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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte INGO KLEPPE, YAUHENI NOVIKAU,
CHRISTOPH NIETEN, and RALF NETZ¹

Appeal 2018-007600
Application 14/227,322
Technology Center 2400

Before JEREMY J. CURCURI, IRVIN E. BRANCH, and
ADAM J. PYONIN, *Administrative Patent Judges*.

PYONIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ CARL ZEISS MICROSCOPY GMBH is listed as the real party in interest.
Br. 3.

STATEMENT OF THE CASE

Introduction

The Application is directed to “an optical microscope in which masks with transmission regions are used to achieve a high degree of resolution.” Spec. ¶ 2.² Claims 1–17 are pending; claims 1 and 12 are independent. Br. 15–19. Claim 1 is reproduced below for reference (emphasis added):

1. An optical microscope comprising:
 - a first mask (19) having a plurality of relaying regions (19.1) separated from one another for simultaneously generating a plurality of illumination light beams (44) from illumination light (14) striking the first mask,
 - a sample holder (45) to hold a sample (41),
 - a second mask (25) positioned to receive the plurality of illumination light beams generated by the relaying regions of the first mask and having relaying regions (25.1) separated from one another and smaller than the relaying regions (19.1) of the first mask for clipping the illumination light beams (44),
 - first scanning means (71) for generating a scanning motion of the illumination light beams (44) generated by the relaying regions of the first mask to cause each of the illumination light beams (44) to successively pass to different relaying regions (25.1) of the second mask (25), and*
 - second scanning means (29) for generating a scanning motion between the clipped illumination light beams (44) and the sample holder (45).

References and Rejections

The Examiner relies on the following prior art relied in rejecting the claims on appeal:

| | | |
|----------|--------------------|---------------|
| Lauer | US 2004/0032650 A1 | Feb. 19, 2004 |
| Kitahara | US 2004/0262522 A1 | Dec. 30, 2004 |

² All references to the Specification are to the Specification as originally filed on March 27, 2014.

| | | |
|--------|--------------------|---------------|
| Kei | US 2011/0090553 A1 | Apr. 21, 2011 |
| Sanguu | US 2013/0128346 A1 | May 23, 2013 |

Claims 1–7, 9, 12, 13, 16, and 17 stand rejected under 35 U.S.C. § 102(a)(2) as being anticipated by Sanguu. Final Act. 4.

Claims 8 and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sanguu and Kei. Final Act. 11–12.³

Claim 10 stands rejected under 35 U.S.C. § 103 as being unpatentable over Sanguu and Kitahara. Final Act. 13.

Claims 14 and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sanguu and Lauer. Final Act. 14.

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellants’ arguments. Arguments Appellants could have made but chose not to make are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Claim 1 recites means for causing each of the illumination light beams, which are generated by the first mask, “to successively pass to different relaying regions of the second mask” (item numbering omitted). The Examiner finds this limitation is disclosed by Sanguu’s “[m]icrolens disk 7 (i.e. first mask), as described in paragraph 72 and fig. 2, [which] is configured to receive laser light L through a plurality of microlens 7M via holes (i.e. relaying regions)” and Sanguu’s “pinhole disk 8 (i.e. second

³ Although the heading of the rejection lists claims 8–11, only claims 8 and 11 are rejected under Sanguu and Kei. *See* Final Act. 11–12. Claims 9 and 10 are subject to different rejections. *See* Final Act. 8, 13–14.

mask) [which] has a plurality of pinholes which are configured to receive the illuminated laser light.” Final Act. 2.

Appellants argue the Examiner’s anticipation rejection of independent claim 1 is in error, because “Sanguu does not [t]each any means that relays light from relaying regions of a first mask successively across different relaying regions of a second mask.” Br. 8. Particularly, Appellants contend that “Sanguu teaches . . . the microlens disk 7 and the pinhole disk 8 rotat[e] ‘integrally,’” so that “light will always be relayed from one microlens 7M to the same, corresponding pinhole 8P, rather than successively across different pinholes 8P, as required by claim 1.” Br. 9 (emphasis omitted).

We are persuaded by Appellants’ argument. First, we note the Examiner maps Sanguu’s disclosed disks to the claimed first and second masks,⁴ but does not identify what additional structure(s) of Sanguu are tantamount to the recited “scanning means.” *See* Final Act. 5. Thus, the rejection does not meet the required burden of proof for rejecting the means-plus-function limitation of claim 1. *See* MPEP § 2182 (“[A]n examiner carries the initial burden of proof for showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means- (or step-) plus-function.” (emphasis omitted)).

⁴ We further note the structure the Examiner relies on for disclosing the claimed first and second masks (i.e., Sanguu’s microlens 7m and pinhole disk 8) appears to be analogous to Appellants’ primary disclosed embodiment of the first mask. *See* Spec. ¶ 74 (“illumination light 14 then strikes a first mask, which in this case is formed by a micro-lens disk 17 and a pinhole disk 19.”).

Second, the Examiner does not identify how Sanguu’s “micro lens disk 7 and the pinhole disk 8 [which] integrally rotate” can be used to *successively pass each* light beam from the first disk to *different* regions of the second disk. Sanguu ¶ 72. As correctly identified by Appellants, the claimed first means for “generating a scanning motion” requires each light beam to pass multiple regions of the second disk. Br. 8–9; *see also* Spec. ¶ 123 (“The pinhole disk 19 is continuously rotated” so the “illumination light beams 44 emitted by the pinhole disk 19 are initially passed via certain transmission regions of the second mask 25 to the sample 41 and, at a later time, passed to the sample 41 via different transmission regions of the second mask 25.”); *see also* Spec. ¶ 25–26 (“After an additional time period, the illumination light beams strike other transmission regions of the second mask.”). Thus, we agree with Appellants that, based on the record before us, Sanguu does not anticipate the claimed function of the scanning means. *See* MPEP § 2182 (“The examiner must provide a ‘sound basis for believing’ that the prior art structure or acts would be capable of performing the claimed function” of the means-plus-function limitation).

Accordingly, we are persuaded of error in the Examiner’s anticipation rejection of independent claim 1, and of independent claim 12 which recites similar limitations. *See* Br. 9. We do not sustain the Examiner’s rejection of these claims, or the rejections of the claims dependent thereon.

DECISION

The Examiner’s decision rejecting claims 1–17 is reversed.

REVERSED