

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JOHNS MANVILLE CORPORATION,
Petitioner,

v.

KNAUF INSULATION, INC.,
Patent Owner.

Case IPR2015-01569
Patent 8,940,089 B2

Before FRED E. McKELVEY, JAMES T. MOORE, and
KRISTINA M. KALAN, *Administrative Patent Judges*.

McKELVEY, *Administrative Patent Judge*.

DECISION

Declining to Institute an Inter Partes Review
37 C.F.R. § 42.108(a)

I. Introduction

Pending before the Board is Petitioner's "Petition for *Inter Partes* Review of U.S. Patent No. 8,940,089." Paper 1.

Patent Owner timely filed a Preliminary Response. Paper 9.

Petitioner was invited to file a Reply. Paper 10.

Petitioner timely filed the Reply. Paper 11.

II. Background

A. Parties

Petitioner is Johns Manville Corporation and Johns Manville, Inc.
Paper 1, page 1.

Patent Owner is Knauf Insulation, Inc. and Knauf Insulation SPRL.
Paper 5, page 1; Paper 7, page 1.

B. Involved Patent

The involved patent is U.S. Patent 8,940,089 B2 (“the ’089 patent”),
issued 27 January 2015 based on an application filed 30 December 2011.

Ex. 1001, page 1.

The ’089 patent contains claims 1–74. **Ex. 1001**, cols. 14–18.

In this IPR, Petitioner challenges the patentability of claims 3, 27,
32–34, 42–49, 51–55, 58–61, 63, 68, 69, and 73. Paper 1, pages 1 and 5.

C. Litigation

The ’089 patent is involved in *Knauf Insulation, LLC v.*
Johns Manville Corp., Civil Action No. 1:15-cv-00111-WTL-MJD
(S.D. Ind. filed Jan. 27, 2015). Paper 5, page 1.

D. Related PTO Matters

The parties are involved in two other IPRs involving the ’089 patent:

- (1) IPR2015-01527, where Petitioner challenges claims 1, 2,
4–15, 23–26, 28–31, 35–41, 50, 57, 62, 64–67, and 70–72, and
- (2) IPR2015-01598, where Petitioner challenges claims 3,
16–22, 27, 34, 43, 45–49, 51–56, 63, 73, and 74.

As Table 1 demonstrates (where X means challenged), Petitioner ultimately seeks cancellation of all claims of the '089 patent.

Table 1			
Claim	IPR2015-01527	IPR2015-01568	IPR2015-01598
1	X		
2	X		
3		X	X
4	X		
5	X		
6	X		
7	X		
8	X		
9	X		
10	X		
11	X		
12	X		
13	X		
14	X		
15	X		
16			X
17			X
18			X

19			X
20			X
21			X
22			X
23	X		
24	X		
25	X		
26	X		
27		X	X
28	X		
29	X		
30	X		
31	X		
32		X	
33		X	
34		X	X
35	X		
36	X		
37	X		
38	X		
39	X		
40	X		
41	X		

IPR2015-01569
Patent 8,940,089 B2

42		X	
43		X	X
44		X	
45		X	X
46		X	X
47		X	X
48		X	X
49		X	X
50	X		
51		X	X
52		X	X
53		X	X
54		X	X
55		X	X
56			X
57	X		
58		X	
59		X	
60		X	
61		X	
62	X		
63		X	X
64	X		

65	X		
66	X		
67	X		
68		X	
69		X	
70	X		
71	X		
72	X		
73		X	X
74			X

E. Prior Art

Petitioner relies on the following prior art.

Name	Document	Date	Exhibit
Gogek	U.S. Patent 2,965,504	20 Dec. 1960	1003
Swift et al. “Swift”	U.S. Patent Application Publication 2007/0027283 A1	1 Feb. 2007	1004

Gogek is prior art under 35 U.S.C. § 102(b).

Swift is prior art under 35 U.S.C. § 102(b) if Patent Owner is not entitled to benefit of UK patent application 0715100.4 (filed 3 Aug. 2007).

Swift would be prior art under 35 U.S.C. § 102(e) assuming Patent Owner is entitled to the UK benefit date.

F. Challenge

There are two (2) challenges (“Grounds”). Paper 1, page 5.

Ground	Claims	Pre-AIA 35 U.S.C.	Prior Art
1	32, 33, 42, 44, 58, 59, 68, and 69	§ 103(a)	Gogek
2	3, 27, 34, 43, 45–49, 51–55, 60, 61, 63, and 73	§ 103(a)	Gogek and Swift

III. Ground 1

A. Challenged Claims

1. Claim 1

Claim 1, reproduced from the ’089 patent, reads (matter in brackets and some indentation added):

A [1] finished material comprising

[2] a collection of nonwoven mineral fibers maintained together by a cured, substantially formaldehyde free melanoidin containing binder,

[3] wherein the finished material comprises [i] residual levels of more than 500 mg of ionic species per kg of finished material, [ii] said species selected from the group consisting of sulfates, phosphates, nitrates, carbonates, and combinations thereof [iii] in which the residual levels are assessed in a leach test.

Ex. 1001, col. 14:34–41.

Ground 1 challenges claims 32, 33, 43, 44, 58, 59, 68, and 69, all depending from claim 1.

Some of the claims involved in Ground 1 are also reproduced below.

2. Claim 32

The finished material of claim **1** in which the binder prior to curing comprises an acid selected from the group consisting of: a *sulfuric acid*, a phosphoric acid, nitric acid, and a weak acid.

Ex. 1001, col. 16:1–4. (italics added)

3. Claim 58

The finished material of claim **1** in which the binder prior to curing is *substantially colorless*.

Ex. 1001, col. 17:1–2. (italics added)

B. Challenge

According to Petitioner, the challenged claims “are invalid as obvious under 35 U.S.C. § 103 over Gogek.” Paper 1, page 11.

In the context of an IPR, what Petitioner means is that the challenged claims “are unpatentable under 35 U.S.C. § 103 over Gogek.” Moreover, to be precise, one would have to say that the claimed subject matter, not the claim, would have been obvious. Subject matter can be obvious; claims are unpatentable.

C. Claim 1

In IPR2015-01527, we declined to institute an *inter partes* review, finding that Petitioner had failed to establish a reasonable likelihood that it would prevail as to its challenge that claim 1 is anticipated by Gogek. IPR2015-01527, Paper 17.

D. Claims 32, 33, 42, 44, 58, 68, and 69

We now find that Petitioner has not established that there is a reasonable likelihood that it will prevail as to any of claims 32, 33, 42, 44, 58, 68, and 69.

Claim 32 calls for use of an acid including sulfuric acid. **Ex. 1001**, col. 16:3.

In an effort to establish that Example 3 of Gogek inherently describes the subject matter of claim 1, Petitioner relies on experimental tests. Example 3 describes the use of ammonium sulfate. **Ex. 1003**, col. 2:71.

According to Gogek:

The *preferred chemical adjunct is ammonium sulfate*, but sulfuric acid and salts, such as ammonium bisulfate, alums, e.g., ammonium aluminum sulfate, which produce sulfuric acid under the conditions of use, may also be used.

Ex.1003, col. 1:72–col. 2:4. (italics added)

Based on Gogek's disclosure, one might easily reach a conclusion that sulfuric acid is described as being an alternative to Gogek's preferred ammonium sulfate. But, that does not end the inquiry.

As noted by Patent Owner in its Preliminary Response:

To rely on inherency in an obviousness [context], “the limitation at issue necessarily must be present, or the natural result of the combination of elements *explicitly disclosed* by the prior art.”

Paper 9, page 35, citing *PAR Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1196 (Fed. Cir. 2014) (italics in original), which states:

Although the district court applied the incorrect standard for inherency in its obviousness analysis, we cannot, on the record before the court, conclude that TWI failed to present evidence sufficient to demonstrate that the *claimed* food effect limitations necessarily are present in the prior art combinations. There are simply no findings of fact addressing that question, and we decline to make such findings in the first instance. We therefore vacate the district court’s inherency analysis and remand for the district court to determine if TWI has presented clear and convincing evidence that demonstrates the food effect *as claimed* is *necessarily present* in the prior art combination.

The prior art combination that would meet the limitations of claim 32 would be an Example 3 composition with sulfuric acid being substituted for ammonium sulfate.

As noted earlier, one skilled in the art more than likely would have found sulfuric acid described as an alternative for ammonium sulfate. But, then one has to ask: “Where has Petitioner set out to prove that a Gogek Example 3 composition with sulfuric acid used in place of ammonium sulfate meets the limitations of claim 32 as it depends from claim 1?”

The relevant testimony is that of Dr. Frederick J. Hirsekorn. **Ex. 1005**, ¶ 86:

Gogek renders the . . . [sulfuric acid] limitation of . . . Claim 32 . . . obvious at least because it discloses that the chemical adjunct may comprise sulfuric acid. Ex. 1003, 1:72–2:4. At the time of the . . . invention of the '089 Patent, it would have been obvious to a person of ordinary skill in the art to add a small amount of the sulfuric acid as taught in Gogek to the specific formulation of Example 3 of Gogek in order to acid catalyze the inversion of the sucrose in the molasses to produce additional reducing sugars (*e.g.*, dextrose) available for consumption during curing. Producing additional reducing sugar reactants *in situ* would help ensure that all of the ammonium cations react with the carbonyl group of a reducing sugar, and allow the reaction to run to completion through the consumption of all reactants. Completing the reaction would also improve the quality of the binder. Therefore, one of ordinary skill in the art would have been motivated to use the sulfuric acid expressly disclosed in Gogek with the ammonium sulfate used in the formulation from Example 3 of Gogek in order to achieve these well-known benefits.

Agreeing *arguendo* with Dr. Hirsekorn's observations, those observations at best prove that one would have found it obvious to use sulfuric acid along with, or possibly in place of, the ammonium sulfate described in Gogek Example 3. But, those observations in no way purport to prove that use of ammonium sulfate with a small amount of sulfuric acid or sulfuric acid in place of ammonium sulfate would produce a block having the characteristics of the material of claim 32 as it depends from claim 1.

We believe our concern, and that of Patent Owner, is more than theoretical. Gogek indicates a *preference* for using ammonium sulfate. **Ex. 1003**, col. 1:72. As is often the case in patent specifications, Gogek does not say why ammonium sulfate is preferred. It is not unreasonable to assume that Gogek had some reason for making the statement. Once Example 3 is replicated with a change that would not be the preferred embodiment, likewise it is not unreasonable to assume that a block made according to Example 3 with sulfuric acid may have properties that might be different than a block made in accordance with Example 3 without sulfuric acid.

Petitioner bears the burden of proof. We have not been given sufficient evidence to support, even at this stage, a finding that it is likely that a block made from Example 3, modified by using a mixture of ammonium sulfate and sulfuric acid, would meet claim 32 as it depends from claim 1.

Our analysis applies with equal force to the remaining claims forming the basis of the Ground 1 challenge.

Nevertheless, we elect also to address claim 58 of the '089 patent.

Claim 58 calls for a binder which prior to curing is substantially colorless. **Ex. 1001**, col. 17:1–2.

The evidence said to support a finding that Gogek describes a colorless binder is also found in Dr. Hirsekorn's testimony:

Gogek discloses that the binder may consist of dextrose and ammonium sulfate. **Ex. 1003**, 1:51-72; 2:10-19. Gogek further discloses that dextrose is easier to use

because it does not have the viscosity of molasses. Ex. 1003, 1:59-61. Thus, to improve ease of use, it would have been obvious to a person of ordinary skill in the art to substitute dextrose for the molasses used in Example 3 of Gogek.³ An aqueous binder solution (*i.e.*, the binder prior to curing) of dextrose and ammonium sulfate is substantially colorless.

³ Note that this substitution would not reduce the residual levels of ionic species in the finished insulation material because the substitution does not alter the amounts of sulfates, phosphates, nitrates, carbonates, and combinations thereof in the binder. To the extent the substitution has any effect, the amounts of residual sulfate likely would increase when dextrose is substituted for molasses because when molasses is used, the sucrose in the molasses may be sulfonated. In contrast, there is no sucrose in the binder system when dextrose is used.

Ex. 1005, ¶ 93.

We are unable, based on the Hirsekorn testimony, to find that the binder of Example 3 likely is colorless. Likewise, we are unable to find that a binder consisting of dextrose and ammonium sulfate likely would be colorless. No experimental testing for colorlessness has been called to our attention.

For the reasons given, we decline to institute an IPR trial on Ground 1 with respect to claims 32, 33, 42, 44, 58, 59, 68, and 69.

IV. Ground 2

According to Petitioner, claims 3, 27, 34, 43, 45–49, 51–55, 60, 61, 63, and 73 are unpatentable under 35 U.S.C. § 103 over Gogek and Swift. Paper 1, page 25. The claims challenged under Ground 2 also depend from claim 1.

1. Failure to articulate a difference

At the outset, we note that Petitioner has failed to set out precise differences between Gogek and the subject matter of the challenged claims.

As we explained in declining to institute on Ground 2 in *Johns Manville Corp. v. Knauf Insulation, Inc.*, IPR2015-01402 (PTAB Oct. 21, 2015) (Paper 18, pages 12–14), failure of a petitioner to set out differences in a § 103 context complicates consideration of a petition, both for the Board and the patent owner. Due to Petitioner’s failure to articulate a clear difference between the subject matter of the challenged claims and Gogek, we decline to institute an IPR trial in this case. *See also* 35 U.S.C. § 312(a)(3) (petition identifies with particularity) and 37 C.F.R. 41.104(b)(4) (set out how claim is unpatentable).

2. Alternative Basis

We have an alternative basis upon which we decline to institute an IPR trial in this case based on Ground 2.

We will consider as exemplary claim 32—which depends from claim 1.

Claim 32 calls for a finished material in which the binder prior to curing comprises an acid selected from the group consisting of sulfuric acid,

a phosphoric acid, nitric acid, and a weak acid. **Ex. 1001**, col. 16:1–3 (italics added).

According to Petitioner, it would have been obvious to substitute a mono-ammonium phosphoric acid for ammonium sulfate in the binder composition of Example 3 of Gogek in order to reduce the corrosion of the binder and preserve manufacturing equipment. Paper 1, page 30; **Ex. 1005**, ¶ 111.

For the purpose of our alternative basis for declining to institute an IPR trial, we assume (1) there is a difference (because Petitioner bases Ground 2 on § 103) and (2) that the combination of Gogek and Swift is appropriate under a § 103 analysis.

Example 3 is used by Petitioner in its effort to prove Gogek inherently anticipates claim 1 of the '089 patent. Example 3 describes the use of ammonium sulfate. **Ex. 1003**, col. 2:71.

According to Gogek:

The preferred chemical adjunct is ammonium sulfate, but sulfuric acid and salts, such as ammonium bisulfate, alums, e.g., ammonium aluminum sulfate, which produce sulfuric acid under the conditions of use, may also be used.

Ex.1003, col. 1:72–col. 2:4.

We find no discussion in Gogek with respect to a mono-ammonium phosphate.

As noted by Patent Owner in its Preliminary Response:

To rely on inherency in an obviousness . . . [context],
“the limitation at issue necessarily must be present, or the
natural result of the combination of elements explicitly
disclosed by the prior art.”

Paper 9, page 35, citing *PAR Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d
1186, 1196 (Fed. Cir. 2014) (discussed above).

The prior art combination here would be an Example 3 composition
with mono-ammonium phosphate substituted for ammonium sulfate.
Assuming one would have made the substitution, then one would have to
ask: “Where has Petitioner set out to prove that a Gogek Example 3
composition using mono-ammonium phosphate in place of ammonium
sulfate otherwise would meet the limitations of claim 1—limitations also
required by claim 32?”

Some testimony in support of obviousness of the subject matter of
claim 32 is that of Dr. Hirsekorn. **Ex. 1005**, ¶ 111:

At the time of the purported invention of the '089
Patent, it would have been obvious to a person of
ordinary skill in the art to add a monoammonium
phosphate to the binder composition of Example 3 of
Gogek in order to reduce the corrosivity of the binder and
preserve . . . manufacturing equipment. In [the]
continuous manufacturing process, such as the one
disclosed in Gogek, [some] manufacturing equipment
will be in contact with the solution at all times,
amplifying the need to include a corrosion inhibitor to
extend the life of the manufacturing equipment.
Accordingly, in order to prevent corrosion and “decrease
the cost of manufacturing bound materials” (Ex. 1004,
¶ [0073]), it would have been obvious to a person of
ordinary skill in the art to add a mono-ammonium

phosphate as disclosed in Swift to the binder of Example 3 of Gogek to inhibit corrosion.

See also **Ex.1005**, ¶¶ 112–113.

Assuming *arguendo* agreement with Dr. Hirsekorn's observations in paragraphs 111–113, those observations at best prove that one might have found it obvious to use mono-ammonium phosphate in place of ammonium sulfate described in Gogek Example 3. But, those observations in no way purport to prove that use of mono-ammonium phosphate would produce a block having the characteristics of the material of claim 32 as it depends from claim 1.

As in the case of Ground 1, we believe our concern, and that of Patent Owner, is again more than theoretical. Gogek indicates a *preference* for using ammonium sulfate. **Ex. 1003**, col. 1:72. Once Example 3 is replicated with a change that would not be the preferred embodiment, likewise it is not unreasonable to assume that an Example 3 block made using mono-ammonium phosphate in place of ammonium sulfate may have properties that might differ from a block made using ammonium sulfate.

Petitioner bears the burden of proof. We have not been given sufficient evidence to support, even at this stage, a finding that it is likely that a block made from Example 3, modified by using mono-ammonium phosphate, would meet claim 32 as it depends from claim 1.

Our analysis applies with equal force to the remaining claims involved in Ground 2.

We decline to institute an IPR trial based on Ground 2.

V. Order

Upon consideration of the Petition (Paper 1) and the Preliminary Response (Paper 9), the Reply (Paper 11), and the evidence presently before us, and for the reasons given, it is

ORDERED that the Petition (Paper 1) is *denied*.

IPR2015-01569
Patent 8,940,089 B2

FOR PETITIONER:

Kristopher L. Reed
Jeffrey M. Connor
KILPATRICK TOWNSEND & STOCKTON LLP
jmipr@kilpatricktownsend.com
jmconnoor@kilpatricktownsend.com

FOR PATENT OWNER:

James R. Sweeney II
Joshua P. Larsen
Daniel Lueders
BARNES & THORNBURG LLP
james.sweeney@btlaw.com
joshua.larsen@btlaw.com
dlueders@uspatent.com