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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte YOSHIMASA TANAKA and YUTAKA SUGIYAMA

Appeal 2019-005104
Application 14/380,043
Technology Center 3700

Before ST. JOHN COURTENAY III, LARRY J. HUME, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

BENNETT, *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 1, 2, and 4–6. 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). Appellant identifies the real party in interest as Neturen Co., Ltd. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The claims relate to “a heating coil for heating a recessed lateral surface of an elongated workpiece along a longitudinal direction of the workpiece, and also to a heat treatment apparatus and a heat treatment method for heat-treating the recessed lateral surface of the elongated workpiece.” Spec. 1. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A heating coil configured to inductively heat an elongated workpiece, the workpiece having a first lateral surface and a second lateral surface adjoining each other along a corner portion, wherein the first lateral surface has a recess at a location spaced away from the corner portion, and the first lateral surface, the second lateral surface and the recess extend continuously in a longitudinal direction of the workpiece, the heating coil comprising:
 - a base conductor configured to face the first lateral surface; and
 - a projected conductor configured to face the recess, wherein a width of the projected conductor is narrower than a width of the base conductor in a first direction orthogonal to the longitudinal direction, wherein the projected conductor is arranged to project toward the recess from a position of the base conductor in a second direction orthogonal to both the longitudinal direction and the first direction, wherein the base conductor and the projected conductor are arranged to extend in the longitudinal direction such that electric current flows through the base conductor and the projected conductor in the longitudinal direction, and *wherein the projected conductor is longer than the base conductor in the longitudinal direction.*

Appeal Br. 14 (Claims Appendix) (dispositive limitation emphasized).

REFERENCES

The prior art relied upon by the Examiner as evidence is:

Name	Reference	Date
Sano et al.	JP2000204413(A)	July 25, 2000
Lengauer et al.	US 2011/0011499 A1	Jan. 20, 2011

REJECTION

Claims 1, 2, and 4–6 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Sano and Lengauer. Final Act. 2.

ISSUE

Has the Examiner erred in finding that a person of ordinary skill in the art would have been motivated to combine the teachings of Sano and Lengauer in such a way as to achieve the invention recited in claim 1?

ANALYSIS

The Examiner rejects claim 1 as being obvious over Sano and Lengauer. The Examiner relies primarily on Sano, finding that it teaches all limitations except for “wherein the projected conductor is longer than the base conductor in the longitudinal direction.” Final Act. 2–3. The Examiner turns to Lengauer, finding it teaches a device “wherein the projected conductor is longer than the base conductor in the longitudinal direction.” Final Act. 4 (citing Lengauer Fig. 27, and explaining part of 39 inside groove 34 of workpiece 1 is longer than the part of 39 that is outside groove 34). The Examiner concludes “it would have been obvious to one of ordinary skill in the art at the time of invention was made to have modified the heating coil of Sano with Lengauer, by providing a projected conductor

longer than the base conductor in the longitudinal direction of the workpiece, for the advantages of having a larger heat treatment area.” Final Act. 4, 6.

Appellant challenges the Examiner’s rationale for modifying Sano’s heating coil with the teachings of Lengauer. Specifically, Appellant argues:

[T]he modification of the conductor section 20 of the Sano reference based on the support portion of the inductor 39 of the Lengauer reference in the rejection is without merit as the two elements are different in function and position. Thus, it would not have been obvious to one of ordinary skill in the art to modify the conductor section 20 of the Sano reference based on the support portion of the inductor 39 of the Lengauer reference. Additionally, even if it is assumed that the Lengauer reference properly discloses the feature of a projected conductor being longer than a base conductor in the longitudinal direction of a workpiece, it would not have been obvious to one of ordinary skill in the art to modify the Sano reference as suggested in the rejection.

Appeal Br. 11.

Appellant further contends:

[B]y modifying the protruding part 22c of Sano to be longer than the conductor part 20 in the longitudinal direction, the extended portion of the protruding part 22c would not allow for additional current flow that would contribute in improving the heating of the long material 60 (i.e., the workpiece). Therefore, it would not have been obvious to a person of ordinary skill in the art to modify the protruding part 22c to be longer than the conductor part 20 in the longitudinal direction [for the advantage of having a larger heat treatment area].

Appeal Br. 11–12 (bracketed material added to provide context).

Appellant also argues:

In the present case, it is submitted that the Examiner's reliance on the above-described reasoning of the advantages of having a larger heat treatment area is **not** a clear articulation of the reason **why** one of ordinary skill in the art would have modified Sano in a manner to meet the feature in question recited in claim 1, and is **not** an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

Reply Br. 4.

We are persuaded of Examiner error. At the outset, we note Appellant has provided detailed arguments challenging the Examiner's reasons for combining the references, and although the Examiner acknowledges those arguments in the Examiner's Answer (Ans. 6–7), those arguments are not substantively addressed. Ans. 7–8 (merely repeating the reasoning from the Final Rejection). Moreover, we agree with Appellant that the Examiner's rationale for modifying Sano is not supported by a preponderance of evidence.

The Examiner finds that it would have been obvious to modify Sano with the teachings of Lengauer for the advantage of having a larger heat treatment area. However, the Examiner does not identify any evidence, or provide any explanation, for how or why having a larger heat treatment area would be beneficial to Sano's device. We particularly note the Examiner does not address Appellant's assertion that extending Sano's protruding part 22c "would not allow for additional current flow that would contribute in improving the heating of the . . . workpiece." Appeal Br. 11.

Thus, we agree with Appellant because the Examiner has failed to adequately explain why a person of ordinary skill in the art at the time of the invention would have looked to Lengaur's induction coil to modify Sano's

conducting parts. The Examiner's stated motivation of "the advantage of having a larger heat treatment area" amounts to little more than a "conclusory statement []" insufficient to establish obviousness. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")). Without an adequate reasoning for why a skilled artisan would have been motivated to modify Sano with Lengauer, under § MPEP 2141.02, we are constrained by the record before us to conclude the Examiner has erred in finding the cited references are properly combinable.

We also determine the Examiner's findings regarding the Sano reference, which does not provide an adequate description of the numerical components shown in the figures in the translated version, leave us to speculate as to the support in the record in verifying the Examiner's findings on Sano. To the extent the Examiner makes findings regarding Part 22c in Fig. 1 of Sano, we find that that to agree with the Examiner's findings would require some degree of speculation on our part. We decline to engage in speculation because "[a] rejection . . . must rest on a factual basis . . ." *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967) and "[t]he Patent Office has the initial duty of supplying the factual basis for its rejection. It may not . . . resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis." *Id.*

Therefore, for essentially the same reasons argued by Appellant, as discussed above, we are constrained on this record to reverse the Examiner's

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obviousness rejection of claim 1. Because we have reversed independent claim 1 we also reverse claims 2 and 4–6, which all depend from claim 1.

CONCLUSION

We reverse the Examiner’s decision to reject claims 1, 2, and 4–6 under 35 U.S.C. § 103.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 4–6	103	Sano and Lengauer		1, 2, 4–6

REVERSED