



# 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.
15/190,047	06/22/2016	Michael P. Marks	LIKMA.006P1D1	5819
20995	7590	08/25/2020	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			DANG, ANH TIEU	
			ART UNIT	PAPER NUMBER
			3771	
			NOTIFICATION DATE	DELIVERY MODE
			08/25/2020	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):

efiling@knobbe.com  
jayna.cartee@knobbe.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* MICHAEL P. MARKS and LIKE QUE

---

Appeal 2019-002767  
Application 15/190,047  
Technology Center 3700

---

Before KENNETH G. SCHOPFER, BRADLEY B. BAYAT, and  
ROBERT J. SILVERMAN, *Administrative Patent Judges*.

SCHOPFER, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 1–16. We have jurisdiction under 35 U.S.C. § 6(b). A hearing was held on July 30, 2020.

We REVERSE.

---

<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as ThrombX Medical, Inc. Appeal Br. 3.

## BACKGROUND

The Specification discloses that the “disclosure is generally related to a device used in a body lumen and a method of using the same.” Spec. 1. More specifically, the Specification describes “a method of removing at least part of an occlusion from a first location in a body lumen.” *Id.* at 3.

## ILLUSTRATIVE CLAIM

Claim 1 is the only independent claim on appeal and recites:

1. A method of removing an occlusion present in a first position of a blood vessel comprising:

introducing a device comprising a central wire, a pusher tube, a distal structure, and a proximal structure into the blood vessel, said distal structure being closed at a proximal end thereof;

locating the distal structure of the device at a position of the occlusion in the blood vessel such that the proximal end of the distal structure is distal to the proximal end of the occlusion and proximal to the distal end of the occlusion, the distal structure comprising an angled lateral side and a parallel lateral side distal to the angled lateral side;

expanding the distal structure at said position, so as to engage the occlusion with the parallel lateral side of the distal structure and a wall of the blood vessel substantially parallel to the parallel lateral side;

grabbing the occlusion between the proximal structure and the distal structure by adjusting the distance between the proximal and distal structures; and

removing the occlusion by moving the device while holding the occlusion in both of the following ways:

(a) engaging the occlusion between the parallel lateral side of the distal structure and the wall of the blood vessel, and

(b) grabbing the occlusion between the proximal structure and the distal structure,

so as to remove the occlusion from the first position;  
wherein, while said removing the occlusion, the proximal end of the distal structure is proximal to a distal end of the occlusion.

Appeal Br. 21.

### REJECTIONS

1. The Examiner rejects claims 1–6 and 8–16 under 35 U.S.C. § 103(a) as unpatentable over Martin<sup>2</sup> in view of Palmer.<sup>3</sup>
2. The Examiner rejects claim 7 under 35 U.S.C. § 103(a) as unpatentable over Martin in view of Palmer and Bates.<sup>4</sup>

### DISCUSSION

As discussed below, we are persuaded of error by Appellant’s argument that the Examiner has not articulated an adequate reason to support the combination proposed. *See* Appeal Br. 18–19.

With respect to claim 1, the Examiner finds that Martin discloses a method of removing an occlusion including “removing the occlusion by moving the device while holding the occlusion” by grabbing it between distal and proximal structures. Final Act. 6–7. The Examiner acknowledges that Martin does not disclose a distal structure with a closed proximal end such that the distal structure would also engage the occlusion between the lateral side of the distal structure and the wall of the blood vessel during the removal step. *Id.* at 7. However, the Examiner finds that Palmer teaches an emboli extraction structure with a closed proximal end that is used to extract

---

<sup>2</sup> Martin et al., US 2009/0299393 A1, pub. Dec. 3, 2009.

<sup>3</sup> Palmer et al., US 6,458,139 B1, iss. Oct. 1, 2002.

<sup>4</sup> Bates, US 6,096,053, iss. Aug. 1, 2000.

an occlusion by compressing it against the vessel wall. *Id.* The Examiner determines that it would have been obvious to use a distal structure, as taught by Palmer, in Martin's device because it would constitute only a simple substitution of art-recognized equivalents that involves only routine skill in the art. *Id.* at 7. The Examiner also determines that "it would have been within the level of one with ordinary skill in the art at the time of the invention to still grab the occlusion between the modified distal structure and the proximal structure of the method of Martin in view of Palmer." *Id.* at 2. Still further, the Examiner indicates that the use of an extraction tool as disclosed by Palmer would result in "improved blood flow through the distal end of the embolic capturing device." Ans. 6.

The key to supporting a conclusion of obviousness under 35 U.S.C. § 103 is the clear articulation of a reason why the claimed invention would have been obvious. The Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) indicated that the analysis supporting a rejection under 35 U.S.C. § 103 should be made explicit. The Federal Circuit has stated that "rejections 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." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), cited with approval in *KSR*, 550 U.S. at 418.

Here, we determine that none of the proposed reasons provided by the Examiner amount to a sufficient articulated reason with rational underpinning to support the conclusion that the claimed method would have been obvious. Regarding the Examiner's reliance on equivalents, we agree with Appellant that the Examiner has not established adequately that the

elements to be substituted are equivalents. Although Palmer's extractor structure 90 and Martin's proximal and distal structures may each ultimately act to remove an occlusion, the Examiner does not persuade us that these are art-recognized equivalents, at least because they operate in different ways. *See* Appeal Br. 10. As evidence that these are art recognized equivalents, the Examiner notes only that Palmer discloses the structure depicted in Figure 8, which is relied upon in the rejection, and a different extractor structure 80 in Figure 7, which the Examiner finds is similar to Martin's structure. Final Act. 3. Yet, the mere similarity in results between these two devices in Palmer does not explain adequately how the art recognizes the equivalence between Martin's distal structure and Palmer's extractor structure 90.

Rather, we find that the art of record provides evidence that these are not equivalent structures based on their different modes of operation. Martin discloses a method of extraction in which an occlusion is encapsulated by proximal and distal structures in order to "overcome the friction forces acting on the obstruction" and the occlusion is removed "without losing or fractionating the obstruction." *See* Martin ¶¶ 23, 114. In contrast, Palmer discloses "a hollow knitted or mesh extractor 90" that is designed "to trap undesirable material in a blood vessel or compress the same against the vessel wall." Palmer col. 8, l. 55–col. 9, l. 2. Thus, Palmer contemplates pressing the occlusion against a vessel wall in order to extract it, which undoubtedly provides an increase in the friction forces acting on the obstruction. Given this difference, we disagree with the Examiner that one of ordinary skill in the art would have recognized these as equivalent structures.

The Examiner additionally concludes that “it would have been within the level of one with ordinary skill in the art at the time of the invention to still grab the occlusion between the modified distal structure and the proximal structure of the method of Martin in view of Palmer.” *Id.* at 2. Yet, this conclusion does not provide an articulated reason as to why a person of ordinary skill in the art would have made the substitution proposed.

Finally, the Examiner also states that the rejection “relies on the improved blood flow through the distal end of the embolic capturing device in Figure 8 of Palmer,” in addition to the reasons provided above. *See* Ans. 6. The Examiner does not explain adequately how this feature of Palmer would have led to a modification of Martin’s device. For example, the Examiner does not explain why improved blood flow would have been desirable in using Martin’s device and the Examiner does not provide any evidence or explanation showing that the proposed substitution would have actually resulted in improved blood flow over the distal structure disclosed by Martin.

Based on the foregoing, we determine that the Examiner has not provided a sufficient reason with rational underpinning to support the legal conclusion of obviousness. Accordingly, we do not sustain the rejection of claim 1. With respect to the remaining claims on appeal, the Examiner relies on the same reasoning for the combination of Martin and Palmer and does not provide additional findings or reasoning that cures the deficiency in the rejection of claim 1. Thus, we also do not sustain the rejections of dependent claims 2–16.

CONCLUSION

We REVERSE the rejections of claims 1–16.

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–6, 8–16	103(a)	Martin, Palmer		1–6, 8–16
7	103(a)	Martin, Palmer, Bates		7
<b>Overall Outcome</b>				1–16

REVERSED