

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC,
Petitioner,

v.

ALIVECOR INC.,
Patent Owner.

IPR2021-00970 Patent 9,572,499 B2
IPR2021-00971 Patent 10,595,731 B2
IPR2021-00972 Patent 10,638,941 B2

Record of Oral Hearing
Held: September 14, 2022

Before, ROBERT A. POLLOCK, ERIC C. JESCHKE, and
DAVID COTTA, *Administrative Patent Judges.*

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APPEARANCES:

ON BEHALF OF THE PETITIONER:

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ON BEHALF OF PATENT OWNER:

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The above-entitled matter came on for hearing on Wednesday, September 14, 2022, commencing at 9:00 a.m., EDT, at the U.S. Patent and Trademark Office, before Walter Murphy, Notary Public.

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PROCEEDINGS

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2 JUDGE POLLOCK: Good morning. This is the final hearing in IPR
3 2021-00970, 00971 and 00972 involving Petitioner Apple, Inc., and Patent
4 Owner AliveCor, Inc. I am Judge Pollock. With me at the bench is Judge
5 Jeschke, Judge Cotta is appearing by video. As set forth in the Hearing
6 Order each side will have 90 minutes. Petitioner will go first followed by
7 Patent Owner. Petitioner may reserve a reasonable amount of time for
8 rebuttal.

9 Before we begin with the substance of the hearing I would ask the
10 parties to introduce themselves. Petitioner, would you please introduce
11 yourself and your colleagues.

12 MR. RENNER: Good morning, Your Honors, Karl Renner on behalf
13 of Petitioner. I'm here joined by Jeremy Monaldo, Ryan Chowdhury and
14 Jay Zhu, as well as from Apple Jessica Hannah and Garrett Sakimae, and
15 Your Honors I have old school copies of the demonstratives printed. May I
16 approach the bench and would you like a copy?

17 JUDGE POLLOCK: You're welcome to hand them out, please.
18 Counsel for Patent Owner, would you please introduce yourself and your
19 colleagues.

20 MR. GLASS: Good morning, Your Honors. Jim Glass for Patent
21 Owner Alivecor. With me today is my partner and counsel of record, Sean
22 Pak.

23 JUDGE POLLOCK: Good morning. A few matters of housekeeping
24 before we begin. First, I would like to remind the parties that the hearing is

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1 open to the public and a full transcript of the hearing will be made part of the
2 record.

3 Second, when discussing any particular demonstrative please refer to
4 it by slide or page number to help maintain a clear transcript and also to help
5 us follow along with our electronic copies.

6 Third, the parties may but are not obligated to discuss Patent Owner's
7 Motion to Exclude. The panel however may have questions about the bases
8 of that motion. For example, at page 11 of the Patent Owner response in the
9 '971 case Patent Owner affirmatively relies on the testimony of Apple's
10 expert Dr. Stultz from the co-pending IPC litigation. Given that its Motion
11 to Exclude Exhibits 1072, 73, 81 and 83 relates to Petitioner's citation to Dr.
12 Stultz's testimony in its later filed reply brief, I would question why we
13 should find that Patent Owner opened the door to the use of Dr. Stultz's
14 testimony and thus waive to seek any right to seek its exclusion. Again,
15 there's no obligation to go there. The time is your own.

16 Petitioner, you have the burden of showing unpatentability of the
17 challenged claims. The floor is yours. Mr. Renner, how much time would
18 you like to reserve for rebuttal today?

19 MR. RENNER: Thank you, Your Honor. Twenty minutes, please.
20 Your Honors, thank you. This is Karl Renner again on behalf of Petitioner.
21 May it please the Board. Today if we turn to slide 4, please we can see the
22 table of contents that shows an organization of the materials that we've
23 provided by demonstrative. Most notably here we've identified five issues
24 that we plan to address today. I'll be addressing the first three of those
25 issues as well as introducing the Shmueli-Osorio combination and my

1 colleague, Jeremy Monaldo, will finish us out with the machine-learning and
2 POSITA at the end of that part of the presentation.

3 If I can move us to slide 13, please. We'll start in with Shmueli.
4 Shmueli describes a wrist worn watch or a device you can see here and in
5 this wrist worn device you can see that it has on its back a PPG sensor at 13
6 that is a single sensor device that maintains contact with the skin of the wrist
7 on which it's worn. It also has a difference device sensor, a second one that
8 ECG electrodes are used to enable that ECG sensor and that's got a three
9 electrode configuration in Shmueli. The first of those sensors is found, or
10 electrodes is found in the back as well right below the PPG sensor and it also
11 maintains contact with the wrist and the skin.

12 The second two of those sensor electrodes are found on the front face
13 of the watch or the device and as you can see in figure 3 you can see that in
14 order to activate that ECG electrode you would have to take your second
15 hand and the fingers there interfacing with the electrodes on the face of this
16 device such that you'd have contact with skin both on the face, those two
17 sensors as well as the back and by doing so you'd have the electrode contact
18 that's necessary to enable that second device, the ECG electrode.

19 Now, one might ask why are there two different sensors the Shmueli
20 device has and Shmueli answers this question, in fact it's the (indiscernible)
21 goal of Schmueli is served by this. In its background, in its field, it
22 describes conventional ECG-type monitoring devices and it characterizes
23 those as quite cumbersome. It tells us that those involve electrodes that have
24 to maintain contact with the skin during operation and when you're trying to
25 detect heart conditions that are sometimes not only irregular but intermittent,

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