

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

OREN TECHNOLOGIES, LLC,
Appellant

v.

**PROPPANT EXPRESS INVESTMENTS LLC,
PROPPANT EXPRESS SOLUTIONS LLC,**
Appellees

2019-1778

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. IPR2017-
01918.

Decided: July 23, 2021

JOHN C. O'QUINN, Kirkland & Ellis LLP, Washington,
DC, for appellant. Also represented by CALVIN ALEXANDER
SHANK, JASON M. WILCOX; GIANNI CUTRI, MEREDITH
ZINANNI, Chicago, IL.

MARK T. GARRETT, Norton Rose Fulbright US LLP,
Austin, TX, for appellees. Also represented by STEPHANIE
N. DEBROW; JONATHAN S. FRANKLIN, PETER B. SIEGAL,
Washington, DC.

Before NEWMAN, O'MALLEY, and CHEN, *Circuit Judges*.

PER CURIAM.

Oren Technologies, LLC (“Oren”) appeals the decision of the Patent Trial and Appeal Board (“PTAB” or “Board”), ruling on *inter partes* review (“IPR”) that claims 1–7, 9, 10, and 12–20 (all the challenged claims) of U.S. Patent No. 9,403,626 (“the ’626 patent”) are unpatentable on the ground of obviousness.¹ Oren had charged Proppant Express Investments LLC (“PropX”) with infringement of the ’626 patent, together with continuation U.S. Patent No. 9,511,929 (“the ’929 patent”) and a third related patent, U.S. Patent No. 9,296,518 (“the ’518 patent”) in the United States District Court for the Southern District of Texas. While the district court case was pending, PropX filed this petition for IPR of the ’626 patent, and corollary petitions for the ’929 and ’518 patents. The PTAB found the ’626 patent invalid for obviousness. Oren appealed. We conclude that the PTAB erred in basing its obviousness finding on a ground of unpatentability not presented by petitioner and in its evidentiary analysis on the objective evidence of nonobviousness. We reverse-in-part, vacate-in-part, and remand.

BACKGROUND

The ’626 patent is for a “Proppant Storage Vessel and Assembly Thereof.” Proppant is particulate material, such as silica sand, used in the process of hydraulic fracturing that is commonly called “fracking.” Fracking is “the injection of fluid into shale beds at high pressure in order to free up petroleum resources (such as oil or natural gas).”

¹ *Proppant Express Inv., LLC v. Oren Techs., LLC*, No. IPR2017-01918, Paper 83 (P.T.A.B. Feb. 14, 2019) (“Board Op.”).

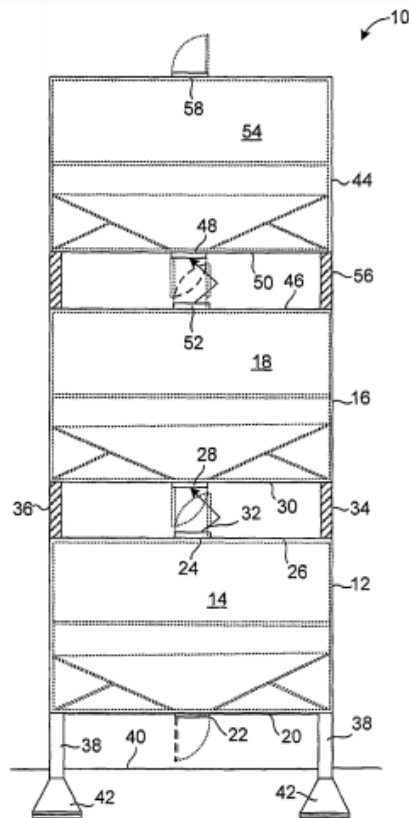
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Fracking, MERRIAM-WEBSTER DICTIONARY. Proppant is inserted into the well and shale rock to preserve the pressure-induced fractures in the rock and thus to facilitate flow of oil and gas into the well. The record states that a fracking well may require several tons of proppant.

The sources of proppant tend to be remote from well sites, and the proppant must be contained, transported, stored, and delivered to the well site. Oren states that methods previously used, such as proppant storage in railroad cars and delivery by pneumatic trailers, were inconvenient, noisy, wasteful, dusty, and unsafe.

The '626 patent describes and claims a container structure that Oren states enables containment, transportation, storage, and efficient release of large volumes of proppant. Figure 1 of the '626 patent shows the containers stacked for transport, storage, and use:



'626 patent, Fig. 1.

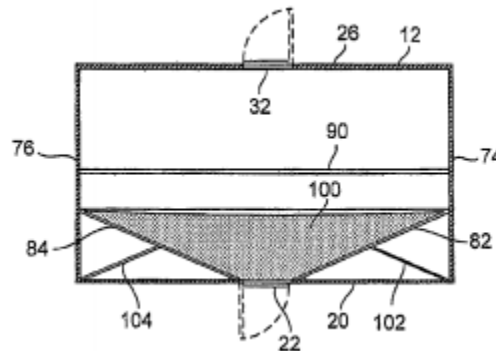
The containers are structured so that the proppant in each container can flow through hinged hatches, and is discharged at the well site through the outlet on the bottom container. The specification states that "the hatches 24 and 28 will form a unique and guided flowpath whereby the proppant in the interior volume 18 of the second container 16 can flow directly into the opening 24 and into the interior volume 14 of the first container 12." '626 patent, col. 5, ll. 38–42.

Patent Figure 6 shows the structure of the individual container, with support members 102 and 104 and ramps

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82 and 84, described as providing support and strength for the heavy loads for which these containers are intended:



'626 patent, Fig. 6.

Figure 6 also shows hatches 22 and 32 through which the proppant flows from stacked container to container.

Claim 18 is representative:

18. A container structurally strengthened to transport and store large volumes of proppant effectively therein, the container comprising:

a top; a bottom, having an outlet formed therein; sidewalls coupled to the top and bottom, so as to define an interior volume of the container thereby to store the proppant therein;

a plurality of sidewall supports positioned to provide structural support to the sidewalls when large volumes of proppant are positioned within the interior volume, the proppant having a substantially spherical shape and a tightly graded particle distribution, the plurality of sidewall supports including a plurality of support braces extending in a substantially horizontal position, the container including a container frame structurally arranged to support another container when filled with large volumes of proppant and when positioned in a

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