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| FISH & RICHARDSON P.C. (BO) | | | STOFFA, WYATT A | |
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HIN YIU ANTHONY CHUNG, MICHEL ALIMAN,
GENNADY FEDOSENKO, and ALBRECHT RANCK

Appeal 2019-006410
Application 15/244,720
Technology Center 2800

Before TERRY J. OWENS, N. WHITNEY WILSON, and
MERRELL C. CASHION, JR., *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), the Appellant¹ appeals from the Examiner's decision to reject claims 34–37. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). The Appellant identifies the real party in interest as Carl Zeiss SMT GmbH (Appeal Br. 1).

CLAIMED SUBJECT MATTER

The claims are directed to METHOD FOR MASS SPECTROMETRIC EXAMINATION OF GAS MIXTURES AND MASS SPECTROMETER THEREFOR. Claim 34, reproduced below, is illustrative of the claimed subject matter.

34. A mass spectrometer, comprising:
an ionizer configured to provide charged particles or a plasma;
a gas reservoir configured to store an ionization gas;
a gas feed configured to deliver the ionization gas from the gas reservoir to the ionizer; and
a three dimensional ion trap configured to store ions, wherein the mass spectrometer is configured so that during use of the mass spectrometer:
external to the three dimensional ion trap, the ionization gas is delivered from the gas reservoir to the ionizer so that the ionization gas interacts with charged particles or is exposed to the plasma provided by the ionizer to produce a product comprising at least one member selected from the group consisting of ions of the ionization gas and metastable particles of the ionization gas;
the product is transferred from the ionizer to the three dimensional ion trap;
in the three dimensional ion trap, the product ionizes a gas mixture to provide an ionized gas mixture; and
the three dimensional ion trap mass spectrometrically examines the ionized gas mixture.

REFERENCE

The prior art relied upon by the Examiner is:

| Name | Reference | Date |
|------|--------------------|-------------|
| Baba | US 2007/0023648 A1 | Feb 1, 2007 |

REJECTION

Claims 34–37 stand rejected under 35 U.S.C. § 102(b) over Baba.

OPINION

We need address only claim 34, which is the sole rejected independent claim. That claim requires a mass spectrometer having a three dimensional ion trap wherein an ionizer product can ionize a gas mixture to provide an ionized gas mixture.

“Anticipation requires that every limitation of the claim in issue be disclosed, either expressly or under principles of inherency, in a single prior art reference.” *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1255–56 (Fed. Cir. 1989).

Baba discloses a mass spectrometer having an ionizer (Fig. 6, items 107–123; Para. 76), a three dimensional ion trap (Fig. 6, items 125–127; Para. 82), and an ion detector (Fig. 6, item 129; Para. 82). In the ionizer, molecules (G) of reagent gas (which corresponds to the Appellant’s ionization gas 30; Fig. 4) capture an electron emitted from a tungsten filament (107) to form primary ions (G^-) which chemically ionize molecules (M) of sample gas (which corresponds to the Appellant’s gas mixture 2; Fig. 4) to form sample ions (M^-) which are captured inside the three dimensional ion trap and are discharged from that trap to the ion detector (Paras. 81, 82).

The Examiner finds that “in [Baba’s] three dimensional ion trap, the product ions of the ionization gas ionizes a gas mixture to provide an ionized gas mixture” (Ans. 7).

That finding is incorrect. Baba’s reagent gas (G) product ions ionize the sample gas (M) in the ionizer, not in the three dimensional ion trap

Appeal 2019-006410
Application 15/244,720

(Para. 81). The Examiner has not established that Baba's mass spectrometer is capable of sample gas molecule (M) ionization by reagent gas ions (G⁻) in the three dimensional ion trap. The Examiner, therefore, has not shown that Baba discloses, expressly or inherently, every limitation in the Appellant's sole independent claim on appeal. Accordingly, we reverse the rejection.

CONCLUSION

The Examiner's rejection is reversed.

DECISION SUMMARY

In summary:

| Claims Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|------------------------|--------------------|---------------------------|-----------------|-----------------|
| 34-37 | 102(b) | Baba | | 34-37 |

REVERSED