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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TOM ANDRIKOWICH and MATTHEW D. GRAEN

Appeal 2019-006136
Application 15/262,583
Technology Center 2800

Before ADRIENE LEPIANE HANLON, CATHERINE Q. TIMM, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 21–30. *See* Final Act. 1. 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. Appellant identifies the real party in interest as TA Instruments-Waters L.L.C. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed to an apparatus comprising a linear motor. *See, e.g.*, claim 21. A cut-away front view of a linear motor meeting the limitations of the claims is depicted in Figure 4B. Figure 4B is reproduced below:

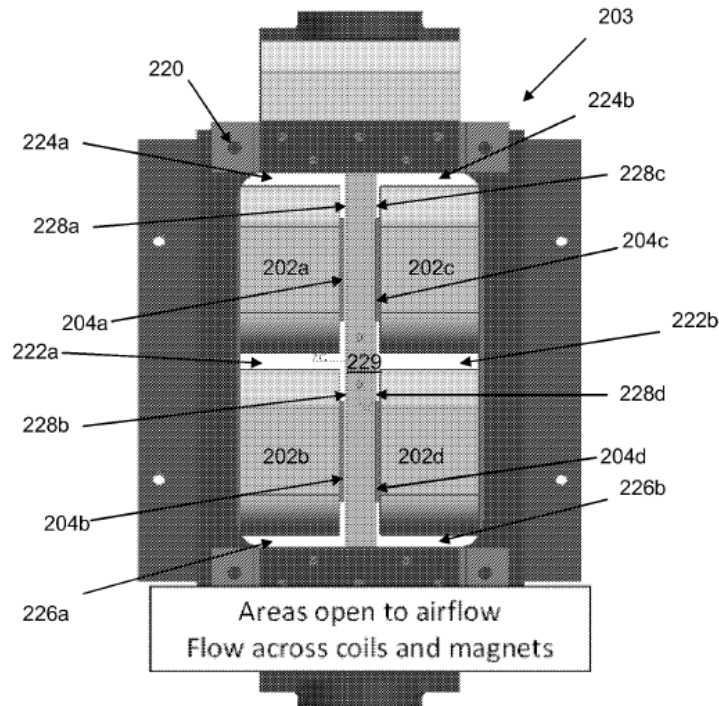


Fig. 4B

As shown in Figure 4B, the linear motor includes a central support core 229 extending from a top of internal housing 220 to the bottom of internal housing 220. *See also* Spec. ¶ 28. On opposite sides of central support core 229 are armature coils 202a–d. *Id.* Within each armature coil is a magnetic core (respectively, magnetic cores 204a–d). *Id.*; *see also* Fig. 4A (showing armature coil 202c around magnetic core 204c and armature coil 202d around magnetic core 204d).

Claim 21, reproduced below with reference numerals from Figure 4B, is further illustrative of the claimed subject matter:

21. An apparatus comprising:

a linear motor disposed to generate a linear force, the linear motor including:

a first armature coil [202a] associated with a first magnetic core [204a] and disposed within an internal housing [220];

a second armature coil [202c] associated with a second magnetic core [204c] and disposed within the internal housing [220]; and

a central support core [229] extending from a top of the internal housing [220] to a bottom of the internal housing [220] and disposed between the first armature coil [202a] and the second armature coil [202c]; wherein the first magnetic core [204a] and the second magnetic core [204c] extend from the central support core [229], and the central support core [229] defines a first side gap [228a] separating the first armature coil from the central support core [229] and a second side gap [228c] separating the second armature coil [202c] from the central support core [229].

Appeal Br. 19 (Claims Appendix).

REJECTIONS

The Examiner maintains the following rejections.

Claims 21–30 are rejected under 35 U.S.C. § 112(a) as failing to comply with the written description requirement.

Claims 21–30 are rejected under 35 U.S.C. § 112(b) as indefinite.

Claims 21, 23, 25, and 26 are rejected under 35 U.S.C. § 102(a)(1) as anticipated by Nagasaka.²

Claims 21–24 and 26–30 are rejected under 35 U.S.C. § 103 as obvious over Hunter.³

OPINION

Written Description

Claim 21 requires “the first magnetic core and the second magnetic core *extend from* the central support core.” The Examiner finds that the Specification “does not specially describe magnetic cores being extended from or attached to [the] central core.” Final Act. 3. Appellant contends support is found in Figures 2–4C and paragraphs 26–30 of the Specification and that the Examiner misapplied the law. Appeal Br. 8–9; Reply Br. 3–4.

We agree with Appellant.

Although as pointed out by the Examiner, the Specification fails to use the words “extending from” to describe the relationship between the central support core and magnetic cores, Figure 4B depicts magnetic cores 204a–d in contact with central support core 229.

Moreover, the Specification reasonably conveys that magnetic cores 204a–d are in contact with central support core 229 as depicted in Figure 4B. Paragraph 28 of the Specification specifically discloses gaps above and below the magnetic cores. *See* Spec. ¶ 28 (“Side gaps 228a, 228b, 228c, and 228d separate armature coils 202a, 202b, 202c, and 202d, respectively, from

² Nagasaka, US 2010/0181848 A1, published July 22, 2010.

³ Hunter, US 2011/0108339 A1, published May 12, 2011.

a central support core 229 of the housing 220.”). Thus, if there were a gap between the magnetic cores and central support core, it would have been depicted in the figures and discussed in the Specification. Given the focus of the Specification on gaps, the contact depicted in Figure 4B between the magnetic cores and central support core is sufficient to support the claim language.

Contrary to the interpretation of “extend from” relied on by the Examiner (Final Act. 3), “extend from” does not require the magnetic core be a part of the central support core; it only requires the magnetic core reach the central support core. *See Dictionary.com/browse/extend* (“to reach, as to a particular point.”). Figure 4B shows magnetic cores 204a–d reaching central support core 229 because Figure 4B shows magnetic cores 204a–d in contact with central support core 229.

The test for sufficiency of a written description is “whether the disclosure clearly ‘allow[s] persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.’ ” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed.Cir.2010) (en banc) (quoting *Vas–Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562–63 (Fed.Cir.1991)). The disclosure must “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* at 1351. Appellant’s Specification reasonably conveys that Appellant had possession of a linear motor with magnetic cores extending from (reaching) a central support core by virtue of the contact depicted between these parts shown in Figure 4B. Moreover, as argued by Appellant (Appeal Br. 8–9), the term “support” in “central support core” would have reasonably

conveyed to the ordinary artisan that the central support core supports those elements in contact with it including the magnetic cores.

Appellant has identified a reversible error in the Examiner's finding of lack of written descriptive support.

Indefiniteness

In rejecting claims 21–30 as indefinite, the Examiner presents the same analysis used in the rejection for lack of written descriptive support. Final Act. 3–4. Given the ordinary and accustomed meaning of “extends” we reproduce above, we agree with Appellant that the language is not indefinite.

We agree with Appellant that “the language of the claims, as understood in light of the specification and the figures, indicates that the magnetic cores extend from, or are in contact with the central support core, and do not move independently of one another.” Appeal Br. 10. As explained by Appellant, this meaning is supported by the Specification. *Id.*

The test for determining the question of indefiniteness may be formulated as whether the claims “set out and circumscribe a particular area with a reasonable degree of precision and particularity.” *In re Moore*, 439 F.2d 1232, 1235 (CCPA 1971). Reading the claims in the context of the circumstances, the precision here is reasonable.

Appellant has identified a reversible error in the Examiner's indefiniteness rejection.

Anticipation

The Examiner rejects claims 21, 23, 25, and 26 as anticipated by Nagasaka. Final Act. 4–6. The Examiner identifies Nagasaka's elements 150, 250, 252, 254 as a central support core and element 298 as an internal

housing. Final Act. 5. We agree with Appellant that Nagasaka does not teach “a central support core extending from a top of the internal housing to a bottom of the internal housing.” Appeal Br. 13; Reply Br. 5.

The Examiner annotates Nagasaka’s Figure 3 to show the location of the central support core. Final Act. 5. Figure 3 is a plan view partly in cross-section and shows a movable armature 130 disposed between two rows of fixed magnets 126. Nagasaka ¶ 91. Screws 254 are shown in the center of armatures 130. Nagasaka Fig. 3. Elements 150, 250, 252, and 254 are shown in cross-section in Figure 7. Figure 7 is a front elevational view in cross-section of armature 130. Nagasaka ¶ 52. Figure 7 shows screw 254 inserted through lower beam member 252 and through-hole 156 of fixing portion 150. Nagasaka ¶ 114.

Neither beam members 250, 252, nor fixing portion 150, nor the combination of those structures with screw 254, extend from a top of the internal housing (resinous body 298) to a bottom of the internal housing. This is evident from Nagasaka’s Figure 4, which shows that beam members 250 and 252 are fixed by screws to opposite end faces of mounting plates 290, 292. Nagasaka Fig. 4; ¶ 118. Mounting plates 290, 292 are attached to the housing sidewalls as shown in Figure 22. In other words, beam members 250, 252 run horizontally from one mounting plate on one side of the housing to the other mounting plate on the other side of the housing. These beam members do not extend from a top of the internal housing to a bottom of the internal housing. In fact, resinous body 298 is not present at the top of beam member 250. Radiation fins 286 are above beam member 250, not resinous body 298. Nagasaka Fig. 7; ¶ 117.

Nagasaka's linear motor fails to have a central support core extending from a top of the internal housing to a bottom of the internal housing as required by Appellant's claims. Thus, Nagasaka's linear motor fails to anticipate the linear motor of the claims.

Obviousness

The Examiner rejects claims 21–24 and 26–30 as obvious over Hunter. Final Act. 7. The Examiner finds that rotary device 1500 depicted in Hunter's Figure 16A includes the required linear motor of the claims. *Id.*

Claim 21 requires a linear motor that includes all of the structures recited in the claim. A single linear motor must contain the structures. We agree with Appellant that the Examiner has not identified a teaching within Hunter that suggests a single linear motor with the required structures.

Hunter's rotary device 1500 depicted in Figure 16A does not have a single linear motor with the required structure. The Examiner relies on Hunter's central disc 1635 as the central support core and the electromagnetic actuators 1510a, 1610a and magnetic stators 1515a, 1615a, as the structures including the armature coils and magnetic cores of the claims. *Id.* But the actuators and magnetic stators are not part of a single linear motor. Each set of actuators and stators (1510a/1515a and 1610a/1615a) generates its own motive force and is a separate motor. Nor is central disc 1635 part of a linear motor. The two motors are disposed on opposite sides of central disc 1635. Central disc 1635 supports the motors, but is not a part of either motor.

Appellant has identified a reversible error in the Examiner's obviousness rejection.

CONCLUSION

The Examiner's decision to reject claims 21–30 is REVERSED.

DECISION SUMMARY

Claim(s)	35 U.S.C. §	Basis/Reference(s)	Affirmed	Reversed
21–30	112(a)	Written Description		21–30
21–30	112(b)	Indefiniteness		21–30
21, 23, 25–26	102(a)(1)	Nagasaka		21, 23, 25–26
21–24, 26–30	103	Hunter		21–24, 26–30
Overall Outcome				21–30

REVERSED