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The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 60

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM Y. HALL and WILLIAM A. HALL

Appeal No. 1998-1357
Application No. 08/348,744

ON BRIEF

Before ABRAMS, FRANKFORT, and GONZALES, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 89 through 156, which are all of the claims pending in this application. Claims 1 through 88 have

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been canceled.

We AFFIRM-IN-PART.

BACKGROUND

The appellants' invention relates to an above-ground storage tank for storing a flammable liquid and a method of making a storage tank for above-ground storage of a flammable liquid. An understanding of the invention can be derived from a reading of exemplary claims 93, 108, 118, 123, 126, 127, 128 and 152, which appear in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Searle 1912	1,024,527	Apr. 30,
Pritchard Jun. 28, 1932	1,864,931	
Kettlewell 1941	2,254,964	Sep. 2,
Mapes 1946	2,402,175	Jun. 18,
Johnston 9, 1958	2,863,297	Dec.
Setzekorn et al.	2,963,191	Dec. 6,

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Claim 108 additionally stands rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Kettlewell.

Claim 108 also stands rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Johnston.

Claims 109, 110, 114, 118, 122, 126, 128, 132, 138 and 139

stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindquist.

Claims 110, 118, 132 and 139 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Searle.

Claims 110, 118 and 132 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell.

Claims 110, 118 and 132 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnston.

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Claims 89, 92, 93, 107 through 112, 114, 115, 118, 119, 122, 123, 126 through 128, 130, 132 through 135 and 138 through 141 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Kettlewell, Pritchard, Setzekorn and Mapes.

Claims 123, 135, 137 and 140 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Kettlewell.

Claim 137 additionally stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Johnston.

Claims 152 and 154 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Searle.

Claims 109, 115, 128, 130 and 141 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell in view of Lindquist.

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Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 57, mailed September 3, 1997) and the supplemental examiner's answer (Paper No. 59, mailed November 12, 1997) for the examiner's complete reasoning in support of the rejections, and to the appellants' brief (Paper No. 56, filed May 22, 1997) and reply brief (Paper No. 58, filed November 3, 1997) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

Initially, we turn our attention to the examiner's

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rejection of claims 89 through 156 as being unduly multiplied.
For the examiner's entire reasoning in this matter, we look to
Paper

No. 51, page 2 wherein he states:

Applicant is limited to no more than thirty (30) claims. [Attention] is directed to MPEP 2173.05(n). It is the Examiner's position that, in view of the nature and scope of the invention and state of the art, 68 claims is an unreasonable number.

The appellants argue that:

[i]n the present application the claims differ substantially from one another and are not unduly multiplied. The Office Action makes no showing to the contrary (brief, page 13).

Appellants argue further that:

a rejection may be made if the number of claims is unreasonable in view of the nature and scope of appellants' invention and the state of the art. In this case there has been no showing that the number of claims is unreasonable and . . . the claims differ substantially from one another (brief, page 14).

Like the appellants, we are of the view that the examination of one more independent claim (claim 136) and 37 dependent claims in the present application is not unreasonable. Since the examiner has made no showing that the claims do not differ

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substantially from one another and thereby in any manner obscure appellants' scope of protection, or, to use the language of the Court of Customs and Patent Appeals in In re Chandler, 319 F.2d 211, 225, 138 USPQ 138, 148 (1963), that appellants' claims provide a "degree of repetition and multiplicity which beclouds definition in a maze of confusion," we are constrained to reverse the examiner's rejection of claims 89 through 156 as being unduly multiplied.

While it may be true that examination of 68 claims in this application would have been tedious work for the examiner, this fact alone provides no reason for saying that the subject matter claimed by appellants' is obscured by the large number of claims. In light of our determination above, it is now incumbent upon the examiner to examine those claims which he previously refused to consider.

We now turn to the first of the examiner's rejections based on prior art, wherein claims 93, 107, 108, 111, 112, 119, 127, 133 and 134 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Lindquist. The patent to

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Lindquist shows an above ground storage tank 2 having a steel inner tank 4 entombed within a concrete outer shell 8. The storage tank 2 is formed by erecting side wall form 51 comprised of a pair of wall forms 48, 50 on a base plate 44, which creates an open top enclosure or form assembly 42. A layer of concrete 56 is poured onto the base plate 44 and the inner tank 4 is lowered onto the layer of concrete. Concrete is poured in the enclosure to entomb the inner tank while the bottom layer is still wet. After the concrete cures, the wall forms 48, 50 and base plate 44 are removed from the tank 2 created within the form assembly 42. In its final form, storage tank 2 is comprised of inner steel tank 4 and outer concrete shell 8. Appellants argue that each of the rejected claims "recite an inner tank, an outer shell and an insulating layer between the inner tank and outer shell. Lindquist et al. do not provide the claimed outer shell" (brief, page 16). We agree. In this regard, the examiner has interpreted the Lindquist reference as showing an inner tank

#4, an insulating material #120, and an outer shell #42 (answer, page 8).

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However, it is clear to us that what the examiner refers to as an "outer shell #42" in Lindquist, is merely a form assembly to support the concrete outer shell 8 as it is poured and while it is curing. Form assembly 42 is ultimately removed, and becomes no portion of the above ground storage tank 2. Thus, Lindquist does not show each and every feature of appellants' claimed invention, namely an above-ground storage tank comprised of three parts or component layers, i.e., "an inner tank," "an outer shell" and "an insulating layer" therebetween. In this regard, we must point out that anticipation under 35 U.S.C. § 102 is established only when a single prior art reference discloses, either expressly or under the principles of inherency, each and every element of a claimed invention. See RCA Corp. V. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). Therefore, we will not sustain the examiner's rejection of claims 93, 107, 108, 111, 112, 119, 127, 133 and 134 under 35 U.S.C. § 102(b) as being clearly anticipated by Lindquist.

We will now look to the examiner's rejection of claims

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109, 110, 114, 118, 122, 126, 128, 132, 138 and 139 under 35
U.S.C.

§ 103(a) as being unpatentable over Lindquist. Having already
discussed Lindquist, we, like the appellants, are of the view
that:

[e]ach of the rejected claims patentably
distinguishes over Lindquist et al. by reciting an
inner tank, an **outer shell** spaced apart from the
inner tank and **insulating material filling the space
between the inner tank and the outer shell**. Since
the Lindquist et al. patent does not teach or
suggest the recited **outer shell**, it does not render
obvious the claimed invention (brief, pages 20-21;
our emphasis).

In rejecting claims under 35 U.S.C. § 103, the examiner
bears the initial burden of presenting a prima facie case of
obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28
USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of
obviousness is established when the teachings of the prior art
itself would appear to have suggested the claimed subject
matter to one of ordinary skill in the art. See In re Bell,
991 F.2d 781, 783,
26 USPQ2d 1529, 1531 (Fed. Cir. 1993). As previously
determined, Lindquist clearly does not show a storage tank

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having an inner tank, an outer shell and insulating material located between the inner tank and the outer shell, and we see no incentive or motivation in the teachings of Lindquist, to provide such a three-part or three-layer storage tank. We, therefore, will not sustain the examiner's rejection of claims 109, 110, 114, 118, 122, 126, 128, 132, 138 and 139 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist.

Next, we turn to the examiner's rejection of claims 123, 135, 137 and 140 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Kettlewell. The patent to Kettlewell shows a heated body, such as a tank, furnace or boiler comprised of a cylindrical metal body 10, a casing 11 constructed around the body 10 and secured in spaced relation thereto. An insulating space 12 is located between body 10 and casing 11 into which a quantity of loose expanded mica 13 is poured for insulation. The examiner's basic position is that it would have been obvious to one of ordinary skill in the art to have employed the inner cylindrical tank teaching of Kettlewell in the construction of the storage tank of

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Lindquist, motivated by the efficient space/volume relationship provided by a cylindrical tank. However, even if this modification were made in Lindquist the resulting storage tank would not be that set forth in appellants' claims 123, 135, 137 and 140 on appeal. To modify the two layer above-ground storage tank of Lindquist by using a cylindrical inner tank entombed within the outer concrete tank 8, would clearly not provide appellants' claimed three layer tank. Thus, we will not sustain the examiner's rejection of claims 123, 135, 137 and 140 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Kettlewell.

In looking at the examiner's rejection of claim 137 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Johnston, we see that Johnston discloses an apparatus for storing liquefied gases at temperatures materially below 273° Kelvin comprising an inner container 40, an insulating means 38, a radiation shield 22 and an outer jacket 12. According to the examiner, it would have been obvious to one of ordinary skill in the art to have employed the double walled cylindrical tank teaching set forth in Johnston in the

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construction of the gasoline storage tank in the basic reference to Lindquist, motivated by the added insulation achieved by such a construction and the efficient space/volume relationship provided by a cylindrical tank. Again, we note that even if the combination posited by the examiner were to be made, a point in some doubt given the totally disparate construction and uses of the tanks in Lindquist and Johnston, the resulting storage tank would not be that specifically defined in appellants' claim 137 on appeal. Replacing the inner tank 4 of Lindquist with a double walled cylindrical tank as in Johnston and then encasing the cylindrical tank in the outer concrete tank 8 of Lindquist would not provide appellants' recited three layer tank. Therefore, we will not sustain the examiner's rejection of claim 137 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Johnston.

We now review the examiner's rejection of claims 152 and 154 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Searle. Claims 152 and 154 on appeal each recite a process or method of forming an above ground

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storage tank, wherein the storage tank is formed by providing an outer metal shell, an inner tank placed within and spaced from the outer shell via spacers or supports placed between the inner tank and the outer shell, and insulating material placed within and filling the space between the inner tank and outer shell. The Searle patent shows a burial vault comprised of an outer metal shell or mold box 1, a metal casket 2 or inner tank placed within the outer shell and spaced therefrom by supports or spacers 3, and insulating material comprising cement or concrete poured into and filling the space between the outer shell and casket. The examiner reasoned that:

[i]t would have been obvious to one of ordinary skill in the art to have employed the spacer and on site filling teachings set forth in Searle in the construction of the device of Lindquist, et. al., motivated by the secure spacing and ease of transport achieved by such construction (answer, page 7).

We do not agree. Since, at the outset, Lindquist fails to show a storage tank comprised of three parts (i.e., an inner tank, an outer shell, and a space between the inner tank and outer shell filled with insulating material), like appellants (brief, pages 37-39), we see no teaching,

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suggestion or incentive in either Lindquist or Searle which would have led one of ordinary skill in the art to form the above ground storage tank of Lindquist as a tank with three, rather than two layers. Thus, we will not sustain the examiner's rejection of claims 152 and 154 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Searle.

Next for our consideration is the examiner's rejection of claims 89, 92, 93, 107 through 112, 114, 115, 118, 119, 122, 123, 126 through 128, 130, 132 through 135 and 138 through 141 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Kettlewell, Pritchard, Setzekorn and Mapes. Having previously discussed the teachings of Lindquist and Kettlewell, we will now review the teachings of Pritchard, Setzekorn and Mapes. We see that Pritchard shows a single walled tank construction having horizontal top supports 22', 31'. Setzekorn shows a fermentation tank having bottom supporting beams 24 mounted underneath the base surface for added strength. And, Mapes shows a tank to be used for the storage of gases, and having feet 13 adapted to be secured to

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a supporting means or structure 14 by bolts 15 placed through apertures in the feet. The examiner concluded that:

[i]t would have been obvious to one of ordinary skill in the art to have employed the steel outer shell and spacer teaching set forth in Kettlewell, motivated by the weather protection afforded thereby, and horizontal top support teaching set forth in Pritchard, motivated by the strength achieved thereby, and the bottom support teaching set forth in Setzekorn, et. al., motivated by the spacing above ground level of the outer shell bottom achieved thereby, and the mounting aperture teaching set forth in Mapes, motivated by the ability to securely mount the structure achieved thereby, in the construction of the encased tank of Lindquist, et. al." (answer, pages 3-4).

We are not in agreement with the examiner's reasoning. Since it is clear to us that Lindquist shows a two layer, above ground storage tank, we agree with appellants that

[a]lthough the Lindquist et al. tank had two of the three layers of the present invention (inner tank and concrete insulation), the transition to the three layer structure as presently claimed was nonobvious and involved far more complexity than simply adding an outer shell to the existing Lindquist et al. tank (answer, page 26).

And,

[a] skilled artisan reading Kettlewell would not be motivated to place an outer shell around the concrete of the Lindquist et al. gasoline storage

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tank in order to provide protection from the weather
(answer, page 29).

Rejections based on 35 U.S.C. § 103(a) must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. See In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). The use of such hindsight knowledge to support an obviousness rejection under 35 U.S.C. § 103(a) is, of course, impermissible. See, for example, W. L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). In our view, the only suggestion for modifying the two layer storage tank of Lindquist in the manner proposed by the examiner based on the teachings of the various secondary references applied to meet the above-noted limitations stems from impermissible hindsight knowledge derived from the appellants' own disclosure. It follows that we cannot sustain

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the examiner's rejection of claims 89, 92, 93, 107 through 112, 114, 115, 118, 119, 122, 123, 126 through 128, 130, 132 through 135 and 138 through 141 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Kettlewell, Pritchard, Setzekorn and Mapes.

We now look at the examiner's rejection of claim 108 under 35 U.S.C. § 102(b) as being clearly anticipated by Johnston. While Johnston does show three layer tanks, as discussed above, we note that claim 108 on appeal requires that the insulating material filling the space between the inner tank and the outer shell be "sufficient to at least meet a two-hour fire wall rating." To support a rejection of a claim under 35 U.S.C.

§ 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Johnston fails to disclose each and every element of claim 108 on appeal, namely insulating material filling the space

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between the inner tank and the outer shell being sufficient to at least meet a two-hour fire wall rating. In this regard, we note that the examiner has not treated this limitation at all, and that we have no basis to conclude that the insulating material in the storage space 13 of Johnston necessarily (inherently) has the required two-hour fire wall rating. Therefore, we will not sustain the examiner's rejection of claim 108 under 35 U.S.C. § 102(b) as being clearly anticipated by Johnston.

We turn to the examiner's rejection of claims 118 and 132 under 35 U.S.C. § 103(a) as being unpatentable over Johnston. As with claim 108 on appeal, each of claims 118 and 132 on appeal recite a three layer storage tank and the specific limitation that there be fire resistant insulating material disposed within and filling the space between the inner tank and the outer shell, the space having sufficient thickness to enable the storage tank to at least meet a two hour fire wall rating. The examiner concludes that:

[t]he wall spacings and fire rating would have been obvious matters of choice in the above set forth devices, motivated by the intended use and code

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standards intended to be met (answer, page 5).

Essentially, it is the examiner's position that one of ordinary skill in the art would have found it prima facie obvious to modify the cryogenic liquid storage tank of Johnston to meet the claimed fire wall rating, without evidence or prior art in support thereof. In the absence of evidence or compelling argument in support thereof, however, we are not persuaded that this would have been the case. The mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. See In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Like the appellants, we see no teaching or suggestion in Johnston, of insulation filling a space of sufficient thickness, between the inner tank and outer shell, to enable the tank to meet a two hour fire wall rating and no rationale by the examiner as to exactly why any such modification of Johnston would have been necessary or desirable. Therefore, we will not sustain the examiner's rejection of claims 118 and 132 under 35 U.S.C. § 103(a) as being unpatentable over Johnston.

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Now we consider the examiner's rejection of claim 110 under 35 U.S.C. § 103(a) as being unpatentable over Johnston. Appellants' claim 110 on appeal recites an above ground, three layer storage tank for gasoline wherein the bottom of the inner tank is spaced substantially six inches from the bottom of the outer shell, the side walls of the inner tank are spaced substantially six inches from the side walls of the outer shell, and insulating material is disposed within and fills the space between the inner tank and the outer shell. As previously discussed, in Johnston we see a tank for storing liquified gases. The storage tank comprises an outer shell 12 and an inner tank 40 which is spaced from the outer shell by the combination of spaces 13, 36 and 75. The material which fills each of spaces 13, 36 and 75 is insulating material which, in its entirety, fills the space between the inner tank 40 and the outer shell 12. Thus, Johnston shows all of appellants' claimed subject matter except for the intended use of the tank (i.e., for storing gasoline), and the "substantially six inch" space between the inner tank and the outer shell. In our view, the storage tank of Johnston is certainly capable of storing gasoline, however, we see no

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reason why the inner tank 40 and outer shell 12 in Johnston's cryogenic liquid storage tank would have been merely the "substantially six inches" required in appellants' claim 110 on appeal. If anything, it would seem that the multiple spaces 13, 36, and 75 between the inner tank 40 and outer shell 12 in Johnston would be individually, as well as collectively, significantly more than the "substantially six inches" claimed by appellants. Thus, we will not sustain the examiner's rejection of claim 110 under 35 U.S.C. § 103(a) as being unpatentable over Johnston.

We now look at the examiner's rejection of claim 108 under 35 U.S.C. § 102(b) as being clearly anticipated by Kettlewell. As previously discussed, Kettlewell shows a three layered tank which uses expanded mica as the insulating material disposed within and filling the space between the inner tank and the outer shell. The examiner indicated that the claim recitations "for storing a flammable liquid," "for storing a liquid" and "for storing gasoline" are directed to intended use and "thus not awarded patentable weight" (answer, page 4). Since the prior art is capable of performing the

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functions claimed by the appellants, we agree with the examiner and therefore will affirm his rejection of claim 108.

To support a rejection of a claim under 35 U.S.C. § 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., supra.

The structural limitations recited in appellants' claim 108 are all found in the Kettlewell reference, upon which the examiner relied. Appellants' only argument is that there has been no showing as to where Kettlewell teaches "[a]n above-ground storage tank for storing gasoline," "an inner tank for storing gasoline" and "the insulating material being sufficient to at least meet a two-hour fire wall rating" (brief, page 16).

We are not persuaded by this argument. In our view the functional limitations set forth in appellants' claim 108 would have been inherent in the Kettlewell tank structure. The storage tank of Kettlewell is used for storing liquids and

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is certainly capable of storing gasoline. It is also our view that one of ordinary skill in the art would have recognized that mica has the inherent property to at least meet a two-hour fire wall rating, as required by claim 108 on appeal. Mica is a rock-forming mineral having as one of its properties noninflammability, thus making it inherently fireproof.² Moreover, Kettlewell infers that mica is necessarily fireproof since the expanded mica is produced from ground mica in a direct fire furnace at an expanding heat of 2200 degrees F (page 1, column 1, lines 7-13). It is our view, that a person of ordinary skill in the art would have known all the inherent properties of mica and not just those properties which make mica a highly efficient insulator taught in Kettlewell.

² To merely establish the level of knowledge in the art with regard to the properties of mica, we note GMS Industrial Pty Ltd article "What is Mica" at <http://www.generalmica.com.au/info.html> which states, under the subheading **Useful properties of Mica**, "[Mica] is fireproof and noninflammable, unaffected by temperatures up to 1200 to 1600 degrees F." Also, U.S. Patent 4,015,393 "Panel with Core and Method of Constructing" discloses mica and cement as known materials selected by artisans for their property of noncombustibility in the fabrication of fireproof doors which are required to meet different fire codes and regulations. See particularly, column 1, lines 9-17. Copies are attached to this decision.

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Therefore, we will affirm the examiner's rejection of claim 108 under 35 U.S.C. § 102(b) as being unpatentable over Kettlewell.

We now look at the examiner's rejection of claim 110 under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell. We have already seen that Kettlewell does show a three layer tank which can be, at least for some period of time, a storage tank for whatever liquid is contained therein. Kettlewell discloses an inner tank 10, an outer shell 11 spaced from the inner tank and insulation 13 filling the space between the inner tank and outer shell. Kettlewell uses spacing lugs 16 to space the inner tank from the outer shell. Thus, it is our view that Kettlewell shows all of appellants' subject matter recited in claim 110 on appeal except for the intended use of the tank (i.e., for storing gasoline), and the "substantially six inch" space between the inner tank and the outer shell. While certainly not disclosed for any such use, the storage tank of Kettlewell is certainly capable of storing gasoline. And, while we believe that the space between the inner tank and outer shell of Kettlewell falls within the

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"substantially six inch" range claimed by appellants, or would have at the very least have been obvious to one of ordinary skill in the art based on the disclosure at page 1, col. 2, lines 17-19, of Kettlewell concerning desired sizing of the installation therein, we also note that a change in dimension is generally considered to be a modification that would have been obvious to one with ordinary skill in the art where the disclosure is silent as to the significance of the particular dimension claimed (i.e., substantially six inches). Therefore, we will affirm the examiner's rejection of claim 110 under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell.

We now look at the examiner's rejection of claims 118 and 132 under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell. As with claim 108 on appeal, each of claims 118 and 132 on appeal recite a three layer storage tank and the specific limitation that there be fire resistant insulating material disposed within and filling the space between the inner tank and the outer shell, the space having sufficient thickness to enable the storage tank to at least meet a two

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hour fire wall rating. The examiner concludes that:

[t]he wall spacings and fire rating would have been obvious matters of choice in the above set forth devices, motivated by the intended use and code standards intended to be met (answer, page 5).

Essentially, it is the examiner's position that one of ordinary skill in the art would have known that the thickness of the insulation of the heated tank or boiler of Kettlewell is dependent upon the specific use of the tank and the required fire wall rating.

For our reasons discussed with regard to claim 108, we are convinced that a person of ordinary skill in the art would have known that mica has beneficial fireproof properties absent any specific teaching in the reference. Furthermore, artisans must be presumed to know something about the art apart from what the references discloses (In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962)) and the conclusion of obviousness may be made from "common knowledge and common sense" of the person of ordinary skill in the art (In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)). Moreover, skill is presumed on the part of those

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practicing in the art. See In re Sovish, 769 F.2d 738, 743, 226 USPQ 771, 744 (Fed. Cir. 1985). This being the case, we are of the opinion that the artisan would have been well aware that mica is fireproof and that the space, as discussed with respect to claim 110, between the inner tank and the outer shell may be sized such that the insulating medium (mica) is of a sufficient thickness to enable the storage tank to at least meet a two hour fire wall rating. Therefore, we will affirm the examiner's rejection of claims 118 and 132 under 35 U.S.C.

§ 103(a) as being unpatentable over Kettlewell.

Next, we examine the rejection of claims 109, 115, 128, 130 and 141 under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell in view of Lindquist. As we have determined above, Kettlewell discloses a three layer storage tank which is capable of storing gasoline or other flammable liquids. We additionally note that outer shell 11 of Kettlewell is, at its upper portion, preferably open, thereby forming an open-topped container

(page 1, col. 2, lines 51-53), a limitation which is recited

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in appellants' claim 141 on appeal. Since Kettlewell "relates to insulating means for heated bodies, such as tanks, furnaces, boilers and other heated surfaces" (page 1, col. 1, lines 1-3), we are of the view that one of ordinary skill in this art would have recognized that "pipe fittings" secured to the inner tank would have been necessary for the entry and removal of liquid material into and out of the cylindrical metal body or inner tank 10. We have seen that Lindquist discloses a two layer, above ground storage tank for storing flammable liquids, and also note that Lindquist shows various pipe fittings 16 secured to inner tank 4 which provide access to the inside of the inner tank 4.

In this instance, we agree with the examiner when he concludes that:

[i]t would have been obvious to one of ordinary skill in the art to have employed the pipe fitting teaching set forth in Lindquist, et. al. in the construction of the device of Kettlewell, motivated by the intended use. Note col. 1, first paragraph of Kettlewell (answer, page 5).

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We have previously indicated that we view the Kettlewell device as being capable of storing gasoline or flammable liquids, and that the six inch spacing between appellants' inner tank and the outer shell would have been obvious to the ordinarily skill artisan based on the teaching at page 1, col. 2, lines 17-19 of Kettlewell, and is a dimension which is not indicated by appellants' disclosure as being critical. Thus, we will affirm the examiner's rejection of claims 109, 115, 128, 130 and 141 under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell in view of Lindquist.

We turn now to the examiner's rejection of claims 93, 108, 111 and 127 under 35 U.S.C. § 102(b) as being clearly anticipated by Searle. As noted before, Searle discloses a burial vault comprised of a mold box 1 or outer shell strongly constructed of suitable sheet metal, and a casket box 2 also strongly constructed, preferably of sheet metal, placed within the mold box and spaced therefrom by rests or spacers 3. Searle states:

This casket box has closed or imperforate walls and

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the cover is also imperforate and the entire interior surfaces of the box and cover are preferably enameled or provided with any suitable impervious coating 23, to render the box absolutely tight (page 1, column 2, lines 61-67).

Once the casket box 2 is placed within the mold box 1, on supports 3;

the mold box is then completely filled with suitable grouting, cement, concrete or other suitable plastic material so as to entirely and completely inclose the casket box and form a seamless continuous sealing and inclosing wall between the bottom, sides and ends of the casket box and the corresponding walls of the mold box and entirely covering the casket box to the level of the top edges of the mold box (page 2, column 1, lines 12-22).

The examiner concluded that the Searle reference clearly anticipates claims 93, 108, 111 and 127. The examiner indicates that the claim portions "for storing a flammable liquid," "for storing a liquid" and "for storing gasoline" are directed to intended use and "thus not awarded patentable weight" (answer, page 4). We agree with the examiner and thus will affirm his rejection of claims 93, 108, 111 and 127 under 35 U.S.C. § 102(b) as being clearly anticipated by Searle. To support a rejection of a claim under 35 U.S.C. § 102(b), it

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must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., supra. The structural limitations recited in appellants' claims are all found in the Searle reference, upon which the examiner relied. Appellants argue that "the Searle burial vault is completely unsuitable for use as an above ground gasoline storage tank" (brief, page 16). Although appellants are correct that Searle does not address the use of the disclosed structure to store gasoline or flammable liquids, the absence of a disclosure relating to function does not defeat the finding of anticipation. It is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable. See In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). Accordingly, appellants' contention that their structure will be used to store gasoline or flammable liquids above ground does not have patentable weight if the structure is already known, as it is in Searle, regardless of whether the Searle structure (vault) has ever been used for the storage of gasoline or flammable liquids above ground.

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Appellants have not argued or otherwise demonstrated that the vault structure of Searle is not capable of storing a liquid such as gasoline above ground.

Appellants' additionally argue that "[c]laim 108 not only recites 'an inner tank for storing gasoline' but further recites 'the insulating material being sufficient to at least meet a two-hour fire wall rating.' Searle discloses neither of these features" (brief, page 17). We are not persuaded by this argument. In our view, the functional limitations set forth in appellants' claim 108 do not serve to patentably distinguish appellants invention from Searle because those limitations would be inherent in the prior art vault structure. Furthermore, it is our view that it would have been an inherent property of the cement or concrete filling the space between the inner box 2 and outer mold 1 of Searle to at least meet a two-hour fire wall rating, as required by claim 108 on appeal. A reference may be from an entirely different field of endeavor than that of the claimed invention or may be directed to an entirely different problem from the one addressed by the inventor, yet the reference will still

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anticipate if it explicitly or inherently discloses every limitation recited in the claims. See In re Schreiber, at 1477, 44 USPQ2d at 1431. As a result, we will sustain the examiner's rejection of claims 93, 108, 111 and 127 under 35 U.S.C. § 102(b) as being clearly anticipated by Searle.

The last of the examiner's rejections for our review is that of claims 110, 118, 132 and 139 under 35 U.S.C. § 103(a) as being unpatentable over Searle. In looking at these claims, we see that claim 110 includes the limitations that "the bottom of the inner tank spaced substantially six inches from the bottom of the outer shell" and "the side walls of the inner tank spaced substantially six inches from the side walls of the outer shell." It is clear to us that such sizing and spacing would have been obvious to one of ordinary skill in the art when the mold and casket of Searle are sized to receive a small adult or a child. As for the use limitation regarding the storage of gasoline above ground and the fire wall rating set forth in those claims, we refer to our comments above concerning claims 93, 108, 111 and 127. Thus, we sustain the examiner's rejection of appealed claims 110,

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118 and 132 under 35 U.S.C. § 103(a) as being unpatentable over Searle.

However, we also note that claim 139 includes the limitation that the inner tank has "a capacity of at least 1000 gallons." The box 2 of Searle clearly does not have a capacity of 1000 gallons, as required by claim 139 on appeal. In our view there is no suggestion, incentive or motivation in the applied reference to have modified the inner box 2 of Searle to have a capacity of 1000 gallons. Accordingly, we will not sustain the examiner's rejection of claim 139 under 35 U.S.C. § 103(a) as being unpatentable over Searle.

We see that in their reply brief (Paper No. 58) appellants refer to the Declaration of William Y. Hall, filed "on or about" December 27, 1996. Mr. Hall's declaration states:

26. As far as I am aware, the tank of the present invention was the first tank ever to be certified by a national testing agency as being capable of meeting or exceeding a two hour fire wall rating. I do not know of any prior tank that was capable of meeting a two hour fire wall rating (Paper No. 52, pages 4-5).

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Appellants' arguments concerning secondary considerations (reply brief, page 4), (i.e., the declaration of William Y. Hall) are of no moment with respect to the rejections under 35 U.S.C.

§ 102(b) and have not been considered with respect thereto. The only claims in which we have sustained rejections under 35 U.S.C.

§ 103(a), which include a limitation that the tank be capable of meeting a two hour fire wall rating, are claims 118 and 132 which stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Searle or Kettlewell. However, we are not persuaded by appellants' secondary evidence with respect to the above noted rejections of these claims. In that regard, while it may be true that Mr. Hall was not aware of any other prior tank that was capable of meeting a two hour fire wall rating, as we have indicated above, we are of the view that the construction of the Searle device having concrete between the inner metal tank 2 and the outer metal shell 1, exactly as appellants' tank does, would inherently provide a tank having such a rating. Furthermore, mica, like concrete, is an

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inorganic fireproof insulating material and we are of the opinion that one of ordinary skill in the art would have known that, given the desired thickness of the insulating material (about 6 inches), the tank of Kettlewell would inherently provide a tank having such a fire wall rating.

In view of the foregoing, we are satisfied that when all the evidence is considered, the totality of the evidence submitted by the appellants cannot be accorded substantial weight, so that, on balance, the evidence of nonobviousness fails to outweigh the evidence of obviousness relied upon by the examiner. Accordingly, we conclude that the subject matter of claims 118 and 132 on appeal would have been obvious to one of ordinary skill in the art, and we sustain the rejection of those claims under 35 U.S.C. § 103(a).

CONCLUSION

In summary:

(1) the decision of the examiner to reject claims 89 through 156 as being unduly multiplied is reversed;

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(2) the decision of the examiner to reject claims 93, 107, 108, 111, 112, 119, 127, 133 and 134 under U.S.C. § 102(b) as being clearly anticipated by Lindquist is reversed;

(3) the decision of the examiner to reject claims 93, 108, 111, and 127 under 35 U.S.C. § 102(b) as being anticipated by Searle is affirmed;

(4) the decision of the examiner to reject claim 108 under 35 U.S.C. § 102(b) as being clearly anticipated by Kettlewell is affirmed;

(5) the decision of the examiner to reject claim 108 under 35 U.S.C. § 102(b) as being clearly anticipated Johnston is reversed;

(6) the decision of the examiner to reject claims 109, 110, 114, 118, 122, 126, 132, 138 and 139 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist is reversed;

(7) the decision of the examiner to reject claims 110,

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118, and 132 under 35 U.S.C. § 103(a) as being unpatentable over Searle is affirmed;

(8) the decision of the examiner to reject claim 139 under 35 U.S.C. § 103(a) as being unpatentable over Searle is reversed;

(9) the decision of the examiner to reject claims 110, 118 and 132 under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell is affirmed;

(10) the decision of the examiner to reject claims 110, 118 and 132 under 35 U.S.C. § 103(a) as being unpatentable over Johnston is reversed;

(11) the decision of the examiner to reject claims 89, 92, 93, 107 through 112, 114, 115, 118, 119, 122, 123, 126 through 128, 130, 132 through 135 and 138 through 141 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Kettlewell, Pritchard, Setzekorn and Mapes is reversed;

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(12) the decision of the examiner to reject claims 123, 135, 137 and 140 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Kettlewell is reversed;

(13) the decision of the examiner to reject claim 137 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Johnston is reversed;

(14) the decision of the examiner to reject claims 152 and 154 under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Searle is reversed; and finally,

(15) the decision of the examiner to reject claims 109, 115, 128, 130 and 141 under 35 U.S.C. § 103(a) as being unpatentable over Kettlewell in view of Lindquist is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

NEAL E. ABRAMS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
CHARLES E. FRANKFORT)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
JOHN F. GONZALES)	
Administrative Patent Judge)	

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