



# 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.
14/062,367	10/24/2013	Daniel J. Horn	2001.1401101	5016
11050	7590	01/02/2020	EXAMINER	
SEAGER, TUFTE & WICKHEM, LLP			RWEGO, KANKINDI	
100 South 5th Street				
Suite 600				
Minneapolis, MN 55402				
			ART UNIT	PAPER NUMBER
			3771	
			NOTIFICATION DATE	DELIVERY MODE
			01/02/2020	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):

BSC.USPTO@stwiplaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* DANIEL J. HORN, AARON KHIEU, JEFFRY JOHNSON, and  
PAUL O'FLYNN

---

Appeal 2019-000982  
Application 14/062,367  
Technology Center 3700

---

Before BENJAMIN D. M. WOOD, ANNETTE R. REIMERS, and  
JEREMY M. PLENZLER, *Administrative Patent Judges*.

PLENZLER, *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 reject claims 1, 3, 5–9, 11–17, and 20–23. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

---

<sup>1</sup> We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Boston Scientific Scimed, Inc. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The claims are directed to an expandable medical balloon. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. An expandable medical balloon comprising:  
an inner layer formed of a poly(ether-block-amide) copolymer;  
an intermediate layer formed of a polyamide; and  
an outer layer comprising a polymeric material having a flexural modulus that is less than the intermediate layer;  
wherein the inner layer, the intermediate layer and the outer layer are adjacent layers of a coextruded precursor to the expandable medical balloon and  
wherein the calculated burst strength of the balloon determined on a 90 degree bend in the balloon as a whole is 45,000 psi or higher, wherein the compliance of the balloon is no more than about 0.50% radial growth/atmosphere and wherein the balloon has a substantially constant compliance based on radial growth from nominal to rated burst pressure.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Lin	US 2014/0142505 A1	May 22, 2014
Chen	US 2010/0057001 A1	Mar. 4, 2010
Durcan	US 2007/0142771 A1	June 21, 2007
Chin	US 6,951,675 B2	Oct. 4, 2005

## REJECTIONS

Claims 1, 3, 5–9, 11–17, and 20–23<sup>2</sup> are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by Lin or, in the alternative under 35 U.S.C. § 103 as being unpatentable over Lin and Chin.<sup>3</sup>

## OPINION

Appellant does not dispute the Examiner’s findings regarding the disclosure of Lin, other than those directed to the relationship between the flexural modulus of the intermediate and outer layers of the recited balloon, and those directed to the calculated burst strength of the balloon.

### *Flexural Modulus*

Claims 1 and 9 recite the “outer layer [of the balloon] . . . having a flexural modulus that is less than the intermediate layer.” Claim 17 recites that “the flexural modulus of the inner layer and outer layer is 50,000 psi to about 110,000 psi, the flexural modulus of the intermediate layer is about 130,000 to about 230,000 psi.”

With respect to claims 1 and 9, the Examiner finds that Lin discloses “an outer layer (30) . . . having a flexural modulus that is less than the intermediate layer.” Final Act. 5 (citing Lin ¶¶ 17, 41, 44–46); *see also id.* at 9 (making same finding with respect to claim 9). For claim 17, the Examiner makes similar findings. *See* Final Act. 13–14. Paragraph 44 of

---

<sup>2</sup> Claim 22 is not listed in the heading of the rejection but is discussed in the body of the rejection. *See* Final Act. 5, 18.

<sup>3</sup> The alternate basis under § 103 is provided in the event “Lin does not inherently disclose wherein the calculated burst strength of the balloon determined on a 90 degree bend in the balloon as a whole is 45,000 psi or higher.” Final Act. 6. Because Appellant has not identified reversible error in the Examiner’s finding that Lin discloses this feature we need not rely on this alternate basis, and, therefore, do not address it in our analysis.

Lin explains that “polymers suitable for forming the first, second and/or third layer of the multilayered balloon generally have a flexural modulus of about 40 kpsi to about 110 kpsi” and paragraph 46 describes a variation where the intermediate layer can be formed of “Grillamid L25 Nylon 12 having a hardness of 74D.”<sup>4</sup>

In the Answer, the Examiner finds that “the flexural modulus of Grillamid L25 Nylon 12 is 1.59 Gpa (1,590 Mpa, 231,000 psi) as shown in the . . . Data Sheet previously submitted as NPL on 4/13/2018.” Ans. 4–5 (citing Lin ¶ 46 and reproducing the referenced Data Sheet). When discussing claim 17, the Examiner also clearly explains the relationship between the flexural modulus of the inner and outer balloon layers disclosed in Lin’s paragraph 44 to that of Grilamid L25 Nylon 12. Ans. 7. That is, 231,000 psi is greater than 110,000 psi (the upper limit of the outer layer described in Lin’s paragraph 44), and 231,000 psi is “about 230,000 psi,” as recited in claim 17.

Appellant’s contentions are misplaced. Initially, we note that Appellant argues the specific examples provided in the table illustrated in Lin’s Figure 6. Appeal Br. 7–14; Reply Br. 2–7. As explained above, however, the specific examples in Figure 6 are not required to support the Examiner’s rejection because the general disclosure included in Lin’s paragraphs 44 and 46 is sufficient to disclose the flexural modulus limitations.

Appellant additionally disputes the Examiner’s finding regarding the flexural modulus of Grillamid L25 Nylon 12. Reply Br. 4–5. Those

---

<sup>4</sup> The spelling of “Grillamid” appears to have a typographical error, including an additional “l.”

contentions are also unpersuasive. Specifically, Appellant contends that “[t]he manufacturer’s datasheet cited by the Examiner at page 5 of the Examiner’s Answer describes a polymer identified as ‘Grivory® L25 Nylon 12’ and as ‘Grilamid L25’, rather than as Grillamid L25 as taught by Lin.” *Id.* We have no reason to believe, however, that this discrepancy (i.e., the additional “l” in Lin’s spelling of “Grillamid”) is anything more than a typographical error. Indeed, Appellant does not identify or even allege that a “Grilamid” distinct from “Grillamid” exists.

Appellant further faults the Examiner’s finding because “[t]he cited datasheet teaches: ‘Hardness, Shore D 73 (Metric) 73 (English),’” and “a Shore Hardness of 73 is not ‘74D or greater.’” *Id.* at 5. Again, we have no reason to believe this is anything other than a typographical error in Lin. Moreover, Appellant provides no persuasive argument, let alone persuasive evidence, as to how the difference between a shore durometer hardness of 73 and 74 for “Grilamid L25 Nylon 12” changes the flexural modulus in a manner such that it does not disclose the recited flexural modulus. The Examiner has a reasonable basis to find that the Grilamid L25 Nylon 12 discloses the flexural modulus properties of the Grilamid L25 Nylon 12 found in Lin.

Based on the record before us, which is devoid of any evidence from Appellant, the preponderance of the evidence supports the Examiner’s findings.

#### *Burst Strength*

Claims 1, 9, and 17 each additionally recite that “the calculated burst strength of the balloon determined on a 90 degree bend in the balloon as a whole is 45,000 psi or higher.” Claim 21 recites that “wherein the calculated

burst strength of the balloon determined on a 90 degree bend in the balloon as a whole is 30,000 psi or higher.”

The Examiner finds, for example, that “Lin discloses a balloon structure substantially identical to the claimed balloon structure and therefore has substantially identical mechanical properties including the burst strength mechanical property.” Final Act. 6; *see also id.* at 10, 14, 17. In the Answer, the Examiner further explains that “it is reasonable to presume that said claimed physical properties or characteristics are integral to the recited materials” and “the claimed calculated burst strength and the claimed compliance would obviously have been present once Lin’s balloon was tested according to the claimed 90 degree bend test.” Ans. 6 (citing *In re Best*, 562 F.2d 1252, 1254 (CCPA 1997)). *In re Best* explains that “the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product,” and “[w]hether the rejection is based on ‘inherency’ under 35 U.S.C. § 102, on ‘prima facie obviousness’ under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same.” *Best*, 562 F.3d at 1255 (footnote and citation omitted).

Appellant does not provide any evidence as to why Lin’s balloon, when tested as recited in the claims, would not meet the “calculated burst strength.” Rather, Appellant focuses on the specific examples illustrated in Lin’s Figure 6. Appeal Br. 13–16; Reply Br. 7–9. Although at first impression, it might seem that the values provided for Table 6 provide evidence that the Examiner’s findings are not necessarily supported regarding the calculated burst strength being at least 45,000 psi, because the highest value in that table is 36,944 psi, that is misleading. As noted by Appellant when discussing Chin in the alternate obviousness analysis, we do

Appeal 2019-000982  
Application 14/062,367

not know that the values in Table 6 were arrived at using the methodology from Appellant's claims and Specification. *See* Appeal Br. 17; *see also* Reply Br. 3 (discussing Lin's *test results* and Appellant's *calculations*).

The Examiner has a reasonable basis to believe Lin's balloon will have a calculated burst strength that is similar to that of Appellant's because of the structural similarities. Because Appellant does not provide persuasive argument or evidence to the contrary, we are not apprised of error.

### CONCLUSION

The Examiner's decision to reject claims 1, 3, 5-9, 11-17, and 20-23 is affirmed.

### DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 3, 5-9, 11-17, 20, 21, 23	102(a)(2)	Lin	1, 3, 5-9, 11-17, 20-23	
1, 3, 5-9, 11-17, 20, 21, 23	103	Lin, Chin	N/A	N/A
<b>Overall Outcome</b>			1, 3, 5-9, 11-17, 20-23	

### TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED