

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte MIRO MITUSINA and GARY PETERS

Appeal No. 2002-1487
Application No. 09/404,461

ON BRIEF

Before ABRAMS, NASE, and BAHR, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 13. Claims 14 to 22, which are all of the other claims pending in this application, have been allowed by the examiner subsequent to the final rejection.

We REVERSE.

BACKGROUND

The appellants' invention relates to surgical cutting instruments (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Trott	4,646,738	March 3, 1987
Krause et al. (Krause)	5,152,744	October 6, 1992

Claims 1 to 3, 5 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Trott.

Claims 4 and 11 to 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Trott.

Claims 1 to 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Trott in view of Krause.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the answer (Paper No. 16, mailed January 24, 2002) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 15, filed November 19, 2001) and reply brief (Paper No. 17, filed March 25, 2002) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The anticipation rejection

We will not sustain the rejection of claims 1 to 3, 5 and 10 under 35 U.S.C. § 102(b) as being anticipated by Trott.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

Verdegaal Bros. Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed.

Cir.), cert. denied, 484 U.S. 827 (1987). The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by the court in Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984), it is only necessary for the claims to "'read on' something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it."

Trott discloses a rotatable surgical tool for cutting and removing tissue from a patient. As shown in Figures 3-8, the tool 10 includes an outer tubular member 12 having a proximal end portion 14 and a distal end portion 16. An inner tubular member 40 has a distal end portion 42 and a proximal end portion 44 with the distal end portion of the inner tubular member having a cutter 20. The inner tubular member 40 is rotatably disposed within the outer tubular member 12 enabling the cutter to shear tissue disposed in the vicinity of the distal end portions upon rotation of the inner tubular member relative to the outer tubular member. A flexible transmission 22 interconnects the distal end portion and the proximal end portion of the inner tubular member for transmitting rotational movement from a rotary power source to the cutter 20. The outer tubular member is constructed of a deformable material enabling the outer tubular member to be selectively bent, during fabrication of the tool, in a region adjacent the

flexible transmission for facilitating the positioning of the cutter proximate the tissue of the patient. A vacuum source may be provided to be in fluid communication with the proximal end of the inner tubular member for removing tissue severed by the cutter.

As shown in Figure 6 of Trott, the outer tubular member 12 has an aperture 18 and the cutter 20 includes an inner cap 47 defining an inner cutting aperture 48 such that at least a portion of edges 50 and 52 of the inner cutting aperture 48 are machine sharpened for coacting with edges 54 and 56 of the aperture 18. Thus, rotation of the cutter 20 within the distal end portion 16 of the outer tubular member 12 enables tissue disposed in the vicinity of the aperture 18 to be sheared by the interaction of the cutter 20 with the aperture 18.

As shown in Figures 3, 5, 7 and 8 of Trott, the flexible transmission 22 includes a composite spirally wound tube 58. The spirally wound tube 58 includes an inner spiral 60 of strip material such as flat stainless steel ribbon and is wound upon a suitable mandrel M as shown in Figure 7 such that the inner spiral 60 defines a first channel 62 shown in Figures 6 and 8. A middle spiral 64 of flat stainless steel strip material is oppositely wound relative to inner spiral 60 such that the middle spiral 64 is disposed angularly relative to the inner spiral 60 as shown in Figure 7. The middle spiral 64 defines a second channel 70 shown in Figure 8 having a diameter slightly greater than

the external diameter of the inner spiral 60 such that the inner spiral 60 is slidably disposed within and in close proximity to the middle spiral 64. An outer spiral 72 of flat stainless steel strip is oppositely wound relative the middle spiral 64 such that the outer spiral 72 is disposed opposite or angularly relative to the middle spiral 64. The angle of the outer spiral 72 may be approximately the same as the angle of the inner spiral 60. The outer spiral 72 defines a third channel 76 shown in Figure. 8 such that the third channel 76 has a slightly greater diameter than the external diameter of the middle spiral 64. The middle spiral 64 is slidably disposed within and in close proximity to the outer spiral 72. The three spirals, 60, 64 and 72 are of such diameters that sliding contact, with a minimum of radial clearance, exists between adjacent spiral surfaces.

As further shown in Figure 7 of Trott, a first spot-weld 78 is disposed near one end of the composite spirally wound tube 58. The spot-weld 78 unites together all three of the spirals 60, 64 and 72. A second spot-weld 80 is spaced longitudinally relative to the first spot-weld 78 and welds together the inner, middle and outer spirals 60, 64 and 72 respectively. The spot welding holds and supports the three spirals axially relative to each other to form the spirally wound tube 58 to permit transmission of rotary movement from a source of rotary motion such as a motor connected to the inner proximal end portion 44 through a coupling generally designated 81 to convey tissue

removed by the cutting means 20 through the first channel 62 defined by the spirally wound tube 58.

Claim 1

Claim 1, the only independent claim on appeal, reads as follows:

An angled rotary tissue cutting instrument comprising
an outer member including a rigid tube having proximal and distal portions connected by a bend and a cutting window defined at a distal end of said tube;
and
an inner member rotatably disposed within said outer member and including an inner tube of integral one-piece construction with a helical cut formed therein in a first direction to define a flexible region adjacent said bend, a cutting tip disposed at a distal end of said inner tube adjacent said cutting window, and a first strip of material spirally wound over said helical cut in a second direction opposite said first direction.

In making the anticipation rejection before us in this appeal, the examiner determined (answer, pp. 3 and 5-7) that the claimed "inner tube of integral one-piece construction with a helical cut formed therein" was readable on Trott's inner spiral 60. The appellants argue throughout both briefs that Trott clearly fails to disclose an "inner tube of integral one-piece construction with a helical cut formed therein" since Trott's inner spiral 60 is not a "tube" and does not have a helical "cut" formed therein.

The United States Patent and Trademark Office (USPTO) applies to the verbiage of the claims before it the broadest reasonable meaning of the words in their

ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the appellants' specification. In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). See also In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983).

In this instance, the appellants' specification does not provide any definitions of the claimed terms "tube" and "cut."¹ However, the specification does provide (page 18, lines 15-19) that

[w]hile the spiral cut in the inner tube has been described as being formed using laser cutting techniques, it will be appreciated that other methods can be used to form the spiral cut including, but not limited to, conventional machining with hard cutters, water jet cutting techniques, and manufacturing processes wherein the inner member is formed simultaneously with a spiral cut, e.g. by casting.

The specification (pp. 8-9) describes the spiral cut 40 as extending continuously without interruption and being formed through the tubular portion 36 to define a flexible region permitting the inner member 14 to bend. In addition, the specification (p. 11) states that the spiral cut can be formed using any suitable technique and that the width of the cut is preferably about 0.005 inch with a longitudinal spacing of about 0.062 inch

¹ The appellants have provided dictionary definitions for these terms in the brief.

between rings formed by the spiral cut. Figures 2 and 3 show spiral cut 40 with a gap between the rings formed by the spiral cut.

In view of the above-noted teachings, it is our opinion that one of ordinary skill in the art would understand the claimed phrase "inner tube of integral one-piece construction with a helical cut formed therein" to require the inner tube to have a helical gap therein which gap could be formed, for example, by casting or by laser cutting.

Trott's inner spiral 60 is not disclosed as having a helical gap therein. In fact, it appears from Figure 7 of Trott that the flat stainless steel ribbon which is wound upon a mandrel M in an abutting manner to form the inner spiral 60 which defines the first channel 62. Accordingly, the subject matter of claim 1 is not anticipated by Trott.

For the reasons set forth above, the decision of the examiner to reject claim 1, and claims 2, 3, 5 and 10 dependent thereon, under 35 U.S.C. § 102(b) as being anticipated by Trott is reversed.

The obviousness rejection based on Trott alone

We will not sustain the rejection of dependent claims 4 and 11 to 13 under 35 U.S.C. § 103 as being unpatentable over Trott for the reasons set forth above with respect to parent claim 1. In this regard, we note that in this rejection the examiner has not found the subject matter as a whole to have been obvious at the time the invention was made to a person of ordinary skill in the art. Specifically, the examiner has not presented any evidence or rationale as to why it would have been obvious at the time the invention was made to a person of ordinary skill in the art to have modified Trott's inner spiral 60 to have a helical cut (i.e., gap) formed therein.

The obviousness rejection based on Trott and Krause

We will not sustain the rejection of claims 1 to 13 under 35 U.S.C. § 103 as being unpatentable over Trott in view of Krause.

Krause discloses a surgical instrument 10 that includes a rigid outer member 12 within which is disposed a hollow inner member 14 having rigid proximal and distal ends and a region 16 disposed between the rigid proximal and distal ends that is relieved to render such region relatively flexible. The flexible region is integral with a portion of the proximal end disposed adjacent to the flexible region. The inner member transmits force (such as torsion) applied to its proximal end to move a cutting implement

disposed at its distal end and cause it to cut tissue admitted through an opening in the distal region of the outer member. Krause teaches (column 4, lines 35-38) that "[r]egion 16 is made flexible by the selective removal of portions of material (represented by lines 18 in FIG. 2) from the walls 20 (FIG. 3) of inner tube 12." As shown in figures, the portions of material removed from the inner member 14 in region 16 does not form a helical cut.

In this rejection, the examiner determined (answer, p. 4) that it would have been obvious to form Trott's inner spiral 60 as a tube and then remove portions therefrom to form a cut in order to simplify the manufacturing process in view of the teachings of Krause.

The appellants argue that the applied prior art does not suggest the claimed subject matter. Specifically, the appellants argue that Krause does not suggest providing Trott's inner spiral 60 with a helical cut. We agree. In our view, the only suggestion for modifying Trott in the manner proposed by the examiner to meet the helical cut limitation stems from hindsight knowledge derived from the appellants' own disclosure. The use of such hindsight knowledge to support an obviousness rejection under 35 U.S.C. § 103 is, of course, impermissible. See, for example, W. L. Gore and

Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

For the reasons set forth above, the decision of the examiner to reject claims 1 to 13 under 35 U.S.C. § 103 as being unpatentable over Trott in view of Krause is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 to 3, 5 and 10 under 35 U.S.C. § 102(b) as being anticipated by Trott is reversed; the decision of the examiner to reject claims 4 and 11 to 13 under 35 U.S.C. § 103 as being unpatentable

over Trott is reversed; and the decision of the examiner to reject claims 1 to 13 under 35 U.S.C. § 103 as being unpatentable over Trott in view of Krause is reversed.

REVERSED

NEAL E. ABRAMS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
JEFFREY V. NASE)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
JENNIFER D. BAHR)	
Administrative Patent Judge)	

Appeal No. 2002-1487
Application No. 09/404,461

Page 14

EPSTEIN, EDELL, SHAPIRO & FINNAN, LLC
1901 RESEARCH BOULEVARD
SUITE 400
ROCKVILLE, MD 20850-3164

JVN/jg