

1 J. Lercher

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

4 -----
4 UMICORE AG & CO., KG,
5 Petitioner, Case IPR2015-01121
Patent 7,601,662

6 vs.

7 BASF CORPORATION,
8 Patent Owner.

9 -----
9 UMICORE AG & CO. KG,
10 Petitioner, Case IPR2015-01123
Patent 8,404,203 B2

11 vs.

12 BASF CORPORATION,
13 Patent Owner.

14 -----
14 (Caption Contined on Next Page)

15
16 DEPOSITION OF JOHANNES LERCHER
17 New York, New York
18 Monday, January 18, 2016
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20
21
22

23 Reported by:

24 THOMAS A. FERNICOLA, RPR

25 JOB NO. 102317

1 J. Lercher
2 -----
3 UMICORE AG & CO. KG,

4 Petitioner, Case IPR2015-01124
5 Patent 8,404,203 B2
6 vs.

7 BASF CORPORATION,
8 Patent Owner.

9 -----
10 UMICORE AG & CO. KG,
11 Petitioner, Case IPR2015-01125
12 Patent 7,601,662

13 vs.
14 BASF CORPORATION,
15 Patent Owner.

16 -----

17 Monday, January 18, 2016
18 9:00 a.m.

19 DEPOSITION of JOHANNES LERCHER, held at
20 the Law Offices of Orrick, Herrington &
21 Sutcliffe, LLP, 51 West 52nd Street, New York,
22 New York, before Thomas A. Fernicola, a
23 Registered Professional Reporter and Notary
24 Public of the State of New York.
25

1 J. Lercher
2 A P P E A R A N C E S :

3
4 ORRICK, HERRINGTON & SUTCLIFFE
5 Attorneys for Plaintiffs
6 51 West 52nd Street
7 New York, New York
8 BY: ELIZABETH GARDNER, ESQ.

9
10
11 WEIL, GOTSHAL & MANGES
12 Attorneys for Patent Owner
13 1300 Eye Street, NW
14 Washington, D.C. 20005
15 BY: ANISH DESAI, ESQ.

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20
21 ALSO PRESENT:
22 Dr. Stefan Retzon, Umicore.
23
24
25

1 J. Lercher
2 JOHANNES LERCHER,
3 called as a witness, having been duly sworn by a
4 Notary Public, was examined and testified as
5 follows:

6 BY THE REPORTER:
7 Q Please state your full name and
8 address for the record.

9 A Johannes Lercher,
10 Adabert-Stifter-Street, 39 85521 Ottobrunn,
11 Germany.

12
13 BY MR. DESAI:
14 Q I'll just introduce myself. I'm
15 Anish Desai here from Weil, Gotshal, on behalf
16 of BASF Corporation.

17 MS. GARDNER: I'm Elizabeth Gardner,
18 representing Umicore.

19 MR. RETZON: I'm Stefan Retzon, an
20 attorney at Umicore.

21 BY MR. DESAI:
22 Q Good morning.

23 Where are you currently employed,
24 Dr. Lercher?

25 A I'm currently employed by The

1 J. Lercher
2 Technische Universitaet Muenchen.
3 Q And you currently reside in Germany?
4 A I do currently reside in Germany.
5 Q Have you ever been deposed before?
6 A Deposed in a U.S. Court, no; in this
7 setting, yes.

8 Q Why don't I just give you a quick
9 sort of rundown on the basics.

10 Everything we're going to be saying
11 today is being record by the court reporter,
12 so it is important that you and I don't talk
13 over each other.

14 I'll do my best to let you finish
15 your answer before I start my next question,
16 and if you would also do your best to wait
17 until I've completed my question before you
18 start answering.

19 The other thing is because
20 everything is being recorded, you'll have to
21 give verbal answers to questions. So try and
22 avoid nodding your head and shaking your head
23 and stick with yesses and nos and anything in
24 between.

25 If you want to take a break, just

1 J. Lercher
 2 let me know, we'll take a break.
 3 A I will.
 4 Q And, of course, if any question I
 5 ask is not clear to you, please let me know,
 6 and I'll do my best to rephrase the question.
 7 A Thank you.
 8 Q Sitting beside you are a stack of
 9 exhibits. The first two should be the two
 10 patents that are at issue, which are the '662
 11 patent and the '203 patent.
 12 A Yes.
 13 Q And then there are four declarations
 14 right there that you have submitted on behalf
 15 of Umicore; correct?
 16 A Correct.
 17 Q Do you want to just take a quick
 18 minute to just flip through them and make sure
 19 they're the correct copies --
 20 MS. GARDNER: Objection to form.
 21 Q -- or that you recognize them?
 22 A I guess I do.
 23 Q Okay.
 24 In your report, you refer to a
 25 series of exhibits that are also cited in the

1 J. Lercher
 2 exhibits that were cited in your petition were
 3 given to you by Umicore's attorneys?
 4 MS. GARDNER: Objection to form.
 5 A Can you be more precise what you
 6 mean by this?
 7 Q Sure.
 8 You said that you were given a set
 9 of literature; correct?
 10 A Yes.
 11 Q Who gave you that set of literature?
 12 A I don't recall. I think, in part,
 13 these were transmitted by email. I guess it
 14 was Patrick Herman.
 15 Q The reason I'm asking, I'm just
 16 curious if there's literature that you've
 17 referred to and examined as part of your
 18 declaration that you searched for and found on
 19 your own?
 20 MS. GARDNER: Objection to form.
 21 A I told you that I'm active in
 22 zeolite research, therefore, I do always look
 23 at the literature. I may have come across, I
 24 may have read papers. For the arguments that
 25 I'm making, that literature which is present

1 J. Lercher
 2 petition that was filed by Umicore. They were
 3 Exhibits 1002 through 1016.
 4 And I'm just curious if there are
 5 any other documents that you relied on in
 6 forming your opinions that are not cited as
 7 exhibits?
 8 A When forming an opinion, you have a
 9 standard state of knowledge that you have in
 10 your profession. So I would not recall, but I
 11 would also not exclude any documents that I
 12 may have considered when forming that opinion,
 13 and we may discuss this.
 14 Q Sitting here right now, can you
 15 think of any specific document that you used
 16 to form your opinions but did not cite as an
 17 exhibit to your report?
 18 A I would not recall at present.
 19 Q Of the exhibits that were cited in
 20 your declaration, how were they selected, the
 21 patents and publications?
 22 A I have been given a set of
 23 literature to consider, and I have read the
 24 literature and I have evaluated them.
 25 Q So is it fair to say that all the

1 J. Lercher
 2 here suffices.
 3 Q You were aware of the recent history
 4 of the '662 patent; correct?
 5 A I am aware.
 6 Q You were retained by Johnson Matthey
 7 in that re-examination to provide an expert
 8 opinion regarding the '662 patent; correct?
 9 A I have been retained by
 10 Johnson Matthey to provide an expert opinion
 11 on specific selected questions from
 12 Johnson Matthey.
 13 Q In the reexamination of the '662
 14 patent, you submitted at least two
 15 declarations; is that right?
 16 A That is correct.
 17 Q How much total compensation did you
 18 receive from Johnson Matthey in that matter?
 19 A I'm sorry, I don't recall.
 20 Q How much have you been compensated
 21 to date by Umicore in this matter?
 22 A To date, nothing because I have not
 23 billed.
 24 Q Okay.
 25 Approximately how many hours have

1 J. Lercher
 2 you spent working on this matter for Umicore?
 3 A Working on this matter,
 4 approximately close to a hundred.
 5 Q And I think you -- probably in your
 6 report, do you have an hourly rate?
 7 A Yes. 400 euros.
 8 Q Is that your standard hourly rate?
 9 A That's my standard hourly rate.
 10 Q Aside from the consulting
 11 relationship you have with Umicore with
 12 respect to these IPRs, are you doing any other
 13 work for Umicore at present?
 14 A No.
 15 Q Have you in the past done any work
 16 for Umicore?
 17 A No.
 18 Q Do you receive any funding from
 19 Umicore?
 20 A No.
 21 Q So aside from the compensation
 22 you've received or will receive from Umicore
 23 in this matter, you have not previously
 24 received any compensation from Umicore?
 25 A No.

1 J. Lercher
 2 diesel engine?
 3 A Can you be a little more precise in
 4 this? Do you mean whether I personally was
 5 aware by 2007 or whether I'm aware of
 6 technology prior to 2007?
 7 Q I think sitting here today, I'm
 8 asking if you were aware of what was going on
 9 before 2007.
 10 A I am aware today of what's going on
 11 before 2007.
 12 Q So then prior to 2007, what types of
 13 catalysts had been used for SCR of nitrogen
 14 oxides in a diesel engine?
 15 A At that point the technology was in
 16 a state of emergence. It has been developed,
 17 but around this time you had three classes of
 18 catalysts that were considered and under
 19 development: One was the vanadium based
 20 materials mostly considered for trucks which
 21 were derived from technology that were -- let
 22 me take a step -- that were derived from
 23 technology and exhaust emission of stationary
 24 sources.
 25 Let me take a step back and be a

1 J. Lercher
 2 Q That might be confusing.
 3 You mean that you have not received
 4 any compensation?
 5 A I mean I have not received any
 6 compensation.
 7 Q Do you currently have an existing
 8 consulting relationship with Johnson Matthey?
 9 A No.
 10 Q Are you currently receiving any
 11 compensation from Johnson Matthey?
 12 A No.
 13 Q The '662 patent was filed on
 14 February 27, 2008, and there's a provisional
 15 application that was filed a year before on
 16 February 27, 2007; correct?
 17 A Yes.
 18 Q So when I refer to the filing date
 19 of the '662 patent, I'll be referring to the
 20 2007 date.
 21 A Yes.
 22 Q Prior to the filing date of the '662
 23 patent, are you aware of what types of
 24 catalysts had been used for the selective
 25 catalytic reductions of nitrogen oxides in a

1 J. Lercher
 2 little bit more precise.
 3 We have to differentiate in that
 4 technology from exhaust catalysis for auto
 5 engines and exhaust catalysis for diesel
 6 engines or for engines which were operating
 7 under lean-burn conditions.
 8 If I confine this to lean-burn
 9 conditions for the time being, because I think
 10 this is where we are addressing the discussion
 11 in the deposition today, there were these
 12 three technologies that I'm referring, so I'm
 13 leaving out the classic three-way catalysts
 14 under those conditions.
 15 Now, in addition to the vanadium,
 16 there was discussion on hydrocarbon selective
 17 reduction using zeolite catalysts with
 18 transition metal oxides.
 19 There was discussion about NOX
 20 reduction using ammonia with transition metal
 21 loaded zeolites, and there was discussion
 22 about storing NOX intermittently or storing
 23 NOX and reducing the storage materials
 24 intermittently as a storage reduction catalyst
 25 technology.

1 J. Lercher

2 So, in total, it may have been four
3 different types of technologies that were
4 considered.

5 Q So to summarize your answer a bit,
6 you identified four technologies, which were
7 the vanadium based, the hydrocarbon with metal
8 exchange zeolites, NOX with ammonia using
9 metal exchange zeolites, and storage based --

10 A Storage reduction-based catalysis.

11 Q Which of those four had been used
12 commercially before 2007?

13 MS. GARDNER: Objection to form.

14 A Can you be more precise on this one?

15 Q What don't you understand about my
16 question?

17 A When you say which technology has
18 been used commercially under those conditions,
19 the word "commercially" could have several
20 meanings. It could mean that it was in a
21 commercial development stage. It could mean
22 it was commercially deployed.

23 To be honest, by 2007, I am a
24 researcher who looks at fundamental aspects,
25 so I would not really follow in detail which

1 J. Lercher

2 of the technology was composed at which time.

3 Q I'll try my question to be more
4 precise. And if you don't know, you can say
5 you don't know.

6 Which of those four technologies had
7 been commercially deployed by 2007?

8 MS. GARDNER: Objection to form.

9 Q If you know.

10 A Honestly, I'm not sure of which one
11 has been deployed to which extent.

12 Q Okay.

13 The vanadium-based catalyst, do you
14 know if that had been commercially deployed
15 prior to 2007?

16 A There has been in stationary
17 sources, yes, of course.

18 In automobiles -- for large trucks,
19 I know it was considered seriously, and I
20 think it was implemented in some models for
21 heavy trucks by MIN in Germany.

22 Q Now, you've used the word
23 "stationary" a few times, and I probably
24 should ask you about that. What do you mean
25 by "stationary"?

1 J. Lercher

2 A Stationary are the exhaust produced
3 by a power plant in burning fossil fuel or
4 renewable fuels, any carbon based fuels.

5 Q And you've been sort of
6 distinguishing exhaust treatment from
7 stationary sources from exhaust treatment in
8 mobile applications?

9 A Yes, I do.

10 MS. GARDNER: Objection to form.

11 Q Would you agree that before 2007, it
12 was well known that the hydrothermal stability
13 of zeolites was an obstacle to their use in
14 diesel engines?

15 A The hydrothermal stability of
16 zeolites is always an obstacle for every
17 implementation. It's always a challenge.
18 Whether it's surfaces or not depends on the
19 zeolite material. It has been always cited to
20 be a problem.

21 Q Are you aware of any specific
22 publications to cite hydrothermal stability of
23 zeolites as an obstacle to their use in diesel
24 engines prior to 2007?

25 A Prior to 2007, one of the easiest

1 J. Lercher

2 sources would be, for example, reviewed by
3 Centi on NOX reduction.

4 Q I think I have a copy of that. This
5 will be Exhibit 2012.

6 A Thank you.

7 Q Is this the paper you were referring
8 to?

9 A It is the paper that I'm referring
10 to, that you're referring to.

11 Q At the bottom, there's a label with
12 an Exhibit 2012 and then a dot?

13 A Yes.

14 Q Why don't you go to page, it's .005.

15 A Yes.

16 Q And then at the bottom of the first
17 paragraph, there's a sentence that starts --
18 it's sort of like 3/4 of the way down,
19 "Indeed." Do you see that? "Indeed several
20 unresolved problems limit..."

21 A "Indeed several unresolved problems
22 limit the outlook for successful use of
23 zeolites in automotive converters."

24 Q The first one that is listed is
25 hydrothermal stability; correct?

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