

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SOLARIS OILFIELD SITE SERVICES OPERATING, LLC, and
SOLARIS OILFIELD SITE SERVICES PERSONNEL, LLC,
Petitioner,

v.

MASABA, INC.,
Patent Owner.

IPR2024-01179
Patent 11,780,689 B1

Before JAMES A. TARTAL, CARL M. DEFRANCO, and
ROBERT L. KINDER, *Administrative Patent Judges*.

DEFRANCO, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

Masaba, Inc. (“Masaba”) is the owner of U.S. Patent No. 11,780,689 B1 (Ex. 1001, “the ’689 patent”). Solaris Oilfield Site Services Operating, LLC, and Solaris Oilfield Site Services Personnel, LLC (collectively, “Solaris”) filed a petition for *inter partes* review of the ’689 patent, challenging claims 1–25. *See* Paper 1 (“Pet.”). Masaba did not file a preliminary response. Exercising our jurisdiction under 35 U.S.C. § 314(a), we institute *inter partes* review of the challenged claims.

I. BACKGROUND

A. Related Matters

The ’689 patent is the subject of a parallel district court action: *Masaba, Inc. v. Solaris Oilfield Infrastructure, Inc.*, Case No. 2:23-cv-00236 (D. Wyo. Dec. 14, 2023). *See* Paper 5.

B. The ’689 Patent

The ’689 patent describes an apparatus for receiving aggregate (*e.g.*, sand utilized in hydraulic fracturing of oil and gas wells) from a vehicle and elevating the aggregate for deposit into a plurality of storage silos. *See* Ex. 1001, 1:14–18. The apparatus includes three main sub-assemblies as highlighted and reproduced below in Solaris’s annotated Figure 1A of the ’689 patent.

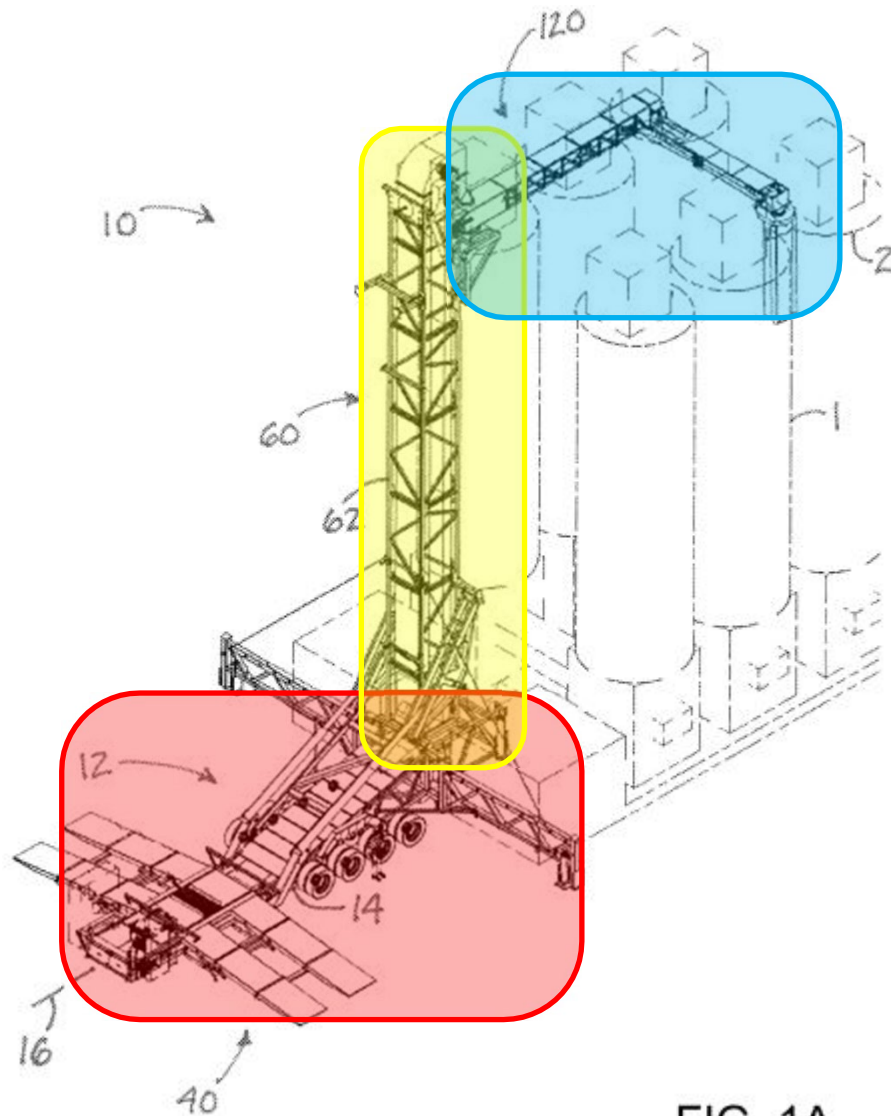


FIG. 1A

As depicted in annotated Figure 1A, the three sub-assemblies include (1) a base assembly (red) for receiving aggregate, (2) an aggregate elevating assembly (yellow) mounted on the base assembly and having an elevating conveyor, and (3) a conveyor extension assembly (blue) at the top of the elevating assembly with pivotable segments for discharging the aggregate into the various silos. *Id.* at 1:22–2:6.

C. Challenged Claims

Of the challenged claims, eight are independent, namely, claims 1, 12, 13, 16, 18, 22, 23, and 25. All are directed to an “aggregate transferring apparatus.” Claim 1 is illustrative and reproduced below (with Solaris’s nomenclature added for clarity):

1. An aggregate transferring apparatus for elevating and transferring aggregate, the apparatus comprising:

[1a] a base assembly for receiving aggregate to be conveyed by the transferring apparatus, the base assembly comprising:

[1b] a base frame being elongated along a longitudinal axis and having a leading end and a trailing end;

[1c] an unloader structure mounted on the base frame to receive aggregate from a vehicle at least partially positioned over the base frame; and

[1d] a base conveyor mounted on the base frame and extending along a longitudinal portion of the base frame between the leading and trailing ends of the base frame, a portion of the base conveyor being positioned adjacent to the unloader structure to receive aggregate from the vehicle positioned over the base frame;

[1e] an aggregate elevating assembly for elevating aggregate from the base assembly, the aggregate elevating assembly comprising:

[1f] a deployable frame mounted on the base frame and being movable between a storage position and a deploy position, the storage position corresponding to a transport configuration of the apparatus and the deploy position corresponding to an operational configuration of the apparatus, the deployable frame being elongated with a base end and a free end; and

[1g] an elevating conveyor configured to receive aggregate from the base conveyor and convey the aggregate upwardly from the base assembly toward the free end of the deployable frame; and

[1h] a conveyor extension assembly for conveying aggregate to locations horizontally outward from the aggregate elevating assembly, the conveyor extension assembly comprising:

[1i] an extension conveyor for moving aggregate from an inlet of the extension conveyor to an outlet of the extension conveyor at a location outward from the aggregate elevating assembly, the extension conveyor being movable with respect to the aggregate elevating assembly between a lowered position corresponding to the transport configuration of the apparatus and a raised position corresponding to the operational configuration of the apparatus, the lowered position being characterized by the extension conveyor being positioned adjacent to the deployable frame of the aggregate elevating assembly, the raised position being characterized by the extension conveyor being positioned generally away from the deployable frame of the aggregate elevating assembly,

[1j] wherein the extension conveyor is articulated between the inlet and outlet with an inboard segment and an outboard segment, the inboard segment being pivotally connected to the deployable frame of the aggregate elevating assembly by an inboard pivot, the outboard segment being pivotally connected to the inboard segment by an outboard pivot; and

[1k] wherein the inboard segment of the extension conveyor of the conveyor extension assembly is pivotable at the inboard pivot about a substantially vertical axis with respect to the deployable frame at the inboard pivot when the extension conveyor is in the raised position, the outboard segment of the extension conveyor being pivotable at the outboard pivot about a substantially vertical axis with respect to the inboard segment when the extension conveyor is in the raised position.

Ex. 1001, 16:14–17:13.

D. Asserted Challenges

Claims Challenged	35 U.S.C. §	Basis
1, 2, 4–11, 16–20, 22–24	103	Waldner, ¹ Dynatek ²
1, 2, 4–11, 16–20, 22–24	103	Waldner, Dynatek, Sleeman ³
6, 7	103	Waldner, Dynatek, Pham ⁴
6, 7	103	Waldner, Dynatek, Sleeman, Pham
3, 12, 21, 25	103	Waldner, Dynatek, Auld ⁵
3, 12, 21, 25	103	Waldner, Dynatek, Sleeman, Auld
13–15	103	Waldner, Dynatek, McIver ⁶
13–15	103	Waldner, Dynatek, Sleeman, McIver

In further support of these challenges, Solaris submits the declaration of Robert A. Durham, Ph.D. *See* Ex. 1003.

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Solaris proposes that one of ordinary skill in the art in the relevant time frame would have had:

a degree in mechanical, electrical, petroleum, or civil engineering and with at least two years' experience working in an industry or field that involves handling of particulate materials,

¹ US 9,663,303 B2, issued May 30, 2017 (Ex. 1004, “Waldner”).

² DYNATEK ARTICULATED LOADING SYSTEMS, *EconoLoader*TM – *Belt Conveyor Design* (August. 19, 2016) <https://web.archive.org/web/20160819111857/http://mcschroeder.com/wp-content/uploads/2012/09/Product-Spec-Sheet-Belt-EconoLoader.pdf> (Ex. 1005, “Dynatek”).

³ US 11,691,831 B2, issued July 4, 2023 (Ex. 1006, “Sleeman”).

⁴ US 10,633,174 B2, issued Apr. 28, 2020 (Ex. 1008, “Pham”).

⁵ US 3,090,501, issued May 21, 1963 (Ex. 1009, “Auld”).

⁶ US 8,926,252 B2, issued Jan. 6, 2015 (Ex. 1011, “McIver”).

which may include operations in the oil and gas industry that involve the handling of such materials.

Pet. 14 (citing Ex. 1003 ¶ 41). At this stage, we see no reason to depart from Solaris’s proposed definition, as it appears consistent with the asserted prior art and the specification of the ’689 patent.

B. Claim Construction

Solaris contends that an express construction of the claim terms is “not required . . . because the prior art invalidates the claims under any plausible construction.” Pet. 24. Alternatively, “[t]o the extent Patent Owner asserts” that two claim terms—“unloader structure” and “trailer structure”—should be construed as means-plus-function limitations under 35 U.S.C. § 112(f), Solaris submits an express construction detailing the corresponding structure in the specification for performing the recited function of the claimed unloader and trailer structures. *See id.* at 24–25.

As mentioned above, Masaba did not submit a preliminary response. Absent any assertion from Masaba that the claims should be construed under § 112(f), there is no claim construction issue currently in dispute at this stage. Thus, unless and until Masaba makes such an assertion, we see no need to provide further guidance on any potential § 112(f) issue. The parties, however, are free to explore the issue at trial should they deem it necessary to the ultimate outcome of the proceeding.

C. Threshold for Institution

Solaris challenges claims 1, 2, 16–20, and 22–24 as obvious over Waldner and Dynatek. *See* Pet. 25–63. We begin with Solaris’s challenge of claim 1, for which Solaris explains, with annotated figures, how Waldner and/or Dynatek satisfies each of claim elements 1a–1k (*id.* at 28–46) and why a skilled artisan would have had reason to combine their respective

teachings (*id.* at 25–28). Solaris also cites the declaration testimony of its expert, which is unrebutted at this stage. *See* Ex. 1003 ¶¶ 66–73, 111–121, 125–162.

Masaba does not provide a preliminary response to Solaris’s showing. Based on our preliminary review, we agree with Solaris that Waldner discloses each of the assemblies, as claimed, except for the limitation requiring that the “inboard” and “outboard” segments of the conveyor extension assembly be “pivotally connected” to each other “about a substantially vertical axis,” as recited in claim elements 1(j) and 1(k). *See* Pet. 25–46 (mapping elements 1(a)–1(h) to Waldner and elements 1(i)–1(k) to Waldner *and* Dynatek).⁷ For those missing claim limitations, Solaris relies on Dynatek’s express teaching of constructing a conveyor belt assembly for granular materials from *pivotally-connected* segments capable of rotating relative to one another about a vertical axis. *See id.* at 43–46 (citing Ex. 1005, at 2). In doing so, Solaris provides persuasive reasoning for why a skilled artisan would have considered it obvious “to substitute” Dynatek’s two-part conveyor assembly for Waldner’s two-part conveyor chute *and/or* “to modify” Waldner’s two-part conveyor chute with Dynatek’s teaching of coupling the two-parts of a conveyor assembly to be pivotally connected. *See id.* at 26–28.

Given Solaris’s persuasive and detailed showing at this stage, we find that Solaris demonstrates a reasonable likelihood that claim 1 is unpatentable

⁷ During prosecution of the ’689 patent, the Examiner likewise found that Waldner disclosed claim elements akin to claim elements 1[a]–1[i] here. *See* Ex. 1012, at 92. For the remaining claim elements, the Examiner relied on a different teaching reference than the Dynatek reference asserted by Solaris here, thereby differentiating this proceeding from the ’689 patent’s prosecution.

as obvious over the combined teachings of Waldner and Dynatek. We note that Solaris also challenges claims 2, 4–11, 16–20, and 22–24 on this same ground. *See* Pet. 5, 25. Having reviewed Solaris’s showing for these additionally challenged claims, we find it demonstrates a reasonable likelihood they are also unpatentable as obvious over the combined teachings of Waldner and Dynatek. *See id.* at 46–63.

D. Solaris’s Other Challenges

Solaris posits seven additional grounds based on the combined teachings of Waldner, Dynatek, and various other references. *See* Pet. 5, 64–101. Because, as discussed above, Solaris meets the threshold for institution by demonstrating a reasonable likelihood that at least claims 1, 2, 4–11, 16–20, and 22–24 are unpatentable as obvious over Waldner and Dynatek, we do not see the need at this stage to address whether Solaris’s other challenges demonstrate the same. Those challenges, in our view, are best left for trial after full development of the record.

III. CONCLUSION

For the above reasons, we determine that Solaris demonstrates at least a reasonable likelihood that claims 1, 2, 4–11, 16–20, and 22–24 of the ’689 patent are unpatentable as obvious over Waldner and Dynatek. And because “[e]qual treatment of claims and grounds for institution purposes has pervasive support in *SAS*,” we institute review of all claims of the ’689 patent as challenged in the petition. *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (citing *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018)); *see also* 37 C.F.R. § 42.108(a), (c).

IV. ORDER

Accordingly, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–25 of the '689 patent is instituted; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), notice is hereby given of the institution of trial, which will commence on the entry date of this Decision.

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