

Exhibit 18

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS - WACO DIVISION
CASE NO. 6:21-CV-01101-ADA

AIRE TECHNOLOGY LIMITED,

Plaintiff,

-vs-

APPLE INC.,

Defendant.

Deposition of JOHN BLACK, JR., Ph.D.
Monday, July 25, 2022 - 10:00 A.M. EDT

Reported by:

S. Arielle Santos

Job No.: 5235

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3 JULY 25, 2022
4 10:00 A.M. EDT
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9 REMOTE DEPOSITION of JOHN BLACK, JR.,
10 PhD, before S. Arielle Santos, Certified Court
11 Reporter, Certified LiveNote Reporter and Notary
12 Public.
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3 JOHN BLACK, JR., Ph.D. PAGE
4 BY MR. HOLLANDER 5
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7 BLACK EXHIBITS MARKED - ATTACHED
8
9 Black Exhibit 1 - Declaration of 12
10 Dr. John Black, Junior,
11 regarding indefiniteness of US
12 Patent No. 8,205,249
13 Black Exhibit 2 - US Patent No. 13
14 8,205,249
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1 REMOTE APPEARANCES:
2
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1 JOHN BLACK, JR. Testifies under penalty of
2 perjury as follows:
3 THE WITNESS: I do.
4
5 EXAMINATION
6 BY MR. HOLLANDER:
7 Q Good morning, Dr. Black.
8 Could you please state your
9 full name for the record?
10 A My name is John Richard
11 Black, Junior.
12 Q Have you ever been deposed
13 before?
14 A Yes, I have.
15 Q How many times have you been
16 deposed?
17 A Between 15 and 20 is my
18 guess.
19 Q And were those depositions in
20 patent matters or other types of cases?
21 A It really did vary. Majority
22 probably were related to patents.
23 Q Do you understand that you
24 are under oath and required to answer
25 truthfully?

1 yes, sir.
 2 Q And your declaration contains
 3 your opinions regarding indefiniteness of
 4 a claim term in U.S. Patent No. 8,205,249;
 5 is that correct?
 6 A That is correct.
 7 Q For purposes of today's
 8 deposition, is it okay if I refer to the
 9 patent as the '249 patent?
 10 A That works for me, yes.
 11 Q Great.
 12 And why don't you take a look
 13 at Exhibit 2 and confirm for me this is a
 14 copy of the '249 patent.
 15 A (Reviewing.) It looks to be
 16 the same copy of the patent that I
 17 reviewed.
 18 Q Back to your declaration, if
 19 we can turn to paragraph 36.
 20 There, you note that
 21 Samsung's IPR petition expert Dr. Shamos
 22 opined that a POSITA -- a person of
 23 ordinary skill in the art -- at the time
 24 of the alleged invention would have had at
 25 least -- and then there's a list of

1 user authentication:"
 2 Is that right?
 3 A This is generally how it's
 4 characterized in my field, yes.
 5 Q And what are those three
 6 methods that you are referring to?
 7 A They are generally called
 8 something you know, something you have,
 9 and something you are. Or more formally,
 10 as listed here, something that is
 11 knowledge based, something that is
 12 token-based, and something that is
 13 biometric based, which corresponds to
 14 those three things I said at the outset.
 15 Q One method is token-based,
 16 what the user has; is that right?
 17 A Yes, it is.
 18 Q Can you explain what you mean
 19 by that?
 20 A So this is a broad category.
 21 But, for example, you might have a
 22 physical metal key that opens your front
 23 door, in a sense, that is a token. It's
 24 not a computer domain. But more relevant
 25 to computer technology, you might have a

1 criteria.
 2 Do you see that?
 3 A I do see that.
 4 Q And do you agree with Dr.
 5 Shamos' definition of a person of ordinary
 6 skill of the art -- in the art at the time
 7 of the alleged invention?
 8 A I think that is a reasonable
 9 definition. I think you can change it
 10 here and there and it probably wouldn't
 11 affect my opinions.
 12 Q Do you consider yourself to
 13 be a person of ordinary skill in the art
 14 at the time of the claimed invention based
 15 on Dr. Shamos' definition?
 16 A Certainly. I had a PhD by
 17 the time -- I believe we are in roughly
 18 2002 timeframe, so I had a PhD by then and
 19 certainly was familiar with all these
 20 areas and had the level of experience and
 21 training described in that paragraph.
 22 Q Let's scroll down to
 23 paragraph 40 of your declaration.
 24 You note, "There are three
 25 generally accepted bases for performing

1 fob that has an RFID or some kind of
 2 electronics inside, and when you swipe it
 3 by a sensor, some transaction occurs
 4 between the fob and sensor that
 5 authenticates you, and that will open a
 6 door or give you some access to something.
 7 There's also hybrid devices,
 8 like, if you have seen these rolling
 9 passwords you press a button and it gives
 10 you a one-time password that you manually
 11 enter into a keypad or website or
 12 something like this.
 13 But generally, it's a
 14 physical object, it is not part of your
 15 body, it's not part of your anatomical
 16 makeup that you can carry around and then
 17 present to a verifying authority to
 18 authenticate your identity.
 19 Q Are you aware of any
 20 instances in the '249 patent that discuss
 21 the use of token-based authentication
 22 methods in connection with the claimed
 23 portable data carrier?
 24 A I am not sure if I would
 25 consider -- I don't want to get the name

1 wrong. Is this portable data carrier, I
2 think that is the term in the patent?

3 Q That's right.

4 A I have to look it up, but,
5 yeah. You might consider that. I think
6 at least in the drawing it appears to be a
7 card with a smart chip on it, and I think
8 patent describes it that way. So one
9 might say that itself comprises a
10 token-based user authentication method.

11 It's unclear if the patentees
12 intended to use that way. It is
13 interacting with the terminal. So in some
14 sense you could say that is a token-based
15 user authentication method because it has
16 to be there or protocol described in the
17 patent to take place.

18 But they never call it
19 token-based, but with those words. So
20 it's a matter of whether you consider it
21 or not to be such.

22 Q I notice you mentioned a chip
23 enabled smart card.

24 I see you also mention that
25 in paragraph 45 of your declaration, if

1 you want to turn to paragraph 45.

2 Can you explain it in the
3 example here, how someone authenticates
4 themselves with a chip enabled smart card?

5 A Sure. So I have a smart card
6 in my wallet that has a chip inside of it
7 that I go up to a certain door and I swipe
8 the card in front of the sensor on the
9 door -- and I won't go into the technology
10 unless you want to talk about it. But
11 there's a cryptographic exchange between
12 the sensor and smart card that has to be
13 satisfied to the sensor's threshold -- you
14 have to satisfy a cryptographic
15 authentication protocol, whereupon, if you
16 do, the door opens. So that would be an
17 example of a smart card with a chip
18 inside.

19 Q Then in paragraph 45, you
20 note other examples include a fob or
21 onetime password generator that produces a
22 rolling PIN each time a button is pressed
23 on the device.

24 Did I read that correctly?

25 A I believe so, yes.

1 Q So the device that produces
2 the rolling PIN is a separate device from
3 the portable data carrier; is that right?

4 MR. RICHARDS: Objection.
5 Form.

6 THE WITNESS: My intent is
7 that it would be possible to have
8 both portable data carrier and a
9 second physical device that would
10 be scanned at the terminal somehow,
11 even though that example is not in
12 the patent.

13 I imagine that the claim
14 attempts to include such examples
15 of, let's say you walk up to the
16 terminal with your portable data
17 carrier and your fob, and -- I
18 won't go through all the steps in
19 the patent, but it sets up a
20 connection. And then instead of a
21 fingerprint, you present your fob
22 to the terminal; it extracts
23 features, sends those to the
24 portable data carrier that
25 validates your identity according

1 to what is stored in the portable
2 data carrier, and that would be
3 another method of authenticating
4 yourself separate from fingerprint.
5 BY MR. HOLLANDER:

6 Q So just unpacking that a bit.

7 So the fingerprint in the
8 example you just described would be
9 entered into what you described as a
10 separate fob from the portable data
11 carrier; is that right?

12 MR. RICHARDS: Objection.
13 Form.

14 THE WITNESS: I'm sorry, I
15 think I was -- maybe didn't state
16 it clearly.

17 So the example given in the
18 patent is that the data terminal
19 has a fingerprint scanner, as an
20 example. They state it could be
21 other things. But in the preferred
22 embodiment, it's fingerprint
23 scanner.

24 I am saying, well, let's take
25 that off, it's not there. But

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