

- 1 The chairman opened the proceedings at 09:40.
- 2 The chairman noted that the representative for the opponent (P. Farago) was accompanied by Mr Andrei Rauta and asked in which capacity Mr Rauta was present.
- 3 Mr Farago responded that Mr Rauta had assisted in drafting the opposition and would be observing the proceedings.
- 4 The chairman summarised the procedure to date and asked the representative for the opponent and then the representative for the proprietor to confirm their respective requests, which they did.
- 5 The chairman noted that documents D10-D16 and annexes 1-3 had been filed outside the opposition period and informed the representatives that their admissibility into the procedure would be addressed only as and when necessary.
- 6 The representative for the proprietor (D. Goller) argued that D10 was not relevant because it is an opinion, not a decision, that the documents D11-D16 were not relevant to the procedure since D11-D14 were concerned with the US procedure, that D15 disclosed arguments that had already been presented in the procedure to date and that D16 predates the patent it is intended to rebut.
- 7 The representative for the opponent argued that the new documents were filed in response to arguments of the proprietor based on D3, which found that the EPO had serious doubts concerning Article 83 EPC for a related application. As such the arguments relating to sufficiency of disclosure present in D11-D14 were relevant, especially in view of the fact that sufficiency of disclosure is a general principle and not dependent on US procedure.

- 8 The representative for the opponent also argued that Annexes 1-3 were not real experimental results of the claimed invention since they did not involve cluster nanostructures.
- 9 The chairman summarised the notice of opposition, noting that the following issues were disputed:
- lack of disclosure (Articles 100(b) & 83 EPC)
 - lack of industrial application (Articles 100(a) & 57 EPC)
 - lack of novelty pursuant to Articles 100(a) & 54 EPC
 - lack of inventive step pursuant to Articles 100(a) & 56 EPC
- 10 The representative for the opponent confirmed the maintenance of the opposition and argued that there are serious doubts over whether the orbital capture mechanism works or produces energy. Specifically, there is no scientific literature describing this reaction mechanism. Furthermore, the cloud chamber evidence cited by the proprietor in the letter of 23.08.2017 relates to a nickel "rod" and makes no mention of cluster nanostructures and thus cannot be used as evidence for the orbital capture mechanism. In addition, the representative argued that it was not clear exactly what had been tested and which type of machine had been used in the cloud chamber photographs. Therefore, the proprietor has not provided evidence that the orbital capture mechanism works.
- 11 The chairman asked the representative for the opponent which method steps in claim 1 were being objected to.
- 12 The representative for the opponent replied that steps (b), (d), (e), (g), (h) and (j), as labelled in the notice of opposition, are objected to. Specifically:
- (b) - it is not sufficiently disclosed how much a predetermined amount of cluster nanostructures is;
 - (d)(e) - the critical temperature required for dissociating H₂ molecules is not sufficiently disclosed;
 - (g)(h) - the orbital capture mechanism is not sufficiently disclosed;

- (j) - the predetermined maximum distance is not sufficiently disclosed.

13 The representative for the proprietor responded by arguing that the opposition proceedings are not concerned with defending the theory behind the orbital capture mechanism: what is important is whether the results can be achieved by following the method steps claimed. Furthermore, the representative argued that:

- Concerning (b) - D1 discloses (page 20 last paragraph) observing a critical transition of physical property in order to achieve clusters with a predetermined number of atoms.
- Concerning (d) - D1 refers to the Debye temperature as the critical temperature and the application is built on the teaching of D1, referring often to this document.
- Concerning (e) - it is well known in the scientific literature that (transition) metals absorb high amounts of H_2 , that they dissociate at a critical temperature and that this leads to formation of both atoms and H^+/H^- pairs.
- Concerning (g)(h) - the representative noted that the opposition division had stated that whether or not orbital capture occurs probably won't be resolved by the proceedings and he argued that we should observe the nuclear reaction products to find evidence that it occurs, citing the cloud chamber photographs showing proton emission in the letter dated 23.08.2017.
- Concerning (j) - the predetermined maximum distance corresponds to the mean free path of the emitted protons.

14 The first examiner asked whether any publications existed that provided evidence for the orbital capture mechanism and/or proton emission.

15 The representative for the proprietor indicated that such publications could be found on the internet, in particular, at the website www.nichenergy.com. In addition, the representative further elaborated that:

- normally, rods, such as that shown in the cloud chamber photographs, do not emit protons;
- the cloud chamber photographs were taken in 2013 and that the reactor had not changed over the years: fine tuning of the apparatus had occurred but it was fundamentally the same reaction cell;
- Annex 3 provided evidence of nuclear processes occurring: in this case, the emission of neutrons;
- D1 discloses a nickel rod which is coated with nanometric clusters and excess heat production is observed.

- 16 The representative for the proprietor also noted that he disliked the term "cold fusion" since the invention concerns a nuclear process that only occurs in metal lattices.
- 17 The chairman paraphrased the arguments of the representative for the proprietor as being that orbital capture cannot be proven, however, primary reaction heat has been observed.
- 18 The representative for the proprietor added that paragraph 0092 of the patent disclosed that protons were expelled and can be observed.
- 19 The primary examiner asked whether the expected proton energy had been calculated and observed, and whether any evidence of this had been published.
- 20 The representative for the proprietor answered that they don't have such calculations.
- 21 The chairman noted that evidence was needed that the primary material emits protons.

- 22 The representative for the proprietor referred the chairman to the cloud chamber photos in the letter dated 23.08.2017 and that copper had also been identified in the rod.
- 23 The chairman noted that while the presence of copper in the rod provided evidence for the emission of protons, it did not necessarily imply that the protons were emitted via an orbital capture process. The chairman then enquired whether there was any evidence for the secondary reaction generating heat.
- 24 The representative for the proprietor stated that there was no evidence for this, however, protons are well known to heat shielding when captured.
- 25 The chairman explained the requirements regarding sufficiency of disclosure and noted that reproducible examples were needed.
- 26 The representative for the opponent then argued that the cloud chamber photos were the only evidence for proton emission, however, there was no evidence that the rod was coated in cluster nanostructures. Furthermore, the applicant should explain the details of the apparatus used.
- 27 The representative for the opponent explained that the orbital capture of ions and subsequent generation of protons according to method steps (g), (h) and (k) were being challenged here.
- 28 The representative for the opponent noted that the word cluster does not occur anywhere in the evidence submitted by the proprietor, even though it would appear fundamental to the invention: assuming that protons are emitted by the rod, there is nevertheless no evidence for protons being emitted by clusters.
- 29 The chairman noted that the proprietor had been requested to provide further evidence for orbital capture and proton emission in the summons, and then asked the representative for the proprietor whether he needed to refer to the

annexes filed with his letter of 23.08.2017 in this regard. In which case the admissibility of these documents into the procedure would need to be addressed.

- 30 The representative for the proprietor stated that this was not necessary for providing evidence for the emission of protons since annexes 1 & 2 provided an overview of the technology, while annex 3 provided evidence for the observation of anomalous heating. Furthermore, the description of the experimental apparatus in annex 3 did not state that the rod is coated with nanoclusters, however, the representative asserted that the rod has always been coated in this way and referred to the proprietor's website.
- 31 The chairman asked whether the cloud chamber photo on the left in the communication dated 23.08.2017 was the only evidence of proton emission and the representative for the opponent confirmed this.
- 32 The chairman noted that although no direct evidence was produced for generation of heat by protons hitting the secondary material, all parties agreed it would occur.
- 33 The representative noted that the graph shown on page six of the communication dated 23.08.2017 showed a temperature increase, although this would result from a combination of both primary and secondary heat generation.
- 34 The first examiner noted that this would have to be compared with the temperature increase measured when the secondary material was not present in order to provide clear evidence of secondary heating.
- 35 The representative for the proprietor argued that proton heating was not considered in doubt, therefore, no documents were cited as evidence for its occurrence.

- 36 The representative for the opponent stated that the representative for the proprietor speaks as though he performed the experiments himself, however, we only have his statements and they alone are not sufficient evidence.
- 37 A break was made in the proceedings at 11:15 for the opposition division to consider the arguments of the parties.
- 38 The chairman reopened the proceedings at 11:47 and informed the parties that the opposition considered that the patent on file did not sufficiently disclose the invention according to Article 100(b) EPC. Specifically, no convincing evidence was provided for the orbital capture mechanism and the proton emission and subsequent secondary reaction heating arising therefrom.
- 39 The chairman noted that the auxiliary requests 1-5 also did not meet the requirements of Article 100(b) EPC for the same reasons as the main request. She then asked the representative of the proprietor whether he wished to file any further requests.
- 40 The representative for the proprietor replied that he did not wish to file any further requests since they would necessarily suffer from the same problems.
- 41 The chairman then announced the decision of the opposition division to revoke the patent in accordance with Article 101(2) & 101(3)(b) EPC and informed the representative of the proprietor that this decision was appealable under Articles 106, 107 & 108 EPC.
- 42 The chairman closed the proceedings at 11:50.

Application No.:

12 728 780.3

Patent No.:

EP-B-2 702 593

Direct Decision:

☐ yes ☒ no

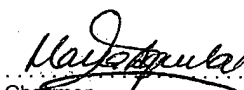
Revocation of the European Patent (Art. 101(2) EPC)

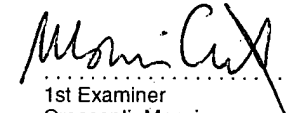
The Opposition Division - at the oral proceedings dated 26.09.2017 - has decided:

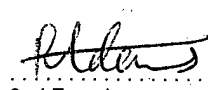
European Patent No. EP-B- 2 702 593 is revoked.

The Grounds for the decision (Form 2916) are enclosed.

16/10/2017
Date


Chairman
Aguilar, Maria


1st Examiner
Crescenti, Massimo


2nd Examiner
Adams, Richard

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Legally qualified member