

- A. As a European Patent Attorney, I can represent Dr Eamer (E hereafter) before the EPO as ISA and IPEA provided I am appointed under PCT Rules 90.1 (b) and (c), even though the PCT applications were presumably filed at the USPTO as receiving office (competent R.O. for US applicant). A power of attorney signed by E will need to be filed at the EPO (PCT Rule 90.4 (b)).

The priority claims of PCT-Super & PCT-MAG seem valid as they are with 12 months of the first filings - Art 8 PCT, & Paris Convention Art 4. They are also identical to their respective priority applications, so all matter is entitled to priority. Any intervening disclosures will not be citable under Art 54(2) and G3/93 (because the invention is the same). There is a potential problem that PCT-MAG describes a room temperature super conductor as an essential element, but does not disclose any, and if these materials were not available to the public at the time of filing (priority), the application might lack sufficiency certainly under EPC Art 83. However, PCT-SUPER has a priority date later than PCT-MAG so even that cannot be used to give sufficiency.

- I comment further on this under part E below.

To maintain PCT-SUPER & PCT-MAG. File authorization for me to act before EPO as IPEA (can be filed after taking action, on request from EPO, but if the time limit set is missed, any action taken will be considered not to have been done).

PCT cases were filed 30/1/98.

I'm assuming the filing formalities have been dealt with e.g. transmittal fee, International fee (basic + designations), Search fee (Art 3 (4) (iv) PCT) - these are all due to Receiving Office anyway. (Rule 15.1, Rule 16.1 (b) PCT). The relevant certified priority documents need to be filed by 16 months from priority dates Rule 17.1 PCT at either the IB or RO receiving office - but presumably as USPTO was RO the copies of priority documents was taken care of on filing the PCT applications under Rule 4.1 (c) (ii) PCT by requesting to USPTO to furnish copies.

- To obtain the delaying effect for entering the National phase after IPE under Chapter II PCT a Demand for IPE must be filed under Art. 31 PCT electing the required states for IPE by 19 months from the priority date by Article 39 PCT. The demand must be filed at the competent IPEA (i.e. EPO) under Art 31(6)(a).

PCT-SUPER 1/5/97 + 19 months
= 1/12/98 (Tuesday)
PCT-MAG 30/4/97 + 19 months
30/11/98 (a Monday)

For each case a handling fee under Rule 57 PCT is due and an Int. Preliminary Exam fee: Rule 58 PCT. Both fees can be paid later, within 1 month of notification by EPO under Rules 57.4 PCT & 58.2 PCT respectively.

Part B

Patentability of EP application claiming priority of US3. The priority claim from US3 will only be valid for the new matter in US3

- since under the Paris Convention, Article 4, and EPC Art 87 (1) priority must be from the FIRST application in or for a convention state, so all matter in US-Super and also in US3 will not be entitled to priority unless priority of US-SUPER is also claimed. This would require the EP application with both priorities to be filed by 1/5/98 - an excluded day, so can be filed by 4/5/98 - next day on which all EPO receiving offices are open. Rule 85(1) EPC. If only priority of US3 is claimed then PCT-SUPER when it enters EP regional phase will be prior art for novelty under Art 54 (3) EPC and Art 158 (1) & (2) EPC, in respect of the claimed superconductors of US-SUPER encompassed by US3. The crystal structure and oxidation resistant aspects appear novel.

ELECTRONIC disclosure issues:

Disclosures were made from 15/8/97 within the department and from 1/11/97 world-wide on Internet. They appear to be enabling and to destroy the novelty of certain of the super conductors covered in US3. Prof. Sceptics comments might be relevant to lack of inventive step issues (no motivation), but not to novelty.

There are reasons why the first disclosure was not "made available to the public" because only authorized persons could access the information using passwords and only within the Physics Dept. We do not know the conditions of access, but confidentiality is a likely one. So not prior art under Art. 54(2).

The second release of info from 1/11/97 appears to be publicly available. However, under Art. 55(1) EPC, a disclosure as a consequence of evident abuse in relation to the applicant shall be disregarded under Art 54 if it occurred no earlier than 6 months before the filing of the European application (it is not certain whether "filing" means priority or actual filing date) - Art 89 does not apply, which suggests filing means filing. Therefore to avoid the prior art effect of the disclosure I advise filing the EP application within 6 m of 1/11/97 i.e. 1/5/98 → N.B. this is not extended by Rule 85 (1), so in practice the last day would be 30/4/98 at Munich or Berlin (The Hague is closed that day) to ensure the filing date is within 6 m of the disclosure in breach of confidence Art 55 (1).

Evidence that the disclosure was an evident abuse would be needed on request by the EPO - but it seems clear Dr E did not consent and he is the applicant.

In the US there is a 12 m grace period under 35 USC 102 (b), so the disclosures won't jeopardize US3. Furthermore, the disclosure of the room temperature super conductors of US-SUPER seems to make their crystal structure known (available to skilled person) and Prof. S. says it is common general knowledge that the crystal structure is important so this would make the claimed crystal structures in US3 obvious. In contrast, the oxidation resistance of one class of these would appear to be inventive over the disclosure, but for convenience and economy, I suggest filing applications claiming priority from US3 and US-SUPER by 30/4/98.

Part C

FR1 filed 15/1/98. Discloses the method for making the room temperature superconductors of Dr E (and the products themselves).

(a) PRIOR ART effect. - patentability.

- PCT-SUPER and PCT-MAG have earlier priority so FR1 not relevant.
- US3 - a resulting application in Europe might face FR1 as a national prior right or an EP claiming priority from FR1 as a A. 54 (3) art, but the relevant content of FR1 was obtained as an evident abuse - so provided Art 55 (1) conditions are met (see part B above) it will not be relevant.

The publication of the FR1 work at a seminar on 23/3/98 is after the filing date of US3 (12/3/98) so is not prior art under Art 54 (2) EPC against an EP application claiming valid priority from US3.

(b) Exploitation

Entitlement - it seems the invention of the wire method is new and inventive, so Dr E is not entitled to any part of it, but Filarus S.A. will need a sublicense from the University to make wires from the superconductor assuming patent rights are granted from PCT-SUPER or US3.

Conversely, if magnets according to PCT-MAG are made using wire according to FR1, the manufacturer will need a licence under both assuming patents are granted.

PART D - Effect of US4:

Regarding Novelty and Inventive step; PCT-Super seems good/patentable. US4 appears to render PCT-MAG obvious, but although filed on 3/2/97 US4 was not published until grant under the US4 system. In the European Regional phase of PCT-MAG, US4 will not be prior art at all (not even Art 54 (3), assuming there are no corresponding European applications). In the US4 regional phase there may be an "interference" action between US4 and US4-MAG (or resulting US phase of PCT-MAG) because the US patent system is a first to Invent system not a first to file. We are told Dr E invented sometime in early 1997. Dr Ghosh, being from Bombay (India a non-Paris convention country) may only be able to establish the date of filing as the date of invention i.e. 3/2/97, so it may depend on whether Dr E can prove he invented the magnet structure before 3/2/97 or not.

Exploitation:

In Europe Dr E and the university seem to have the patent rights regarding the magnet structure. In USA, if US4 wins an interference, Dr G will have rights to the magnet structure there, but will need a licence to use Dr E's superconductors assuming US3 and/or PCT-SUPER are granted in the US.

Part E

Improving the patenting position. It seems necessary to file some new application(s):

1. PCT-MAG seems either (i) unnecessarily limited by the essential feature of the room-temp superconductors or (ii) lacking sufficiency for these superconductors.

I suggest filing a new PCT application claiming priority from US-SUPER, US-MAG and US3, with claims to:

- The super conductors of specific crystalline structure (US3)
- The specific superconductors of US-SUPER
- The specific new found superconductors of US3.
- The oxidation resistant class of superconductors US3.
- Methods of making all of the above.
- Method of making tapes from above.
- A novel magnet structure of US-MAG.
- The magnet structure made using the above superconductors.
- The magnet structure made using the superconductive tape

All three of the priority applications are in Dr E's name so there is no problem over priority entitlement. For the reasons discussed in part B the new application should be filed by 30/4/98.

The oxidation resistant class could be filed in a later application just claiming priority from US3, but it would involve extra expense. It is likely, but not certain, that the magnet claims and the super conductor claims lack unity of invention. If desired, extra search and examination fees can be paid in the International phase and the application divided in the national or regional phases. A demand for IPE

will need to be filed at the EPO by 30/11/98 for the new PCT case and PCT-MAG and PCT-SUPER can be allowed to lapse. A reduction in search fee could be requested from the EPO as ISA if searches have already been done on PCT-MAG & PCT-SUPER before the new case is filed (unlikely given the short time).

This proposal is putting "all the eggs in one basket", but seems necessary and cheapest because of the problems of PCT-MAG, and US3 would need convention applications filed anyway.

For the broad magnet claim to be entitled to priority it would need to be established that removal of the feature of the room temp s/c did not "add subject matter" i.e. was the still the same invention as in US-MAG. This might prove difficult because it was presented as an essential integer, which is the first test in T331/87.

This is yet another reason for refiling - if PCT-MAG were amended to have the broad magnet structure claim this would possibly add subject matter which is not allowed under Articles 19, 28, 34 or 41 PCT or Art 123(2) EPC and would be a ground for opposition or revocation, whereas refiling with these claims might just lack entitlement to the priority date claim of US-MAG for this aspect, but would otherwise be valid.

Other Points

Erasing of Prof. S's article from the Internet on 14/1/98 is irrelevant. Subject matter cannot be removed from the public domain - it was made available on 1/11/97.

Erasure just makes proving what was disclosed more difficult, and establishing the non-prejudicial effect of Art 55 EPC.

Ownership/Rights

Dr E's employment contract seems to be satisfied in that Prof. S. consented to him filing applications in his own name and he owns the rights.

It is uncertain whether Prof. S. made an inventive contribution to US3 by suggesting Dr E investigate the crystal structure - I have assumed he did not as it was based on common general knowledge.

Dr. E. is presumably free to grant an exclusive licence back to the University with right to grant sub-licences. This licence could be registered for the PCT application (no official procedure, but will be noted) and EPC Rule 21.