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EXAMINER
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GILLMAN, AMELIE R

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3793

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* GODEFRIDUS ANTONIUS HARKS, FEI ZUO,  
SZABOLCS DELADI, STEVEN ANTONIE WILLEM  
FOKKENROOD, and NENAD MIHAJLOVIC

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Appeal 2018-002909  
Application 13/643,116  
Technology Center 3700

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Before LINDA E. HORNER, BRETT C. MARTIN, and  
PAUL J. KORNICZKY, *Administrative Patent Judges*.

MARTIN, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1–6, 8–13, and 16. Claims 7, 14, and 15 were canceled during prosecution. App. Br. 2. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

## THE INVENTION

Appellants' claims are directed generally "to a property determining apparatus, method, and computer program for determining a property of an object." Spec. 1, ll. 2–3. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. Property determining apparatus for determining a property of an object, wherein the property determining apparatus comprises:
  - an ultrasound signal providing unit (18) for providing an ultrasound signal produced by
    - sending an ultrasound pulse out to the object,
    - receiving echo series from the object, and
    - generating the ultrasound signal depending on the received echo series,
  - a scatter determination unit (8) for determining at least one scatter value being indicative of a scatter of the ultrasound pulse by a fluid perfusing the object,
    - wherein the scatter determination unit (8) is adapted to determine the at least one scatter value based on a histogram of ultrasound intensities of the ultrasound signal,
  - a property determination unit (15) for determining a property of the object depending on the at least one scatter value.

## REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Rosemberg	US 2007/0208327 A1	Sept. 6, 2007
Marrouche	US 2010/0160768 A1	June 24, 2010
Cloutier	US 2011/0092817 A1	Apr. 21, 2011

Linker, David T. et al., *Analysis of backscattered ultrasound from normal and diseased arterial wall*, 4 Int'l Journal of Cardiac Imaging 177 (1989).

## REJECTIONS

The Examiner made the following rejections:

Claim 16 stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Final Act. 2.

Claim 16 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Final Act. 4.

Claims 1–5, 10–13, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rosemberg and Linker. Final Act. 5.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Rosemberg, Linker, and Marrouche. Final Act. 11.

Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rosemberg, Linker, and Cloutier. Final Act. 13.

## ANALYSIS

### *Written Description*

The Examiner asserts that Appellants' Specification fails to support that a scatter value is determined independently of heating the object as claimed in claim 16, and, thus, this claim recitation is new matter. Final Act.

3. Appellants point to page 26 of the Specification which discusses an alternative to an ablation (heating) example, wherein “the property determining apparatus can also be integrated into another object influencing apparatus” other than an ablation apparatus. Appeal Br. 9–10 (arguing that the claim limitation means that the object “does not need to be heated to determine a scatter value”); Reply Br. 6. We agree that this discussion sufficiently describes determination of a scatter value that is independent of heating as recited in claim 16. Accordingly, we do not sustain the Examiner’s rejection.

#### *Indefiniteness*

The Examiner asserts that the recitation “wherein said scatter value is determined independently of heating the object” is indefinite because it is unclear whether this recitation entirely precludes any heating of the object or requires that the scatter value occurs while heating is temporarily stopped. Final Act. 4. Appellants assert that the ordinary meaning of “independently” is “not requiring or relying on something else: not contingent.” Appeal Br. 10 (quoting “Merriam-Webster”). Thus, Appellants assert that the recitation is unambiguous and means that “the scatter value can be determined whether the object is being heated or the object is not being heated.” *Id.* at 11. We agree with Appellants that the recitation is clear in light of the ordinary definition of “independently” and means that determination of the scatter value is not contingent on heating the object. Accordingly, we do not sustain the Examiner’s rejection.

#### *Obviousness*

Appellants argue that the Examiner erred in interpreting “scatter value” and that it “should not be interpreted so broadly as to include a value indicative of reflection (as opposed to scattering) of an ultrasound signal by

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bubbles formed in blood.” Appeal Br. 11; Reply Br. 7; *see also* Appeal Br. 12 (arguing “the term ‘scatter value’ should be interpreted as an absolute measurement indicative of a scatter of the ultrasound probe”). As Appellants correctly point out, “Rosemberg [sic] repeatedly discusses echogenicity” and it is this echogenicity that the Examiner relies upon for meeting the claimed backscattering. Reply Br. 8 (citing Rosemberg ¶¶ 38–46, 55–58, 84, 92–95, 122, 125–128, 137); *see also* Ans. 6 (finding that Rosemberg’s determination of a value indicative of the absence or presence of a fluid is interpreted broadly as a “scatter value.”). Given that “[t]he term ‘echogenic’ is defined as ‘reflected waves’ . . . the echogenicity referred to throughout Rosemberg is a measure of uniformity of reflected waves.” *Id.* Appellants concede that “diffuse reflection can include a scattering mechanism as well as reflection,” but we agree that such “does not make a diffuse reflection a scatter value” as claimed. *Id.* Although Rosemberg may include some scattering mechanism in its reflection value, we do not agree that Rosemberg is measuring a scatter value. Rosemberg is actually directed to measuring a reflection value, which as noted above is not the same as measuring a scatter value as claimed. Accordingly, we do not sustain the Examiner’s rejection.

#### DECISION

For the above reasons, we REVERSE the Examiner’s decision to reject claims 1–6, 8–13, and 16.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

REVERSED