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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/936,940	11/10/2015	Jeffrie Keenan	KEE-001-US-CON	2761
84212	7590	06/22/2020	EXAMINER	
The Belles Group, P.C. 1800 John F. Kennedy Blvd. Suite 1010 Philadelphia, PA 19103			DAVIS, SHARON M	
			ART UNIT	PAPER NUMBER
			3646	
			NOTIFICATION DATE	DELIVERY MODE
			06/22/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JEFFRIE KEENAN

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Appeal 2019-005577  
Application 14/936,940  
Technology Center 3600

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Before CHARLES N. GREENHUT, MICHAEL L. HOELTER, and  
ANNETTE R. REIMERS, *Administrative Patent Judges*.

GREENHUT, *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 21–36 and 39. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the term “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Jeffrie Joseph Keenan. Appeal Br. 2.

### CLAIMED SUBJECT MATTER

The claims are directed to a system and method for reducing tritium migration. Claim 21, reproduced below, is illustrative of the claimed subject matter:

21. A system for reducing tritium migration comprising:  
a spent nuclear fuel pool comprising a body of tritiated water having an exposed surface;  
a cover comprising a vapor impermeable membrane, wherein the cover is movable between an open state in which the cover does not obstruct access to the exposed surface of the body of tritiated water and a closed state in which the cover covers the exposed surface of the body of tritiated water; and  
wherein the vapor impermeable membrane comprises a first vapor impermeable layer having a first major surface opposite a second major surface, a radiation shielding layer having a first major surface opposite a second major surface, and a thermal insulating layer; and  
wherein the first major surface of the first vapor impermeable layer and the first major surface of the radiation shielding layer face the same direction, and the second major surface of the first vapor impermeable layer faces the first major surface of the radiation shield layer.

### REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
McCluer	US 3,622,432	Nov. 23, 1971
Kleimola	US 3,865,688	Feb. 11, 1975
Radelet	US 6,561,522 B1	May 13, 2003
Sonntag	US 2008/0182093 A1	July 31, 2008

## REJECTIONS

Claim 39 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Final Act. 6.

Claim 36 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Final Act. 7.

As Appellant does not seek our review of the rejections under 35 U.S.C. § 112, these rejections are summarily sustained. *In re Berger*, 279 F.3d 975 (Fed. Cir. 2002) (Affirming the Board’s affirmance of an uncontested rejection, holding that the appellant had waived the right to contest the rejection by not presenting arguments on appeal to the Board); *Hyatt v. Dudas*, 551 F.3d 1307, 1314 (Fed. Cir. 2008) (“the applicant can waive appeal of a ground of rejection”).

Claims 21, 26–30<sup>2</sup>, 35, 36, and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kleimola and Gazelle. Final Act. 8.

Claims 22–24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kleimola, Gazelle, and Radelet. Final Act. 11.

Claims 25 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kleimola, Gazelle, and McCluer. Final Act. 12.<sup>3</sup>

Claim 30 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kleimola, McCluer, and Sonntag. Final Act. 12.

Claims 31–34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kleimola, McCluer, Sonntag, and Radelet. Final Act. 13.

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<sup>2</sup> “The Examiner notes that claim 30 is alternatively rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Kleimola [] in view of Gazelle [], as explained above with respect to claims 21 and 28 (paragraphs 16 and 19).” Final Act. 13.

<sup>3</sup> This is apparent from the Examiner’s discussion despite the absence of a rejection statement by the Examiner.

OPINION

*Kleimola and Gazelle*

Independent claims 21 and 35 are argued as a group with respect to the rejection based on Kleimola and Gazelle (Appeal Br. 8–12). Claim 12 is representative under 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner found Kleimola to disclose the basic system of claim 21. Final Act. 8. Kleimola, however, says little about the details of the cover (not illustrated) that Kleimola expressly suggests could be provided at the spent fuel pools 313, 314. *See* Kleimola col. 15, ll. 18–30. The Examiner turns to Gazelle as demonstrating that radiation barriers having layers arranged as recited in claim 21 were well-known in the art and concludes that it would have been obvious to employ in Kleimola a barrier like that of Gazelle to provide radiation shielding. Final Act. 9 (citing Gazelle col. 1, ll. 5–39).

Appellant argues:

Gazelle is entirely concerned with finding ways to modify existing buildings or create new buildings in such a way that people can be sheltered in place and safe from nuclear radiation in the event of a nuclear war. Unlike the features recited in claim 21, Gazelle does not provide any teaching relevant to the covering of a spent nuclear fuel pool. A person skilled in the art is unlikely to believe that people would attempt to find shelter from nuclear warfare in a spent nuclear fuel pool.

Appeal Br. 10–11.

In the words of our reviewing court, “[t]his argument presumes stupidity rather than skill.” *In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985). We think, indeed we hope, that one skilled in the art of protecting people and property from the dangers of nuclear radiation would understand that, absent some technical reasons otherwise, teachings relating to radiation

barriers may be relevant both to creating a barrier around people or property to be protected, and creating a containment barrier around the source of the radiation—in this case Kleimola’s spent fuel pools. We cannot agree with Appellant that one skilled in the nuclear arts would need to expect humans to take shelter within a spent nuclear fuel pool to consider Gazelle’s nuclear radiation barrier relevant. If anything, one skilled in the art would consider Gazelle’s barrier irrelevant should one seek shelter in a spent nuclear fuel pool. At that point, both the person and the source of the nuclear radiation would be on the same side of the barrier. Appellant has offered no technical reasons why one skilled in the art would see some particular impediment to using a barrier like that of Gazelle to instead mitigate or contain the source of the radiation, as opposed to the people and property that may be injured or damaged from radiation exposure.

Appellant further argues there is no purpose to using fire or heat resistant panels like those of Gazelle to cover Kleimola’s pools because the water itself serves to protect against such hazards. Appeal Br. 11. This attorney argument is not supported by any evidence of record and is contradicted by the uncontroverted evidence provided by the Examiner in response to this argument. Ans. 5 (citing Office Action Appendix: Anatomy of a Nuclear Crisis: A Chronology of Fukushima).

Appellant next argues that one skilled in the art would not use a panel intended to be “mounted” in a building as a cover that is intended to be “removed.” Appeal Br. 11 (emphasis in original). Appellant does not provide any technical explanation to support the notion that one skilled in the nuclear engineering arts would regard teachings related to radiation protection panels primarily designed for rooms in buildings to be, nevertheless, inapplicable with respect to non-permanent closures. Again,

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we do not think Appellant is attributing the requisite level of skill to the hypothetical person described in 35 U.S.C. § 103(a). Gazelle leaves the list of mounting structure possibilities open-ended. Ans. 6. One skilled in the art would understand that fallout shelters of the type described in Gazelle would likely, perhaps necessarily, require some means of ingress and egress.

Although Gazelle does not provide an express discussion on the matter, it would seem entirely contrary to Gazelle's intent of providing a radiation barrier if Gazelle's panels could not be employed on, or be used as, movable or non-permanent closures associated with such means for ingress or egress. We are not apprised by Appellant of any technical impediments to such use; nor are we apprised of any technical impediment to such similar use as a movable, non-permanent spent nuclear fuel pool covering. Absolute predictability that the substitution will be successful is not required, all that is required is a reasonable expectation of success. *See In re O'Farrell* 853 F.2d 894, 903–04 (Fed. Cir. 1988).

Appellant next argues that Gazelle's opaque cover would not have been an obvious substitution because it would destroy the benefits associated with having a transparent cover in Kleimola. Appeal Br. 12. The Examiner correctly points out that Kleimola's discussion of a transparent cover is very brief, a single sentence, and Kleimola's discussion of any benefits associated with a transparent cover are essentially non-existent or, at best, leave much to speculation. Ans. 7. The Examiner has the better position, and the one supported by evidence. As the Examiner points out, at the time of filing Appellant's application, approximately forty years after the issue date of Kleimola, much of the "inspection," as the term is likely intended to be understood in Kleimola, is conducted via sensors or monitors as opposed to visually. Ans. 7 (citing Office Action Appendix: Spent Fuel Pools, Nuclear

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Regulatory Commission). In any case, our reviewing court has recognized that a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate any or all reasons to combine teachings. *See Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n. 8 (Fed. Cir. 2000) (“The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.”). As the Examiner also correctly points out, the primary purpose of Kleimola’s cover is not inspection, but to “prevent the evaporation of tritiated water” and modification with Gazelle’s teachings would not detract from that purpose. Appellant has not apprised us of any evidence or provided any technical reasoning to explain why one skilled in the art would prefer transparency in a spent nuclear fuel cover over more robust heat and radiation protection that is likely to be provided by incorporating the teachings of Gazelle.

For the foregoing reasons, we sustain the Examiner’s rejection of claims 21 and 35 based on Kleimola and Gazelle. It is noted that the Examiner alternatively rejected claim 30 based on Kleimola and Gazelle (Final Act. 13) in addition to rejecting claim 30 based on Kleimola, McCluer, and Sonntag (Final Act. 12). It is not clear if Appellant did not notice this rejection or intended to group claim 30 with the arguments presented concerning the rejection of claims 21 and 35 based on Kleimola and Gazelle. The Examiner does not mention the rejection of claim 30 based on Kleimola and Gazelle in the Examiner’s Answer. 37 C.F.R. § 41.39(a)(1) provides that:

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An examiner's answer is deemed to incorporate all of the grounds of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory action and pre-appeal brief conference decision), unless the examiner's answer expressly indicates that a ground of rejection has been withdrawn.

37 C.F.R. § 41.39(a)(1) supersedes the rule of *Ex parte Emm*, 118 USPQ 180, 181 (Bd. App. 1957) that rejections not repeated in the Answer are presumed to have been withdrawn. Accordingly, we sustain the rejection of claim 30 based on Kleimola and Gazelle because there is no indication that this rejection has been withdrawn, nor has this rejection been argued. *See In re Berger, supra*.

*Kleimola, McCluer, and Sonntag*

With regard to the rejection of claim 30 based on Kleimola, McCluer, and Sonntag, Appellant argues:

A skilled person would not have combined the radiation shielding layer L2 of Sonntag with the radiation shielding layer (2) and thermal insulating layer (1) of McCluer, because the layer of Sonntag is a liquid and the layer of McCluer is a fabric.

Appeal Br. 15.

Setting aside the fact that layer L2 of Sonntag is actually described as an elastomeric matrix including a percentage of liquid or gelled particles therein (Sonntag paras. 12–13), Appellant's argument is inapposite as the Examiner never proposed to incorporate Sonntag's layer L2. Final Act. 13; Ans. 4, 8. Arguments must address the Examiner's action. 37 C.F.R. § 41.37(c)(1)(iv) ("The arguments shall explain why the examiner erred as to each ground of rejection contested by appellant").

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Appellant also argues that the first layer of McCluer does not meet the “sandwiched between” limitation. Appeal Br. 16–17. There does not appear to be any actual dispute as to the meaning of the term “sandwiched” as the Examiner applied the interpretation of the term proffered by Appellant. Appeal Br. 17; Ans. 4, 9. However, Appellant’s argument, again, does not address the Examiner’s action which cites Sonntag and not McCluer regarding the recited sandwiching aspect of claim 30. Final Act. 13; Ans. 4. Appellant’s final argument concerning claim 30 is:

Sonntag fails to cure the deficiencies of McCluer because, irrespective of what Sonntag teaches, one having ordinary skill in the art would not ignore the requirement of McCluer that the radiation shielding material and water-impervious polymeric binder be formed into a single integral layer.

Appeal Br. 18 (emphasis omitted). Once again, we do not see how this has any bearing on the Examiner’s action as the Examiner never proposes separating McCluer’s radiation shielding material and water-impervious polymeric binder. Final Act. 13; Ans. 4.

For the foregoing reasons, we sustain the Examiner’s rejection of claim 30 based on Kleimola, McCluer, and Sonntag.

*Kleimola, Gazelle, Radelet*

Radelet undisputedly provides a closure seal that would satisfy the requirements of claim 22. Appellant argues Radelet is nonanalogous art. Appeal Br. 20–21.

The analogousness of Radelet is a factual question and we adopt as our own the Examiner’s findings on the issue:

Radelet is reasonably pertinent to the particular problem with which the application was concerned. Radelet is directed to (with

emphasis added) “forming a seal between two surfaces, for example in a protective housing to protect the contents of the housing from contamination” (column 1, lines 3-6). The present invention is directed to (with emphasis added) “reducing environmental contamination” ([0002]) by “hermetically seal[ing] the exposed surface of the body of tritiated water” ([0008]). Thus, both Radelet and the present invention are concerned with providing a seal to mitigate contamination and Radelet therefore qualifies as analogous art. Applicant’s arguments conflate the field of endeavor of the present invention—spent fuel pool—and that of Radelet—electronics protection—with the “particular problem” the two structures are solving. Both Radelet and the present invention solve the particular problem of “contamination” with a “seal,” making Radelet analogous

Ans. 9–10 (emphasis omitted); *see, e.g., In re Paulsen*, 30 F.3d 1475, 1478 n. 6 (Fed. Cir. 1994) *accord In re Cree, Inc.* 818 F.3d 694, 698 n. 2 (Fed. Cir. Mar. 21, 2016). As the Supreme Court has observed “familiar items may have obvious uses beyond their primary purposes.” *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 420 (2007); *see also, In re ICON Health and Fitness, Inc.*, 496 F. 3d 1374, 1380 (Fed. Cir. 2007). Appellant does not provide any evidence or technical reasoning to explain why closure seals in radiation containment environments are so specific as to render irrelevant, for the purposes of a § 103(a) inquiry, any teachings related to closure seals in general or those having different intended uses.

For the foregoing reasons, we sustain the Examiner’s rejection of claim 22 based on Kleimola, Gazelle, Radelet.

*Remaining Claims and Rejections*

We presume Appellant intended to argue any remaining claims not specifically mentioned based on dependency. Accordingly, these claims fall with the respective claims from which they depend.

CONCLUSION

The Examiner's rejections are AFFIRMED.

DECISION SUMMARY

Claim(s)	35 U.S.C. §	Basis/Reference(s)	Affirmed	Reversed
39	112 first paragraph	Written Description	39	
36	112, second paragraph	Indefinite	36	
21, 26–30, 35, 36, 39	103(a)	Kleimola, Gazelle,	21, 26–30, 35, 36, 39	
22–24	103(a)	Kleimola, Gazelle, Radelet,	22–24	
25		Kleimola, Gazelle, McCluer	25	
30	103(a)	Kleimola, McCluer, Sonntag	30	
31–34	103(a)	Kleimola, McCluer, Sonntag, Radelet,	31–34	
<b>Overall Outcome</b>			21–36, 39	

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