

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

REACTIVE SURFACES LTD., LLP

Petitioner

v.

TOYOTA MOTOR CORPORATION

Patent Owner

Case: IPR2016-01914

Patent No. 8,394,618 B2

**PETITIONER'S BRIEF IN RESPONSE TO THE JANUARY 12, 2018
CONDUCT OF THE PROCEEDINGS ORDER UNDER 37 C.F.R. § 42.5**

As it relates to IPR2016-01914 for U.S. Patent No. 8,394,618 (“the ’618 Patent”), the Board in its Order under 37 C.F.R. § 42.5 (Paper 60 – “Order”) issued January 12, 2018 has raised the question *sua sponte* of “whether the limitation ‘facilitating the removal of a fingerprint by vaporization from the lipase associated substrate or coating when contacted by a fingerprint’ is a conditional method step.” For answering such question, the Board has authorized each party to file a single paper addressing the proper application, if any, of *Ex parte Schulhauser* (“*Schulhauser*”) to the challenged claims. *Order at 3.*

Proper application of *Schulhauser* requires a determination of whether, consistent with the broadest reasonable interpretation of a method claim, one or more steps of the method claim may be conditional. *Schulhauser at 6-7 (incl. footnotes 1-3).* Where it is determined that one or more of such steps of the method claim is conditional (i.e., conditional method step(s)), such application of *Schulhauser* requires assessing patentability of the method claim as recited in accordance with such broadest reasonable interpretation – i.e., as recited exclusive of such conditional method step(s). *Schulhauser at 7-10.* Thus, *Schulhauser* sets forth the basis of reasoning that any step or steps employed in a method claim need not be found in the prior art if, under the broadest reasonable interpretation of such claim consistent with the specification, the method need not invoke such step(s).

“[T]he language ‘when contacted by a fingerprint’ may indicate that this limitation is conditional; that is, the action of ‘facilitating the removal of a fingerprint by

vaporization from the lipase associated substrate or coating’ may not occur at all unless there is contact by a fingerprint.” *Order [Paper 60] at 2*. The following disclosures of the specification of the ’618 Patent [*Ex. 1001*] support an interpretation of claim 1 that facilitating the removal of a fingerprint by vaporization from the lipase associated substrate or coating (“the facilitating limitation”) does not occur at all unless there is contact by a fingerprint.

1. “A fingerprint as defined herein is a bioorganic stain, mark, or residue left behind after an organism touches a substrate or coating.” *Id. at 3:1-3*.
2. “When a surface which is optionally a substrate or a coated substrate, is contacted with a fingerprint, the lipase enzyme or combinations of enzymes contact the fingerprint, or components thereof. The contacting allows the enzymatic activity of the substrate or coating to interact with and enzymatically alter the components of the fingerprint improving their removal from the substrate or coating.” *Id. at 10:36-42*.
3. “The presence of lipase combined with the material of a substrate or a coating on a substrate, optionally, with applied heat, breaks down fingerprint stains for facilitated fingerprint removal.” *Id. at 11:4-7*.
4. “Apply mild heat after surface is loaded with fingerprint stain” *Id. at FIG. 4*.

“Based on the claim limitations as written, the broadest reasonable interpretation of claim 1 encompasses an instance in which the method ends when” a surface of the substrate or coating is not contacted by a fingerprint. *Schulhauser at 8*. The broadest reasonable interpretation of claim 1 of the ’618 Patent requires neither enzymatic activity being provided

for by the lipase-associated substrate or coating nor application of heat to the surface of such lipase-associated substrate or coating to occur at all unless a surface thereof is contact by a fingerprint. Tellingly, there is no positively recited step in claim 1 for providing a fingerprint on the substrate or coating and the lipase associated with the coating or substrate is only recited in claim 1 as being “capable of” enzymatically degrading a component of a fingerprint. *'618 Patent [Ex. 1001] at 15:21-23*. Notably in claim 1 of *Schulhauser*, there is not a positively recited step for determining either “the electrocardiac signal data is not within the threshold electrocardiac criteria” or “the electrocardiac signal data is within the threshold electrocardiac criteria.” *Schulhauser at 6-7*. For at least these reasons, the broadest reasonable interpretation of claim 1 of the '618 Patent consistent with the specification thereof encompasses an instance of the method thereof in which the facilitating limitation is a conditional method step.

Schulhauser requires assessing patentability of claim 1 of the '618 Patent exclusive of the facilitating limitation (i.e., the conditional method step). *Schulhauser at 7-10*. Claim 1 recites, in pertinent part as it relates to such assessment of patentability (*'618 Patent [Ex. 1001] at 15:18-23*):

providing a substrate or a coating;
associating a lipase with said substrate or said coating
such that said lipase is capable of enzymatically degrading a
component of a fingerprint.

Claim 1 of the '618 Patent was asserted by Petitioner as being unpatentable under 35 U.S.C. §103(a) over each of Van Antwerp [*Ex. 1006*], Schneider [*Ex. 1004*] and Drevon [*Ex. 1003*]. See *Petition [Paper 1]* at 36-38, 46-48, 53-56. *Inter partes* review of claim 1 was instituted on grounds of unpatentability based upon each of Van Antwerp, Schneider and Drevon. For each instituted ground of unpatentability for claim 1, the Board stated, "There is sufficient evidence, on the present record and for present purposes, that [the relied upon prior art] teaches or suggests 'providing a substrate or a coating' and 'associating a lipase with said substrate or said coating such that said lipase is capable of enzymatically degrading a component of a fingerprint.'" *Institution Decision [Paper 26]* at 7, 16, and 23. Accordingly, the prior art of record in this proceeding supports a finding of unpatentability of claim 1 of the '618 Patent through proper application of *Schulhauser* as it relates to the facilitating limitation of claim 1 of the '618 Patent being a conditional method step.

Dated: January 19, 2018

Respectfully submitted,

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