

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROHIT SACHDEVA and FARROKH FARZIN-NIA

Appeal No. 1999-2414
Application No. 08/942,732

ON BRIEF

Before KRASS, FLEMING, and BARRY, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

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Application No. 08/942,732

This is a decision on appeal from the final rejection of claims 1-9, 11-21 and 23-28. The examiner indicated in the answer that previously rejected claims 10 and 22 are now deemed to be directed to allowable subject matter and these claims are no longer before us on appeal [answer-page 6].

The invention is directed to an endodontic instrument. In particular, the instrument is said to have improved physical properties by having varying stiffness/flexibility properties along a length of the working shaft portion of the instrument. The stiffness/flexibility is said to be not due solely to any variation in dimensions or cross-sectional shape of the working shaft.

Representative independent claim 1 is reproduced as follows:

1. An endodontic instrument including a working shaft portion wherein said working shaft portion has varying stiffness/flexibility properties along at least a portion of its length, said variation in stiffness/flexibility not being due solely to any variation in dimensions or cross-sectional shape of said working shaft.

The examiner relies on the following references:

Weissman	4,990,088	Feb. 05, 1991
Scruggs et al. [Scruggs]	5,389,226	Feb. 14, 1995
Heath et al. [Heath]	5,464,362	Nov. 07, 1995
		(filed July, 7, 1994)

Claims 1, 8, 11 and 14 stand rejected under 35 U.S.C. 102(b) as anticipated by Weissman.

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Claims 2-7, 9, 12, 13, 15-21 and 23-28 stand rejected under 35 U.S.C. 103. As evidence of obviousness, the examiner cites Weissman in view of Heath with regard to claims 2, 7, 9, 13, 15-21 and 23-28, adding Scruggs with regard to claims 3-6 and 12.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

OPINION

Turning first to the rejection of independent claim under 35 U.S.C. 102(b), the examiner contends that Weissman's teaching of a working shaft with larger routing sections 29 coated with diamond dust, *inherently* possesses different stiffness/flexibility properties than sections 30 which are not coated with diamond dust.

Appellants do not deny that the diamond coated sections possess a different stiffness/flexibility property than do the non-diamond coated sections. Rather, appellants argue that Weissman discloses two distinct shafts, only one of which is a "working shaft," as claimed. Appellants contend that only the shaft with the cutting sections (16 and 29) of Weissman, i.e., those sections with the diamond dust, are analogous to appellants' claimed "working shaft." The second, minor diameter shafts (15, 30) in Weissman, in appellants' view, are not "working shafts" because they provide no "work" in the context

of the use in Weissman. If the “working shaft” in Weissman is considered to be only the larger diameter sections (16 and 29), then, in appellants’ view, those shaft sections have no stiffness/flexibility variation along their length with that variation not due solely to a dimensional or cross-sectional shape variation, as required by the instant claims.

We agree with the examiner that there is absolutely no teaching in Weissman that the “working shaft,” comprised of various sections, of which at least one section is coated with diamond dust, should be referred to as containing one working shaft and one non-working shaft as alleged by appellants. Looking at Weissman’s Figure 3, it would appear to the artisan that there is a single “working shaft” comprising alternating sections 29 and 30, with sections 29 of the single working shaft being optionally coated with diamond dust.

We do not find persuasive appellants’ reference to column 3, line 67 through column 4, line 1 of Weissman for the proposition that there are two distinct shafts in Weissman, with only one being a “working shaft.” The referenced sections of the patent indicate that second, minor diameter shank sections 30 do not include a lateral cutting surface which is present in sections 29. We interpret this, in light of the drawings in Weissman, as meaning that the one shaft, or “working shaft,” includes two types of sections, each section of a different diameter. While only certain sections of the shaft do the cutting, both sections form part of the single working shaft.

Accordingly, we will sustain the examiner's rejection of claim 1 under 35 U.S.C. 102(b). Further, in accordance with appellants' grouping of the claims at page 3 of the principal brief, claims 8, 11 and 14 will fall with independent claim 1. Thus, the rejection of claims 1, 8, 11 and 14 under 35 U.S.C. 102(b) is sustained.

Turning now to the rejection of claims 2, 7, 9, 13, 15-21 and 23-28 under 35 U.S.C. 103 over Weissman in view of Heath, the examiner acknowledges that Weissman fails to specify the material used for the endodontic instrument. However, the examiner turns to Heath for its disclosure of using a nitinol based alloy material to make endodontic instruments for the well known properties of high flexibility and high resistance to torsional breakage. Therefore, the examiner concludes that it would have been obvious to provide the endodontic instrument of Weissman with a nitinol based alloy material as taught by Heath so as "to enhance the operability of the instrument." This observation is made with regard to claim 2. Appellants' only response is let claim 2, along with claims 7, 18, 19 and 27, stand or fall along with independent claim 1 [see the only full paragraph on page 8 of the principal brief]. Accordingly, the rejection of claims 2, 7, 18, 19 and 27 under 35 U.S.C. 103, is sustained.

With respect to claims 13, 15, 16, 25 and 26, all of which stand or fall together, appellants incorporate their arguments regarding claim 1 and add the argument that this group of claims calls for coatings applied by a method selected from the group consisting of plating, sputtering, ion beam implantation and deposition. The examiner's position is that these recited methods of applying the

coating have no patentable significance in the apparatus claims before us. Appellants contend that it would be “difficult if not impossible” to use any of the recited coating methods in the Weissman structure because only the larger diameter sections (16, 29) would be coated. Appellants further explain that, contrary to the examiner’s position, the selected method of providing a coating is very relevant to the apparatus claims “to the extent that selection of one or more of the recited techniques simply could not be operably employed in connection with the Weissman reference” [principal brief-page 7].

We will sustain the rejection of claims 13, 15, 16, 25 and 26 under 35 U.S.C. 103 because we do not find appellants’ arguments persuasive of patentability. The only argument presented by appellants against the examiner’s position that the claimed coating techniques are not relevant is that selection of one or more of the recited techniques simply could not be operably employed in connection with the Weissman reference. Appellants’ reasoning for not operably employing the coating techniques in Weissman is because it is appellants’ opinion that the coating would need to be placed *only* on the larger, cutting sections of Weissman. However, claim 13 depends on claim 8 which recites that the coating is placed “on at least a portion of an exposed surface of said working shaft portion...”. Thus, these claims do not preclude a coating on other parts of the working shaft, such as sections 15 and 30 of Weissman. Therefore, to whatever extent appellants’ argument regarding the difficulty or impossibility of applying coating just to the cutting sections of Weissman’s shaft has any credence, the

argument is not persuasive since it is not commensurate with the scope of the claims. The artisan seeking to coat Weissman's instrument would merely coat the entire instrument and such technique would not be different from the instant claimed subject matter because "at least a portion of an exposed surface of said working shaft portion" would be coated, as claimed.

With regard to claims 17 and 20, which are grouped together, these claims recite that the variation in stiffness/flexibility "is due to selective heat treatment of portions of said working shaft." It is the examiner's position that in making the cylindrical shaft into sections of various shape in the instrument of Weissman, "a specially selected heat treatment would have obviously been involved" [answer-page 5]. Appellants' response is to note that neither Weissman nor Heath teaches a selective heat treatment and that for the examiner to conclude that utilization of such a selective heat treatment would have been obvious is erroneous in the absence of such teaching.

While there is a possibility that the examiner is correct in the conclusion that a selected heat treatment was involved in making the shaft sections in the instrument of Weissman, the examiner has presented no evidence which would have indicated such a heat treatment. There are other methods for making endodontic instruments. For example, in the method of Heath, a grinding/forming method is employed and no disclosure of a "selective heat treatment" is apparent in Heath. Thus, while there may be some truth in the examiner's conclusion that a heat treatment may have been used in forming the Weissman instrument, we would need to resort to speculation in order to reach the legal conclusion of

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obviousness of the instant claimed subject matter. We cannot base a conclusion of obviousness on speculation. Accordingly, we will not sustain the examiner's rejection of claims 17 and 20 under 35 U.S.C. 103.

We also will not sustain the rejection of claim 9 under 35 U.S.C. 103 because the claim calls for the coating having a "thickness gradient along the length of said working shaft portion," the examiner groups this claim along with claims 2, 7, 13, 15-21 and 23-28 without explaining how the applied references are considered to make this claimed subject matter obvious, and appellants specifically argue the limitation of claim 9 [principal brief-pages 8-9]. Accordingly, the examiner has failed to present a prima facie case of obviousness with regard to claim 9.

Finally, with regard to claims 3-6 and 12, appellants let these claims stand or fall together with claim 3. This claim requires that the claimed instrument comprises an alloy which "structurally is at least about 10% amorphous." The examiner relies on Scruggs for its teaching of an amorphous material used in metals because of their excellent erosion and corrosion resistance and high hardness properties. Thus, the examiner concludes that it would have been obvious to provide the alloy of Weissman, as modified by Heath, with amorphous materials so as to improve the instrument's erosion and corrosion resistance and its hardness.

Appellants contend that Scruggs is not even related to endodontic instruments or dental related instruments so there would have been no reason for the artisan to look toward Scruggs for any

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teachings regarding the improvement of such instruments. We note that appellants do not argue the limitation of the alloy being structurally “10%” amorphous.

We will sustain the rejection of claims 3-6 and 12 under 35 U.S.C. 103. Appellants’ sole argument is the inapplicability of Scruggs to dental instruments. That is, we view appellants’ argument as one of “nonanalogous art.” We disagree with this argument. It is well known that endodontic instruments, such as the ones disclosed by Weissman and Heath, are made of metal. Artisans seeking to improve the durability of those instruments would clearly look to the metal coating arts such as Scruggs’ disclosure. Appellants do not deny that Scruggs discloses advantages to be achieved by the use of amorphous materials and their “excellent erosion and corrosion resistance and high hardness” properties, as alleged by the examiner. Accordingly, appellants have not convinced us of error in the examiner’s rationale.

Appellants do not argue independent claim 28 and so we will sustain the rejection of this claim under 35 U.S.C. 103. Similarly, appellants do not argue the limitations of dependent claims 21, 23 and 24. Accordingly, these claims will fall with claims 18 and 19 from which they depend.

CONCLUSION

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We have sustained the rejection of claims 1, 8, 11 and 14 under 35 U.S.C. 102(b). We have also sustained the rejection of claims 2-7, 12, 13, 15, 16, 18, 19, 21 and 23-28 under 35 U.S.C. 103. We have not sustained the rejection of claims 9, 17 and 20 under 35 U.S.C. 103.

The examiner's decision is affirmed-in-part.

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

AFFIRMED-IN-PART

ERROL A. KRASS)	
Administrative Patent Judge)	
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