



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/652,166	01/11/2007	Frederick E. Shelton IV	END5919USNP/060334	4017
92223	7590	03/13/2013	EXAMINER	
K&I. Gates I.I.P 210 SIXTH AVENUE PITTSBURGH, PA 15222-2613			LOPEZ, MICHELLE	
			ART UNIT	PAPER NUMBER
			3721	
			NOTIFICATION DATE	DELIVERY MODE
			03/13/2013	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@klgates.com
pidocketing@klgates.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FREDERICK E. SHELTON IV and JEROME R. MORGAN

Appeal 2011-000266
Application 11/652,166
Technology Center 3700

Before GAY ANN SPAHN, MICHAEL C. ASTORINO, and
WILLIAM A. CAPP, *Administrative Patent Judges*.

SPAHN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Frederick E. Shelton IV and Jerome R. Morgan (Appellants) seek our review under 35 U.S.C. § 134 of the Examiner's rejection of claims 11, 12, and 21-27 under 35 U.S.C. § 102(b) as anticipated by Tsuruta (US 5,582,611, issued Dec. 10, 1996). Appellants cancelled claims 1-10 and 13-20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

CLAIMED SUBJECT MATTER

The claimed subject matter relates to a staple cartridge for a surgical stapler. Spec. 4, para. [0005]. Claims 11, 26, and 27 are the independent claims on appeal. Claim 11, reproduced below, with emphasis added, is illustrative of the appealed subject matter.

11. A staple cartridge, comprising:
 - a first cavity configured to receive a first staple;
 - a second cavity configured to receive a second staple;
 - a third cavity configured to receive a third staple,wherein said first cavity, said second cavity, and said third cavity define a curved staple path;
 - a staple driver relatively movable along a curved driver path that matches said curved staple path*, wherein said staple driver comprises at least one ramp including a staple driving surface, wherein said staple driving surface is configured to deploy said staples from said cavities when said staple driver is moved along said curved driver path; and
 - a curved slot configured to receive at least a portion of a drive bar operably engaged with said staple driver, *said curved slot including first and second curved, nonplanar surfaces configured to support said drive bar as said drive bar moves said staple driver along said curved driver path.*

OPINION

Independent claim 11 and dependent claims 21, 23, and 24

Appellants argue claims 11, 12, 21-25, and 27 as a group, but provide further arguments for claims 12, 22, 25, 26, and 27. *See* Br. 14-25. We will treat claims 11, 21, 23, and 24 as a group and we select independent claim 11 as the representative claim. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2011). Claims 21, 23, and 24 fall with claim 11.

The Examiner finds that Tsuruta discloses a staple cartridge 2 including, *inter alia*, “a staple driver (24) relatively movable along a curved

driver path (i.e.,) an inner curved cavity within the cartridge 3) that matches said curved staple path.” Ans. 4 (citing Tsuruta, figs. 2 and 7-9).

Although Appellants admit that Tsuruta’s staple cartridge 3 discloses a curved staple path, they argue that Tsuruta “fails to disclose a curved driver path which matches the curved staple path,” because it “is unclear as to the configuration of the drive bar used to deploy the staples from staple cartridge 3.” Br. 15. Appellants maintain that “the pusher plates 24 appear straight, or linear, and, if any were to be inserted into staple cartridge 3, without more, they would be unable to follow along the curved staple path of cartridge 3.” *Id.* Appellants also maintain that Figure 8 of Tsuruta “discloses that the pusher plates 24 would travel within the space defined between the interior walls of cartridge 3, i.e., the ‘plate-guiding grooves 23,’” and because Tsuruta “fails to disclose the distance between and/or configuration of grooves 23, or whether such grooves 23 are aligned with the staple pushers 21a,” “there is no structure to cause pusher plates 24 to remain appropriately aligned with the staple path.” Br. 15-16.

Appellants’ Specification does not assign or suggest a particular definition to the claim term “matches.” Therefore, we consult a general dictionary for the ordinary and customary meaning of the verb “matches,” namely “to be the counterpart of.” MERRIAM-WEBSTER’S COLLEGIATE[®] DICTIONARY (10th ed. 1997); *see also Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1348 (Fed. Cir. 2010) (If the specification does not assign or suggest a particular definition to a claim term, it is appropriate to consult a general dictionary definition of the word for guidance in determining the ordinary and customary meaning of the claim term as viewed by a person of ordinary skill in the art.).

As noted by the Examiner, Tsuruta specifically describes “[a] pair of plate-guiding grooves **23** extend[ing] within the cartridge **3**, along the curving axis thereof,” and “[a] pair of pusher plates **24** [that] can be moved back and forth along the plate-guiding grooves **23**.” Tsuruta, col. 8, ll. 51-55; *see* Ans. 6-7. A person of ordinary skill in the art would understand from this disclosure of Tsuruta that the staple drivers (pusher plates 24) are relatively movable along a curved driver path (the centerline of the plate-guiding grooves 23) within the staple cartridge 3 and the curved driver path is the counterpart of or matches the curved staple path (path of slits 21). In other words, in order for the staple driver (pusher plates 24) to push up the staples 22 in the manner shown in Tsuruta’s Figure 8, the curved driver path 23 is the counterpart of or matches the curved staple path, otherwise the staples 22 would not be pushed up into the shallow grooves 25 in the anvil 4. Thus, the sidewalls of Tsuruta’s plate-guiding grooves 23 provide the structure for the pusher plates 24 to follow along the curved staple path of cartridge 3 so that we are not persuaded of Examiner error by Appellants’ arguments.

The Examiner also finds Tsuruta discloses that the “curved slot (23) includ[es] first and second curved non-planar surfaces (i.e., [curved sidewalls] projecting upwardly from the cartridge bottom surface . . . configured to support said drive bar as said drive bar moves said staple driver along said curved driver path.” Ans. 4 (citing Tsuruta, col. 8, ll. 52-55 and fig. 7).

Appellants argue that Tsuruta “fails to disclose **a staple cartridge** including a curved slot with **curved, nonplanar surfaces** configured to **support a drive bar** as the drive bar moves the staple driver **along the**

curved driver path which **matches** the curved staple path,” because “it appears [that] the element 23 [of Tsuruta’s Figure 8] only corresponds to the interior surfaces of the cartridge 3,” and “element 23 does not include curved, nonplanar surfaces configured to **support a drive bar** as the drive bar moves the staple driver **along the curved drive path** which **matches** the curved staple path.” Br. 16. Rather, Appellants interpret “‘groove’ 23 [as] appear[ing] to be nothing more than the interior walls or cavity of cartridge 3 in which both pusher plates 24 and wire cutter 20 move” since “it is “believed that the dotted line near the bottom of Tsuruta[’s] . . . FIG. 8 represents the cutter-guiding groove 18, which does not support a staple driver’s drive bar either.” Br. 16-17.

As depicted in Tsuruta’s Figure 7, the slots or plate-guiding grooves (unnumbered, but what the bottom of pusher plates 24 are seated in) have surfaces configured to support the drive bars or pusher plates 24. While Figure 7 is a cross-section of the distal end of the insertion section 2, one of ordinary skill in the art would ascertain from Tsuruta’s disclosure in Figure 8 that the slots or plate-guiding grooves 23 continue in the cartridge 3 as is consistent with Tsuruta’s disclosure at column 8, lines 51-54 pointed to the by the Examiner and quoted *supra*. In our opinion, the dashed line at the bottom of the cartridge 3 in Figure 8 represents the outline of the slots or plate-guiding grooves 23, not the cutter-guiding groove 18 as suggested by Appellants and the lead line ending in an arrow and leading from reference numeral 23 was simply drawn to the wrong structure, i.e., the lead line should have been drawn to point to the dashed lines at the bottom of the cartridge 3. Tsuruta’s statement that the plate-guiding grooves 23 extend within the cartridge 3 along the curving axis of the cartridge 3 supports that

the surfaces shown in cross-section in Figure 7 become curved and nonplanar as the plate-guiding grooves 23 continue from the insertion section 2 into the cartridge 3. Therefore, we again are not persuaded of Examiner error by Appellants' arguments.

Accordingly, we sustain the Examiner's rejection of independent claim 11, and dependent claims 21, 23, and 24 which fall therewith, under 35 U.S.C. § 102(b) as anticipated by Tsuruta.

Dependent claim 12

Claim 12 depends from claim 11 and calls for the curved slot to include first and second projections extending from the first and second curved, nonplanar surfaces, respectively, the first and second projections defining a curved path for the drive bar. *See Br., Clms. App'x.*

The Examiner finds that "Tsuruta's curved slot (23) include[s] first and second projections (at the vicinity of 30 which is flush with respect to the groove 23, thus providing the claimed projections." Ans. 5 (citing Tsuruta, col. 9, ll. 11-17, and fig. 7).

Appellants argue, and we agree, that Tsuruta "does not show a curved slot configured to receive a portion of a drive bar as having projections **extending from the curved, nonplanar surfaces** of the slot." Br. 19. The portion of Tsuruta relied upon by the Examiner does not disclose or suggest any evidence of first and second projections extending from the first and second curved, nonplanar surfaces of the curved slots (plate-guiding grooves 23).

Accordingly, we do not sustain the Examiner's rejection of claim 12 under 35 U.S.C. § 102(b) as anticipated by Tsuruta.

Dependent claim 22

Claim 22 depends from claim 11 and recites that “said curved slot defines a curved slot path including more than one radius of curvature.” Br., Clms. App’x.

The Examiner finds that “Tsuruta shows a curved cartridge (3) including an inner radius of curvature and an outer radius of curvature, wherein the slots (23) extend along said curved cartridge,” and “[t]herefore, the curved slots (23) define a path conforming the curvature and/or radius of the cartridge.” Ans. 5.

Appellants argue, and we agree, that “[w]hile ‘slot’ 23 does, in fact, have two walls, it does not define two paths, or two portions of a path, having a first radius of curvature and then a second radius of curvature,” and “[t]he curved slot path of Claim 22 is directed to a curved line having at least two radii of curvature, which is simply not disclosed by Tsuruta . . . , as suggested by the Examiner.” Br. 20.

Accordingly, we do not sustain the Examiner’s rejection of claim 22 under 35 U.S.C. § 102(b) as anticipated by Tsuruta.

Dependent claim 25

Claim 25 depends from claim 11 and recites that “at least a portion of said cutting member is curved to substantially match a curved slot path defined by said curved slot.” Br., Clms. App’x.

The Examiner finds that Tsuruta “discloses wherein a portion of the cutting member (i.e.,] the staple driver 24 which is fastened to cutting surface 20 . . .) is curved to substantially match a curved slot path defined by slots (23).” Ans. 6.

Appellants argue that “[t]he applicable cutting member of Tsuruta . . . is a wire, i.e., wire-cutter 20 (see col. 8, lines 31-38), and Tsuruta . . . does not disclose whether wire-cutter 20 bends or curves during operation. Br. 20-21. More particularly, Appellants note that “because wire-cutter 20 is a wire, it can move, without bending, along the curved slot of Tsuruta.” Br. 21.

The Examiner’s finding that staple driver 24 is fastened to the cutting surface 20 and constitutes the portion of the cutting member that is curved to substantially match a curved slot path of the curved slot is not supported by Tsuruta. Tsuruta never discloses that the pusher plates 24 and the wire-cutter 20 are fastened to one another. Rather, Tsuruta discloses that “[t]he wire-cutter **20** and the cutter holder **28** constitute a knife unit **29**” and “[t]he cutter holder **28** has two wire-holding projections protruding from its distal-end face and spaced apart from each other,” wherein “[t]he wire-cutter **20**, which is a wire, is stretched vertically between the wire-holding projections of the holder **28**.” Tsuruta, col. 9, ll. 4-10. Accordingly, the Examiner has failed to establish a prima facie case of anticipation with respect to claim 25 because the Examiner’s finding that “staple driver 24 . . . is fastened to cutting surface 20” is in error.

Accordingly, we do not sustain the Examiner’s rejection of claim 25 under 35 U.S.C. § 102(b) as anticipated by Tsuruta.

Independent claim 26

Claim 26 is directed to a staple cartridge including, *inter alia*, “a curved slot . . . , said curved slot including buckling prevention means for preventing said drive bar from buckling as said drive bar moves said staple driver along said curved driver path.” Br., Clms. App’x.

The Examiner finds that “Tsuruta’s curved sidewalls of slot (23) prevent the driver bar attached to the staple driver (24) from buckling (e.g.,] bend[ing] to a side) as said drive bar moves said staple driver (24) along said curved driver path.” Ans. 6.

Appellants argue that Tsuruta “fails to disclose or suggest **buckling prevention means for preventing a drive bar from buckling as the drive bar moves the staple driver along the curved driver path,**” because Tsuruta’s Figure 8 “shows pusher plates 24 as residing within elongated cavity or groove 23, with no apparent means for supporting the plates 24 laterally (i.e., in and out of the plane of the page of FIG. 8) such that they remain aligned with the curved staple path of staple cartridge 3.” Br. 24.

In order for a prior art element to meet a section 112, paragraph 6 means-plus-function limitation, the prior art element must either be the same as the disclosed structure or be a section 112, paragraph 6 equivalent. *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994). Two structures may be “equivalent” for purposes of section 112, paragraph 6 if they perform the identical function, in substantially the same way, with substantially the same result. *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1364 (Fed. Cir. 2000).

The Specification identifies curved, nonplanar surfaces 266, 268 of slot 264 as supporting the drive bar 226 to prevent it from buckling in the event that it is overloaded. Spec. 18, para. [0024]. As depicted in Figure 25, it appears that buckling is prevented because the curved, nonplanar surfaces 266, 268 of slot 264 extend along substantially the entire central portion of the side walls of the drive bar 226 in order to prevent lateral movement of the drive bar 226.

The Examiner indicates that:

the structure of slots (23) having curved non-planar surfaces and/or sidewalls (at the vicinity of flush portions 30; as shown in fig. 7) is equivalent to the claimed non-planar surfaces. Note that the sidewalls of curved slots (23) extend along the curving axis of the cartridge (3; col. 8, l[1.] 51-55), thus, conforming the curvature of said cartridge, wherein said extension of the slots along the curving axis of the cartridge provides the curved nonplanar sidewalls of the slots (23) for preventing the drive bar (24) from buckling.

Ans. 7-8.

The Examiner also indicates that “Tsuruta’s curved slots (23) perform[] the same function as claimed by guiding the movement of the drive bar (24) along the curving axis of the slots (23; col. 8, l[1.] 51-55), which . . . is the identical function[] as claimed.” Ans. 9.

Although it appears that Tsuruta’s plate-guiding grooves 23 do have short sidewalls to guide pusher plates 24 in movement, it is speculative that the short sidewalls would be capable of performing the identical function of preventing buckling as the drive bar moves the staple driver along the curved driver path that is performed by the present application’s buckling prevention means.

Accordingly, we do not sustain the Examiner’s rejection of independent claim 26 under 35 U.S.C. § 102(b) as anticipated by Tsuruata.

Independent claim 27

Claim 27 is directed to a staple cartridge including, *inter alia*, a curved slot defining a curved slot path, wherein said slot path includes: a first segment defined by at least one of a first line and a first curve; and a second segment defined by at least one of a second line and a second

curve, wherein said first line is different than said second line, and wherein said first curve is different than said second curve. *See Br., Clms. App'x.*

The Examiner finds that Tsuruta discloses:

the slot path of curved slot (23; which extends along the curving axis of the cartridge; col. 8, lines 51-55) is defined by a curve of about 90° with respect to an elongated shaft (2), wherein said curvature of the slot includes a first segment defined by a first line (at the vicinity of 16) and a first curve (before a middle portion of the end effector; as best shown in fig. 3), and a second segment defined by a second line (at the distal end of slot 18) and a second curve (after the middle portion of the end effector).

Ans. 6.

Appellants argue that Tsuruta “does not teach that the curvature should have two segments, where one of the segments is a line or a curve and the other segment is a different line or a different curve.” Br. 21. Appellants also argue that the Examiner has not met the burden of proof of establishing that a drive bar slot path has at least two different segments as recited because the Examiner is relying solely on the drawings and there is no indication that the drawings of Tsuruta are to scale. Br. 22-23.

The Examiner responds that Tsuruta discloses

the proximal end of the end effector (5), indeed, provides a first segment defined by a first line (at the vicinity of 16) and a first curve (before a middle portion of the end effector; as best shown in fig. 3), and a second segment defined by a second line (at the distal end of slot 18) and a second curve (after the middle portion of the end effector).

Ans. 8.

The Examiner's annotated Figure 2 of Tsuruta is reproduced below:

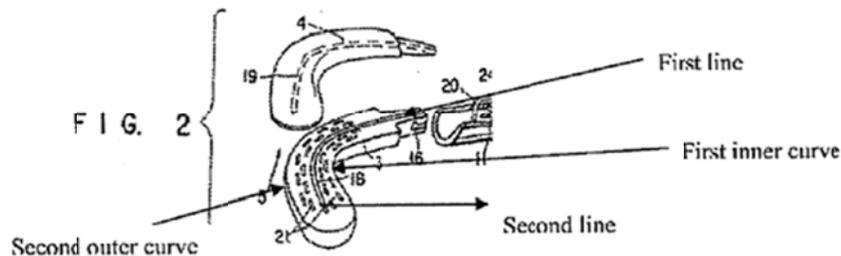


Figure 2 of Tsuruta depicts an exploded view of the surgical stapler including a distal end of the insertion section 2 and the stapling member 5 made up of a cartridge 3 and an anvil 4. The Examiner has annotated Tsuruta's Figure 2 to show that the cartridge 3 includes first and second lines, a first inner curve, and a second outer curve.

We agree with Appellants that the Examiner has not met the burden of proof of establishing that a drive bar slot path has at least two different segments as recited. The Examiner is relying solely on Tsuruta's drawing Figure 2, and we cannot tell from Tsuruta's Figure 2 whether Tsuruta's drive bar slot path includes a straight line as suggested by the Examiner's annotation "First line" pointing to the proximal end of Tsuruta's cartridge 3. Moreover, annotated Figure 2 does not sufficiently support the Examiner's finding that Tsuruta discloses a first segment defined by at least one of a first line and a first curve and a second segment defined by at least one of a second line and a second curve.

Accordingly, we do not sustain the Examiner's rejection of claim 27 under 35 U.S.C. § 102(b) as anticipated by Tsuruta.

DECISION

We affirm the Examiner's decision to reject claims 11, 21, 23, and 24.

Appeal 2011-000266
Application 11/652,166

We reverse the Examiner's decision to reject claims 12, 22, and 25-27.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

mls