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Paper 104
Date: November 19, 2020

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COOK GROUP INCORPORATED
and
COOK MEDICAL LLC,
Petitioner,

v.

BOSTON SCIENTIFIC SCIMED, INC.,
Patent Owner.

IPR2017-00440
Patent 9,271,731 B2

Before JAMES T. MOORE, JAMES A. TARTAL,
and ROBERT L. KINDER, *Administrative Patent Judges.*

MOORE, *Administrative Patent Judge.*

FINAL WRITTEN DECISION ON REMAND
35 U.S.C. §§ 144, 318(a)

I. Introduction

We address this case on remand after a decision by the United States Court of Appeals for the Federal Circuit in *Boston Scientific Scimed, Inc. v. Cook Group Inc., Cook Medical LLC*, 809 F. App'x 984 (Fed. Cir. 2020) (hereinafter "*Boston v. Cook*").[1]

In our Final Written Decision of December 28, 2018, familiarity with which is presumed to avoid undue repetition, we determined that Cook Group Inc. and Cook Medical LLC, ("Petitioner") had shown by a preponderance of the evidence that claims 1–4, 6, 7, 10–16, 18, and 20 were unpatentable, and that Petitioner had not shown by a preponderance of the evidence that claims 5 and 8 were unpatentable. Paper 92, 4.

Boston Scientific Scimed, Inc. ("Patent Owner") and Petitioner each filed notices of appeal of our Final Written Decision. Papers 93 and 94.

In *Boston v. Cook,* the Federal Circuit found the following:

(1) affirmed our determination that Petitioner has not proven by a preponderance of the evidence that claims 1–2, 4, 6–9, 12, 13, and 20 are anticipated by Sackier;[2]

(2) affirmed our determination that Petitioner has not proven by a preponderance of the evidence that claims 3, 5, 10, 11, and 14–19 would have been obvious over Sackier;

[1] References herein are to the slip opinion, No. 19-1594 (Fed. Cir. Apr. 30, 2020).

[2] U.S. Patent No. 5,749,881, filed on October 20, 1994, and issued May 12, 1998 ("Sackier") (Ex. 1008).

(3) affirmed our determination that Petitioner has proven by a preponderance of the evidence that claims 1–3, 10–16, and 18 are anticipated by Nishioka;[3]

(4) affirmed our determination that Petitioner has proven by a preponderance of the evidence that claims 1–3, 10–16, and 18 would have been obvious over Nishioka;

(5) affirmed our determination that Petitioner has proven by a preponderance of the evidence that Petitioner has proven that claims 1, 2, 4, 6, 7, 9, 10, 12, and 13 would have been obvious over Shinozuka[4] and Sackier;

(6) affirmed our determination that Petitioner has proven by a preponderance of the evidence that claims 3 and 14 would have been obvious over Shinozuka and Sackier;

(7) vacated our determination that Petitioner has proven by a preponderance of the evidence that claim 20 would have been obvious over Shinozuka and Sackier;

(8) vacated our determination that Petitioner has proven by a preponderance of the evidence that claim 8 would have been obvious over Shinozuka and Sackier or obvious over Shinozuka and Nishioka.

Boston v. Cook, slip. op. at 1.

The Court remanded the proceeding to us, *inter alia*, to analyze claims

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[3] U.S. Patent No. 5,843,000, filed on May 7, 1996, and issued on December 1, 1998 ("Nishioka") (Ex. 1005).

[4] Japanese Unexamined Patent Application Publication No. 60-103946, published on June 8, 1995 ("Shinozuka") (Ex. 1009; certified translation at Ex. 1042).

8 and 20. Specifically: "Since claim 20, just as claim 8, requires a control wire with a connection breakable from a tensile force, the Board's conclusion that claim 20 is obvious over the same set of references is inconsistent [with the Board's unpatentability conclusion for claim 8], and a remand is required to address the inconsistency." *Id.* at 8.

We are also provided with the specific instruction that "[o]n remand, the Board . . . cannot rely on its reasoning in [IPR2017-00135 ("IPR '135")] and must make a new determination about whether Sackier discloses a link detachable via tensile force in light of Boston's admissions made in its preliminary patent owner responses in the proceedings addressed in *Cook Group I*[5] and IPR '135." *Id.* at 9. We are also reminded that "[i]n rendering a decision regarding whether Sackier discloses a link detachable via tensile force, the Board must be consistent with the decision it renders pursuant to IPR2017-00134, which is vacated and remanded in *Cook Group I*." *Id.*

On June 30, 2020, we conducted a conference call with the parties to discuss post-remand procedures for this proceeding and a related proceeding on remand between the same parties, IPR2017-00134 ("IPR '134"). *See* Ex. 1119 (transcript of June 30, 2020 conference call). We authorized each party to file in this case an opening brief on Remand and a Responsive Brief on Remand, without new evidence.

Petitioner submitted an opening brief setting forth the issues for us to decide and its arguments on those issues. Paper 101 ("Pet. Remand Br."). Patent Owner also filed an opening brief. Paper 100 ("PO Remand Br.").

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[5] *Cook Group Incorporated, Cook Medical LLC v. Boston Scientific Scimed, Inc.*, No. 19-1370 (Fed. Cir. Apr. 30, 2020).

Petitioner filed a responsive brief. Paper 103 ("Pet. Remand Resp."). Petitioner also filed a responsive brief. Paper 102 ("PO Remand Resp.").

We have jurisdiction under 35 U.S.C. § 6, and we issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, we conclude that Petitioner has established by a preponderance of the evidence that claims 8 and 20 are unpatentable over Shinozuka and Sackier.

II. Related Matters

This Decision on Remand is being issued on even date with a Decision on Remand in IPR '134. Further related matters including litigation were set forth previously in our Final Written Decision. Paper 92, 7.

III. Obviousness of Claims 8 and 20 over Shinozuka and Sackier or over Shinozuka and Nishioka.[6]

a. The '731 Patent (Ex. 1033)

The '731 patent is titled "Device and Method for Through the Scope Endoscopic Hemostatic Clipping," and claims an apparatus and method for capturing tissue. Ex. 1033, [54], 15:36–17:15. The claimed "invention relates to compression clips, and more specifically, to compression clips used to cause hemostasis of blood vessels located along the gastrointestinal tract delivered to a target site through an endoscope." *Id.* at 1:24–27. As explained by the '731 patent, the clips stop internal bleeding by applying

[6] Petitioner presented this ground in the alternative — Shinozuka and either Sackier or Nishioka. In our final decision, we exercised our discretion to address only Shinozuka and Sackier, which we believed to be Petitioner's stronger position. Paper 92, 43, n.7.

sufficient constrictive forces to blood vessels so as to limit or interrupt blood flow to achieve "hemostasis." *Id.* at 2:32–38, 2:62–66.

Embodiments of the invention include "a clip" with "clip arms," and a "control wire" for moving the clip between open and closed configurations. *Id.* at 16:24–42. In addition, the medical device claims describe an "opening element" for urging the clip arms into the open configuration, and the method claim describes use of the control wire to "move the first and second clip arms away from one another to the open tissue receiving configuration." *Id.* at 15:37–17:15.

The '731 patent describes "an arrangement for closing the clip and for reversing the closing process to reopen the clip after closure has begun." *Id.* at 2:64–66. As described, certain

> [e]mbodiments of the invention may include a lock arrangement for locking the clip closed; a control wire connected to the clip and able to be disconnected from the clip; an axially rigid sheath enclosing the control wire and communicating a compressive force opposing a tensile force of the control wire.

Id. at 2:66–3:7. Other elements help "close and lock the clip and to uncouple the control wire from the clip." *Id.* One advantage mentioned in the Specification is "[t]he device's ability to repeatedly open and close the clip until the desired tissue pinching is accomplished will lead to a quicker procedure, requiring less clips to be deployed, with a higher success rate." *Id.* at 3:9–13.

b. Claims 8 and 20

Claims 8 (with intervening independent and dependent claims 1, 4, 6, and 7) and 20 are reproduced below:

> 1. A medical device, comprising:
>
> a clip including first and second clip arms, the clip being movable between an open tissue receiving configuration in which the first and second arms are separated from one another by a distance selected to receive tissue therebetween and a closed configuration in which the first and second arms are moved inward to capture the tissue received therebetween; and
>
> an opening element engaging inner walls of the first and second clip arms, the opening element urging the first and second clip arms away from one another into the open tissue-receiving configuration, wherein the opening element is movable between an expanded configuration and a retracted configuration to correspond to a movement of the clip between the open tissue receiving configuration and the closed configuration.

Ex. 1033, 15:37–52.

> 4. The medical device of claim 1, wherein a proximal end of the clip is coupled to a control wire via a separable link.

id. at 15:59–60.

> 6. The medical device of claim 4, wherein application of a proximal tensile force to the control wire causes movement of the clip from the open tissue receiving configuration to the closed configuration.

id. at 15:64–67.

> 7. The medical device of claim 6, wherein application of a proximal tensile force greater than a predetermined threshold value causes the clip to lock in the closed configuration.

id. at 16:1–3.

> 8. The medical device of claim 7, wherein application of a proximal tensile force greater than the predetermined threshold value causes the control wire to disengage from the clip.

id. at 16:4–6.

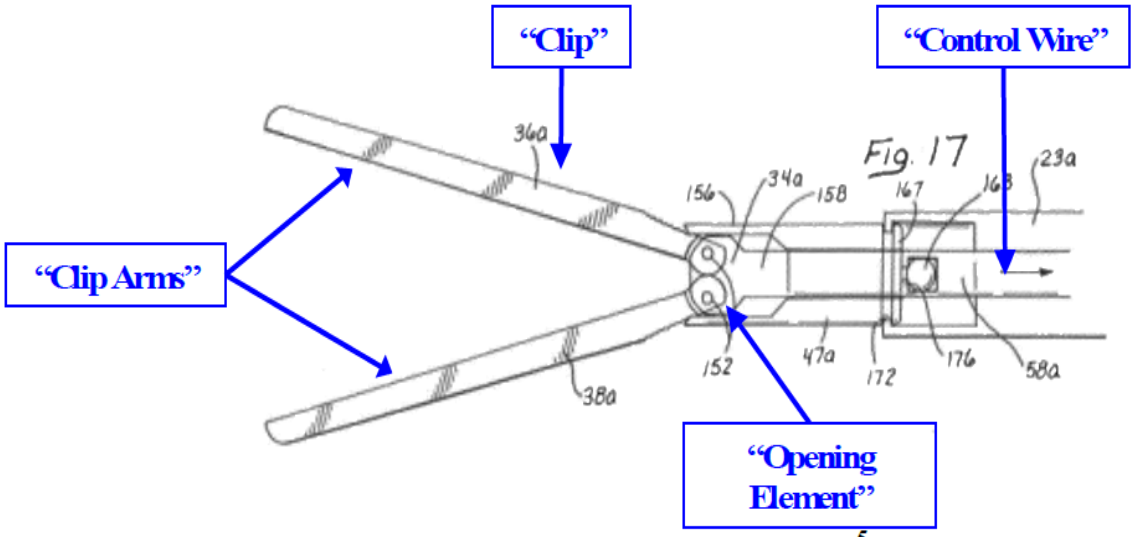
> 20. A method for capturing tissue, comprising:
>
> inserting a medical device comprising a clip having first and second clip arms to a target tissue site, the clip including an opening element engaging inner walls of the first and second clip arms and urging the clip to an open tissue receiving configuration;
>
> moving a control wire coupled to a proximal end of the clip distally to move the first and second clip arms away from one another to the open tissue receiving configuration;
>
> moving the control wire proximally to move the first and second clip arms toward one another to a closed tissue capturing configuration; and
>
> applying a proximal tensile force exceeding a threshold level to the control wire to separate the control wire from the clip.

id. at 17:1–15.

c. References Relied Upon

Sackier

Sackier is directed to a laparoscopic surgical device that includes a clamp. Ex. 1008, [57]. Petitioner relies on the embodiment of Figure 17 of Sackier, which is reproduced below.



Sackier, Figure 17 (Annotated)[5]

Petitioner's Annotated Fig. 17[7] depicts an axial cross-sectional view of a clamp, and includes labels identifying the clamp as "clip," jaws 36a and 38a as "clip arms," spring 152 as an "opening element," and inner shaft 58a as a "control wire." *Id.* at 3:60–62.

The surgical clamp includes a pair of jaws, or clip arms identified above, with a spring 152 to bias the jaws to the open position:

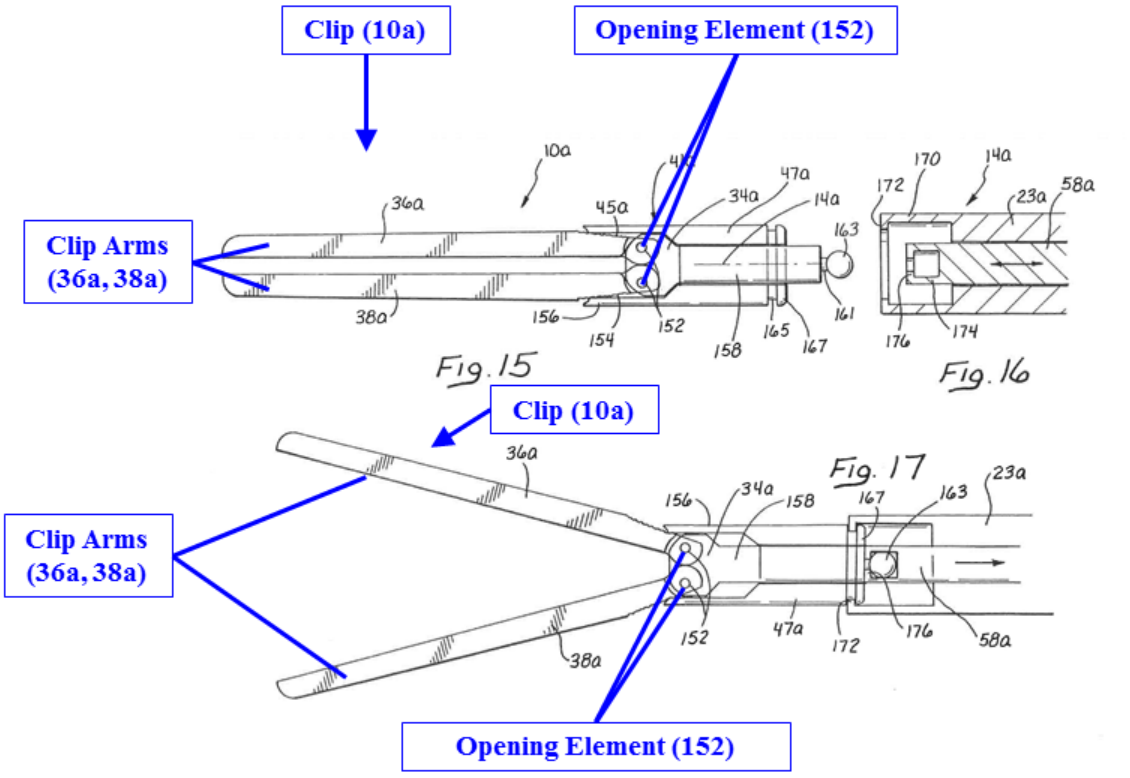
> the shaft 58a can be moved relative to the tube 23a to engage the slide 47a and move it relative to . . . the jaws 36a, 38a. As noted, this axial movement of the slide 47a relative to the jaws 36a and 38a is accompanied by relative movement of the jaws 36a, 38a between the open and closed positions.

Id. at 10:28–34.

Also as observed by our reviewing court, Sackier discloses a clamp that can be moved between a free (open) state and operable (closed) state for

[7] We include Petitioner's annotated figures from Sackier because "Figures 15–26 of Sackier published without reference numbers, even though Figures 15–26 with reference numbers were submitted during prosecution." Pet. 18–19, n.5.

use in occluding portions of the body during laparoscopic surgery. Sackier also discloses a clamp applier that contains a means to engage and disengage the clamp jaws. *Boston Scientific v. Cook*, slip op. at 6–7. The relevant aspects of Sackier are depicted in Figures 15–17, reproduced below.

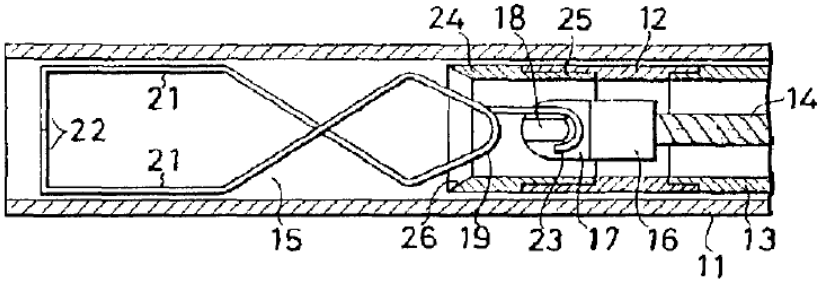


Figures 15–17 are Petitioner's Annotated cross sectional views of a clamp and clamp applier. Pet, 25.

Shinozuka

Shinozuka is directed to a "Biotissue Clip Device." Ex. 1042, 10. The clip is said to be detachably coupled to a control cord. *Id.* at 11. Figure 2 of Shinozuka is reproduced below:

第 2 図



Shinozuka Figure 2 is a sectional side view of a clip device's distal end. Ex. 1042, 12.

Figure 2 illustrates the clip device of Shinozuka, including insertion tube 11, control tube 13, control wire 14, and hook 16 for detachably engaging with clip 15. *Id.* at 11

Shinozuka discloses a clip device that can be inserted into the body, along with a control wire, during an endos-copy. Once the clip is closed by a clip-tightening ring, it can be disengaged from the control wire via jiggling, in the plane defined by axes a-b, as shown below in Shinozuka's Figure 3, and left within the body. *Id.* at 7.

Fig. 3

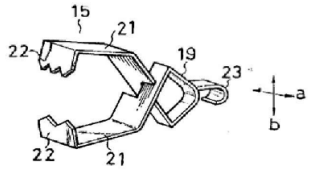


Figure 3 is a perspective view of a clamp. Ex. 1042, 8.

Our prior decision found that Petitioner had shown by a preponderance of evidence that claims 1, 2, 4, 6, 7, 9, 10, 12, and 13 are unpatentable as obvious over Sackier and Shinozuka. That decision,

including issues of combinability of the references, was affirmed by our reviewing court.

We therefore are limited in this remand to the court's instruction to consider very specific issues concerning claims 8 and 20 only, namely, the patentability of: the device of claim 8's application of a proximal tensile force greater than the predetermined threshold value causes the control wire to disengage from the clip (claim 8); and the method of claim 20, restricted to the step of applying a proximal tensile force exceeding a threshold level to the control wire to separate the control wire from the clip.

d. Claim Construction

We need not interpret any claim terms in order to decide this remand.

e. Analysis

Claims 8 and 20 as Obvious in view of Shinozuka in Combination with Sackier

Claim 8 requires in relevant part "wherein application of a proximal tensile force greater than the predetermined threshold value causes the control wire to disengage from the clip." Ex. 1033, 16:4–6.

Petitioner argues that Shinozuka could be modified to include the ball and socket connection from Sackier Figures 15–17. Pet. 83–84 ("Sackier discloses engaging a control wire (58a) and clip (10a) via a ball (ball 163) and socket (cylinder 174 (with flange 176)) connection, such that application of a proximal tensile force greater than the predetermined threshold value (i.e., pulling on the control wire) causes control wire to disengage from the clip.").

Petitioner asserts that it would have been obvious to substitute the Sackier ball and socket link for the Shinozuka link. A person of ordinary

skill would have been motivated to make this substitution, for example to simplify and improve the operation of the Shinozuka device. Pet. 83 (citing Ex. 1041 ¶ 110). Petitioner further alleges that a person of ordinary skill in the art would have recognized that "jiggl[ing]" a control wire within the body is an imprecise way to separate the clip, and could be avoided by the substitution, which was within the level of routine skill in the art. *Id.*

Patent Owner responded that the proposed combination would change how Shinozuka's clip detaches. *See* Paper 77, 55–60, 55 ("[A] POSA would not modify Shinozuka using Sackier because they are contrary to the express purpose of Shinozuka, which was to create a clip that detached from the control wire in two directions."). Patent Owner urged that Sackier Figures 15–17 do not disclose a separable link. *Id.*

Patent Owner additionally contended that Sackier's embodiment of Figures 15–17 does not disclose applying a proximal force to separate the link coupling the clamp applier to the clamp when the clamp is used within the patient's body. PO Supp. Resp. 25 (citing Ex. 2103 ¶ 72). According to Patent Owner, Sackier teaches away from applying a proximal force to separate the link because previous clamps suffered from loose engagement mechanisms that could cause "undesirable separation of the clamp from the applier." *Id.,* citing Ex. 1008, 1:49–57; Ex. 2011, 172:5–16, 177:21–178:16, 186:15–18; Ex. 2103 ¶ 73.

Patent Owner furthermore asserted that the dimensions of the Sackier clamp and clamp applier prevent the separation of the link when a proximal force is applied. Paper 18, 6. Cylinder 170 has an inside diameter (D8) greater than the outside diameter of the flange 167 (D7); flange 172 has an inside diameter (D6) greater than the diameter of the recess 165 (D5) but

less than the diameter of flange 167 (D7); cylinder 174 has an inside diameter (D4) greater than the diameter of the ball 163 (D3); and flange 176 has an inside diameter (D2) greater than the diameter of recess 161, but less than the diameter of ball 163. Ex. 1008, 10:14–24.

Patent Owner concluded that because flange 172 has a diameter (D6) less than the diameter of flange 167 (D7) and flange 176 (D2) has an inside diameter less than the diameter of the ball 163 (D3), the clamp cannot be separated by pulling clamp applier from the clamp. PO Supp. Resp. 25–26 (citing Ex. 2103 ¶ 73).

We determined in the Final Written Decision that a preponderance of the evidence did not show that Sackier's existing ball and socket clamp was detachable through the application of a proximal tensile force. Paper 92, 55. That decision has been vacated with direction to reconsider the matter.

As we begin our analysis anew, we keep in our mind the instructions of our reviewing court on this matter:

> As discussed in our decision in *Cook Group Inc. v. Boston Scientific Scimed, Inc.*, No. 2019-1370 (Fed. Cir. 2020) (*Cook Group I*), being issued contemporaneously, we hold that "an admission in a preliminary patent owner response, just like an admission in any other context, is evidence appropriately considered by a factfinder." *Id.*, slip op. at 17. On remand, the Board thus cannot rely on its reasoning in IPR '135 and must make a new determination about whether Sackier discloses a link detachable via tensile force in light of Boston's admissions made in its preliminary patent owner responses in the proceedings addressed in *Cook Group I* and IPR '135.
>
> In rendering a decision regarding whether Sackier discloses a link Detachable via tensile force, the Board must be consistent with the decision it renders pursuant to IPR2017-00134, which is vacated and remanded in *Cook Group I*.

Boston v. Cook, slip op. at 9.

Similar to this proceeding, in an appeal from the Final Written Decision in IPR '134, our reviewing court found that we should have considered a certain statement made by Patent Owner in its Preliminary Response before rendering a final decision. *Cook Group I*, slip op. at 16.

More specifically, Patent Owner argued the following in its Preliminary Response in IPR2017-00134:

> Sackier teaches that the clamp applier in Figure 16 is opened laterally (i.e., widened) to attach the clamp. Specifically, "[b]oth of the cylinders 170 and 174 can be configured to open laterally in order to permit the associated flanges 172 and 176 to engage the recesses 165 and 161." By opening laterally, the cylinders are moved outwardly, thereby widening the cylinder to fit the ball into the clamp applier and permitting the flanges to engage the associated recesses. In fact, Sackier teaches that the lateral opening of the clamp applier is necessary to engage the clamp because the flange 172 "has an inside diameter . . . less than the diameter of the flange 167" and flange 176 "has an inside diameter . . . less than the diameter of the ball 163." Thus, the ball will not fit into the clamp applier without opening the clamp applier laterally.

IPR2017-00134, Paper 6 at 17.

Our reviewing court determined that we erred in not considering this admission, and that an admission in a Patent Owner preliminary response should be considered by the factfinder and assigned weight. We were instructed to consider the Patent Owner's admission and the impact of that admission on the balance of the evidence in IPR '134. *Cook v. Boston*, slip op. at 17.

We did not consider this admission previously. In reconsidering the matter with this admission in mind, we find, based upon the admission, and

the totality of the evidence, that the body of the clamp applier has some innate ability to deform and at least open laterally to attach the clamp to the clamp applier. The crux of the matter before us is whether that adds support to the conclusion that application of a proximal tensile force greater than the predetermined threshold value causes the control wire to disengage from the clip.

Patent Owner asserts that:

> The statements upon which Petitioners [rely] are taken out of context and, when so read, ambiguous. The argument neither describes any radial expansion of cylinders 170 and 174, nor adopts Petitioners' theory that "axial" force can be used to engage Sackier's clamp or that a proximal tensile force can be used to disengage Sackier's clamp.

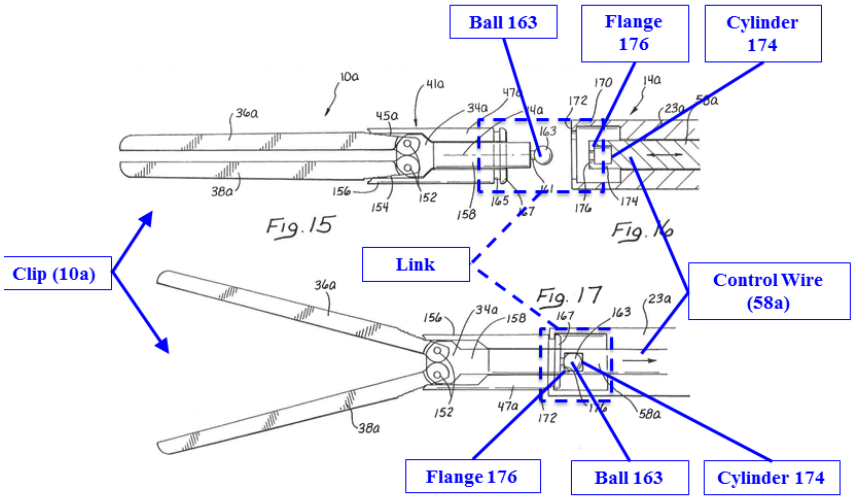
Paper 100, 2–3.

We understand this argument, but are constrained in that Sackier used the term "configured to open laterally" (Ex. 1008, 10:24–26), and the Patent Owner expressly used the term "widened" in describing this phrasing. IPR '134, Paper 6 at 17.

The Court found the statement in the Patent Owner's Preliminary Response in IPR '134 to be an admission as to the lateral opening of the clamp applier. That admission effects our finding whether the clamp applier can flex laterally to open to receive the ball in the control member or release it. As such, we look at Dr. Nicosia's testimony in this proceeding anew, including his testimony about, and annotations to, Sackier's Figures 15–17 (reproduced below). He testified that:

> As shown below in annotated Figures 15-17, ball 163 located at the proximal end of clip (10a) is coupled to cylinder 174 (with

flange 176) at the distal end of the control wire (inner shaft 58a) via a separable link.



(Ex. 1008, 10:18-30). Clip (10a) and control wire (58a) separate by pulling the control wire (58a) proximally (i.e., applying a proximal tensile force) to cause ball 163 to separate from cylinder 174 (with flange 176)), as shown in Figures 15 and 16. (Ex. 1008, Abstract, 2:56-59 ("A clamp applier is adapted to releasibly engage the clamp [(clip)] . . . ."); *see also id.*, 8:29-34, 8:51-53, 9:60-10:34).

Ex. 1041 ¶ 36 (analyzing Sackier's clamp and claim applier depicted in Figs. 15–17 (annotated, as shown above)).

Dr. Nicosia further testified that:

> [C]ylinders 170, 174 (and flanges 172, 176) are sufficiently flexible to open laterally and . . . have sufficient structural integrity (including rigidity) to enable them [to] absorb and transmit the forces required to perform the clamping function."

Ex. 1101 ¶ 49.

In light of Patent Owner's admission and Dr. Nicosia's testimony, we determine a preponderance of the evidence shows that the applier can radially expand. As such, we determine that the preponderance of the

evidence establishes that this radial expansion also allows the control member to unlink from the clip.

Whether this is desirable in the body or would render the clip inoperable in the body is of little moment as regards this claim, as the clip need not be in the body in claim 8.

We are also aware of the contention by Patent Owner that one of ordinary skill in the art would not combine a releasable clip such as Shinozuka with Sackier because Sackier is said to teach previous clamps suffered from loose engagement mechanisms that could cause undesirable separation of the clamp from the applier. PO Supp. Resp. 25. We do not read that statement in Sackier as teaching away from the combination; this disclosure reflects potential problems in the prior art, which Sackier's embodiments address and improve upon by providing a more secure releasable engagement. More specifically, Sackier notes:

> The engagement mechanisms associated with these clamp systems of the prior art are also inappropriate for laparoscopic surgery. In the past, the clamp applier loosely engaged the clamp, this presented no problem to open surgery where one could merely reach into the cavity and retrieve a loose clamp. However, in laparoscopic surgery, the relatively closed surgical environment cannot tolerate this possibility of undesirable separation of the clamp from the applier.

Ex. 1008, 1:48–57.

As a consequence, we have reweighed the evidence, and conclude that Petitioner has established by a preponderance of the evidence that Sackier describes a clamp wherein application of a proximal tensile force greater than the predetermined threshold value causes the control wire to disengage from the clip.

Therefore, we conclude that claim 8 is unpatentable over the combination of Shinozuka and Sackier.

Claim 20

We previously found that Petitioner persuasively showed how each limitation of claims 1, 4, 6, 7, 9, 10, and 12–14 was taught by the combination of Shinozuka and Sackier. Paper 92, 43 (citing Pet. 70–94; Pet. Supp. Reply 27–34). The Court has affirmed those decisions, and implicitly the propriety of the combination, making them the law of the case.

We turn now to the subject element of this remand, the claim element that recites "applying a proximal tensile force exceeding a threshold level to the control wire to separate the control wire from the clip."

We have found that Sackier's clip is detachable by application of a tensile force exceeding a predetermined threshhold in the analysis above for claim 8. Likewise, based on the same evidence and analysis discussed above for claim 8, we also find we also find for claim 20 that one of ordinary skill in the art would be motivated to substitute the ball and socket joint of Sackier for the hook and wire joint of Shinozuka, and that it would perform detachably as the claim requires.

For the foregoing reasons, we determine that Petitioner has proven by a preponderance of the evidence that claims 8 and 20 would have been obvious over Shinozuka and Sackier.

IV. CONCLUSION

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
8, 20	103	Shinozuka, Sackier	8, 20	
1–2, 4, 6–9, 12, 13, and 20[8]	102	Sackier	1–2, 4, 6–9, 12, 13, and 20	
3, 5, 10, 11, and 14–19[9]	103	Sackier		3, 5, 10, 11, and 14–19
1–3, 10–16, and 18[10]	102	Nishioka	1–3, 10–16, and 18	
1–3, 10–16, and 18[11]	103	Nishioka	1–3, 10–16, and 18	
1, 2, 4, 6, 7, 9, 10, 12, and 13[12]	103	Shinozuka and Sackier	1, 2, 4, 6, 7, 9, 10, 12, and 13	
3 and 13[13]	103	Shinozuka and Sackier	3 and 13	
Overall Outcome			1–4, 6–16, 18, and 20.	5, 17, 19

[8] Affirmed in *Boston v Cook*, 1, 5–6.

[9] Affirmed in *Boston v Cook*, 1, 5–6.

[10] Affirmed in *Boston v Cook*, 1, 5–6.

[11] Affirmed in *Boston v Cook*, 1, 5–6.

[12] Affirmed in *Boston v Cook*, 1, 5–6.

[13] Affirmed in *Boston v Cook*, 1, 5–6.

Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 8 and 20 are unpatentable; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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