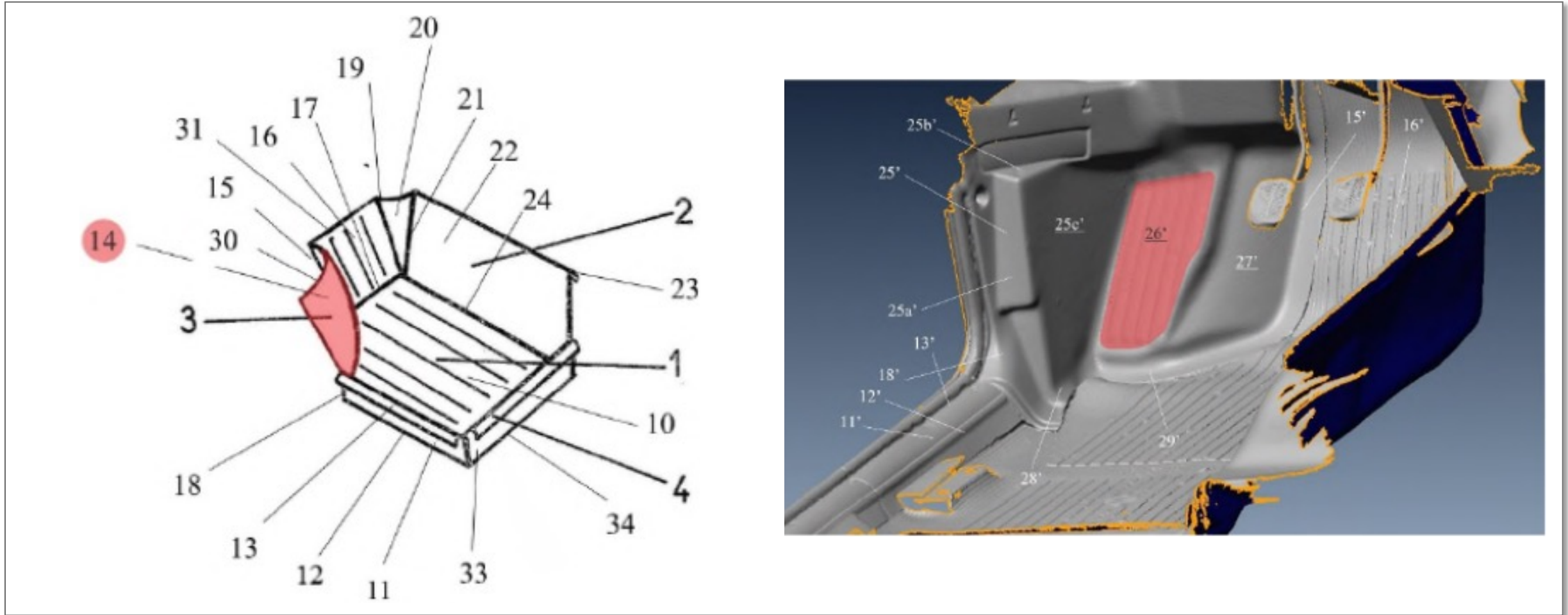
Ex. 2126 at ¶¶ 137-140  
Declaration of Ryan Granger

# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



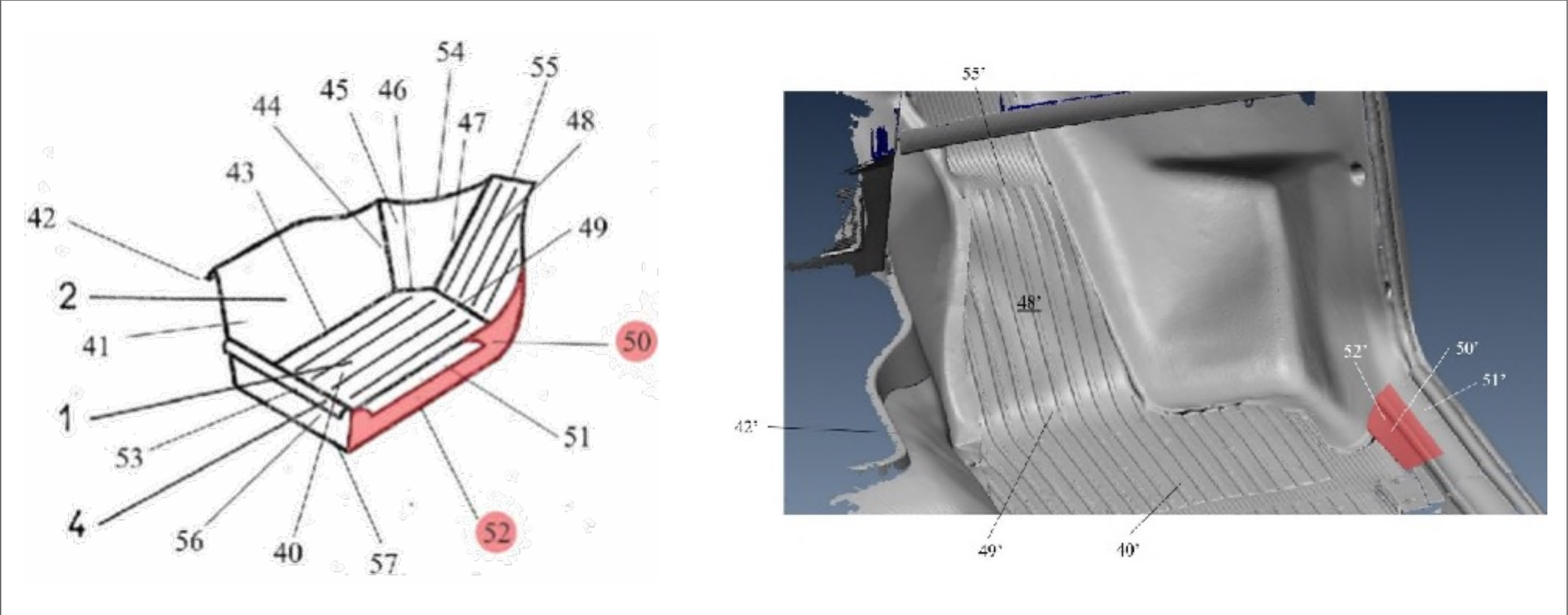
Ex. 2126 at ¶¶ 125, 136, 146  
Declaration of Ryan Granger

# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



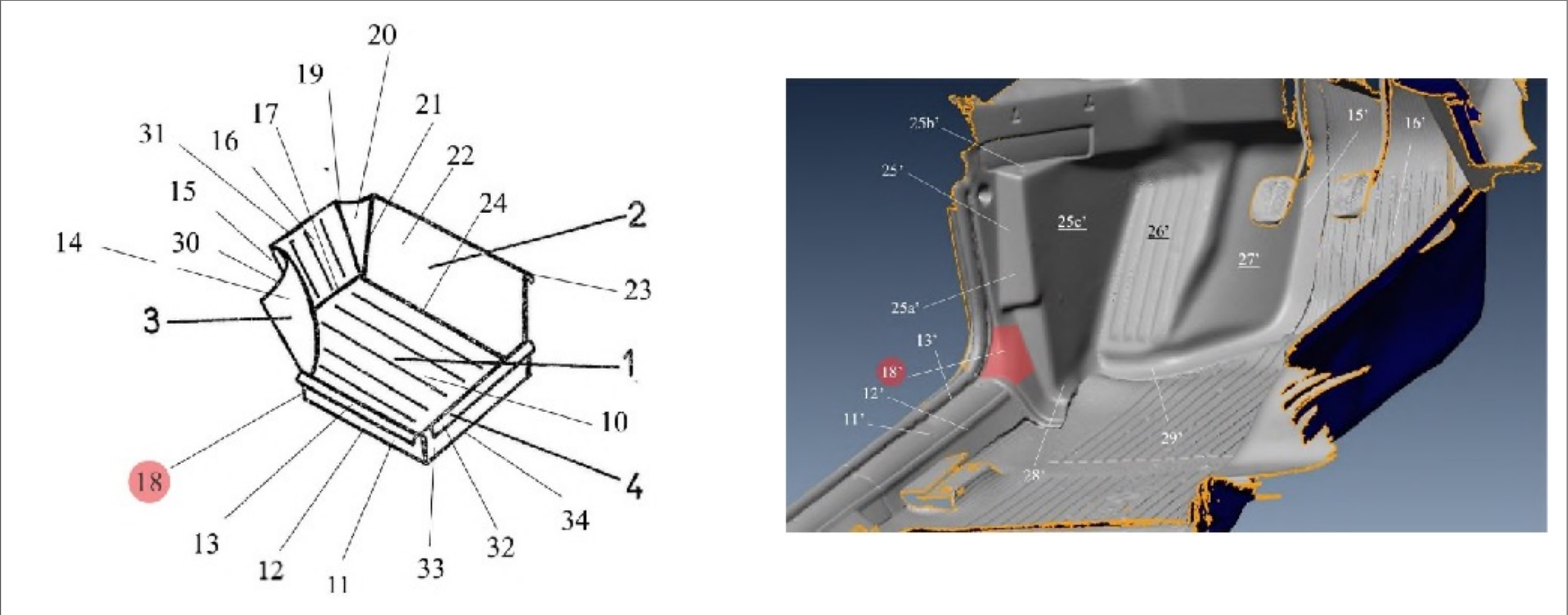
Ex. 2126 at ¶ 123  
Declaration of Ryan Granger

# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



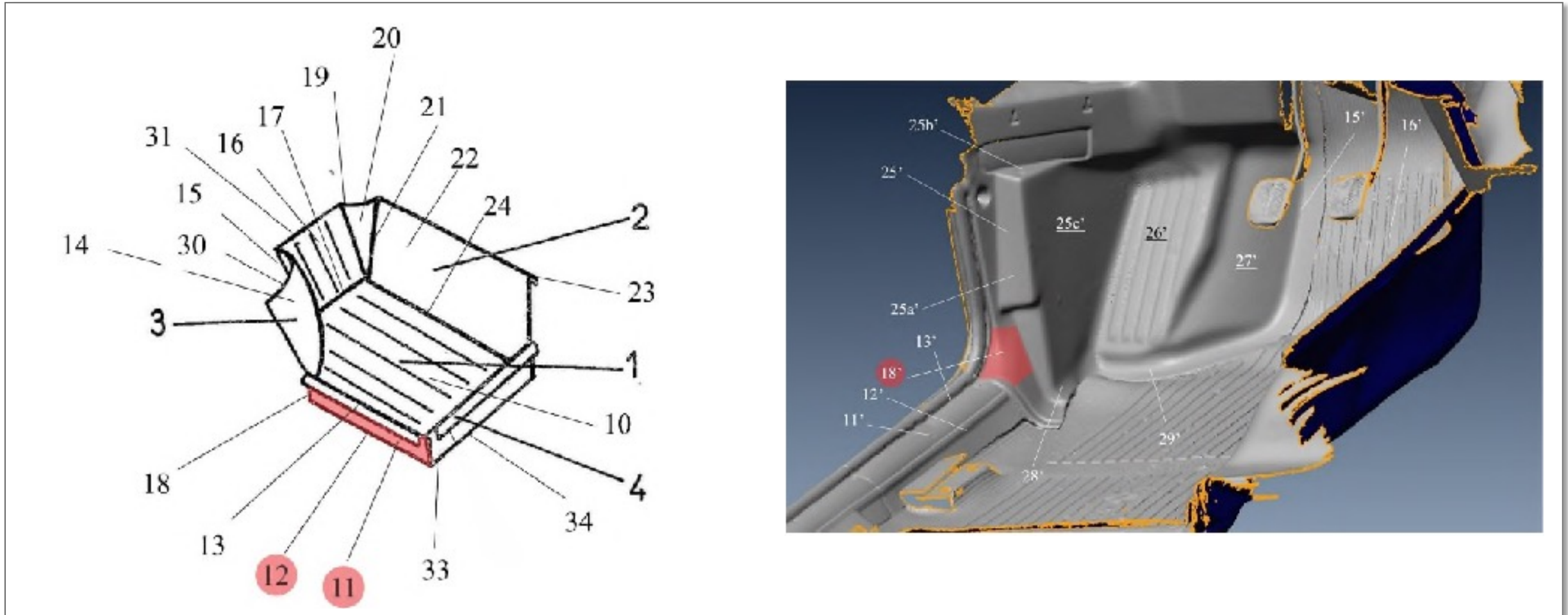
Ex. 2126 at ¶ 147-48  
Declaration of Ryan Granger

# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



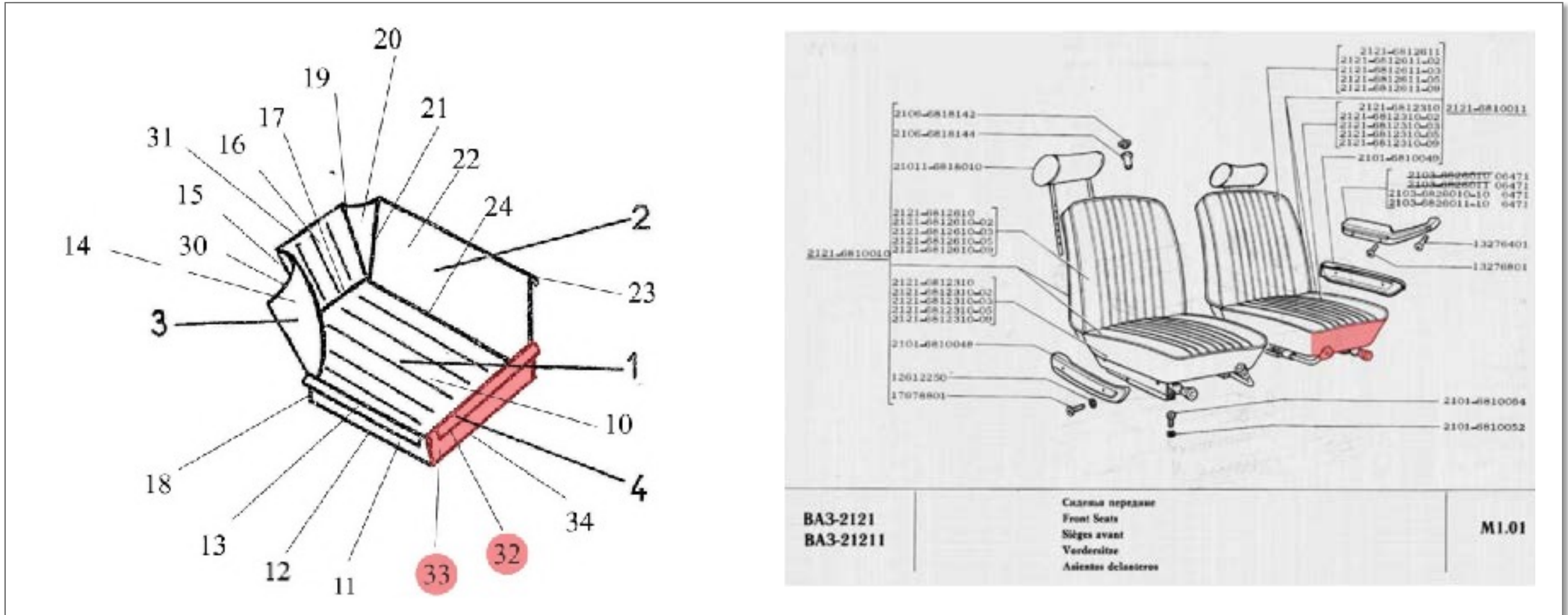
Ex. 2126 at ¶ 147-48  
Declaration of Ryan Granger

# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



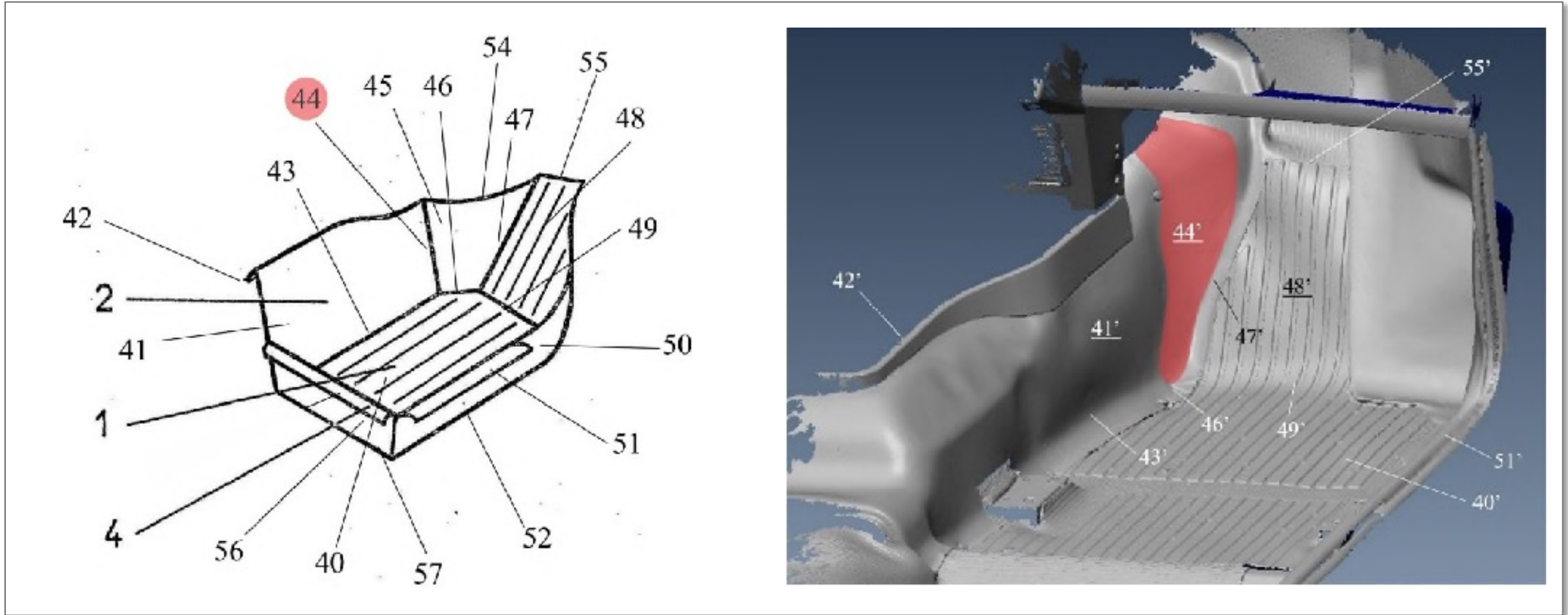
Ex. 2126 at ¶ 129–130  
Declaration of Ryan Granger

# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



Ex. 2126 at ¶ 131-135  
Declaration of Ryan Granger

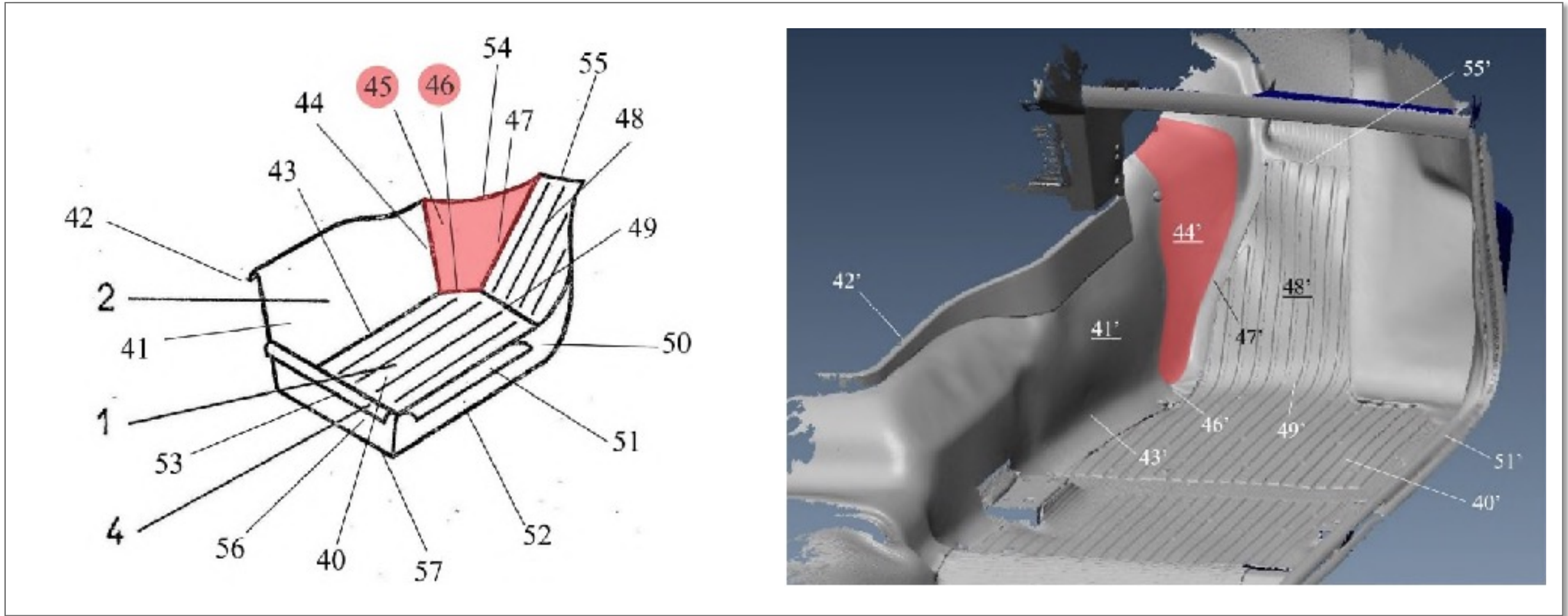
# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



Ex. 2126 at ¶ 141-42  
Declaration of Ryan Granger

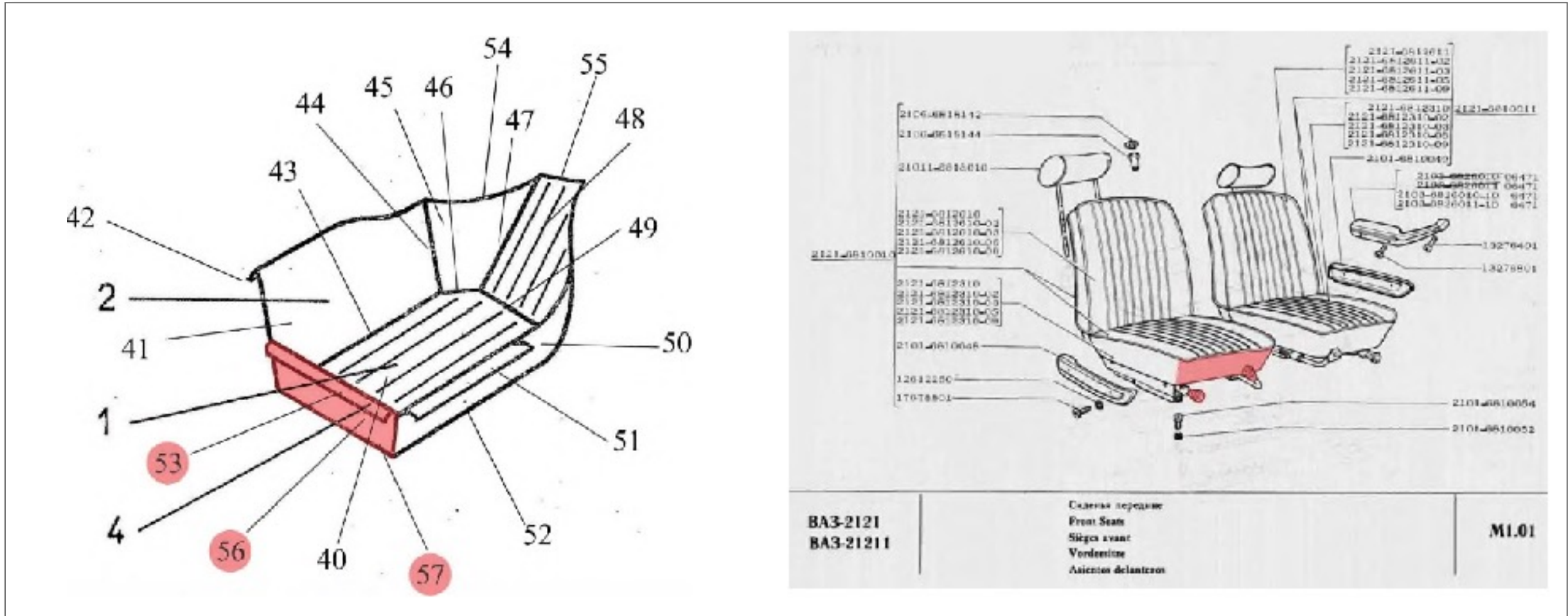


# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



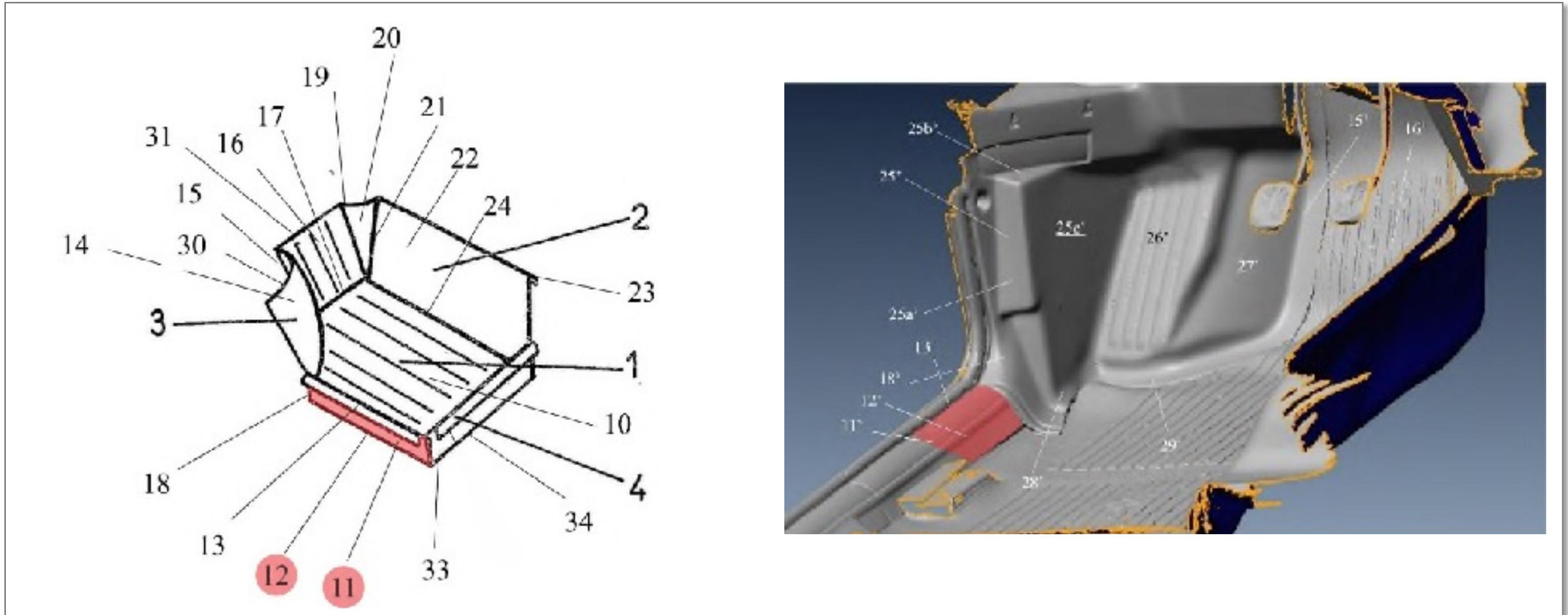
Ex. 2126 at ¶ 143–145  
Declaration of Ryan Granger

# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



Ex. 2126 at ¶ 149–153  
Declaration of Ryan Granger

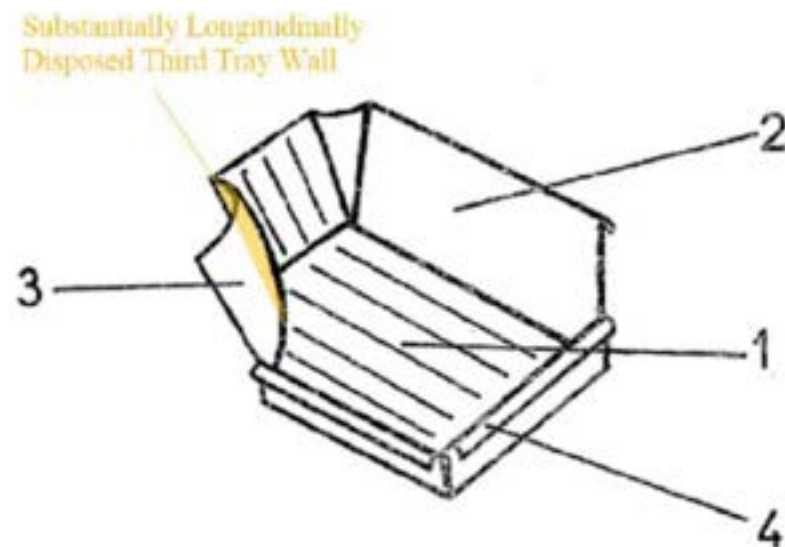
# Rabbe's Trays Do Not Conform to the Complex Curves of the Lada Niva



Ex. 2126 at ¶ 129-30  
Declaration of Ryan Granger

## Page 6 of Both the 1139 and 1142 Sur-Reply Briefs List Places Petitioner Relied Upon the Figures For Claim Elements

Rabbe describes its figures as “a rear three-quarter profile view at an angle of 45°”—suggesting a high degree of precision. EX2024, 11:28-31; EX1048, 235:14-238:2. While Yita now runs from them, Yita relied extensively on Rabbe’s figures in the Petition. Petition, 33-34, 36, 40-42, 53-54, 56, 59-61, 78. Dr. Koch/Yita relied upon the “wall” in Figure 3 in the deadpedal/kickplate area as satisfying the requirements of Claim 1:

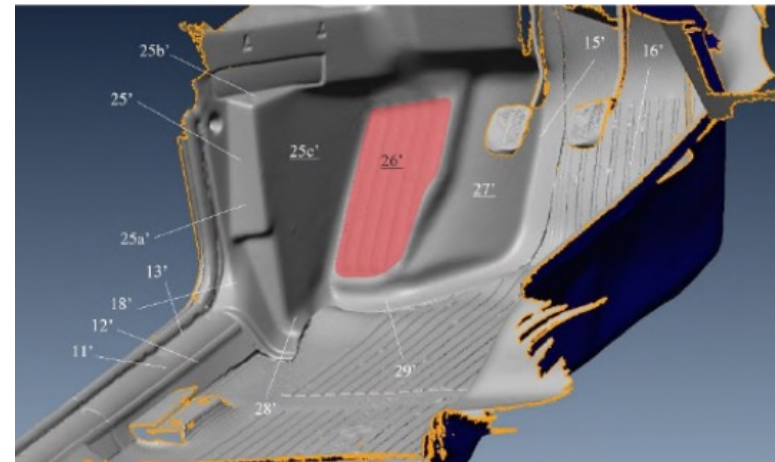
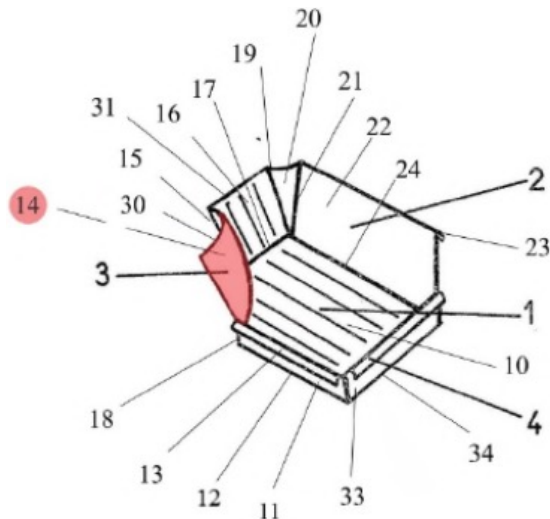


Paper 70 (Sur-Reply-1142) at 6–7, Paper 70 (Sur-Reply-1139) at 6–7

# Petitioner's Inconsistency — ...And Now Runs From Them

footwell, which are not covered by the claims. For example, Mr. Granger focuses on the Lada Niva's **deadpedal and kick plate** and alleges that Rabbe's floor tray would not conform. EX2126, ¶¶119-123. **But the claims do not require conformance in this area** because it is not part of the first panel or second panel. In

Ex. 1041 at ¶ 58



# Petitioner's Inconsistency — ...And Now Runs From Them

Q. (BY MR. WILLE) So -- so is it your opinion, then, that there's insufficient detail in Figure 3 to determine whether the wall that Mr. Granger has shaded and labeled "14" closely conforms to the foot well of the Lada Niva in that location?

MR. FITZSIMMONS: Objection. Form.

THE WITNESS: I can't tell.

Ex. 2184 at 139:7-14  
Testimony of Dr. Koch

Q. My question is -- is: Within the meaning of the claims of the '186 Patent, do you consider the shaded area 14 in Mr. Granger's declaration, Paragraph 123, to be a panel or a curved transition between other panels?

A. I don't think I can tell.

Q. Okay.

A. The illustration doesn't allow that level of detail for me.

Ex. 2184 at 143:4-13  
Testimony of Dr. Koch

# Petitioner's Inconsistency — Petitioner Relied Upon the Drawings...

Yung's Figure 4 discloses or at least suggests that each of the baffles ("umbos" (A)) have a width, in any horizontal direction, of more than two times its thickness. EX1003, ¶157.

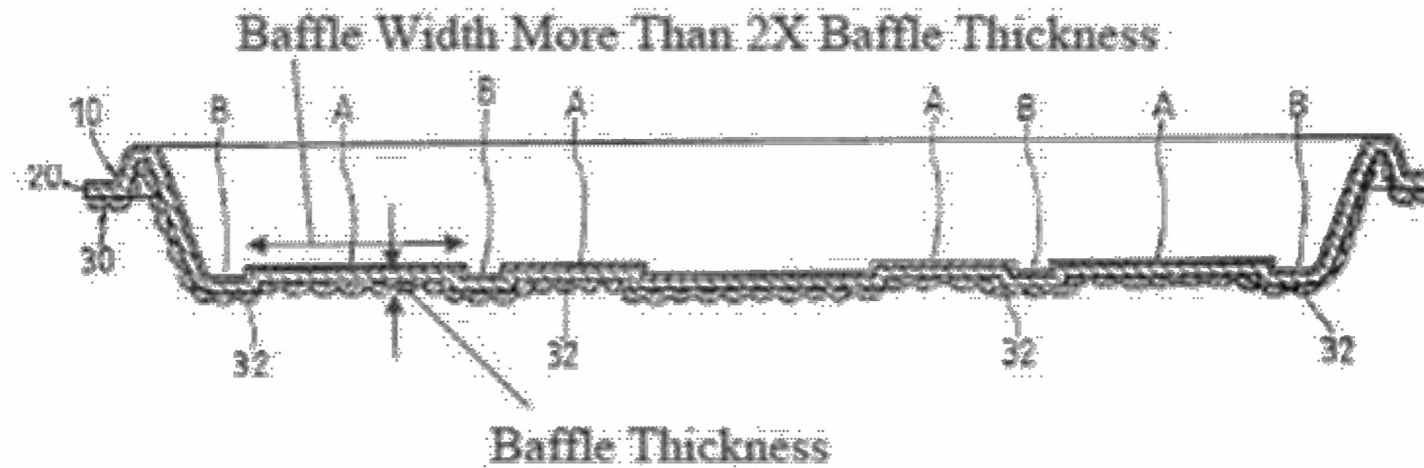
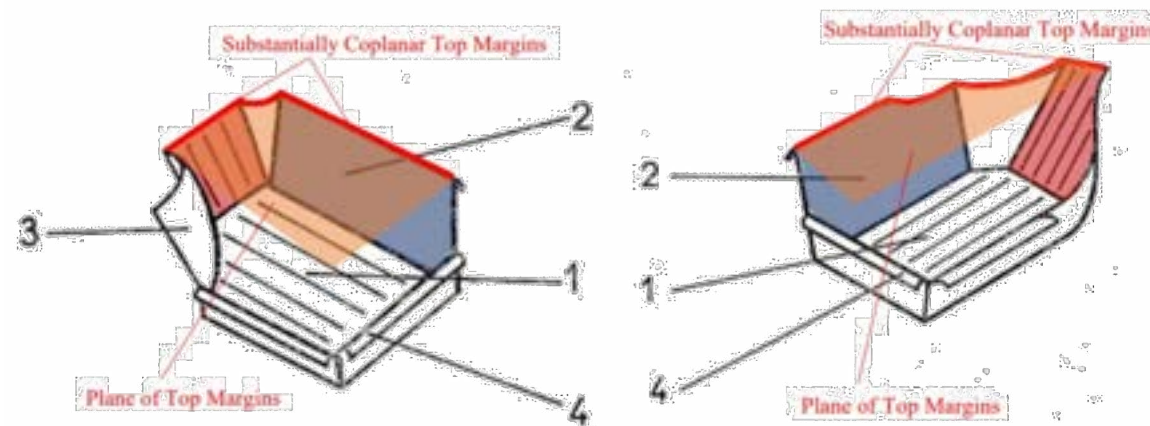


FIG. 4

'186 Petition at p. 57

# Petitioner's Inconsistency — Petitioner Relied Upon the Drawings...

Claim 5 simply adds having substantially coplanar top margins for the first and second panels, which is disclosed by Rabbe. EX1005, FIGs. 3-4; EX1003, ¶¶193-194. Figures 3 and 4 of Rabbe show the first, second, and third panels, with the top margin of each panel connected along a maximum height that stays substantially within the same plane. Thus, the first and second panels have top margins which are “substantially coplanar” with each other. EX1003, ¶194.



EX1005, FIGs. 3-4 (annotated).

'186 Petition at p.76



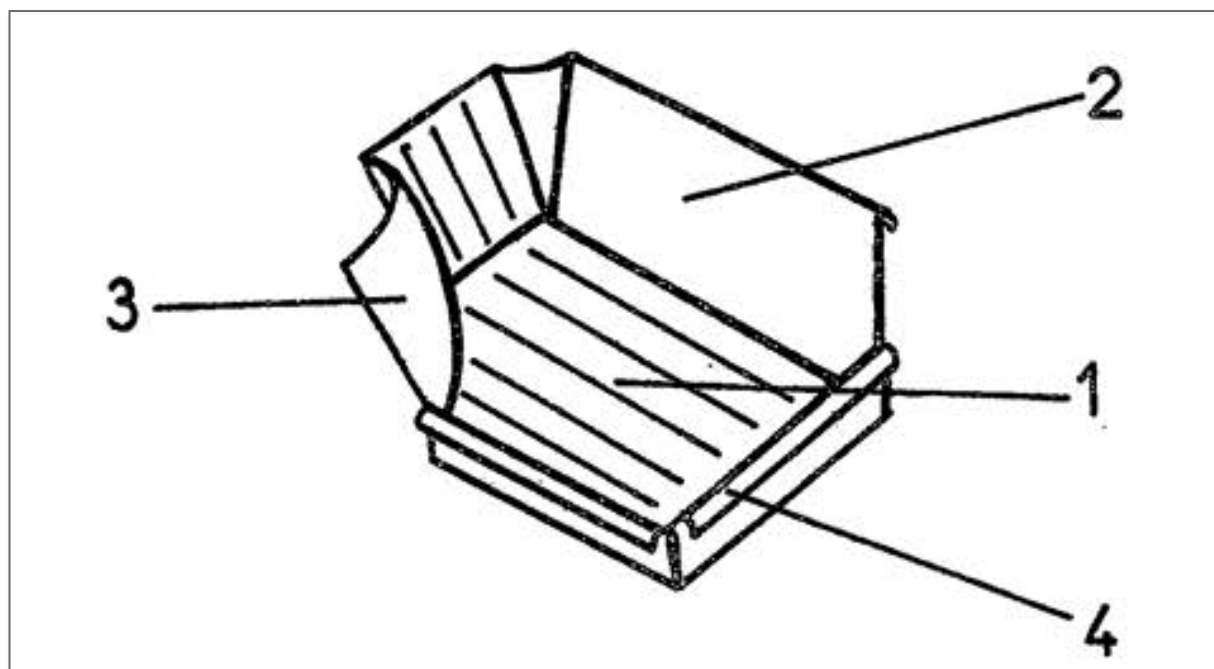
56. Second, MacNeil's flawed comparison does not eliminate Rabbe's numerous disclosures of conformance. Even if the alleged non-conformance between Rabbe's drawings and the scan is correct, a POSA would have understood that Rabbe's drawings are illustrations not intended to show the exact shape, curvature, and other aspects of the configuration. EX1007, 0052. It was common

Ex. 1041 at Par. 56  
Declaration of Dr. Koch

# Rabbe Suggests the Drawings are Precise

Plate 3/5 is a rear **three-quarter profile view at an angle of 45°** of a protection-tray positioned under the feet of the driver of a Lada Niva 4×4.

Ex. 2024 at P. 11, 24–25  
Rabbe Reference



Ex. 2024 at P. 16  
Rabbe Reference

# Mr. Granger Did Not Suggest the Drawings Were Precise

- **Mr. Granger relied upon overall proportions and shapes, just like Petitioner.** Ex. 2126 at ¶ 114.
- **Drawings may be relied upon for that purpose.** In re Heinle, 342 F.2d 1001, 1007 (C.C.P.A. 1965); Ex Parte Nobuya Sato & Kazunari Saitou, No. 2012-001276, 2014 WL 1154010, at \*2-3 (P.T.A.B. Mar. 20, 2014).

# 5. Petitioner's Reply Brief Plan B Does Not Save Them

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- Petitioner previously relied upon mistranslated “perfectly conforms” language
- Now cites “Other Portions of Rabbe”
  - Compare Reply 4–5 with 1142 Petition 36–42
  - Compare Reply 4–5 with 1139 Petition 41–42, 46–47
- Petitioner’s Expert Witness Agrees “Perfectly Conforms” is Subjective.  
(Ex 2185, 55:17–58:14)

# “Conformance” Must be Understood in Context

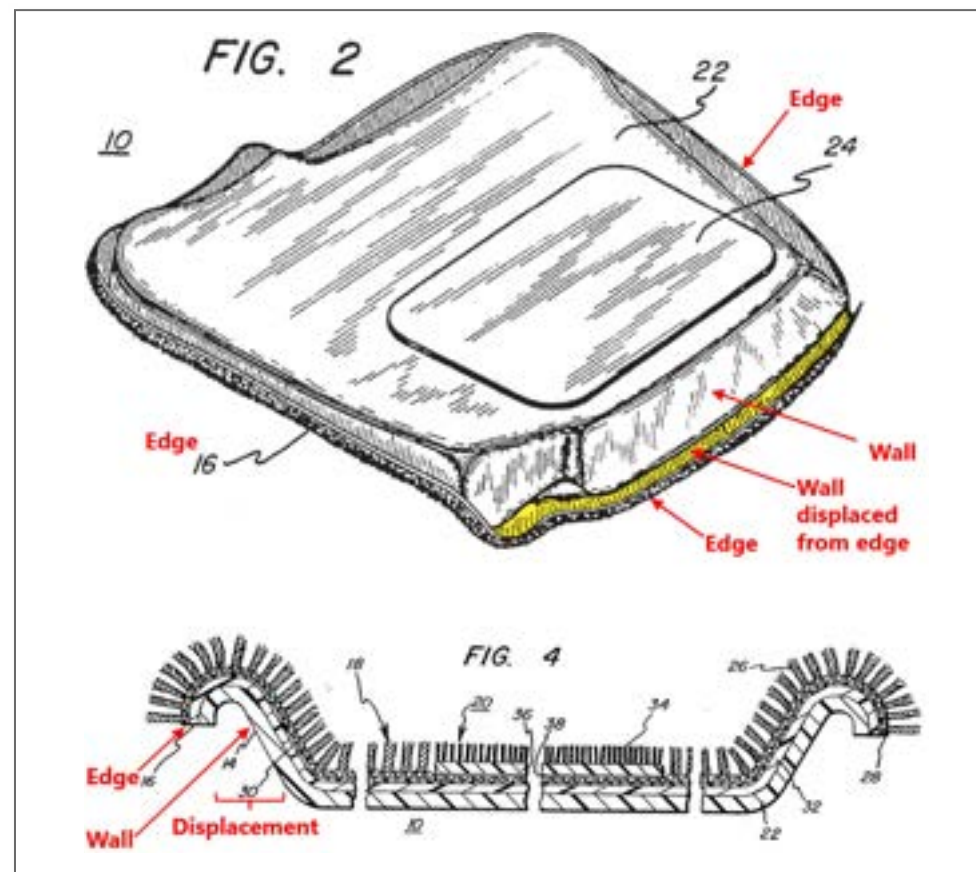
“Conforms” refers to tray having a similar general shape to the footwell, not 1/8 inch conformance.

[57]

## ABSTRACT

An accessory floor mat designed to overlie and protect a portion of the original carpeted floor of an automobile is preformed into a tray-like configuration which also conforms to the contours of the floor portion. The mat snugly fits into the carpeted floor well on a side of the vehicle and thereby resists mat sliding. The rigidity of the mat is such that it maintains its original position in the vehicle and also retains its shape when removed for cleaning. Raised borders of the mat terminate in rolled edges which eliminate the need for surging or otherwise finishing these edges. Optionally the mat can be provided with a recessed heel pad. The composite carpet structure from which the mat is molded preferably includes a layer of carpet fibers tufted into a primary backing material which is bonded to a sheet of open-celled foam by an extruded thermoformable copolymer of polyethylene and ethylene vinyl acetate.

Ex. 1053 Abstract



Paper 70 at p. 11

# “Conformance” Must be Understood in Context

- Even if Rabbe had “conformance to the contour” language, it is just like Bailey
- It simply means that the tray has a shape somewhat resembling the footwell
- Bailey was said to “conform to the contour” even though only the top rim touched
- Any “conformance” statements cannot be divorced from the rest of Rabbe
  - Rabbe’s drawings are a major part of the disclosure and show very different shapes from actual footwell
  - What Rabbe sought to protect was HEIGHTS following the relief

# Many of Petitioner's Passages are Mistranslated

All these passages refer to the variation of the height of the tray.

ERRONEOUS TRANSLATION	PROPER TRANSLATION
Tray “conforms to the contour of the vehicle interior” (Ex. 1005, p. 4:16-20)	Tray “follows the relief of the passenger compartment” (Ex. 2024, p. 11:13-16)
“raised edges (2) of unequal heights conform to the interior contour of the vehicle.” (Ex. 1005, p. 5:7-9)	“raised edges (2) with unequal heights following the interior relief of the vehicle” (Ex. 2024, p. 12:1-3)
“raised edges conform to the topography of the interior” (Ex 1005, p. 3: Abstract)	“raised edges conform to the relief of the passenger compartment” (Ex 2024, p. 10: Abstract)



# Petitioner's Final Passage Addresses Only Material Thickness

cannot harm the vehicle interiors. The **thinness of the material used only infringes a few millimeters into the space designed by the vehicle manufacturer and therefore does not change the aesthetic appearance sought.**

Ex. 2024 at P. 11, 24–25  
Rabbe Reference

Q. (By Mr. Wille) Okay. And do you see that this sentence here talks about the thinness of the material used only encroaches a few millimeters. That's what it says, right?

A. That's what it says, yes.

Q. Okay. And so **that's talking about the thickness of the material,** correct?

A. That's what it looks like it's mentioning, yes.

Ex. 2185 , 60:13–21  
Testimony of Dan Perrault

## Reference Numeral 1 Refers to Both the Floor Tray and the Vehicle Floor

(57) 1. "Protection-Tray" for Vehicle Interiors.

2. The invention relates to floormats with raised edges that form trays and provide effective protection of the floors and lateral walls of vehicle interiors near the driver's feet, passengers' feet and also trunks against water, mud, snow and other dirt.

The protection-tray is made of semirigid rubber or other material having the same properties. The pliability of the material used gives it good handling and the stiffness flattens the raised edges against the walls.

3. **The floor 1 is entirely covered.** The raised edges conform to the relief of the passenger compartment 2 and 3, and do not change the aesthetic appearance sought by the manufacturer. Some rims 4 are retaining in order to provide a good stability to the assembly. Judiciously arranged handles 5 make handling and placement of the protection-tray easier.

Ex. 2024, p. 10  
Rabbe Reference

As shown, the protection-tray comprises: a) a striated bottom (1) covering the entire floor; b) raised edges (2) with unequal heights following the interior relief of the vehicle, in particular the wheel wells (3). The walls and the bottoms are made of semi-rigid rubber or another material having the same properties. Pressure exerted on the walls, by using judiciously arranged handles (5), folds the walls and serves to release the protection-tray in order for it to be withdrawn from the vehicle compartment.

Ex. 2024, p. 12  
Rabbe Reference

## Reference Numerals 2 and 3 refer to the “relief of the passenger compartment”

(57) 1. “Protection-Tray” for Vehicle Interiors.

2. The invention relates to floormats with raised edges that form trays and provide effective protection of the floors and lateral walls of vehicle interiors near the driver's feet, passengers' feet and also trunks against water, mud, snow and other dirt.

The protection-tray is made of semirigid rubber or other material having the same properties. The pliability of the material used gives it good handling and the stiffness flattens the raised edges against the walls.

3. The floor 1 is entirely covered. The raised edges conform to the relief of the passenger compartment 2 and 3, and do not change the aesthetic appearance sought by the manufacturer. Some rims 4 are retaining in order to provide a good stability to the assembly. Judiciously arranged handles 5 make handling and placement of the protection-tray easier.

Ex. 2024, p. 10  
Rabbe Reference

Yet the passenger compartment is  
not shown in ANY drawing—  
Making ALL drawings erroneous.

Dr. Koch agrees. Ex 2184, 150:2-151:5

## Reference Numeral 3 Refers to the “relief of the passenger compartment” and the “wheel well”

(57) 1. “Protection-Tray” for Vehicle Interiors.

2. The invention relates to floormats with raised edges that form trays and provide effective protection of the floors and lateral walls of vehicle interiors near the driver's feet, passengers' feet and also trunks against water, mud, snow and other dirt.

The protection-tray is made of semirigid rubber or other material having the same properties. The pliability of the material used gives it good handling and the stiffness flattens the raised edges against the walls.

3. The floor 1 is entirely covered. The raised edges conform to the relief of the passenger compartment 2 and 3, and do not change the aesthetic appearance sought by the manufacturer. Some rims 4 are retaining in order to provide a good stability to the assembly. Judiciously arranged handles 5 make handling and placement of the protection-tray easier.

Ex. 2024, p. 10  
Rabbe Reference

As shown, the protection-tray comprises: a) a striated bottom (1) covering the entire floor; b) raised edges (2) with unequal heights following the interior relief of the vehicle, in particular the wheel wells (3). The walls and the bottoms are made of semi-rigid rubber or another material having the same properties. Pressure exerted on the walls, by using judiciously arranged handles (5), folds the walls and serves to release the protection-tray in order for it to be withdrawn from the vehicle compartment.

Ex. 2024, p. 12  
Rabbe Reference

# Rabbe's Reference Numerals are Useless for Interpretation

## Reference Numeral 2 Refers to the “relief of the passenger compartment” and the “raised edges”

(57) 1. “Protection-Tray” for Vehicle Interiors.

2. The invention relates to floormats with raised edges that form trays and provide effective protection of the floors and lateral walls of vehicle interiors near the driver's feet, passengers' feet and also trunks against water, mud, snow and other dirt.

The protection-tray is made of semirigid rubber or other material having the same properties. The pliability of the material used gives it good handling and the stiffness flattens the raised edges against the walls.

3. The floor 1 is entirely covered. The raised edges conform to the relief of the passenger compartment 2 and 3, and do not change the aesthetic appearance sought by the manufacturer. Some rims 4 are retaining in order to provide a good stability to the assembly. Judiciously arranged handles 5 make handling and placement of the protection-tray easier.

Ex. 2024, p. 10  
Rabbe Reference

As shown, the protection-tray comprises: a) a striated bottom (1) covering the entire floor; b) raised edges (2) with unequal heights following the interior relief of the vehicle, in particular the wheel wells (3). The walls and the bottoms are made of semi-rigid rubber or another material having the same properties. Pressure exerted on the walls, by using judiciously arranged handles (5), folds the walls and serves to release the protection-tray in order for it to be withdrawn from the vehicle compartment.

Ex. 2024, p. 12  
Rabbe Reference

## “Raised Edges” is used in multiple places without a reference numeral

(57) 1. “Protection-Tray” for Vehicle Interiors.

2. The invention relates to floor mats with raised edges that form trays and provide effective protection of the floors and lateral walls of vehicle interiors near the driver's feet, passengers' feet and also trunks against water, mud, snow and other dirt.

The protection-tray is made of semirigid rubber or other material having the same properties. The pliability of the material used gives it good handling and the stiffness flattens the raised edges against the walls.

3. The floor 1 is entirely covered. The raised edges conform to the relief of the passenger compartment 2 and 3, and do not change the aesthetic appearance sought by the manufacturer. Some rims 4 are retaining in order to provide a good stability to the assembly. Judiciously arranged handles 5 make handling and placement of the protection-tray easier.

Ex. 2024, p. 10  
Rabbe Reference

These disadvantages can be avoided with the protection-tray according to the invention. The edges thereof, with unequal heights, are raised several centimeters around the entire perimeter thereof and serve to keep the dirt inside the tray thus formed. The protection-tray,

Ex. 2024, p. 11:11-13  
Rabbe Reference

2) The protection-tray according to claim 1, characterized in that the raised edges conform to the relief of the passenger compartment (3).

Ex. 2024, p. 13:7-8  
Rabbe Reference

# Petitioner's Translation Rearranges the Reference Numerals

Rabbe's Original French Places Reference Numerals 2 and 3 after  
"le relief de l'habitacle" (Relief of the passenger compartment)

3° Le plancher est recouvert dans sa totalité 1. Les bords relevés épousent le relief de l'habitacle 2 et 3, et ne changent pas l'esthétique recherchée par le constructeur. Certains re-

Rabbe Reference Original French, Ex. 1005, p. 13

Petitioner's translation rearranges reference numerals

3. The floor 1 is totally covered. The raised edges 2 and 3 conform to the topography of the interior and do not change the aesthetics desired by the manufacturer. Some flanges 4

Petitioner's Translation, Ex. 1005, p. 3

# Petitioner's Counsel Arranged them Properly in District Court

Rabbe's Original French Places Reference Numerals 2 and 3 after  
"le relief de l'habitacle" (Relief of the passenger compartment)

3° Le plancher est recouvert dans sa totalité 1. Les bords relevés épousent le relief de l'habitacle 2 et 3, et ne changent pas l'esthétique recherchée par le constructeur. Certains re-

Rabbe Reference Original French, Ex. 1005, p. 13

Petitioner's Translation in District Court is Correct

and the rigidity holds the raised edges against the walls. 3. The floor is entirely covered 1. The raised edges match the shape of the passenger compartments 2 and 3, and do not change the aesthetic appearance sought by the manufacturer.

District Court Invalidation Contentions, Ex 2036, p. 12



# 6. Rabbe Teaches Away from Thermoforming a Single Sheet

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# Petitioner's Theory Relies upon Thermoforming

- '186 Patent: Claim 1 Requires Thermoforming.
- '834 Patent: Thermoforming is the only molding method that Petitioner argued satisfies this limitation in the Petition.
- Other molding methods typically would not use a single sheet.

Ex. 1041 at ¶¶ 91–94

# 6A. Rabbe Was Assembled, Not Formed from a Single Sheet

---

# Rabbe Describes His Tray as an Assembly

**Some rims will have retentive shape (4) so as to get a better stability of the assembly.**  
**The present invention may equip any vehicle, whether they are for tourism or utility.**

2024, p. 12, lines 7-8  
Rabbe Reference

**3. The floor 1 is entirely covered. The raised edges conform to the relief of the passenger compartment 2 and 3, and do not change the aesthetic appearance sought by the manufacturer. Some rims 4 are retaining in order to provide a good stability to the assembly. Judiciously arranged handles 5 make handling and placement of the protection-tray easier.**

2024, p. 12, lines 7-8  
Rabbe Reference

# Petitioner's Counsel Used the "Assembly" Translation in District Court

the manufacturer. Some rims are retaining rims 4 for giving good stability to the **assembly**. Judiciously arranged handles 5 facilitate handling and

Ex. 2036 at 12  
District Court Validity Contentions

Some rims are retaining rims 4 for giving good stability to the **assembly**.

Ex. 2037 at 20  
District Court Validity Contentions

# Rabbe Refers to the Walls and Bottoms As Separate Pieces

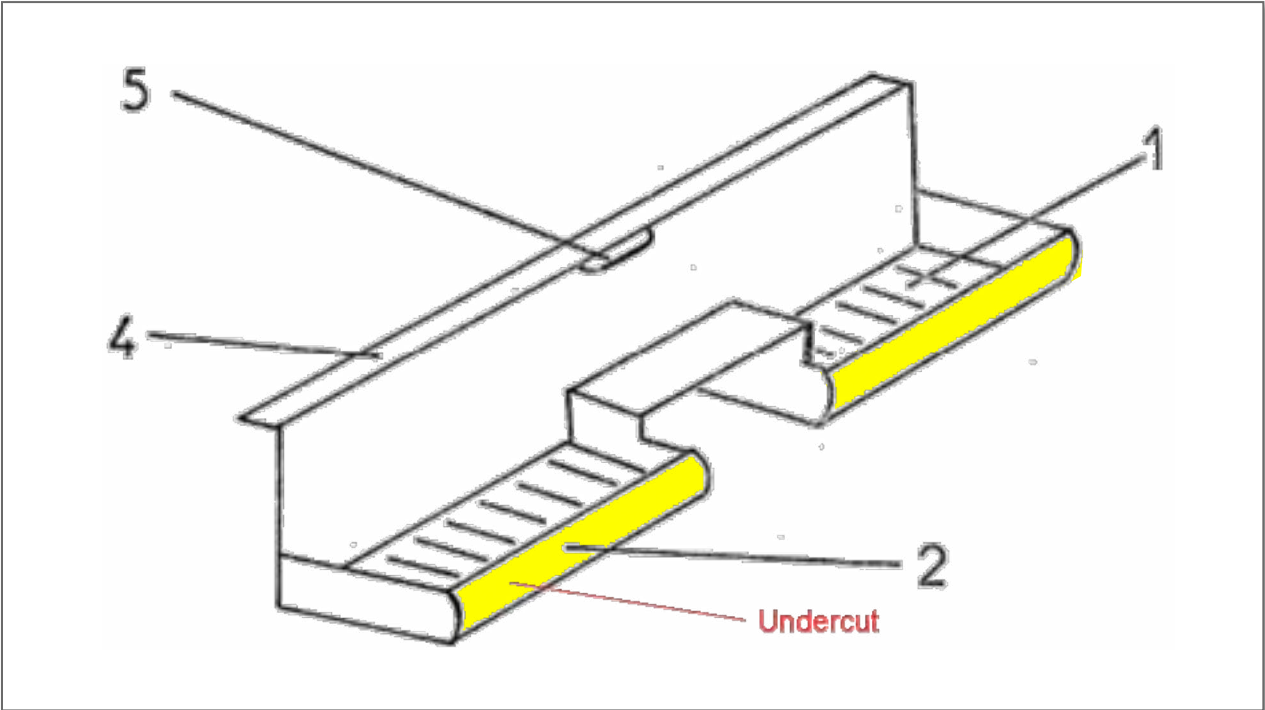
particular the wheel wells (3). The **walls and the bottoms are made of semi-rigid rubber or another material having the same properties.** Pressure exerted on the walls, by using

Ex. 2024, 12:3-4  
Rabbe Reference

- This suggests the bottoms and walls are separate pieces and could be made of separate materials. Osswald Decl., Ex. 2041 at ¶ 84
- Dr. Koch agrees this sentence allows forming the walls/bottoms from different materials. (Ex. 2039, 193:15-194:15)

# Rabbe has a Large Undercut Precluding Thermoforming

The large undercut runs the length of the tray



1142 POR at 46

# A POSITA Would Not Manufacture Rabbe From a Single Sheet of Plastic

- The part would be damaged when removing from the mold. Ex. 2041, ¶ 86
- Heavy Gauge Thermoforming/Compression Molding would be avoided with Rabbe. Ex. 2041, ¶ 87
- A POSITA would not choose different processes for different trays for the Lada Niva. Ex. 2041, ¶ 89



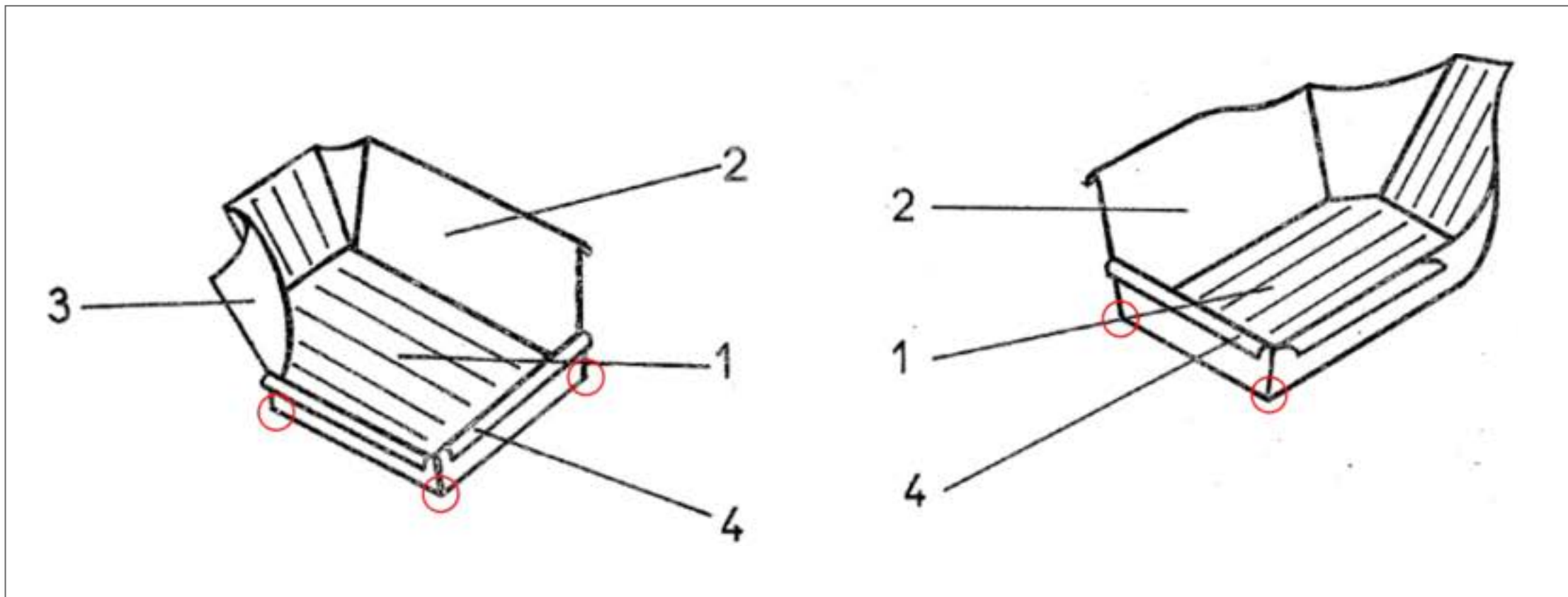
- Addressing an undercut can be an “impressive engineering feat.”  
Ex. 2153, ¶ 41
- Petitioner identifies techniques to theoretically address undercuts.
- Petitioner does not explain how any of those techniques could be used on Rabbe.
- Dr. Osswald rejects those techniques to address THIS undercut.  
Ex. 1049, ¶¶ 201-02

# 6B. Rabbe Has Sharp Edges/Corners

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# Rabbe's Figures Show Both Sharp Edges and Sharp Corners

1. Sharp Edges From Panels to Floor
2. Sharp Corners Where Walls Meet



Paper 70 (Sur-Reply-1142) at 24

# Sharp Edges and Corners Are to Be Avoided For Thermoforming

As discussed, curved transitions are important in thermoforming. Section II; EX1003, ¶¶39-49, 56-62, 136. Gruenwald explains “avoidance of sharp corners” is important because the material thins significantly at sharp corners. EX1007, 37, 53 (“[s]harp corners can lead to web formation on tall male molds and also carry the danger of brittle failure of the part. Rounded edges improve stiffness, reduce molded-in stresses, and are more likely to prevent warpage”). Thus, curved transitions were desirable, and in fact the norm, when thermoforming parts. Section II; EX1003, ¶136.

Petition for IPR 1142; see also 1139 Petition at 43

**Radii at edges and corners should be as generously laid out as possible. They not only ease the extraction of the part from the mold but also improve the flatness of adjacent areas. The appearance of chill marks there can be minimized (see Figure 3.5). Sharp corners can lead to web formation on tall male molds and also carry the danger of brittle failure of the part. Rounded edges improve stiffness, reduce molded-in stresses, and are more likely to prevent warpage.**

Ex.1007 at 53  
Gruenwald Treatise

# Sharp Edges and Corners Would Cause a POSITA to Avoid Thermoforming

- **Both sharp corners and edges create points of failure.** Declaration of Dr. Tim Osswald Ex. 2041 at 79
- **This is particularly true with very deep parts.** Declaration of Dr. Tim Osswald Ex. 2041 at 79.

# A Thick Gauge Product Would Not Be Folded Either

As shown, the protection-tray comprises: a) a striated bottom (1) covering the entire floor; b) raised edges (2) with unequal heights following the interior relief of the vehicle, in particular the wheel wells (3). The walls and the bottoms are made of semi-rigid rubber or another material having the same properties. Pressure exerted on the walls, by using judiciously arranged handles (5), **folds the walls** and serves to release the protection-tray in order for it to be withdrawn from the vehicle compartment.

Paper 70 (Sur-Reply-1142) at 24  
Rabbe Reference

**A tray made of thick thermoplastic sheet is not foldable.**

Declaration of Dr. Tim Osswald (Ex 2041, ¶ 103)

# There is no Convention Followed by POSITAs to Show Rounded Corners/Edges as Sharp in Drawings of Thermoformed Parts

- **Argument is Circular—Assumes You Know Part is Thermoformed.**
- **Gruenwald Would Not Need to Say it if it Were True**
- **Gruenwald Shows Lots of Parts with Curved Edges/Corners**  
(E.g. 1142 SurReply at 25-27, 1139 SurReply at 25-27)
- **Many References in Evidence Show Parts with Curved Edges/Corners**  
(Eg. 1142 SurReply at 27-28, 1139 SurReply at 27-28)

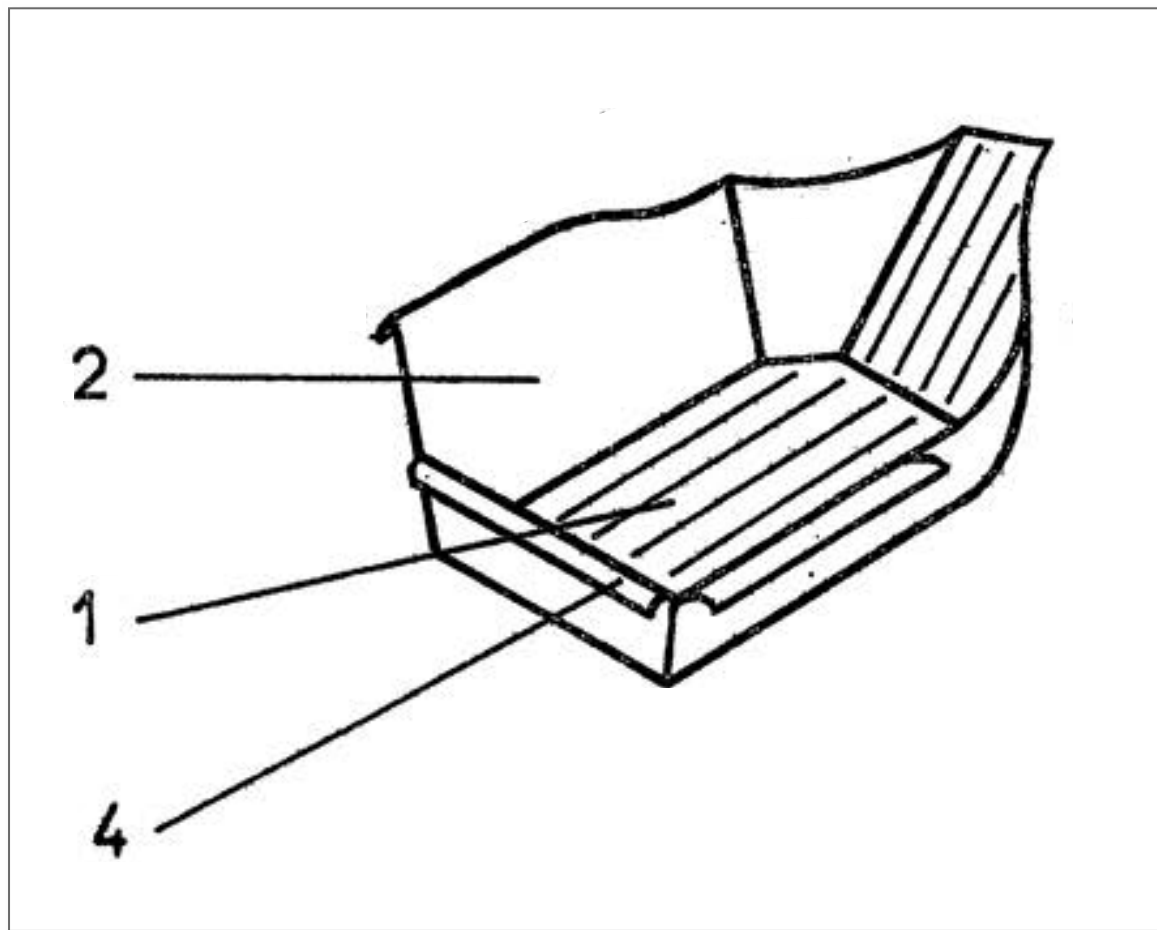
# 6C. Rabbe Has A Deep Draw

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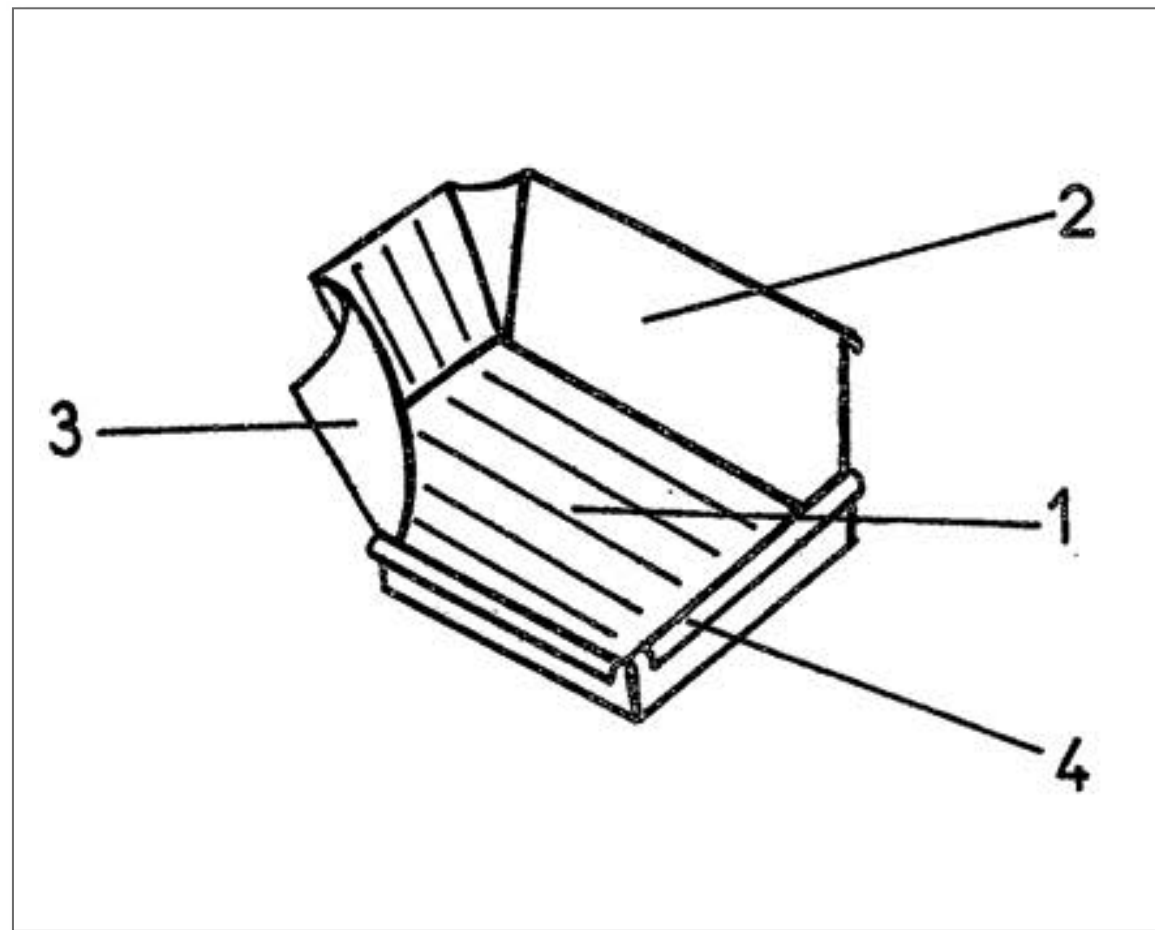


# Rabbe's Trays Have a Deep Draw

Ratio of Maximum Cavity Depth to Minimum Span (Ex. 2041, ¶ 97)



1142 at Fig. 3



1139 at Fig. 4

# Petitioner Shifts Positions due to Rabbe's Deep Draw

Then:

“provide[] effective protection of the floors and sidewalls.” EX1005, Abstract. And a POSA would have considered Rabbe’s disclosure of having the sidewalls be raised by “several centimeters” to include the recited “at least five inches” (12.7 centimeters), particularly in the context of vehicle floor trays. At the very least, the

Ex. 1003 in IPR 1139, ¶ 192  
Declaration of Dr. Koch

Now:

Q. Okay. So by "slightly beyond an inch," you mean 1.1811 inches or 3 centimeters. Is that right?

A. That's correct.

Ex. 2183, 183:10-13  
Testimony of Mark Strachan

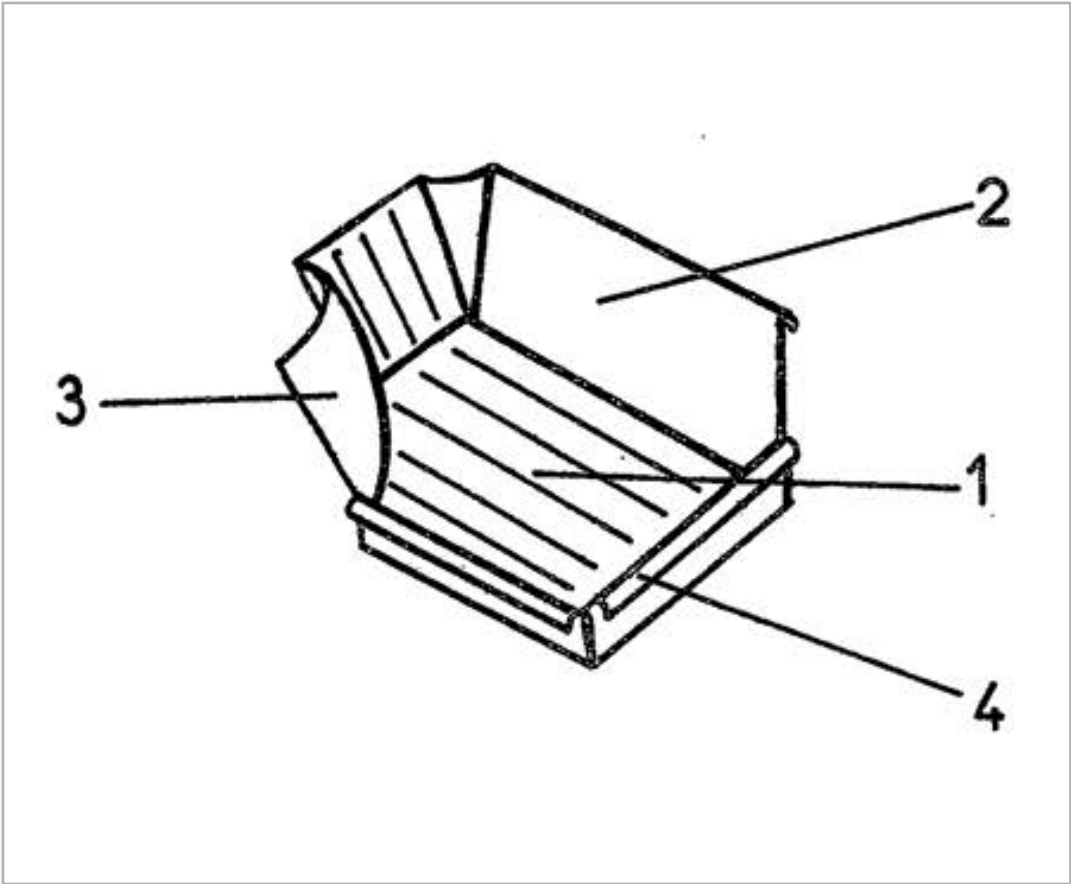
62. Dr. Osswald’s and Mr. Sherman’s assertions that the depth or “draw” of Rabbe’s floor tray is too deep to thermoform is wrong for multiple reasons. EX2041, ¶97; EX2043, ¶110. First, Dr. Osswald and Mr. Sherman ignore Rabbe’s written description disclosing that Rabbe’s floor tray walls “of unequal heights, are raised by *several centimeters* over the full periphery thereof.” EX1005, 1:14-16 (emphasis added); EX2024, 1:12-13. That is, the height of Rabbe’s raised edges (i.e., tray walls) *only extends slightly beyond an inch* (2.54 centimeters = 1 inch), which is considerably shallow compared to the span across the tray’s floor.

Ex. 1042, ¶ 62  
Declaration of Mark Strachan

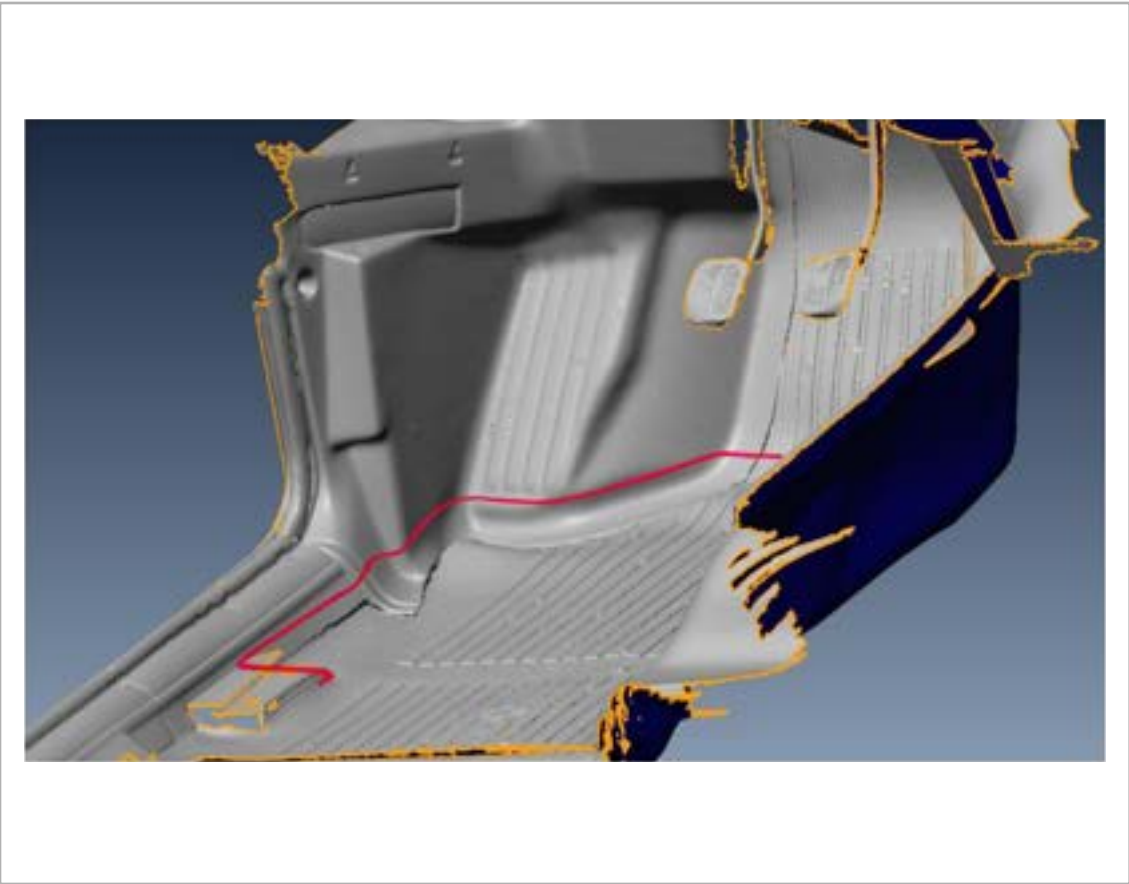
# Dr. Koch Contradicts Himself

- The transmission tunnel is 6.8 inches high and firewall is 7.99 inches high. Ex. 1044, ¶¶ 82-83.
- Dr. Koch says the flanges 4 of Rabbe could be “on top of the relief of the footwell.” Ex. 1041, ¶ 28
- But this is impossible if the walls are limited to slightly beyond an inch.

# Petitioner's Position is Absurd

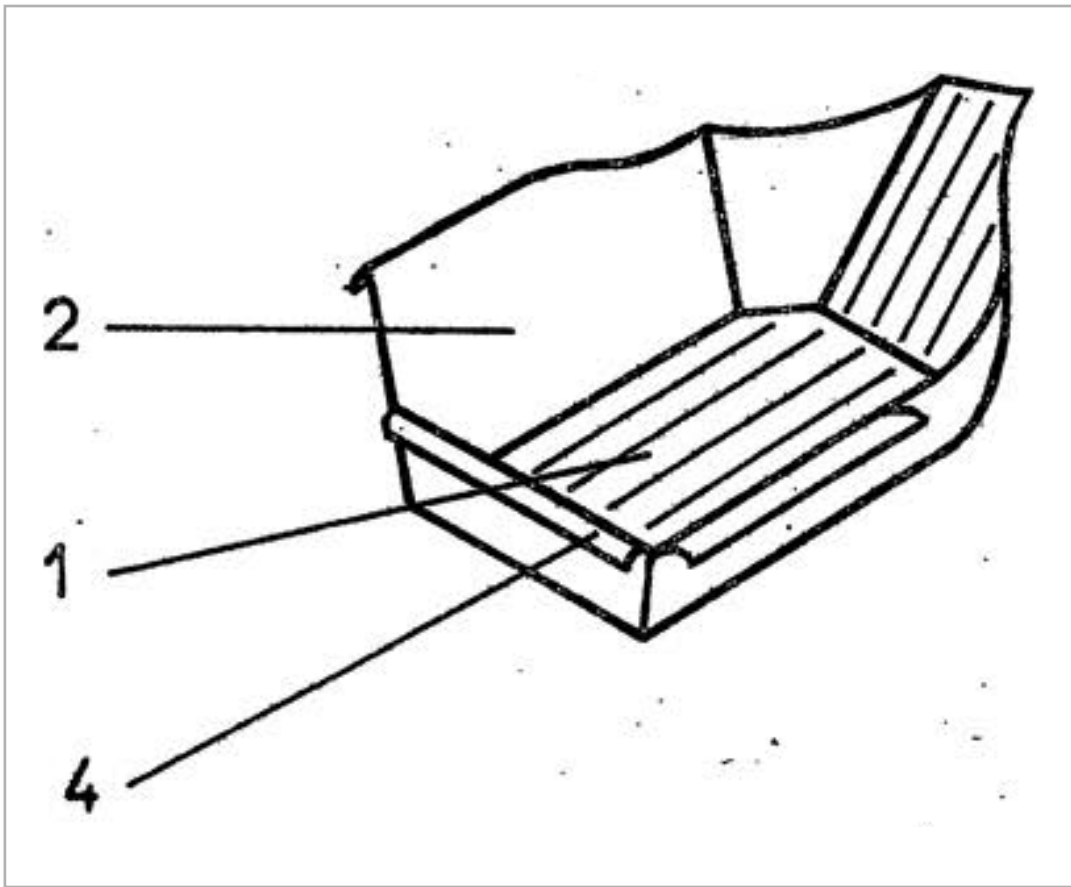


Rabbe Reference, Ex. 2024 at P.16

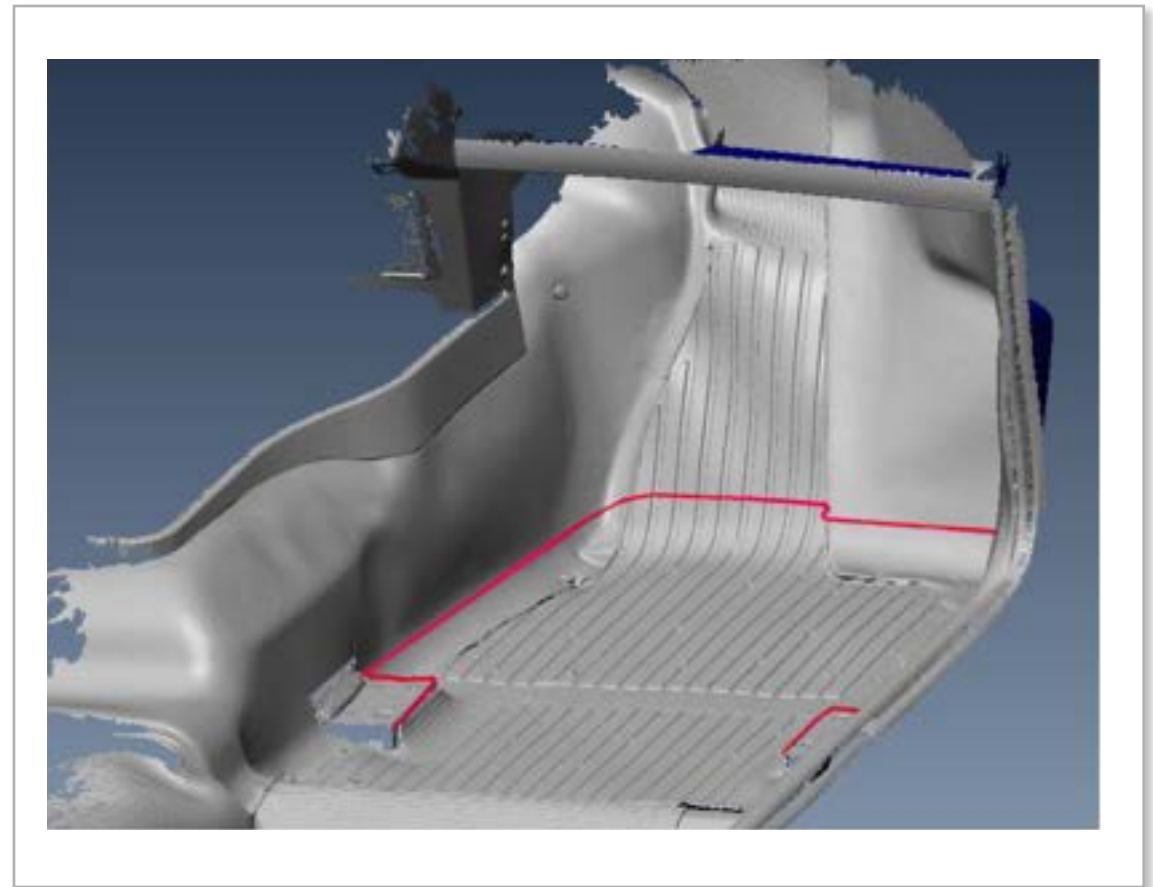


Paper 70 (Sur-Reply-1139) at 31,  
Paper 70 (Sur-Reply-1142) at 31

# Petitioner's Position is Absurd

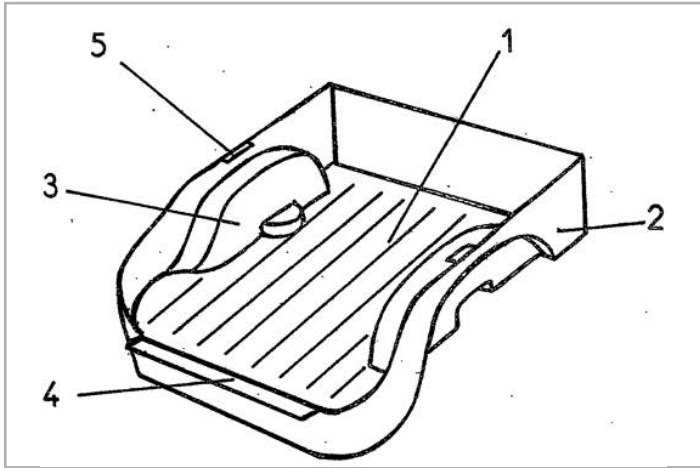


Rabbe Reference, Ex. 2024 at P. 17



Paper 70 (Sur-Reply-1139) at 31,  
Paper 70 (Sur-Reply-1142) at 31

# Petitioner's Position is Absurd



Rabbe Reference, Ex. 2024 at P. 14

As shown, the protection-tray comprises: a) a striated bottom (1) covering the entire floor; b) raised edges (2) with unequal heights following the interior relief of the vehicle, in particular the wheel wells (3). The walls and the bottoms are made of semi-rigid rubber or another material having the same properties. Pressure exerted on the walls, by using judiciously arranged handles (5), folds the walls and serves to release the protection-tray in order for it to be withdrawn from the vehicle compartment.

Rabbe Reference, Ex. 2024 at P. 12

## How Could a 1-inch Wall Possibly Cover a Wheel Well?

# Petitioner's Position is Absurd



Paper 70 (Sur-Reply-1142) at 30, Paper 70 (Sur-Reply-1139) at 30

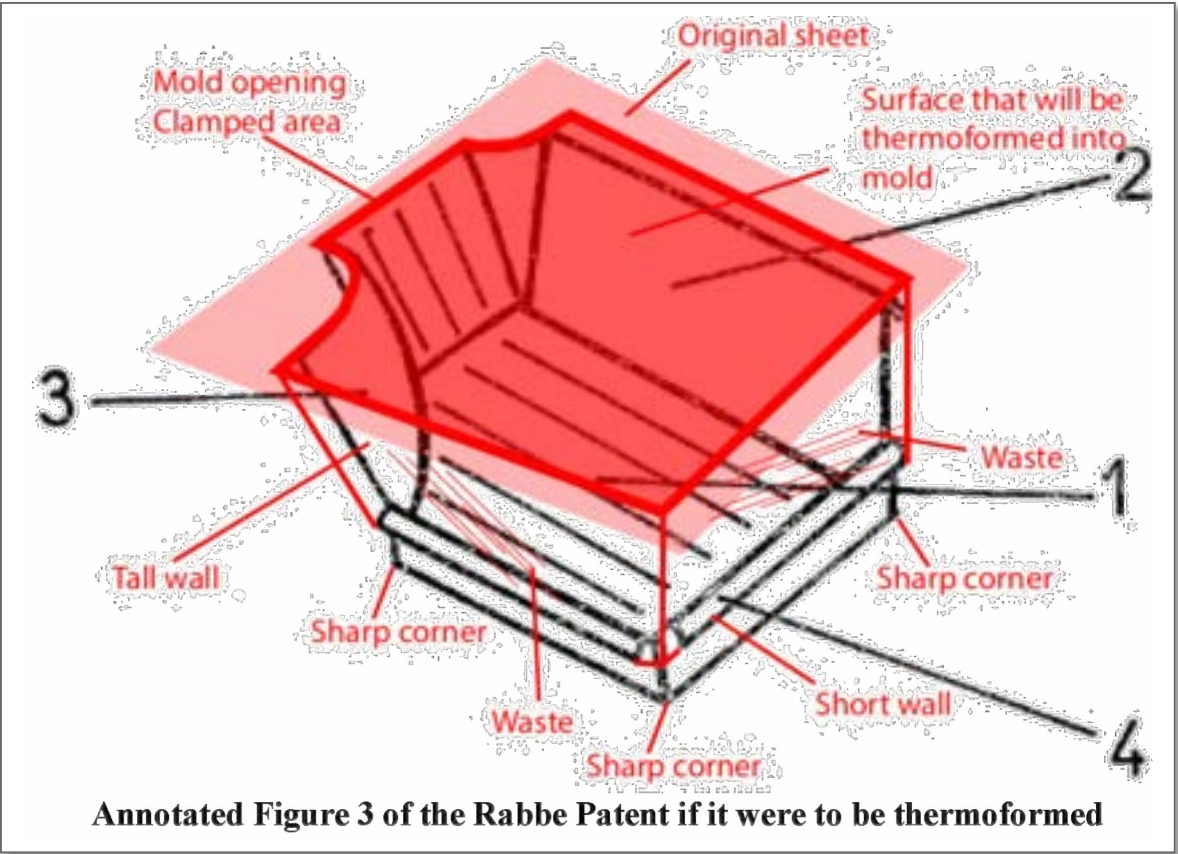
A one-inch wall would work for a Tonka Truck Wheel Well

# 6D. Rabbe Would Waste a Lot of Material

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# Because Thermoforming Involves a Single Sheet, Rabbe Would Have a Lot of Material Waste



Declaration of Dr. Tim Osswald Ex. 2041 at ¶ 99

# Mr. Strachan's Recycling Opinions are Unreliable

- Mr. Strachan is not a recycling expert!

Q. You cannot recycle crosslinked polyethylene simply by melting it with virgin material. Correct?

A. That, I don't know. I don't have enough experience with the recycling of -- and the various degrees of crosslinking polymers.

Q. So you don't have very much experience with the recycling of crosslinked polymers?

A. As I mentioned, when it comes down to drilling down to the chemistry, what actually is happening -- I do know that small amounts of crosslinking have not caused problems in my experience with recycling. But at what point in time that becomes detrimental to the recycling and to the remelting and recycling, I don't know.

Ex. 2183 at 148:7-149:1  
Testimony of Mark Strachan

# PROBLEM 1: A Plastic Sheet Can Only Contain a Small Amount of Recycled Material

- The limit is 10-15%

And would you agree that when you recycle plastic there is a limit on the amount of recycled plastic that you can blend with the virgin plastic?

A. The industry standard is between 10 and 15 percent.

Q. Okay.

In other words, you would use 10 to 15 percent recycled material and the rest would be virgin material; is that right?

A. That's correct.

Ex. 2184 at 238:11-21  
Testimony of Dr. Koch

## PROBLEM 2: Yung's Trilaminate is Incompatible With Recycling

Recycling of plastics for use in creating new high-quality plastic products requires that the recycled materials are clean and consist of only a single type of plastic. In

Ex. 2154 at p. 13  
Plastics Recycling Treatise

lead to process failure. Trace amounts of PVC in PET streams induces hydrodechlorination at PET processing temperatures. The resultant release of HCl in turn accelerates PET degradation (Figure 3) and damages processing equipment.<sup>[57,55]</sup>

Ex 2155 at p. 4  
Paper on Plastics Recycling

# 6E. Rabbe Is Made of Natural Rubber – a Thermoset

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# Overview: Petitioner's Misplaced Reliance upon Mr. Strachan

- Yita's Reply (IPR1142 at 14, IPR1139 at 13) has a new theory—that Rabbe's disclosure of semi-rigid rubber would include thermoplastic elastomers
- BUT:
  1. Mr. Strachan is not a rubber expert  
(Ex. 2138, 30:18-21)
  2. Mr. Strachan did not review the French reference  
(Ex 2183, 172:15-173:6)
  3. Mr. Strachan's references all post-date Rabbe  
(Ex. 2183, 152:1-158:19)

# Rabbe Discloses Natural Rubber

Rabbe discloses “caoutchouc”

La protection-baquet est réalisée en **caoutchouc** semi-rigide ou autre matériau ayant les mêmes propriétés. La souplesse du matériau employé lui confère une grande maniabilité et la rigidité plaque les bords relevés contre les parois.

Ex 1005 at 15:13–15  
Rabbe Reference Original French

Caoutchouc means Natural Rubber—Even in English

Natural polymeric materials such as rubber have been in use for several millennia. **Natural rubber also known as *caoutchouc*<sup>1</sup>** or *gunmi elasticum*<sup>2</sup> has been used by South American Indians in the manufacture of waterproof containers, shoes, and torches (Fig. 2.1)[1]. When the natives made an incision

Dr. Osswald's Textbook, Ex. 2117 part 1 at 18

# Rabbe Discloses Natural Rubber

The term natural rubber or caoutchouc (from Indian: caa = tears; ochu = tree; cahuchu = weeping tree) refers to a coagulated or precipitated product obtained from latex of rubber plants (*Hevea brasiliensis*), which forms nonlinked but partially vulcanizable polymer chains having molecular masses of about  $10^6$  Da with elastic properties; at higher temperatures natural rubber is plastically ductile and useful for production of elastomers. Latex serves as a clogging material during healing of

Ex. 2148 at p. 1

Applied and Environmental Microbiology Journal Article

distributed in a rubber matrix. The hard areas constitute the physical cross-links which bind the ends of the molecules together to a network reminding of that formed by a conventional vulcanized rubber (caoutchouc).

Ex. 2150 at Col. 5, ll. 32–35 (1981)

U.S. Patent No. 4,367,732



# Rabbe Discloses Natural Rubber

The principal constituent of **rubber is caoutchouc** (pronounced KOO-chook), derived from “cahuchu,” the native name for the principal rubber tree. Numerous trees, plants and shrubs produce caoutchouc, including guayule and varieties of milkweed.

Ex. 2151 at p. 96 (Pub. 1942)  
Congressional Hearing Report

Have you personally seen the word  
"caoutchouc" used in an English publication to  
describe natural rubber, such as Dr. Osswald  
has referred to the term here?

THE WITNESS: I'm sure I have.

Ex. 2184 at 196:2-8  
Testimony of Dr. Koch

## Rubber is a Thermoset/Foams are Thermoplastics

102. Third, a POSITA thinks of thermoforming as a process that applies to thermoplastic polymers and not rubber. In the preface, Gruenwald states that “[a]s the subtitle indicated, this book was mainly addressed to the practitioner who is or plans to get involved in the production of thermoplastic parts outside the ubiquitous injection molding process.” EX1007, Preface. However, Rabbe’s rubber trays are obviously not made of thermoplastic materials. EX2024, 10 (“The protection-tray is made of semirigid rubber or other material having the same properties.”). Rubber is a well-known vulcanizable or curable thermosetting elastomer, which is irreversibly hardened by vulcanizing it from a soft solid or viscous liquid prepolymer or resin. Thermoplastics (like the Polyethylene (PE) foam or Polyethylene-Vinyl Acetate (EVA) foam described in Yung and relied upon by Petitioner) do not have the “same properties” as thermosets (e.g., Rabbe’s rubber). In fact, they have very different properties. Unlike a thermoset or vulcanized rubber, a thermoplastic is a plastic polymer material that becomes pliable or moldable at a certain elevated temperature and solidifies upon cooling.

The semi-rigid rubber trays in Rabbe are likely made of a vulcanized rubber. Vulcanized rubber is a cross-linked polymeric material that can no longer flow and be permanently deformed after it has been cured. A cured or vulcanized rubber will always contract back to its original length after stretching, like a rubber band. I also disagree with Dr. Koch’s statement that “[t]here’s only a small number of thermoset materials that are able to be thermoformed. It’s a small subset.” EX2039, 75:10-23. The fact is, thermoset materials are not thermoformable like thermoplastics, as noted below in Section VIII.C that discusses the Gruenwald reference. In my opinion, a POSITA would not have been motivated to disregard the materials that Rabbe explicitly states are used for its floor tray in favor of materials having different properties, or sought out a manufacturing process that is not suitable for use with Rabbe’s semi-rigid rubber.

Declaration of Dr. Tim Osswald, Ex. 2041, ¶102”