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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JENS RAMLER, FELIX MAYER,
HIROYUKI OKA, and HIDEKI WATANABE

Appeal 2019-006043
Application 15/178,916
Technology Center 3700

Before MICHAEL J. FITZPATRICK, ERIC C. JESCHKE, and
AMANDA F. WIEKER, *Administrative Patent Judges*.

WIEKER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE¹

Pursuant to 35 U.S.C. § 134(a), Appellant² appeals from the Examiner's decision to reject claims 1 and 3–17, which constitute all claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

CLAIMED SUBJECT MATTER

The claims are directed to a solenoid valve with a preassembled valve unit. Spec. 15. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A solenoid valve for a fuel system, the solenoid valve comprising:
 - a housing comprising an inner shoulder;
 - an electric coil disposed in the housing;
 - a magnetic core disposed in the housing;
 - a valve base body comprising a valve seat;
 - a valve member;
 - a valve spring;
 - an armature plate;

¹ In this Decision, we refer to the Specification dated June 10, 2016 (“Spec.”), the Non-Final Action dated December 3, 2018 (“Non-Final Act.”), the Appeal Brief dated May 21, 2019 (“Appeal Br.”), the Examiner’s Answer dated June 19, 2019 (“Ans.”), and the Reply Brief dated August 8, 2019 (“Reply Br.”).

² We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Andreas Stihl AG & Co. KG. Appeal Br. 1.

wherein the valve member, the valve spring, the armature plate, and the valve base body comprising the valve seat are all connected captively to each other outside of the housing to form an integral preassembled valve unit;

wherein in the integral preassembled valve unit, outside of the housing, the valve base body comprising the valve seat is loosely and captively secured with clearance between the valve member and the armature plate;

wherein the solenoid valve is configured such that the integral preassembled valve unit is insertable in an insertion direction from outside of the housing into an open end of the housing without disassembling the integral preassembled valve unit;

wherein the integral preassembled valve unit is secured in the housing and is supported, in the insertion direction, only at the inner shoulder of the housing;

wherein the valve spring, when the integral preassembled valve unit is secured inside the housing, contacts the inner shoulder of the housing; wherein the armature plate forms, together with the magnetic core, a magnetic circuit;

wherein the valve member is supported on the armature plate;

wherein the valve seat comprises an outlet and the valve member is configured to be switched to open and close the outlet;

wherein, when the electric coil is supplied with current, a magnetic field is generated in the magnetic core and the armature plate is attracted by the magnetic core into an operative valve position;

wherein the valve spring is configured to return the armature plate from the operative valve position into a rest position when the coil is currentless.

Appeal Br. 17–18 (Claims Appendix) (emphasis added).

REFERENCES

The Examiner relies upon the following prior art:

Name	Reference	Dates
Yamada et al.	US 4,678,160	Issued July 7, 1987 Filed July 13, 1986
Tanari	US 2013/0112904 A1	Published May 9, 2013 Filed July 19, 2011
Ams et al.	US 8,814,135 B2	Issued Aug. 26, 2014 Filed Aug. 26, 2010

REJECTION

The Examiner maintains that claims 1 and 3–17 are unpatentable under 35 U.S.C. § 103 over Tanari, Ams, and Yamada. Non-Final Act. 3–8.

OPINION

The Examiner found that Tanari teaches valve 200 with “valve base body (201) comprising a valve seat (207), a valve member (206), a valve spring (212), and an armature plate (211), wherein the valve member (206), the valve spring (212), [and] the armature plate (211) . . . are all connected captively to each other.” Non-Final Act. 3–4. The Examiner further found that Ams teaches “a housing (22, 30) with an inner shoulder . . . against which the valve spring (36) and valve body (20) that carries the seat (17) are inserted,” and that Yamada teaches “a valve stem (9) that attaches an armature (4) to a valve member (12) that seats on a valve seat (13) on the outlet of a valve body (8, 10), thus capturing the valve body between the

armature and valve member.” *Id.* at 5. The Examiner found that it would have been obvious to a person of ordinary skill in the art to modify Tanari “such that an inner shoulder provides a stop surface for the spring and valve body as taught by Ams,” so as to reduce the number of parts, and also “to include a valve member that is separated from the armature and return spring by a body and seat and attached via a stem as taught by Yamada,” so as to minimize heat transfer. *Id.* Finally, and of most pertinence to our review, the Examiner found:

The device of Tanari in view of Ams and Yamada is read as teaching elements that may be preassembled – as the spring (212) of Tanari and valve body (20) abutting the housing shoulder (as at 22) of Ams, where the armature (212) of Tanari is attached as taught by Yamada via a stem (9) to a remote valve element (12) to seat (at 13) on the opposite side of the valve body (20) of Ams – and inserted as an assembly.

Id. at 6.

With respect to claims 1, 14, and 17—all pending independent claims—Appellant argues, *inter alia*, that neither Tanari nor Ams discloses the “integral preassembled valve unit,” as claimed. Appeal Br. 10–11 (claim 1), 14 (claims 14 and 17).

The Examiner responds that “forming an integral unit from previously separable parts is not patentably distinct. Furthermore, these assembly method steps only may be read as requiring the formation of a particular type of structure.” Ans. 8 (citing MPEP § 2113 (product-by-process)). The Examiner also states that the Non-Final Action “specifically discussed preassembly as taught by the combination of art.” *Id.* (citing Non-Final Act. 6); *but see* Ans. 9 (“Tanari is relied upon for this limitation, not Ams.”).

In the Reply Brief, Appellant argues that the MPEP does not support the Examiner's position that it would have been obvious to integrate parts that must be "taken and combined from several different references where there is no prior single unit disclosed." Reply Br. 2 (citing MPEP § 2144.04(V)(B)). According to Appellant, the Examiner's rejection requires modifying Tanari's basic configuration to accommodate features of Yamada and Ams, but "neither Tanari nor Yamada nor Ams suggests an integral preassembled valve unit as claimed." *Id.* Appellant also argues that the claimed valve unit provides "simple assembly . . . such that no adjustment or adaptation of the pretension of the valve spring is required," and that these "technical effects and advantages are not apparent from the cited prior art references."³

Having reviewed the record, we determine that Appellant has the better position. In the Non-Final Action, the Examiner states that the device of Tanari, as modified by Ams and Yamada, "is read as teaching elements that may be preassembled . . . and inserted as an assembly," but fails to identify any basis for this conclusion. Non-Final Act. 6. The Examiner does not provide any evidence or reasoning in support, nor does the Examiner address the "integral" claim language. *Id.* Moreover, even if the prior art "may be" preassembled, as the Examiner asserts, *id.*, the mere possibility does not demonstrate obviousness of the claimed "integral preassembled valve unit."

³ We do not consider these Reply Brief arguments to be new or improper, because they are responsive to reasoning presented for the first time in the Examiner's Answer. *Compare* Non-Final Act. 6, *with* Ans. 8.

Additionally, we determine that the Examiner's reasoning provided in the Answer is also inadequate. The Examiner states that "forming an integral unit from previously separable parts is not patentably distinct." Ans. 8. Although the Examiner does not identify any support for this position, we agree with Appellant that MPEP § 2144.04(V)(B) pertains to this reasoning. *See* MPEP § 2144.04(V)(B) (discussing legal precedent, e.g., *In re Larson*, 340 F.2d 965 (CCPA 1965), for the proposition that it may be obvious to make integral certain previously separable structures). Reliance on legal precedent as a source of supporting rationale, however, is appropriate only "if the facts in a prior legal decision are sufficiently similar to those in an application." *Id.* § 2144(III). Moreover, this "should not be treated as [a] per se rule[], but rather must be explained and shown to apply to the facts at hand." *Id.* § 2144; *see also In re Eli Lilly & Co.*, 902 F.2d 943, 947–48 (Fed. Cir. 1990) (explaining that a review of cited precedent "shows the absence of detailed all-purpose criteria for applying the law of obviousness to every factual situation. No one precedent or rationale can be controlling in all possible areas of human creativity. . . . The obligation of the decision-maker is to apply the law consistently to the evidence for each new invention. All relevant facts must be considered, while recognizing that it is inappropriate to 'squeez[e] new factual situations into pre-established pigeonholes.'").

Here, the Examiner provides no reasoning to support the conclusion that "forming an integral unit from previously separable parts is not patentably distinct." Ans. 8. The Examiner applies this statement as a per se rule, without analysis. For example, the Examiner does not provide any persuasive reasoning to show that a person of ordinary skill in the art would

have found it obvious to integrate and preassemble a valve unit when Tanari's device is modified to include "an inner shoulder [that] provides a stop surface for the spring and valve body as taught by Ams" and "a valve member that is separated from the armature and return spring by a body and seat and attached via a stem as taught by Yamada," or that the so-modified valve unit would have been expected to operate successfully if made integral and preassembled. Ans. 8; Non-Final Act. 5.

The Examiner's citation to MPEP § 2113, which concerns product-by-process limitations, is likewise insufficient. Ans. 8. Even if "preassembled" is considered to define a method of production, the Examiner does not demonstrate persuasively that the prior art suggests the product substantially as claimed, i.e., an *integral* valve unit. As discussed above, the Examiner provides no persuasive reasoning to support the conclusion that this would have been obvious to a person of ordinary skill in the art. Non-Final Act. 6; Ans. 8.

The "integral preassembled valve unit" is recited in each of independent claims 1, 14, and 17, and likewise is incorporated in each of dependent claims 3–13, 15, and 16. For the foregoing reasons, we do not sustain the Examiner's rejection.

CONCLUSION

The Examiner's rejection is reversed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	References	Affirmed	Reversed
1, 3-17	103	Tamari, Ams, Yamada		1, 3-17

REVERSED