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EXAMINER

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HORST TRABHARDT, JUERGEN MUELLER,
and FRANK-UDO LEIDICH

Appeal 2018-005570
Application 13/717,472¹
Technology Center 3700

Before MURRIEL E. CRAWFORD, MICHAEL C. ASTORINO, and
KENNETH G. SCHOPFER, *Administrative Patent Judges*.

ASTORINO, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), the Appellants appeal from the Examiner's decision rejecting claims 1, 7, 9–11, and 14. We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We REVERSE.

¹ “The real parties in interest in the present application are Mitsubishi Hitachi Power Systems Europe GmbH, of Berlin, Germany, and Alstom Technology Ltd., of Baden, Switzerland.” Appeal Br. 3.

STATEMENT OF THE CASE

Claimed Subject Matter

Claim 1, the sole independent claim, is representative of the subject matter on appeal and is reproduced below.

1. A method for reducing stress corrosion cracking of tubes of erected and installed tube wall regions or tube wall segments of a steam generator tube wall of a boiler of a power station fired by carbon containing fuel by reducing the oxygen content in the flow volume of the tubes of the erected and installed tube wall regions or tube wall segments before filling the boiler with water for a first time when the boiler is started for a first time, wherein the tubes of the tube wall regions or tube wall segments are composed of one of the steels T22, T23, or T24, the method comprising:

introducing an inert gas or an inert gas mixture into the tubes of the tube wall regions or segments of the steam generator tube wall of the boiler of the power station fired by carbon containing fuel, through which boiler water or steam formed from this boiler water flows when the power station is in operation, before filling the tubes of the tube wall regions or segments of the steam generator tube wall of the boiler with boiler water for the first time when the boiler is started for the first time, such that the inert gas or the inert gas mixture displaces atmospheric oxygen which is present as a gaseous oxygen in the respective flow volume of the tubes of the tube wall regions or segments of the steam generator tube wall of the boiler at a time point before the tubes are filled with boiler water for the first time when the boiler is started for the first time.

REJECTION

Claims 1, 7, 9–11, and 14 are rejected under (pre-AIA) 35 U.S.C. § 103(a) as unpatentable over Takuma,² Horlitz,³ and Keegan.⁴

ANALYSIS

The Appellants argue that the Examiner’s rejection of claim 1 is improper because, contrary to the Examiner’s finding, Takuma’s corrosion preventing method of a boiler does not correspond to claim 1’s recitation:

introducing an inert gas or an inert gas mixture into the tubes . . . before filling the tubes of the tube wall regions or segments of the steam generator tube wall of the boiler with boiler water for the first time when the boiler is started for the first time, such that the inert gas or the inert gas mixture displaces atmospheric oxygen which is present as a gaseous oxygen in the respective flow volume of the tubes of the tube wall regions or segments of the steam generator tube wall of the boiler at a time point before the tubes are filled with boiler water for the first time when the boiler is started for the first time.

Appeal Br. 7. The crux of the Appellants’ argument is directed to the broadest reasonable interpretation of “before the tubes are filled with boiler water for the first time when the boiler is started for the first time” — and the substantially similar language of claim 1 — as read in light of the Specification as it would be interpreted by one of ordinary skill in the art. *See* Appeal Br. 7–10; Reply Br. 2–3. The Appellants point to the Specification at page 1, line 21 through page 2, line 1:

² Takuma (JP H04110505 A, pub. Apr. 13, 1992).

³ Horlitz, Jr. et al. (US 4,633,818, iss. Jan. 6, 1987).

⁴ Keegan (US 2010/0028705 A1, pub. Feb. 4, 2010).

However, when a steam generator is being filled with boiler water, in particular for the first time, the oxygen content permissible in the boiler water may be exceeded in that the atmospheric oxygen still present in the flow volumes of the tubes when the tubes are being filled is incorporated into the boiler water. Particularly when the steam generator is started up for the first time, the result of this may be that it is then operated, at least initially, with an inadmissibly high oxygen content in the boiler water.

The same problem may also arise when a steam generator is restarted, for example after a repair, when boiler water present in the flow volumes of the tubes is discharged at the time of the shutdown or decommissioning of the steam generator.

Reply Br. 3. The Appellants “submit[] that the cited portion of the Specification describes the starting up of a steam generator for a first time separately from the restarting of a steam generator, and notes that the same problem can arise under both circumstances” and argue that “a steam generator being started up for the first time as being a separate and distinct action from the restarting of a steam generator.” *Id.*

The Examiner’s position concerning the claim language in dispute is as follows:

the limitation of introducing an inert gas (or inert gas mixture) into the tubes of a boiler “before filling the tubes of the tube wall segments of the steam generator tube wall of the boiler with boiler water for a first time when the boiler is started for a first time” is being interpreted as introducing an inert gas (or inert gas mixture) into the tubes of a boiler at a time point before the boiler is filled with water and brought into operation for the first time after a time point at which the boiler is empty of or unfilled with water, such as during a shut-down period.

Ans. 7.

Although the Examiner understands the foregoing interpretation to be consistent with the Specification (*see id.* at 8), the Examiner does not address the Specification’s description at page 1, line 21 through page 2, line 1. And, we cannot reconcile the Examiner’s interpretation of the disputed claim language with the Specification’s description at page 1, line 21 through page 2, line 1. Accordingly, we construe the claim phrase “before the tubes are filled with boiler water for the first time when the boiler is started for the first time” — and the substantially similar language of claim 1 — to be mutually exclusive with a “restart” of a boiler, i.e., a starting a boiler for the first time after a shutdown.

The Examiner’s rejection is based on a finding that Takuma teaches “before the tubes are filled with boiler water for the first time when the boiler is started for the first time,” as recited in claim 1, by starting a boiler for the first time after a shut-down period. *See* Final Act. 5; Ans. 7–8. The Examiner explains:

Takuma teaches of filling the inside of the boiler with a highly charged inert gas atmosphere during a shut-down period such that corrosion within the tube walls is prevented. Once the boiler is started for the first time after this shut-down period, water is introduced and the inert gas that was previously introduced to the tubes and stored in the tubes is discharged together with generated steam. Thus, the tube wall segments are introduced to inert gas before they are filled with boiler water for the first time after a shut-down period.

Ans. 7 (citing Takuma Translation 3:25–28, 4:18–25, filed Aug. 5, 2015). However, for the reasons discussed above, we determine that one of ordinary skill in the art would understand the foregoing teaching of Takuma to be a restart of a boiler instead of “when the boiler is started for a first time,” as recited in claim 1. Furthermore, we note that the Examiner’s reliance on

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Horlitz and Keegan does not cure the deficiency of the Examiner's rejection.
See also Appeal Br. 7, 10.

Thus, we do not sustain the Examiner's rejection of claims 1, 7, 9–11, and 14 under (pre-AIA) 35 U.S.C. § 103(a) as unpatentable over Takuma, Horlitz, and Keegan.

DECISION

We REVERSE the Examiner's decision rejecting claims 1, 7, 9–11, and 14.

REVERSED