



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
**United States Patent and Trademark Office**  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 14/381,612   | 03/18/2015  | James A. Belmont     | 2012906             | 9289             |
| 95360  | 7590        | 10/15/2019           | EXAMINER            |                  |
| Cabot Corporation/ LAK<br>Cabot Corporation, Law Department<br>157 Concord Road<br>Billerica, MA 01821 |             |                      | NERANGIS, VICKEY M  |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1768                |                  |
|  |             |                      | NOTIFICATION DATE   | DELIVERY MODE    |
|  |             |                      | 10/15/2019          | ELECTRONIC       |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

iplaw@cabotcorp.com  
lkilyk@kbpatentlaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* JAMES A. BELMONT, VIJAY R. TIRUMALA, and  
PING ZHANG

---

Appeal 2018-004671  
Application 14/381,612  
Technology Center 1700

---

Before MARK NAGUMO, JAMES C. HOUSEL, and BRIAN D. RANGE,  
*Administrative Patent Judges.*

HOUSEL, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the  
Examiner's decision to finally reject claims 15 and 18 under 35 U.S.C.

---

<sup>1</sup> We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Cabot Corporation. Appeal Br. 3.

§ 103(a) as unpatentable over Mowdood<sup>2</sup> in view of Smith.<sup>3</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.<sup>4</sup>

#### CLAIMED SUBJECT MATTER

The subject matter of the invention is directed to elastomeric composites containing modified fillers and functionalized elastomers.<sup>5</sup> Title. Appellant discloses that the modified filler can be a modified carbon black that has at least one triazole and/or pyrazole adsorbed thereon. Spec. ¶ 12. According to Appellant, the modified filler improves abrasion resistance of an elastomeric composition when compared to the composition with unmodified filler. *Id.* ¶ 21.

Claim 15, reproduced below from the Claims Appendix to the Appeal Brief, is illustrative of the subject matter on appeal:

15. An elastomeric composition comprising at least one functionalized elastomer and at least one modified filler, wherein the modified filler comprises a filler having adsorbed thereon prior to contacting the modified filler with the functionalized elastomer:

- a) at least one triazole;
- b) at least one pyrazole; or

---

<sup>2</sup> Mowdood et al., US 6,014,998, issued Jan. 18, 2000 (“Mowdood”).

<sup>3</sup> Smith et al., US 5,780, 537, issued Jul. 14, 1998 (“Smith”).

<sup>4</sup> Our Decision refers to the Specification (“Spec.”) filed August 28, 2014, the Examiner’s Final Office Action (“Final Act.”) dated September 11, 2017, Appellant’s Appeal Brief (“Appeal Br.”) filed January 22, 2018, the Examiner’s Answer (“Ans.”) dated March 5, 2018, and Appellant’s Reply Brief (“Reply Br.”) filed March 30, 2018.

<sup>5</sup> The Examiner allowed claims 1, 3, 5–10, 19, 21–23, 33–41, 43–45, 48, 49, 51–53, 55–60, 62, 63, and 68–71. Final Act. 1, 4.

any combination thereof, wherein said modified filler improves abrasion resistance when present in the elastomeric composition compared to said filler that is not modified, wherein said filler is carbon black and said carbon black is present in the elastomeric composition in an amount of at least 40 phr.

### OPINION

The Examiner rejects claims 15 and 18 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Mowdood and Smith. Ans. 3–4. After review of the Examiner’s and Appellant’s opposing positions, the applied prior art, and Appellant’s claims and Specification disclosures, we determine that Appellant has identified reversible error in the Examiner’s obviousness rejection as to claims 15 and 18. *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011). Accordingly, we reverse the stated obviousness rejection for the reasons set forth in the Appeal and Reply Briefs. We offer the following for emphasis only.

The Examiner finds that Mowdood discloses silica-reinforced rubber compositions comprising carbon black and triazoles having improved abrasion resistance. Ans. 3. The Examiner acknowledges that neither Mowdood’s silica nor carbon black is pretreated with triazole prior to mixing in bulk, but finds that Mowdood teaches that the triazole may modify the surface of silica through an interaction such as hydrogen bonding. *Id.* As such, the Examiner finds that this teaching suggests that pretreatment of carbon black is unnecessary to obtain carbon black modified with triazole. *Id.* The Examiner explains that the ordinary artisan would have expected Mowdood’s carbon black is modified by triazole because these components

are mixed together and at least some triazole would be adsorbed onto the carbon black. *Id.* The Examiner further explains that Appellant's claim is a product-by-process claim, i.e., the limitation that the triazole and/or pyrazole is adsorbed onto the filler prior to contacting the modified filler with the functionalized elastomer is a process limitation. *Id.* at 5. Because the Examiner finds no difference in the resulting product, the Examiner determines that Mowdood meets claim 15 even though it fails to teach this process limitation. *Id.*

The Examiner further acknowledges that Mowdood fails to teach that carbon black is added to the rubber composition in an amount of at least 40 phr. Ans. 5. For this feature, the Examiner finds that Smith teaches a silica-filled rubber composition containing two different carbon blacks that may be replace some of the silica to reduce cost and ease mixing. *Id.* The Examiner finds Smith exemplifies a formulation including 52 phr carbon black. *Id.* Therefore, the Examiner concludes that it would have been obvious to utilize at least 40 phr carbon black in Mowdood's rubber composition which is also silica-filled and includes carbon black. *Id.*

Appellant argues, *inter alia*, that evidence in the present application confirms that different interactions occur depending upon when the triazole and carbon black are added to the elastomer. Appeal Br. 6 and 11, citing Spec. Tables VIII and XIV, ¶¶ 171 and 183, respectively. Specifically, Appellant contends that this evidence establishes that, when the modified filler comprises carbon black having triazole or pyrazole pre-adsorbed thereon, prior to contacting the modified filler with the functionalized elastomer, the resulting elastomeric composition exhibits improved abrasion index values compared to elastomeric compositions having the same exact

formulation but where the triazole is added in situ rather than being pre-adsorbed. *Id.* Appellant asserts that Table XIV shows that adding triazole during compounding without preadsorbition to the carbon black actually lowers abrasion resistance as compared to a composition without triazole, whereas preabsorbing triazole to the carbon black prior to compounding increases abrasion resistance. *Id.* at 17–19.

Appellant's argument and evidence are persuasive of reversible error in the Examiner's obviousness rejection. The Examiner correctly responds that this evidence is not persuasive to establish unexpected results because it neither compares the invention to the closest prior art nor is it commensurate in scope with the claims. Ans. 6. In particular, the Examiner notes that Appellant's evidence only shows results for two triazoles, 3-amino-1,2,4-triazole-5-thiol and 3-amino-1,2,4-triazol-5-yl disulfide, neither of which is Mowdood's triazole and are not representative of the scope of any triazole and pyrazole within the scope of claim 15. *Id.* at 6–7. However, although Appellant's evidence fails to establish unexpected results in this case, this evidence nonetheless is effective to rebut the Examiner's obviousness rejection which is based on an inherency position, i.e., that the product is inherently the same regardless of whether the triazole and/or pyrazole is mixed in situ with the functionalized elastomer and carbon black as taught in both Mowdood and Smith or is preadsorbed to the carbon black prior to mixing this modified filler with the functionalized elastomer as claimed.

The Examiner has the initial burden of establishing a *prima facie* case of obviousness based on an inherent or explicit disclosure of the claimed subject matter under 35 U.S.C. § 103. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“[T]he examiner bears the initial burden, on review of the

prior art or on any other ground, of presenting a *prima facie* case of unpatentability”). To establish a *prima facie* case of obviousness, the Examiner must show that each and every limitation of the claim is described or suggested by the prior art or would have been obvious based on the knowledge of those of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

In general, a limitation is inherent “if it is the ‘natural result flowing from’ the explicit disclosure of the prior art.” *Schering Corp. v. Geneva Pharms.*, 339 F.3d 1373, 1379 (Fed. Cir. 2003) (quoting *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 970 (Fed. Cir. 2001)). “The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient.” *MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999) (quoting *Oelrich*, 666 F.2d at 581). What is required is that the inherent feature inevitably results from the disclosed steps; “[i]nherency ... may not be established by probabilities or possibilities.” *In re Montgomery*, 677 F.3d 1375, 1380 (Fed. Cir. 2012).

Viewing Appellant’s evidence, not as a showing of unexpected results, but as a rebuttal to the Examiner’s finding of inherency, we are persuaded that this finding is erroneous because the evidence shows that preadsorbing carbon black likely produces a different product than one that involves mixing in situ as was done in Mowdood and Smith. *In re Marosi*, 710 F.2d 799, 803 (Fed. Cir. 1983) (“Where a product-by-process claim is rejected over a prior art product that appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product.”) Thus, the Examiner has not set

forth a factual basis which is sufficient to support a prima facie case of obviousness of the Appellant's claimed invention. *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967) ("A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art"). Accordingly, we reverse the Examiner's obviousness rejection of claim 15, as well as the obviousness rejection of claim 18, which depends therefrom.

### DECISION

Upon consideration of the record, and for the reasons given above and in the Appeal and Reply Briefs, the decision of the Examiner rejecting claims 15 and 18 under 35 U.S.C. § 103(a) as unpatentable over Mowdood in view of Smith is *reversed*.

### CONCLUSION

In summary:

| <b>Claims Rejected</b> | <b>Basis</b>             | <b>Affirmed</b> | <b>Reversed</b> |
|------------------------|--------------------------|-----------------|-----------------|
| 15, 18                 | § 103(A); Mowdood, Smith |                 | 15, 18          |

REVERSED