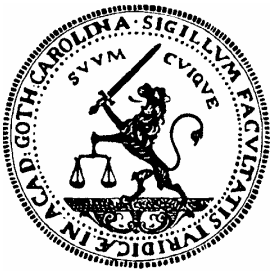

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Assessment of inventive step

Master thesis
30 credits

Supervisor
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Field of study
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"*The Master thesis is a genuine handicraft.*"[1]

[1] Professor at civil law Mister Hans-Henrik Lidgard

Contents

Synopsis

There are a number of factors which influence an objective assessment of *inventive step* i.e. the skills of the Examiner, the hindsight knowledge, the guidelines for examination and not the least the ability to rightly define a fictive reference which delimits the obvious from the non-obvious. Once this fictive reference, known by the name as the skilled person in the art, has been established the assessment of *inventive step* begins.

The characteristics of the person skilled in the art have to be assessed at the time of the invention which in many cases dates back several years. This renders more difficult a proper assessment of *inventive step*.

Most of the inventions are a combination of already known elements with well-known functions with the result that the inventive activity is a question of how the person skilled in the art has come to combine the known elements in the manner claimed by invention without a reasonable expectation of success. The aforementioned ability to combine often belongs rather to creativity or logic than to an inventive activity – qualities which, according to guidelines for examination at both EPO and USPTO, make the person skilled in the art build the obvious apparatus.

The ex-post analysis is a yet another complex problem which appears to have been discussed more in the literature than in cases from the Board of Appeal at both EPO and USPTO. The argument of ex-post analysis appears to be invariably raised to reverse a decision to deny *inventive step* – the Board of Appeal giving little, if any, explanation thereof.

In order to diminish the risk of patent over-issuance the United States of America Supreme Court in a landmark decision in KSR has opted for a more flexible approach with regard to the ability of the person skilled in the art to combine known elements in the art thus arriving at the claimed invention. At EPO level there are a number of guidelines aiming to provide support in the assessment of *inventive step* but as it may be concluded from the cases presented in this thesis the question of how to assess the *inventive step* still remains a question of subjective approach.

It emerges from the description of this thesis that the assessment of *inventive step* is not always predictable or objective despite efforts to contrary. This may suggest that there is a need for reform. A possible way to overcome these deficiencies is to renounce the prerequisite *inventive step* and to introduce a system similar to the copyright or design where the absolute right to the apparatus changes to a relative right when faced with a similar but independent created apparatus.

Sammanfattning

Ett antal faktorer påverkar en objektiv bedömning av *uppfinningshöjden* dvs. patentexaminators skicklighet, efterklokhet, fastställda riktlinjer för examination och inte minst förmågan att riktigt bestämma en fingerad referens som avgränsar det uppenbara från det icke-uppenbara. Sedan denna fingerade referens känd under namnet fackman (sakkunnig) har utformats, börjar bedömningen om uppfinningen innefattar *uppfinningshöjd*.

Fackmannens kännetecken måste bestämmas vid tiden då uppfinningen utförts vilket i många fall innebär flera år tillbaka i tiden. Detta försvårar ytterligare en lämplig bedömning av *uppfinningshöjden*.

De flesta uppfinningar består av en förening av kända beståndsdelar med väl kända funktioner som medför att *uppfinningshöjden* blir en fråga om hur fackmannen fick tanken att kombinera de väl kända beståndsdelarna på samma sätt som uppfinningen hävdat utan skälig förväntan till att lyckas med det. Den förutnämnda förmågan att kombinera ofta hör snarare till kreativitet eller logik än till en uppfinnande verksamhet – egenskaper som, enligt riktlinjer för examination vid både EPO och USPTO, förmår fackmannen bygga den uppenbara apparaten.

Den så kallade "efterhand analysen" eller "efterklokhet" är ännu en invecklad fråga som verkar ha övervägts mest i litteraturen än i avgöranden från vadnämnder vid både EPO och USPTO. Den "efterhand analysen" verkar undantagslöst åberopas som skäl för att upphäva beslut om avslag på grund av brist på *uppfinningshöjd* – emellertid utan att vadnämnden ger utförliga förklaringar därom.

I syfte att minska risken för att uppenbara uppfinningar patenteras har Högsta domstolen i Amerikas Förenta Stater i ett vägledande avgörande i KSR valt en mera elastisk inställning gentemot fackmannens förmåga att förena väl kända beståndsdelar på det sätt uppfinningen uppvisar. Vid EPO finns ett antal riktlinjer i syfte att lämna stöd för bedömningen av *uppfinningshöjden*. Dock, såsom framgår av de i denna uppsats framställda ärendena vid vadnämnden, frågan om hur bedömningen av *uppfinningshöjden* utförs kvarstår som en obesvarad fråga om subjektiv inställning.

Det framkommer ur uppsatsens skildring att bedömningen av *uppfinningshöjden* inte alltid är förutsägbar eller objektiv trots ansträngningar till motsatsen. Detta torde tyda på ett behov av att förbättra patent lagen. Ett möjligt sätt att övervinna dessa brister är att avstå från rekvisitet *uppfinningshöjden*. Inför istället en ny ordning lik upphovsrätten eller mönsterskyddsrätten där under vissa omständigheter den ovillkorliga rätten till uppfinningen blir villkorlig då en annan liknande uppfinning är ett oberoende skapande.

Preface

My name is Radu Dumbraveanu[2]. I have been awarded the degree of Master of Science in Electrical Engineering from Lund Technical College at Lund University.[3] I speak Deutsch, English, Français, Nederlands, Română and Svenska. I play Tennis and Golf. I keep in form doing swimming and Karate. I am active in several societies. I have worked as Development Engineer in the Research & Development department in telecom industry. I have worked as Patent Examiner in media, audio, video department at the European Patent Office in the Netherlands where I was deciding upon patent grant procedure for patent applications from all over the world. This determined me to further improve my knowledge within Intellectual Property Law. During the advance course in Intellectual Property Law at the Faculty of Law at Lund University, which is my second Faculty, I have been doing research on the *novelty* requirement in patent law and wrote an academic research paper named *Novelty requirement in Swedish patent law*. Finalizing my studies at the Faculty of Law at Lund University, I decided to further research in the field of Intellectual Property Law. Therefore this Master thesis is covering the assessment of *inventive step* in patent law at European Patent Office and at United States Patent and Trademark Office.

My conviction that the co-operation between people is one of the cornerstones in achieving high quality goals and a better society has grown stronger through the years.

A further research on the assessment of *inventive step* might be carried out, where applicable, within the patent law of Angola, Bangladesh, Cameroon, Chile, China, Colombia, Democratic Republic of Congo, Congo, Cuba, Ecuador, Eritrea, Ethiopia, Gabon, Ghana, Guatemala, Honduras, India, Indonesia, Japan, Cambodia, Kazakhstan, Kenya, Democratic People's Republic of Korea, Republic of Korea, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malaysia, Mali, Mexico, Middle East, Namibia, Niger, Pakistan, Paraguay, Peru, Philippines, Russian Federation, Somalia, Sudan, Togo, Uganda, Uruguay, Zambia and Zimbabwe.

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[2] Aka "Tiger"

[3] The tuition fees are paid for at University in Sweden courtesy of my country's education system.

Acknowledgements

Professor at civil law Mister **Hans-Henrik Lidgard** the supervisor of this Master thesis contributed with valuable counsel as the advice to write in English the thesis, to bring USPTO into my research and delimitation of the subject to be covered to EPO and USPTO.

Ph.D. candidate at law Mister **Timo Minßen** at Faculty of Law at Lund University provided article[4] about the KSR case as well as read this Master thesis and contributed with valuable opinions.

Chief Judge at the Swedish Court of Patent Appeals Mister **Per Carlson** provided me at my request with the translation in Swedish of *inventive step, person skilled in the art* and *person having ordinary skills in the art*.

Lecturer at law Madam **Ulrika Andersson**, Librarian Madam **Annika Hellbring**, Lecturer at law Madam **Annika Nilsson**, Lecturer at legal studies Madam **Annika Rejmer**, Librarian Madam **Anna Wiberg**, Lecturer at law Madam **Elsa Trolle Önnerfors**, Lecturer at law Mister **Christian Dahlman**, Lecturer at law Mister **Christian Häthén,** Lecturer at law Mister **Patrik Lindskoug** and Lecturer at law Mister **Mats Tjernberg** provided advice for all the students which began writing Master thesis at law in Autumn 2009.

The access to Westlaw database was possible courtesy of **Faculty of Law at Lund University**.

[4] Minßen Timo, *The US examination of non-obviousness after KSR v Teleflex with special emphasis on DNA-related inventions*, International Review of Intellectual Property and Competition Law, 2008, p. 886-916, cited as IIC 2008, 39(8), 886-916

Abbreviations

BPAI	Board of Patent Appeals and Interferences at USPTO
CAFC or CAFed	United States of America Court of Appeals Federal Circuit
CFR	Code of Federal Regulations Patents, Trademarks and Copyrights
CLTBA	Official issued case law from Technical Board of Appeals at EPO
CSJ	Corpus Juris Secundum[5]
EPC	European Patent Convention, 13th edition 2007
EPO	European Patent Office
EU	European Union
F., F.2d, or F.3d	United States Court of Appeals (e.g. CAFC) cases are published in the Federal Reporter (e.g. 2d – second series).
Fed.Appx.	Federal Appendix - judicial opinions of the United States of America Courts of Appeals that have not been selected for publication. Such unpublished cases are ostensibly without value as precedent.
F. Supp. or F. Supp. 2d	U.S. District Court cases and cases from some specialized courts are published in the Federal Supplement.
GE	Guidelines for Examination at EPO
IS	Inventive step
MPEP	Manual of Patent Examining Procedure at USPTO
PATLAWF	Patent Law Fundamentals
PCT	Patent Cooperation Treaty
PHOSITA	Person Having Ordinary Skills in the Art
PSA	Person Skilled in the Art
RCE	Request for continued examination
TBA	Case from Technical Board of Appeals at EPO
TSM	Teaching, Suggestion or Motivation - test
U.S.	Cases from the U.S. Supreme Court are officially printed in the United States Reports
USC	United States Code
USCA	United States Code Annotated[6]
USPQ2d	United States Patent Quarterly (second series)
USPTO	United States Patent and Trademark Office
WL	Westlaw

[5] It is an authoritative legal encyclopaedia that provides general background knowledge of the U.S. law – secondary sources.

[6] It provides background knowledge about U.S.C. with citation to relevant case law – secondary sources.

1 Introduction

A patentable invention has, among other prerequisites, to be non-obvious to a person skilled in the same art[7] as the invention belongs. The present study attempts to examine the way in which the patent office at regional level EPO and the patent office in the United States of America assess the *inventive step* in a patent application.

A range of international conventions and treaties exists to harmonize the patent law at regional or at international level. The Paris Convention for the Protection of Industrial Property 1883 was the first convention – it offers 12 months of priority. Patent Cooperation Treaty 2000, which does not establish an international patent, is administered by WIPO and allows for the applicant to request an international search report and an international preliminary examination – it offers 30 months of priority in any of the Contracting States to the PCT until the applicant decides to go further at the national level. Agreement on Trade Related Aspects of Intellectual Property Rights 1994 lays down minimum standards with respect to substantive patent law[8]. The benefit of claiming priority is that the requirements for patentability, such as novelty and *inventive step*, will be measured against the prior art as it stood at the date of the priority.[9]

Apart from harmonisation of patent law there are treaties for better collaboration between the patent offices. One of the these developments is the Patent Prosecution Highway Pilot Programme e.g. between EPO[10] and USPTO which will permit each patent office to exploit the work previously done by the other patent office and reduce duplication to allow applicants to obtain corresponding patents[11] faster and more efficiently[12].

There are advanced negotiations at EU level to create a single Community Patent and a Unified Patent Litigation System to overcome the high costs and different legislation in the different designated members in case of patent litigation – litigation which otherwise has to take place in every designated member state to EPC. A community patent will be able to be awarded by EPO as soon as EC becomes member to EPC[13] – more probable now after the new EU treaty came into force on the 1st of December 2009.

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[7] The person skilled in the art is not the same person when assessing other properties of the specification e.g., novelty, clarity – where the person skilled in the art has access to the patent application in contrast with the obviousness assessment.

[8] Art. 27 *inventive step* Footnote 5: However, a member state can choose to assess the meaning of *not known* as synonym with *inventive step*. www.wto.org – visit 2009-10-08

[9] Aplin et al., *Intellectual property law*, Oxford University Press, 2009, pp. 457 *et seq.*

[10] EPO has 36 member states - www.epo.org – visit 2009-09-28

[11] Do you know what is a *triad patent*? It is a patent applied for and granted in USA, EPO and Japan. The patent offices of EPO, Japan, Korea and USA give already a joint *four office statistics report* – www.trilateral.net.

[12] http://www.epo.org - visit 2009-10-02

[13] http://documents.epo.org – visit 2009-10-02

1.1 Theme and purpose

The theme is patent law in Europe at regional level as stated in EPC as well as in the United States of America as stated in Patent Law Act. Particularly, the subject to be covered is the assessment of the prerequisite *involvement of inventive step*.

There are adjacent subjects covered as they are related to the *inventive step*. Thus an overview of the person skilled in the art is provided as well as different situations – as hindsight, different types of inventions, interpreting prior art – in which the Examiner or the Board of Appeal might find themselves when assessing the *inventive step*.

The purpose is to investigate whether the assessment of *inventive step* is accomplished objectively as well as whether it is predictable. Yet another question is to find an answer to whether there is a need for *inventive step* requirement whatsoever.

A certain part of the Purpose – i.e. *whether there is a need for inventive step requirement* – has been added near the completion of the thesis. It is not the ideal way but it arose as a necessary question following the results of the research.

1.2 Method and material

The method used is the traditional legal (dogmatic) method which is based on researches and interpretation of the legislation its case law and doctrines in a specific legal question – as in this paper the assessment of *inventive step*. The legislation is the EPC and the United States Patent Act. The case law consists of cases from TBA at EPO as well as from BPAI at USPTO.

The reason that I chose cases from BPAI and not from CAFC is that in my opinion they are more relevant for comparison reasons with those from BPAI as they are approximately on the same level regarding the prosecuting procedure with regard to the assessment of the *inventive step*.

Thereafter the comparative legal method is employed in order to assess the similarities and differences between the solutions provided by the two legal systems – in this paper the EPO/EPC and USPTO/Patent Act.[14]

The above mentioned descriptive part of the thesis comprises also an analytical one where the cases from the Board of Appeal are described as it is easier for the reader to relate to the case. The descriptive part is finally

[14] Further information about these methods can be retrieved from *Methods in legal research* by Professor at civil law Mister *Hans-Henrik Lidgard* and his students at Faculty of Law in Lund.

followed by analysis or conclusions of the subject-matter presented in the thesis.

I preferred to put forward a number of cases from TBA and BPAI as the characteristics of PSA/PHOSITA become more visible for the reader and can be compared with those characteristics set out in the guidelines for examination. In my opinion it is better to present cases to the reader where the reader herself or himself can judge how the assessment of inventive step is pursued at the patent office instead of rewriting statements from the literature.

All the cases presented are decided in 2009 which contribute to an up-to-date source material in the thesis.

The main material source for research with regard to the patent law at EPO is the homepage of EPO specifically the GE and the published case law and newly decided cases (2009) from TBA. The main source for research with regard to the patent law at USPTO is Westlaw as well as the homepage of USPTO specifically the MPEP and the newly decided cases (2009) from BPAI.

1.3 Disposition and delimitation

The first chapter is a short introduction to patent law in general.

The second chapter describes: the legal procedure at EPO as set forth in the EPC, the characteristics of PSA and the assessment of *inventive step* as set forth in GE as well as a survey of the *hindsight* issue. Further in this chapter are presented cases from TBA analysed by me.

The third chapter which has a similar structure as the second chapter describes: the legal procedure at USPTO as set forth in the United States Patent Act, the landmark decision in KSR from the Supreme Court, the characteristics of PHOSITA and the assessment of *inventive step* as set forth in MPEP as well as a survey of the *hindsight* issue. The last part of this chapter comprises cases from BPAI analysed by me.

The last chapters analyses the material in this thesis as well as a comparison between the two systems. There are also presented reasons leading to a conclusion with regard to the question put forward in the purpose of the thesis.

There are many situations which might arise when assessing *inventive step*. However, this thesis delimits its scope to the combination inventions as these are most frequent. This thesis though delimits its scope to a narrow technical area as apparatuses and devices. Thus this thesis does not treat the question whether the assessment of *inventive step* is consistent throughout

the different technical areas. Another obvious delimitation is that the research on the subject is accomplished for EPO and USPTO only.

The characteristics of the *person skilled in the art* as set forth in the guidelines for examination are numerous. However, the thesis marks off only part of those characteristics being considered by me having most influence in the assessment of *inventive step*.

There are a number of issues of different nature as those stated above which might further influence a consistent assessment of *inventive step*. An important and unexplored issue to be investigated in future thesis is what are the gender questions and their answers within the Intellectual Property Law. The reason is that for example female Examiners and their counterparts might differently weigh the characteristics of PSA/PHOSITA which in turn might lead to a different approach to inventiveness. This thesis does not treat the gender issue because of the limited time and space allocated for this thesis and not in the least because this issue might require a Master thesis of its own.

2 European Patent Office EPO

The European Patent Organisation which has legal personality has two organs: The European Patent Office and The Administrative Council. The European Patent Office is responsible for its activities to the Administrative Council. The official languages of the European Patent Office are English, French and German.[15]

The task of the European Patent Organisation is to grant European patents. This is carried out by the European Patent Office supervised by the Administrative Council. The Council has a Board[16] composed by chairman and deputy chairman[17] (ex-officio members) and three other members elected by the ex-officio members out of the Administration Council members.

Today, all but two of the members of the Administrative Council[18] are head or deputy of their respective national patent offices. According to SUEPO[19] this might be a conflict of interest situation because up to 50% of the renewal fees at EPO are part of the national patent offices budget[20]. This might lead to a lower requirement for patentability[21].

EPO applies the principle *first-to-file* when according priority to a patent application.[22] Non-prejudicial disclosures[23] do not affect this principle.[24]

2.1 Legal procedure

An invention has to comply with the requirements of Art. 52(1) EPC in order to be granted patent. These requirements provide that the invention has to be new[25], to involve an inventive step and to be susceptible of industrial application[26].

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[15] Art. 4, 5, 10, 14(1) EPC
[16] Art. 28 EPC
[17] At this moment the chairman is head of the French Patent Office and the deputy chairman is the head of Danish Patent Office. www.epo.org - visit 2009-10-23
[18] The members of Administrative Council are the members of the delegations of the EPC member states
[19] Staff Union of the European Patent Office
[20] I put this question to EPO but it answered that these figures are not public.
[21] http://en.wikipedia.org/wiki/Administrative_Council_of_the_European_Patent_Organisation – visit 2009-10-23
[22] Art. 87, 54 EPC
[23] Called also for *grace period* – it does not create a new priority date.
[24] Art. 55 EPC
[25] Art. 54 EPC – An invention shall be considered to be new if it does not form part of the state of the art.
[26] Art. 57 EPC – An invention shall be considered as susceptible of industrial application if it can be made or used in any kind of industry, including agriculture.

Technical progress is not a requirement for patentability under the EPC.[27]

The EPC does not require that an invention, to be patentable, must entail any useful effect. The EPC requires though, that the concept of *invention* implies a technical character.[28]

2.1.1 European Patent Convention

How to assess *inventive step* is found in Art. 56 EPC:

"An invention shall be considered as involving an *inventive step* if, having regard to the state of the art[29], it is not obvious to a person skilled in the art[30]."

An applicant files a patent application at EPO. If the application is rejected by the patent Examiner due to non conformance with the substantive regulation for examination (e.g. lack of *inventive step*) the patentee may request that the decisive decision to be taken by the Examining Division with oral proceedings[31]. Should the application still be rejected the patentee may appeal to the corresponding Technical Board of Appeal at the EPO according to the technology area for the patent at issue[32]. The Technical Board of Appeal can further refer questions on points of law to the Enlarged Board of Appeal.[33]

Once a patent has been granted it can be challenged at the Opposition Division[34] at the EPO level within 9 months after having been granted and published on a number of grounds[35] of which one is *lack of inventive step*.

The opponent can appeal against the Opposition Division's decision to the Technical Board of Appeal.[36]

Otherwise the patent can be challenged according to the procedures in the national law in the countries designated by the patent application.[37,38] The legal aspects following the patent (e.g. infringement) are governed by the law of the designated country.

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[27] CLTBA p.120
[28] CLTBA p.149
[29] The *state of the art* is defined in Art. 54 (2) EPC.
[30] PSA
[31] Art. 18 EPC
[32] There are currently 26 technical Board of Appeal. www.epo.org – visit 2009-10-21
[33] Art. 21, 22 EPC
[34] Art. 19 EPC
[35] Art. 99, 100 EPC
[36] Art. 21 EPC
[37] Art 138 EPC
[38] Technical Board of Appeal is the final instance available to the patentee, whilst the opponent, could always resort to the national patent courts. - TBA 1007/05 Electronic mail system

2.2 Assessing inventive step at EPO

The EPC requires that the invention involves an *inventive step* i.e., the invention is not *obvious* to PSA.

The term *obvious* means that which does not go beyond the normal progress of technology but merely follows logically from the prior art, i.e. something which does neither involve an inventive activity nor involve the exercise of any ability beyond that to be expected of PSA.[39]

2.2.1 Person Skilled in the Art

PSA[40] has to be assembled before assessing the *inventive step*. PSA should be presumed to be an ordinary practitioner in a field of technology aware of what was *common general knowledge* in the art at the priority date. PSA should also be presumed to have had access to everything in the state of the art, and to have had at her or his disposal the normal means for routine work and experimentation. PSA may also represent a group of persons, e.g. a research or production team. This may apply e.g., in certain advanced technologies such as computers or telephone systems.[41]

It is the normal task of PSA to be constantly occupied with the elimination of deficiencies, the overcoming of drawbacks and the achievement of improvements of known products.[42]

PSA is an expert in a technical field but she or he is not possessed of any inventive or creativity capability. It is the presence of such capability in the inventor which sets the inventor apart from PSA.[43]

PSA is devoid of mental or practical effort, or of purposive selection, when trying to find a solution to a problem.[44]

PSA is assumed to act not out of idle curiosity but rather with a specific technical purpose in mind. [45]

2.2.2 Problem-solution approach

In order to assess *inventive step* in an objective and predictable manner, i.e. without hindsight knowledge, the Examiner at EPO is applying the so-called

[39] GE Part C IV-23
[40] From the United Kingdom case law emerges e.g. these attributes about PSA: She or he has no private idiosyncratic preferences or dislikes. [*sicut*]
[41] GE Part C IV-22
[42] CLTBA p.154
[43] CLTBA p.135
[44] CLTBA p.159
[45] CLTBA p.132

problem-and-solution approach[46], without being aware (pretending that) of the patent application and the invention that it concerned:

(A) Determine the *state of the art* which includes the state of any relevant art in neighbouring fields i.e., field in which the same problem or one similar to it arises and of which PSA must be expected to be aware.[47]

Determine then the *closest prior art* which is generally that which corresponds to a similar use and requires the minimum of structural and functional modifications to arrive at the claimed invention.[48]

(B) Establish the *objective technical problem* to be solved. It is not necessarily the technical problem expressly formulated in the invention. The solution to it does not necessarily have to be an improvement over the prior art.

In order to establish in an objective way the technical problem to be solved the Examiner has to study the application, the closest prior art and formulate the difference, also called *the distinguishing features* of the invention, between the invention and the closest prior art. Thereafter the technical problem has to be formulated.[49]

In the context of the *problem-and-solution approach*, the technical problem means the task of modifying the closest prior art to provide the technical effects that the invention provides over the closest prior art.[50]

The technical problem addressed by an invention had to be so formulated as not to anticipate the solution.[51]

(C) The last step is to consider whether, starting from the closest prior art and the objective technical problem to be solved, there is any teaching in the prior art that would obviously have prompted PSA before the priority date to modify the closest prior art thereby arriving at *something falling within the terms of the claims*, thus achieving what the invention achieves.[52]

[46] Problem-solution-approach is derived from Rule 42 (1) (c) EPC: The description shall: disclose the invention, as claimed, in such terms that the technical problem, even if not expressly stated as such, and its solution can be understood, and state any advantageous effects of the invention with reference to the background art.
[47] TBA 1944/07 p.12 Escape systems for aircraft
[48] GE Part C IV-24
[49] GE Part C IV-25
[50] GE Part C IV-25
[51] CLTBA p.131
[52] GE Part C IV-26

2.2.2.1 Combination

A claim might contain a *combination of features*, where the functional interaction between the features achieves a synergistic effect[53] and thus it might involve an *inventive step*. However, when the claim is merely an *aggregation of features* with no greater synergistic effect, and where the individual features are obvious, then the invention does not involve an *inventive step*.[54]

When assessing whether an invention involves an *inventive step* based on a combination of features, consideration must be given to whether or not the state of the art was such as to suggest to PSA *precisely* the combination of features claimed.[55]

If a combination seems to have been *obvious to try* and there was no *reasonable expectation of success* the invention might involve an *inventive step*. A reasonable expectation of success should not be confused with the *understandable hope to succeed*.[56]

"The fact that other persons or teams were working contemporaneously on the same project might suggest that it was *obvious to try* or that it was an interesting area to explore, but it did not necessarily imply that there was a *reasonable expectation of success.*"[57]

2.2.2.2 Secondary indicia

When assessing whether the invention involves an *inventive step* and the objective evaluation of the prior art teachings has yet to provide a clear picture the Examiner may investigate secondary indications of the presence of *inventive step*. It is no substitute for the technically skilled assessment of the invention.[58]

Such secondary indications may be when the state of the art has been inactive over a long period prior to the invention and under that time an urgent need for improvement, a long-felt need, has demonstrably existed.[59]

Secondary indication may also be provided by commercial success of the invention. However, it has to be immediate commercial success coupled with evidence of a long-felt want for the effect of the solution of the invention. Further, the commercial success has to be derived from the

[53] E.g., the technical effect of an individual transistor is that of an electronic switch, but transistors interconnected to form a microprocessor synergically interact to achieve technical effects, such as data processing. This is no longer obvious compared with their individual features.
[54] GE Part C IV-23
[55] CLBTA p.147
[56] CLTBA p.133
[57] *Ibidem*
[58] CLTBA p.161
[59] CLTBA p.164

features of the invention and not from other influences as selling techniques or advertising.[60]

2.2.3 Problem-solution approach *is not sine qua non*

In a decision[61] from 1994, TBA established that the problem-solution approach is not mandatory stating that: "[it] is no more than one possible route for the assessment of inventiveness.".[62]

According to TBA one of the drawbacks of the solution-problem approach is that it relies on the results of a search made with actual knowledge of the invention and thus it is inherently based on hindsight.[63]

The invention was about hardened aluminium alloys e.g., used in window frames. An ingot of alloy aluminium, with Mg_2Si particles present in precipitation form, is hardened using a heating-cooling process thus the precipitated Mg submicroscopic particles go into the solid alloy and stress the atomic lattice to such an extent that the strength of the ingot is much increased without negatively influencing the extrusion speed.

TBA states that the problem-solution approach is derived from Rule 42 (1) (c) EPC[64] but this rule is concerned with the description of the invention and not with the assessment of *inventive step* thus the problem-solution approach has to be seen as one of the possible methods to assess *inventive step* each of which has its own advantages and drawbacks.[65]

TBA stated that it is not necessary to determine the closest prior art when there is a reasonable selection of prior art. Not allowing this it would have meant that one would be tied up to the selected closest prior art with the result that one would not consider other possibilities from the reasonable selection of prior art. Such a situation would not be acceptable in view of Art. 125 EPC[66] i.e., a principle of procedural law generally recognised in all the Contracting States is that a party to litigation is free to raise alternative lines of attack or defence – meaning that the closest prior art can be replaced by the reasonable selection of prior art.[67]

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[60] GE Part C IV-28
[61] CLTBA p.121 (int. cit. TBA 0465/1992 Al-Mg-Si extrusion alloy and method)
[62] TBA 0465/1992 p. 2 Al-Mg-Si extrusion alloy and method
[63] TBA 0465/1992 p. 25 Al-Mg-Si extrusion alloy and method
[64] Cf. FN. 46
[65] TBA 0465/1992 p. 24 Al-Mg-Si extrusion alloy and method
[66] In the absence of procedural provisions in the EPC, the EPO shall take into account the principles of procedural law generally recognised in the Contracting States.
[67] TBA 0465/1992 p. 24 Al-Mg-Si extrusion alloy and method

The issue of inventiveness depends on *whether there is any pointer in the prior art which points to the invention or not*.[68]

If the prior art clearly *points away* from obtaining the claimed invention but the PSA when following the instructions of the prior art arrives at the claimed invention do not make the alleged invention obvious. In that case PSA might reasonably infer that she or he has failed effectively to have put the prior art teachings into effect. PSA would try it again without being aware of the new invention.[69]

TBA finally stated that the investigation of inventiveness should avoid formulating *artificial technical problems*, and should normally start from the technical problem identified in the patent in suit.[70]

2.2.4 Hindsight or ex-post analysis

The problem and solution approach was primarily developed to ensure objective assessment of *inventive step* and avoid ex-post facto analysis of the prior art. The case law of TBA states that the *correct use* of the problem and solution approach rules out an ex-post facto analysis which inadmissibly makes use of knowledge of the invention.[71] A question which arises is how it can be established that it was a correct use when e.g. the same Examiner is both formulating the problem to be solved, which does not have to be the same as the one stated in the invention, and assessing the *inventive step*.

2.2.5 Cases from Technical Board of Appeal

The 7th edition of the case law from TBA will be published mid-end of 2010. The case law edition (5th edition 2006) which I referred to in this paper is the latest published at EPO. In this chapter though, I will go through cases from the TBA decided in year 2009.

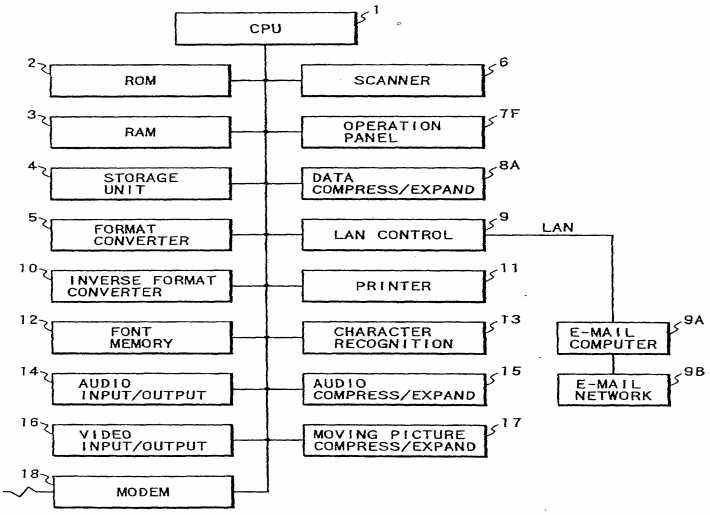
2.2.5.1 Electronic mail system (no IS)

This case, TBA 1007/2005[72], is an appeal by the opponent against the decision by the Opposition Division to maintain an issued patent (priority date April 1996). TBA reversed the decision.

The invention was about a transceiver apparatus for converting image data of a scanned paper document to character code according to MIME (Multipurpose Internet Mail Extensions – standard which proposed a

[68] TBA 0465/1992 p.25 Al-Mg-Si extrusion alloy and method
[69] TBA 0465/1992 p.18 Al-Mg-Si extrusion alloy and method
[70] TBA 0465/1992 p.26 (int. cit. omitted) Al-Mg-Si extrusion alloy and method
[71] CLTBA p.121
[72] Cf. also European Patent application – publication number EP 0989732 B1

solution to include images in an electronic mail) and sending it to a receiver which converts the electronic mail-format back to image data of a facsimile format. Thereafter the image is printed. After having successfully received the data an acknowledgement is transmitted back to the sender, otherwise an error report.



Flow diagram of the invention

Prior art D20 disclosed a standard for a file format to be used in sending fax-like images over internet using SMTP (Simple Mail Transfer Protocol – e-mail). Even though the data in D20 was not scanned (but supplied in electronic format) and not printed (but displayed), TBA stated that *the usual and thus straightforward choice* of PSA would have been the scanning and printing of documents.

D20 disclosed only unidirectional transmission but TBA concluded that PSA would usually find it more appropriate to build the apparatus of D20 as a bidirectional one because of a hint in the document – *exchange of images*. According to another prior art D19 it was a feature of SMTP to recognise at the receiving part whether there was an error in transmission and thus sending an error report to the sending part. TBA stated that it would be obvious for PSA to provide the necessary means for analysing certain data in a message to decide whether there was an error or not in the transmission.

TBA concluded that starting from D20 in the light of *common general knowledge* as presented in D19, PSA would arrive *by making usual design choices* at the claimed invention without involving an *inventive step*.

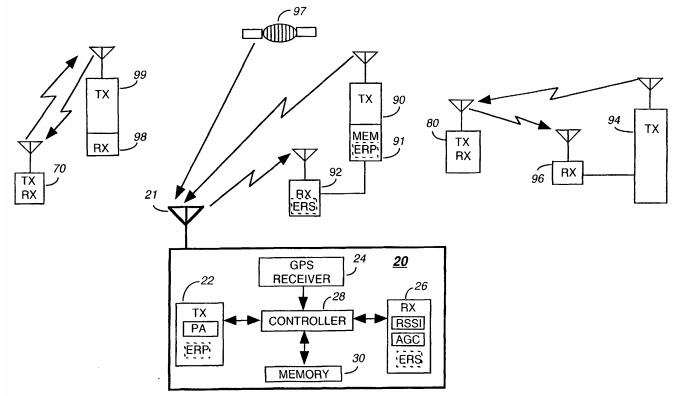
It is evident from the TBA argumentation that it would be sufficient for PSA a hint like *exchange of images* and by *making usual design choices* to arrive at the invention. This type of PSA won't be present in the other cases described herein.

2.2.5.2 Geographic control in a communication system (yes IS)

This case, TBA 0650/2006[73], is an appeal against the Examining Division to reject the patent application (priority date July 1996) on the ground of lack of *inventive step*. TBA reversed the decision.

The invention (cf. figure) was about a selective call transceiver 20 (e.g. a mobile phone) for use in a communication system. The transceiver comprised a GPS receiver 24 to assist in the control of a communication function (e.g. call management decision – power adjustment). The controller 28 would compare location information provided by the GPS transmitter 97 with site coordinates of the nearby transmitters 90, 94, 99 (e.g. a base station) in the communication system to provide a signal for adjusting the power of one of the transmitters.

The problem with the prior art is that the existing techniques (i.e. Received Signal Strength Indicator (RSSI) measurements, Signal Quality Evaluation (SQE) measurements, and/or colour codes[74]) does not provide a robust method (do not account for the terrain) to adjust transmission power or to make transmission site selection decisions. Thus the transmitters needlessly transmit at full power, with the result of increasing the risk of on-channel intermodulation.



The invention claims also that it would improve forward error correction (for which the inventor does not show how) and the Doppler frequency shifting. The latter would be improved because in the formula for deriving the Doppler shift there is an *angle q* information which can be accurately derived from the GPS information: *Cos (q) x 1.49 x V [mph] x F [Ghz]*. The *angle q* is the angle created by a line connecting the mobile to the base site and a line indicating the direction of travel. The Doppler shift can be

[73] Cf. also European Patent application – publication number EP 0909522 B1

[74] Colour code is a BSIC (Base Station Identity Code). This code is used to distinguish between base stations when there are several neighbouring cells which do not belong to the same operator and which have the same beacon frequency.

accounted for by adjusting a local oscillator[75] to obtain the initial unshifted frequency.

So far so good, but we are not told the fact that this angle changes with the motion of the mobile and even the direction of travel can suddenly change. So where is the robustness of the method claimed in the description?

The distinguishing feature between the invention and the closest prior art D5 was the controller 28 doing the GPS calculations in order to transmit to the transmitter whether or not to adjust its power when transmitting to the transceiver. TBA formulates the objective problem to be solved starting from the closest prior art D5 i.e., to further reduce the potential for interference caused by the transmitter when transmitting to the transceiver.

In D5 the GPS information was relayed to a mobile telecommunications switching office (MTSO). The MTSO then, did the computations and ordered the transmitter to take call management decisions e.g. handover, call handling. D5 does not mention the fact that these computations which were the same as in the invention could be used to order the transmitter to adjust its power. D5 disclosed though the problem with interference and call-drops. TBA concluded that D5 gave PSA no obvious pointer to the claimed solution.

Prior art D1 disclosed a radio system which did use GPS information to adjust the power of the transmitter. TBA concluded that PSA would not have any reason to extract the power adjustment from D1 to use it in D5 as the system disclosed in D1 used high power transmission whereas D5 was about mobile communication which employs lower power transmission.

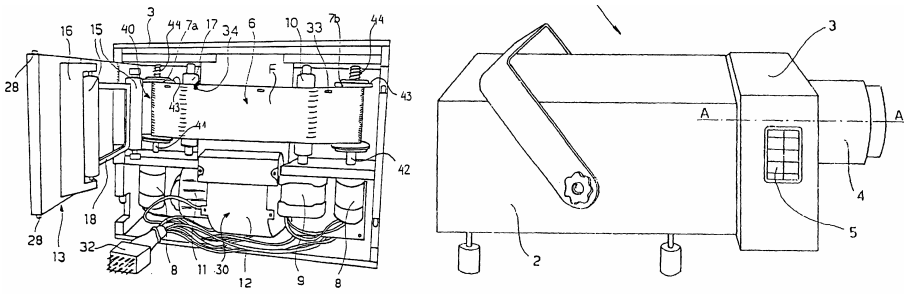
I worked within mobile telecommunication with power control management and I may say that the distinguishing technical feature of the invention (i.e. adjustment of the transmitter power based on location) falls within the grasp of PSA as long as PSA both knows what GPS can be used for and has the cited prior art documents. Even common general knowledge in the art i.e., power control management, would probably lead PSA, starting from D5 and being aware of the problems to be solved, to the claimed invention even though the year of priority was 1996. Of course, the present invention involves engineering skills and a lot of work which however are not patentable.

2.2.5.3 Projector (yes IS)

This case, TBA 0586/2006[76], is an appeal from the Opposition Division which revoked an issued patent (priority date March 2001) on the ground of lack of *inventive step*. TBA reversed the decision.

[75] A frequency mixer generates the Doppler *shift* frequency and mixes it with the Doppler *shifted* frequency to obtain the transmitter frequency.
[76] Cf. also European Patent application – publication number EP 1322999 B1

The invention was about a film projector of the high candlepower type with a main body 2 containing light generating means and a secondary body 3 containing means 40-44 for sliding the film F and means 30 for cooling it with air flow centred with respect to the thickness of the film. The cooling flow would then run **tangential** to both surfaces of the film. The problem with prior art was that the said cooling means were located in the main body 2 thus being ineffective.



Projector – details of secondary body 3 (left)

One prior art B4 disclosed a film-cooling arrangement for high-power projectors differing from the invention that the cooling flow was located in the main body 2 and deflected to the second body 3 **vertical** to the surface of the film. TBA takes this document as the closest prior art as it *serves the same purpose* as the claimed invention. The objective problem to be solved was to improve the cooling of the projector avoiding excessive weight. The solution was to relocate the fan from the main body to the second body with tangential cooling flow to the surfaces of the film. TBA states that it would not be obvious to PSA to modify the prior art B4 such that it would have the features of the invention because there was nothing in the other prior art disclosures that *would suggest PSA the modification*. It stated also that the Examiner *based the argument on hindsight that PSA would obviously modify the prior art* – without giving any other arguments for this statement.

In my opinion this is an example of a *person low skilled in the art* and not an example of PSA.

2.2.5.4 Gas flow silencer (yes IS)

The case, TBA 1921/2007[77], is an appeal after the Opposition Division decided to maintain an issued patent (priority date September 1996). TBA affirmed the decision.

The invention was about gas flow silencer which obtained unattainable combinations in the prior art of effective noise damping (especially in infra sound spectra) and low back pressure (pressure drop across the silencer device). This kind of apparatus is used e.g., at a car/truck engine exhaust.

[77] Cf. also European Patent application – publication number EP 0934457 B1

The apparatus comprised two chambers with different volume, inlet areas and length of the passage between the chambers interrelated by mathematical formulas so as to reduce the *natural frequency* f_n (the main frequency with which the system responds to stimulation) of the silencer in rapport with the *characteristic frequency* f_c (in this case the frequency where the spectrum in dB(A), i.e. taking into account the human ear sensitivity, has its maximum peak) of the noise source – i.e., it filters out f_c.

In Fig. 3 it can be depicted the general inside structure of the gas silencer (gas inlet from left – gas outlet from right) where it can be seen the helical form of the passage S between the chambers of length L_1 and L_2.

Fig. 4a shows the embodiment of the invention in which a helical passage 12 connects two chambers 1 and 2, contained within a cylindrical casing 7 and separated by an inner, flat partition wall 8. Helical passage 12 has diffuser form, in which the flow area gradually widens in the gas flow direction thus recovering dynamic pressure through producing a rise of static pressure from diffuser inlet to diffuser outlet – the drop of the pressure across the silencer impose a back pressure on the engine which can strongly affect the mechanical power generated. Further it can be seen the gas inlet pipe 6 and conical diffuser 10 which also recovers dynamic pressure – *n.b.* one of the features of the invention was to reduce pressure losses across the silencer. The idea with helical passage (known in the prior art for other reasons than the one in the invention e.g., to achieve a spark-arresting effect by increasing the residence time for exhaust gasses inside a silencer) is to increase the length of the path travelled by the gas without increasing the dimensions of the casing 7. The increased length of the path influenced the f_n and with that the damping feature of the silencer.

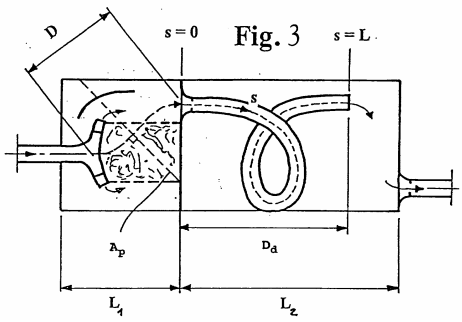
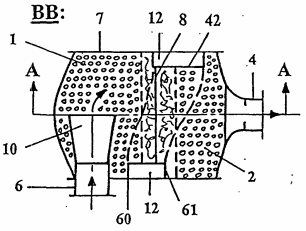


Fig. 3

Fig. 4a



Closest prior art D1 disclosed the features of the invention but the *diffuser* feature of the invention. TBA stated further that the technical problem solved by the distinguishing feature was to achieve a reduction of the total pressure drop across the silencer device.

According to TBA prior art D28 teaches that a diffuser can provide a muffling function and also a reduced pressure drop as compared to a sharp transition. TBA concluded that *there was no indication* in D28 that would lead PSA, which is aware that the provision of a diffuser would reduce the pressure drop across the device, to modify the silencing device according to D1 by including a diffuser in the passage interconnecting the two chambers.

TBA stated finally that "[the] provision of a diffuser in the passage(s) interconnecting the two chambers of the silencing device of D1 cannot be regarded as obvious in the light of D28 *as it would require the modification* of the particular shape of the passage which is disclosed as being relevant for achieving the intended purpose of D1."[78].

The invention as a whole requires a certain degree of ingenuity. However, looking only at the distinguishing feature one might get the impression that TBA does not let PSA to experiment with known prior art once she or he is aware both of the shortcomings of the known silencers and of the advantage of employing a diffuser.

2.2.5.5 Washing machine (yes IS)

The case, TBA 1567/2007[79], is an appeal after the Opposition Division has rejected the request to revoke an issued patent (priority date March 1999) on the ground of lack of *inventive step*. TBA reversed the decision.

The invention was about measurement of the imbalance of rotating drum in washing machines before it began spinning dry the laundry (laundry might lay irregular inside the drum causing imbalance). The problem with the prior art, which did employed measurement of the ripple current, was that the measurement did not account for the variations in the AC power supply 1.

The apparatus comprised means 120 for determining the magnitude of a current ripple in AC power 1 input to the washing machine for driving the drum/motor 27 (the current sensor 122 converts the ripple current component of the input AC power 1 to a voltage thereafter a bridge rectifier[80] 124 for rectifying the voltage output from current sensor 122). The drum speed is increased to 90 rpm and an imbalance in the drum is detected (the lowest part of Fig.4). Then the speed of the drum is further increased for 1.5 seconds (increasing part of Fig.4). Thereafter the ripple[81] current is measured for a timeframe t_a of 2 seconds at a constant speed of the drum 27 (last part of Fig.4). The magnitude of the ripple current is proportional to the imbalance in the drum. By measuring the ripple current in the way described it offers a better approximation of the unbalanced load. A minimum and a maximum value of the ripple current are supplied to controller 130 at R5. The controller 130 is determining the width of the ripple current based on the minimum/maximum values received. This width is compared in the controller with a predetermined value/threshold. Look in Fig.4 e.g., for an unbalanced mass of 400g the difference between the width of the ripple current and the threshold is 30mv – this value determines controller 130 to stop the spin-dry operation and replaced it by a fabric

[78] TBA 1921/07 p.16 Gas flow silencer
[79] Cf. also European Patent application – publication number EP 1045062 B1
[80] An AC-DC converter – in the picture there is a 4 diode full-wave rectifier
[81] The ripple is the comb-like irregular portion of the wave in the Fig.4

untangling operation. The magnitude of the AC power 1 is also taken into account. This magnitude value is supplied to the controller at R3.

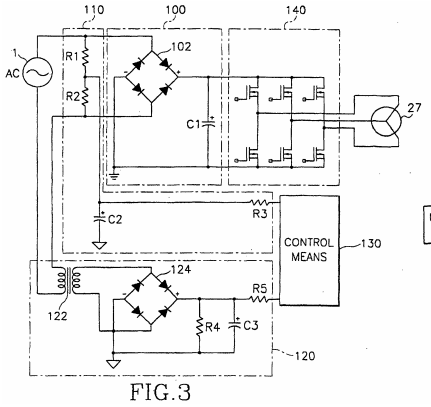


FIG.3

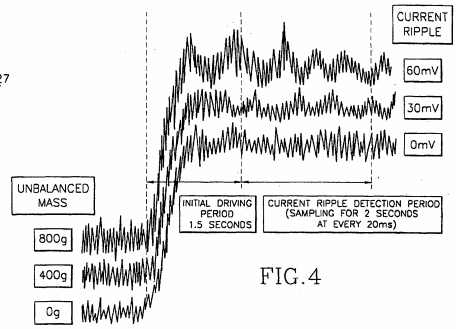


FIG.4

Imbalance detecting apparatus of a washing machine drum (Fig.3) – Current ripple width (Fig.4)

D5 disclosed the features of the invention with the differences that the measurement of the ripple current was not done during a predefined frame time t_a as in the invention and there was no measurement of the voltage taken into account. Prior art D1 measured the ripple current under a predefined frame time t_a but under acceleration of the drum. D5 was cited as prior art to be improved in D1. According to TBA taking into account also the voltage values represented the common general knowledge for PSA.
TBA concluded that PSA would not combine D1 and D5 because D5 was cited as prior art to be improved in D1, thus there was no reason for PSA to retain the features of D5.

This line of argumentation, in my opinion, is in contrast with the statement in the GE[82] that PSA does the necessary experiments in order to improve a product. The invention seems to be a result of a series of experimental steps which represent modification of the prior art with a reasonable expectation of success. In my opinion the patent application seems to be a gathering of statements without clearly showing how the apparatus works – the patent application is rather unclear with even wrong reference to figure, e.g. take a look at Fig.3, there is no connection drawn between the controller 130 and the six power transistors 140 to the left of the motor 27 even though it is the controller which controls the switching of the transistors resulting into the 3-phase current to the motor 27.

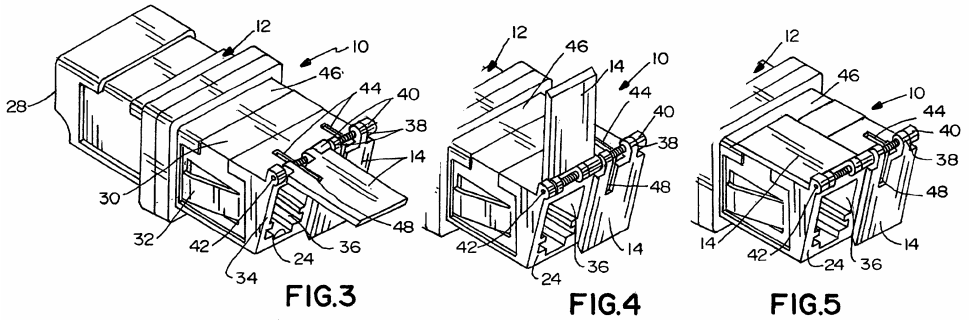
2.2.5.6 Fiber optic receptacle (yes IS)

This case, TBA 1734/2007[83], is an appeal after the Examining Division refused to grant the patent (priority date September 2000) on the ground of lack of *inventive step*. TBA reversed the decision.

[82] GE Part C IV-22, 32
[83] Cf. also European Patent application – publication number EP 1189085 A2

The invention was about a receptacle for receiving a fibre optic connector comprising housing 28, which defines an open end 24 for receiving a fibre optic connector inserted there into.

The open end has a planar shutter 14 pivotal 270° away from the closed position to an open position (Fig.3-4) in which the shutter is juxtaposed against the top side wall 46 of the housing (Fig.5). The shutter is mounted on the top wall of the housing and biased towards its closed position by a spring 42.



Sequential views of opening the shutter 14

The distinguishing feature between the invention and the closest prior art D5 was that the shutter was mounted so as to be pivotal approximately 270° away from the closed position to an open position as required by the claimed subject-matter.
This distinguishing feature allowed the operator to pinch with one hand ("*between an operator's thumb and forefinger*") the fully opened shutter while with the other hand to insert the connector into the receptacle thus rendering easier the manual manipulation of the connector and the receptacle when inserting the former into the latter.

In its decision the Examining Division stated that PSA would modify, in the light of the common general knowledge, the teaching of D5 to arrive at the claimed invention.

In support of this view the Examining Division firstly argued that PSA was aware of different types of pivotally mounted shutters with various angular motions. The Examining Division referred in this respect to prior art D1 and D3. D1 and D3 disclosed the features of the invention but the shutter's angular motion of 270°. According to TBA this was not enough to determine the PSA to have a shutter opening 270° in order to be able to grasp with one hand the opened housing of the receptacle.

Secondly, the Examining Division argued that PSA has a strong incentive to choose a shutter opening 270° to suit her or his particular needs being aware of the advantages of such a choice. TBA rejected also this line of argumentation stating that neither of the cited documents was teaching or suggesting increasing the angle of rotation nor the advantages associated with this technical measure.

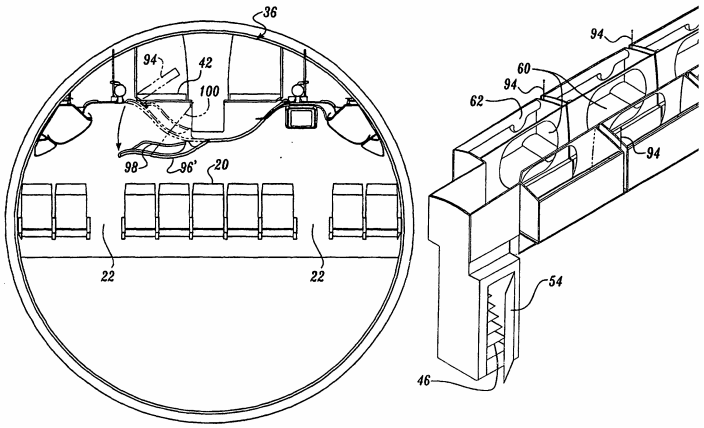
TBA concluded that the absence in the prior art of a teaching towards a technical measure and in the absence of documentary evidence in support of common general knowledge *pointing* at the claimed solution did not support that PSA would have considered that technical measure.

In my opinion this invention may not easily be motivated as involving an *inventive step* as the features of the invention very probable lie in the common general knowledge for PSA. Consequently, the conclusion from TBA further underlines that the solution to a problem has to be explicitly hinted in the prior art in order for PSA to be able to make use of it.

2.2.5.7 Escape systems for aircraft (yes IS)

The case, TBA 1944/2007[84], is an appeal from the Opposition Division for rejecting the request to revoke an issued patent (priority date September 1997) on the ground of lack of *inventive step*. TBA reversed the decision.

The invention was about an emergency escape system in an aircraft for a person resting above the main passenger cabin in the crown 36 of the aircraft above the ceiling. The escape system comprised an exit slide 98 forming a portion of the ceiling for the main passenger cabin. The floor 94 in case of emergency is to be folded up and the slide could be moved in an open position providing egress from the overhead rest area to the main passenger cabin.



Escape system (left) – the rest place (right) – Boeing 777

The closest prior art M4 relates to stairs which permit access between an upper and a lower deck in an aircraft. The problem identified in M4 was that the stairs could not be provided in the region of emergency exits from the lower deck as they might obstruct motion in case of emergency. The solution provided was that the stairs were pivotal connected at its upper end to the ceiling of the lower deck. In case of emergency the stairs could be raised upwards to free the lower deck from obstruction. Out of the stairs' 11

[84] Cf. also European Patent application – publication number EP 0901962 B1

treads 6 treads were pivotal relative to the stringers into a second position (the first position being the horizontal one) such that when the stairs are in a raised position they form a closure to prevent passage of smoke.

The appellant argues that through a combination of M4 and the knowledge and ability of PSA it would be obvious to arrive at the invention.

TBA argued firstly, that in M4 the stairs are to be raised in an emergency case to avoid obstruction and therefore they could never be used as a slide in an emergency case as in the invention (the invention required that the slide would be lowered in case of emergency to evacuate resting person from the upper deck). As the stairs in M4 are raised in an emergency case it is clear that the evacuation would be done by other means in M4.

Secondly, TBA argued that even if PSA would try to use the stairs in an emergency case she or he would never attempt to use a slide because M4 *does not provide a motivation for it*, especially when only 6 treads of the stairs' 11 treads were pivotal into a slide position.

Thirdly, TBA argued that even if PSA were to create a slide from the treads it would still not form a continuation of the cabin ceiling as the underside of the treads would be placed higher than the ceiling contrary to the teaching of the invention.

As seen from this case TBA does not give reasons about PSA's apparently *low skills* in the art. We are not informed by TBA about the level of the common general knowledge either.

2.2.5.8 Airbag (yes IS)

This case, TBA 0338/2007[85], is an appeal after the rejection from Opposition Division to revoke an issued patent (priority date June 1998) on the ground of lack of *inventive step*. TBA reversed the decision.

The invention is about an airbag 10 for use as an emergency restraint for a passenger in a vehicle. In the event of a collision the airbag would be explosively inflated with gas. The airbag comprises two panels (1, 2) of fabric which are joined at their periphery by a combination of two rows of stitching and stretchable (by 200% and more) silicone adhesive 5 in order to *"extremely prevent gas leakage through seams"* when explosively inflated. The inner stitching 6A is weaker than the outer one 6B in order that the inner stitching to break and absorb part of the shock when the airbag is explosively inflated.

[85] Cf. also European Patent application – publication number EP 0962363 B1

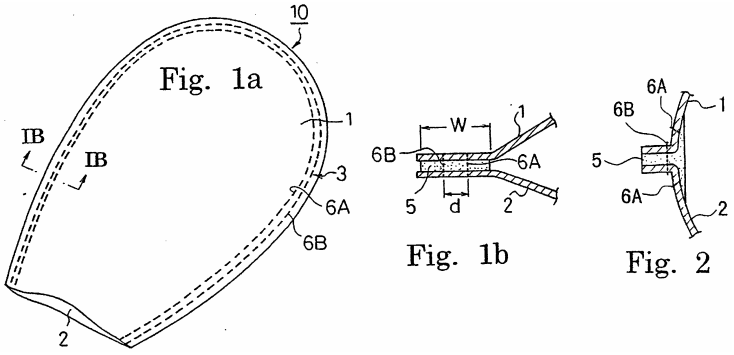


Fig. 1a

Fig. 1b

Fig. 2

Inflated airbag with broken stitching 6A (Fig.2)

The closest prior art was D1 which related to an airbag having the panels joined by a seam of silicone adhesive only. D1 was teaching away from using stitching because of a series of problems, e.g. combing – which means the creation of holes in the fabric where the stitches pass through which permit gas leakage.

TBA concluded that PSA would not act against that teaching of D1 not giving any further reason for that affirmation.

The appellant relied on two other documents to show the motivation which would lead PSA to use stitching also. One document was about a protective bag for heavy loads and the other was about manufacturing water-tight seams. Both documents employed stitch and seal. TBA argued that PSA would not even consider reading those documents as being part of another field compared with the technical field of the invention i.e., airbag for protecting a passenger.

I would have asked TBA whether these fields were not to be considered neighbouring fields – which PSA is allowed to look into[86].

The appellant further argued that another document D6 showed an airbag using both stitching and silicone adhesive with the purpose to improve the strength and the reliability of the joint between the panels. It was stated in the document that the seamed part was reinforced by the silicone with the result that the joint strength was drastically improved.

TBA argued that it was not clear from the document that the reinforcement of the seam with silicone was in order to prevent gas-leakage. The appellant argued though, that the aim of hardening the joint with both stitching and silicone between the panels was to be understood by PSA as an attempt to also reduce gas-leakage at the joint.
TBA refused this line of argumentation stating that the *explicit* reference in the text was only to the strength of the joint and that the appellant's view of reducing gas-leakage *resulted from an ex-post interpretation.*

[86] Cf. GE Part C IV-27 (ii)

Another document D16 proposed joining the peripheral portions of the panels by a combination of stitching and a hot-melt adhesive to cause it to run into and seal the holes formed by the stitching. TBA argued that there was no requirement in the document for the adhesive to stretch with the movement of the panels. The TBA argued further that in order for PSA to select an appropriate use for the adhesive to be able to stretch would mean an inadmissible ex-post facto analysis.

It may be argued, in my opinion, that TBA eagerly wanting to avoid the ex-post facto analysis runs into the other extreme namely, denying PSA fundamental technical skills in the art.

It may be questionable why TBA did not find obvious for PSA to combine the closest prior art and common general knowledge in order to use both stitch and silicone in the manner showed in the invention to provide a reliably gas-tight airbag.

2.3 Summary

According to the procedure at EPO the PSA has to be clearly outlined before the assessment of inventive step. Some of the characteristics of PSA mentioned in GE are difficult to put them together, e.g. *PSA is an expert in a technical field but she or he is not possessed of any inventive or creativity capability*. This might render a false impression of having pictured rightly the PSA. However, not in one case presented here TBA discussed thoroughly the *skills or the characteristics of PSA*. In the decisions from TBA we can read statements like PSA, when faced with a technical problem, would tackle it in this or that way without clear explanations thereupon.

The *common general knowledge* which PSA is supposed to possess it is very little, if ever, discussed in the decisions in the presented cases. This *common general knowledge* has to be both investigated and emphasised more by TBA in order to avoid obvious patents.

Obvious to try with reasonable expectation of success is yet another issue scantily discussed by TBA in its decisions. TBA's main line of argumentation for involvement of inventive step is that there is no *precise pointing* in the prior art which would obviously lead PSA to the claimed invention.

TBA never argues in any of the cases that the prior art *clearly points away from the invention*[87] leaving actually open the possibility that PSA following the teachings of the prior art would arrive obviously at the claimed invention, e.g. the case TBA 1734/2007 *Fiber optic receptacle*.

[87] Cf. FN 69

The *problem solution approach* is indeed applied by TBA in the cases. The ubiquitous presence though, of *hindsight* issue leads inadvertently to a less genuine use of the *problem solution approach*.

Finally, the discrepancy between the desired assessment of the inventive step as set out in GE and the assessment of inventive step practised by TBA becomes more evident when the cases presented in this chapter 2 are analysed having in mind as a landmark the first case TBA 1007/2005 *Electronic mail system*. TBA concluded that in the light of *common general knowledge* as presented in prior art, PSA would arrive *by making usual design choices* from prior art at the claimed invention[88].

[88] TBA 1007/2005 p.24 Electronic mail system

3 United States Patent and Trademark Office

In the United States of America applies *first-to-invent* principle – 35 U.S.C. sec. 102. The period of 12 months in sec. 102 (b) is not a *grace period*[89] but a period in which an inventor has to file a patent application if she or he wants to avoid a statutory bar. It means that the priority date is the date of the invention. When the inventor who is first to conceive the invention is also the first to reduce it to practice, she or he is entitled to be considered the first inventor and is entitled to priority, even though a subsequent conceiver may anticipate the first in obtaining the patent.[90]

An inventor, which applies for patent, is considered *prima facie* the first inventor. If there is another first inventor then she or he may *interfere* requiring the right to the invention[91].

3.1 Legal procedure

In the United States of America the origin of patent law dates back to its foundation in the Constitution.[92]

Prior to the non-obviousness requirement for patentability in U.S.C. in 1952, the inventiveness requirement was a judicially developed doctrine. The Supreme Court of the United States of America first raised the inventiveness standard in a case in 1850 in specifying that patent protection is only justified for inventions that exceed the ability of a *skilful mechanic*. In the years following, the judicial inventiveness requirement became more stringent, culminating in the requirement that an invention has to be the product of a *flash of genius*. The *flash of genius* standard was later expressly eliminated by the second sentence of the 35 U.S.C. §103(a), which specifies that "[p]atentability shall not be negatived by the manner in which the invention was made.".[93, 94]

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89 Cf. FN 23

90 More information about the circumstances in determining the first inventor is found in 35 U.S.C.A. sec. 102 and C.J.S. Patents § 122 – WL - visit 2009-10-11

91 35 U.S.C. sec. 135; 37 C.F.R. § 41.203 (a)

92 Article I, sec. 8, cl. 8. U.S. Constitution: "To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries;" – *n. b.* that "discovery" is excluded from patentability at EPO (Art. 52 EPC).

93 Carmany-Rampey Amanda et al., *Non Obviousness and Inventive Step Requirements in the United States, Europe, Japan, Korea, and Thailand (for Combination Inventions)*, CASRIP Newsletter - Summer 2008, Volume 15, Issue 2 – Part II, A, 1, a

94 i.e., "[it] is immaterial whether it resulted from long toil and experimentation or from a flash of genius." – *Graham* 383 U.S. 1, 17 (1966)

As in the case with EPO a similar question arises whether the earned revenue from patent maintenance fees is huge enough to influence an objective assessment of *inventive step*. According to what I can read off from statistics from USPTO for fiscal year 2008 these fees amounts to 31% of the total revenue.

3.1.1 Patent Act of United States of America

How to assess the requirement of *non-obvious* (*inventive step*) is found in U.S. Patent Act[95] Title 35 of United States Code:

Sect. 103. Conditions for patentability; non-obvious subject matter

(a) A patent may not be obtained […] if the differences between the subject matter sought to be patented and the prior art[96] are such that the subject matter as a whole *would* have been obvious *at the time the invention was made* to a person having ordinary skill in the art[97] to which said subject matter pertains. [...].

An inventor files a patent application at United States Patent and Trademark Office which will be examined by an Examiner (corresponding to a certain Technical Center) in the grant procedure[98]. In case of denial the inventor may file a *request for continued examination*[99] within six months, thereafter an appeal to the Board of Patent Appeals and Interferences (BPAI) at USPTO[100]. The appellant has the burden on appeal to the BPAI to demonstrate error in the Examiner's position by showing insufficient evidence of prima facie obviousness or by rebutting the prima facie case with evidence of secondary indicia of non-obviousness[101]. Should also this decision go against the patentee, she or he may request *rehearing*[102]. At any time during the period of enforceability of a patent one may file a *request for re-examination*[103].

If the application is rejected again the inventor may either file a civil action[104] at the District Court of D.C. against the director of USPTO or appeal to the Federal Circuit Court of Appeals[105]. Thereafter a petition for

[95] http://uscode.house.gov/pdf/2007/2007usc35.pdf - visit 2009-09-07
[96] The *prior art* is defined in 35 U.S.C. sec. 102.
[97] PHOSITA – ("Homme du métier" in French patent law, "Fachmann" in German patent law, "Persona esperta del ramo" in Italian patent law and "Togyosha" in Japanese patent law)
[98] 37 C.F.R. § 1.51
[99] 35 U.S.C. sec. 132 (a), 133; 37 C.F.R. § 1.114
[100] 35 U.S.C. sec. 134
[101] BPAI 2009-001782 p. 6 (int. cit. omitted) – Tracking of a trailer behind a vehicle
[102] 35 U.S.C. sec. 6 (b); 37 C.F.R. § 41.81
[103] 35 U.S.C. sec. 302; 37 C.F.R. § 1.510
[104] 35 U.S.C. sec. 145
[105] 35 U.S.C. sec. 141 & 28 U.S.C. § 1295

writ of certiorari for reviewing can be made further to the Supreme Court of the United States of America[106]. Rule 10 of the Supreme Court reads: ”A petition for writ of certiorari is not a matter of right, but a judicial discretion and will be granted only for compelling reasons”[107].

The Federal Circuit Court of Appeals, created in 1982, is unique among the thirteen Circuit Courts of Appeals of United States. It has nationwide jurisdiction (in contrast with Circuit Court of Appeal which has jurisdiction on a number of States) in a variety of subject areas amongst them patents and trademarks (31% of the cases – most of them patents).[108]

3.2 KSR International Co. v. Teleflex Inc.

Teleflex was an exclusive licensee of Engelau[109] patent for position-adjustable vehicle pedal assembly with position controlling sensor on a fixed pivot point transmitting the information to fuel control throttle.
On the 18th of November 2002 Teleflex sued competitor KSR[110] for infringement as KSR did not want to conclude a royalty agreement with Teleflex (KSR had a module sensor on its well known position-adjustable vehicle pedal with otherwise the same characteristics).
On the 12th of December 2003 the United States District Court for the Eastern District of Michigan in summary judgement[111] decided in favour for KSR on the ground of obviousness. Licensee appealed.
On the 6th of January 2005 the United States Court of Appeals for the Federal Circuit (CAFC), vacated and remanded on the grounds that:

”District Court’s recourse to the nature of the problem to be solved was insufficient because, unless the prior art references addressed the ***precise*** problem that the patentee was trying to solve, the problem would not motivate an inventor to look at those references.”[112].

On the 6th of April 2005 KSR filed a petition for a writ of certiorari[113, 114] to the Supreme Court of the United States of America on the ground that Federal Circuit did not apply the assessment of *inventive step* accordingly:

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[106] 28 U.S.C. § 1254
[107] http://www.supremecourtus.gov/ctrules/2007rulesofthecourt.pdf - visit 2009-10-05
[108] http://www.cafc.uscourts.gov/about.html - visit 2009-10-01
[109] Engelau filed the patent application in 2000 as a continuation of a previous application which was filed in January 1999. Engelau swore (required also by 35 U.S.C. sec. 115) that he invented the patent’s subject matter on February 1998 to avoid a statutory bar – recall the 12 months period in *first-to-invent* principle. – 550 U.S. 398, 410 KSR
[110] The case is referred to here as KSR – the original name of the company was KYSOR.
[111] Knowledge about the meaning of *Summary judgement* can be retrieved from 523 F.Supp.2d 388, 394 (2007). In short it means *without trial.*
[112] 550 U.S. 398, 400 – KSR
[113] In May 2006, the Solicitor General followed suit with a brief urging the Supreme Court to grant certiorari. The problem of patent over-issuance was already an issue.
[114] The task of the Office of the Solicitor General is to supervise and conduct government litigation in the United States Supreme Court. Moreover, the Solicitor General

”Whether the Federal Circuit has erred in holding that a claimed invention cannot be held obvious, and thus unpatentable under 35 U.S.C. § 103(a), in the absence of some proven *teaching, suggestion, or motivation*[115] that would have led a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed[116].”.

Certiorari was granted on the 26th of June 2006. The Supreme Court held on the 30th of April 2007 that the Court of Appeals Federal Circuit has erred in holding that[117]:

(A) “[c]ourts and patent examiners should look only to the problem the patentee was trying to solve.”
The Supreme Court stated that: “[U]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”.

(B) “[t]hat a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem.”
The Supreme Court stated that: “[C]ommon sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. [A] person of ordinary skill is also a person of ordinary creativity, not an automaton.”.

(C) “[a] patent claim cannot be proved obvious merely by showing that the combination of elements was *obvious to try*.”
The Supreme Court stated that: “[W]hen there is a design need or market pressure to solve a problem and there are a *finite number* of identified, *predictable* solutions, a person of ordinary skill has good reason to pursue the known options […]. If this leads to the *anticipated success*, it is likely the product […] of ordinary skill and common sense.”.

(D) “[t]he best defence against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.[118]”

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determines whether the government will participate as *amicus curiae*, or intervene, in cases in any appellate court. http://www.usdoj.gov/osg/about_us.htm - visit 2009-10-18

[115] TSM test

[116] 2005 WL 835463 – (Supreme Court 04-1350 April the 6th 2005) – visit 2009-10-05

[117] 550 U.S. 398, 420-421 – KSR

[118] 119 Fed.Appx. 282, 286 – KSR at CAFC

> The Supreme Court stated that: ”[R]igid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it.”.

Finally, the Supreme Court stated that:

“As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ[119]. […] In rejecting the District Court’s rulings, the Court of Appeals analyzed the issue [the application of TSM test] in a narrow, rigid manner inconsistent with § 103 and our precedents[120].”.[121]

Thus the Supreme Court reversed the judgement of the Federal Circuit and remanded the case to the Federal Circuit for further proceedings consistent with the opinion of the Supreme Court. On the 20th of June 2007 the Federal Circuit ordered: ”Upon consideration of the decision of the Supreme Court, it is ordered that the judgement of the district court be, and the same hereby is, affirmed[122]”.[123]

The CAFC began to soften the TSM approach after the Supreme Court granted certiorari in KSR. The Supreme Court in KSR even cited two newly decisions from CAFC, which were taken while KSR as a movant part was proceeding in the Supreme Court, in which CAFC anticipated the upcoming KSR decision: “Our suggestion test is in *actuality* quite flexible and not only permits, but requires, consideration of common knowledge and common sense.” and “There is flexibility in our obviousness jurisprudence because a motivation may be found *implicitly* in the prior art. We do not have a rigid test [TSM] that requires an actual teaching to combine […].”[124]

3.3 Assessing inventive step at USPTO

In the MPEP at USPTO there are seven rationales (among them the TSM test which, after the KSR, is no longer a test by itself but merely one of the rationales) derived directly from the case law of CAFC and the Supreme

[119] 550 U.S. 398, 418 – KSR
[120] 550 U.S. 398, 428 – KSR
[121] The TSM test is dead! Long live the TSM test! – i.e., the more things change the more they stay the same. – as Emer Simic put it in *The TSM test is dead! Long live the TSM test! The aftermath of KSR, what was all the fuss about?*, American Intellectual Property Law Association Quarterly Journal, Spring 2009 – 37 AIPLAQJ 227, 255.
[122] 228 Fed. Appx. 988 – KSR final decision – 2007 WL 2045626
[123] The KSR homepage reads now: ”Won landmark patent infringement case before the Supreme Court of the United States.”
[124] Simic Emer, 37 AIPLAQJ 227, 243 (int. cit. 550 U.S. 398, 421-422)

Court and which may conclude a decision of obviousness when assessing *inventive step*[125]:

(A) "Combining prior art elements according to known methods to yield predictable results",
(B) "Simple substitution of one known element for another to obtain predictable results",
(C) "Use of known technique to improve similar devices (methods, or products) in the same way",
(D) "Applying a known technique to a known device […] ready for improvement to yield predictable results",
(E) "*Obvious to try* – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success",
(F) "Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to PHOSITA" or
(G) "Some teaching, suggestion, or motivation [TSM test] in the prior art that would have led PHOSITA to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention"

During the prosecution of the patent application claims are to be given their *broadest reasonable* interpretation consistent with PHOSITA's interpretation of the specification.[126]

Much of MPEP at USPTO refer to the KSR decision which triggered an increased level of obviousness[127].

3.3.1 Person Having Ordinary Skills in the Art

One of the reasons for not according patents for obvious inventions is that it diminishes the resources available to PHOSITA.[128]

To determine an adequate level of skill for PHOSITA lies in the necessity of maintaining objectivity in the obviousness inquiry.[129]

PHOSITA is a hypothetical person who is presumed to have known all the relevant art at the time of the invention. Factors that may be considered in determining the level of ordinary skill in the art may include:

[125] Elliott Taryn, *Post-KSR obviousness: The effects of the patent and trademark office's exemplary rationales on patent litigation*, George Mason Law Review, Summer 2009 – 16 GMLR 1011, 1029 (int. cit. MPEP § 2143)
[126] BPAI 2009-005271 p.8 (int. cit. omitted) Absorbent article
[127] […] to make a proper determination of obviousness under 35 U.S.C. 103 in view of the recent decision by the Supreme Court in KSR. – MPEP p. 2110-115
[128] 550 U.S. 398, 416 – KSR
[129] MPEP p. 2100-127 (int. cit. omitted)

(A) Type of problems encountered in the art
(B) Prior art solutions to those problems
(C) Rapidity with which innovations are made
(D) Sophistication of the technology
(E) Educational level of active workers in the field.[130]

One of the above factors may dominate over the others depending on the individual case.[131]

The Examiners may rely on their own technical expertise to describe the knowledge and skills of PHOSITA.[132]

BPAI has stated that PHOSITA is not definable by way of credentials.[133]

The Examiner must ascertain what would have been obvious to PHOSITA at the time of priority date, and not to the inventor or a layman in the art.[134]

3.3.2 Hindsight or ex-post analysis

A psychologist described the hindsight bias as follows:

”In hindsight, people consistently exaggerate what could have been anticipated in foresight. They not only tend to view what has happened as having been inevitable but also to view it as having appeared relatively inevitable before it happened. They even misremember their own predictions so as to exaggerate in hindsight what they knew in foresight.”[135]

Among cognitive strategies as passive manipulations (e.g., warning against the bias, passive jury instruction to avoid the bias and practice with feedback) generally have no mitigating effects at all on hindsight bias. On the other hand factors as e.g., awarding decision-makers for correct judgements or forcing them to try harder, reduces the size of the bias only slightly.[136]

Empirical research has also shown that the hindsight effect is more pronounced when people are told an event has occurred than when they are told an event has not occurred. Since the obviousness inquiry involves review of inventions that have occurred the bias is likely to be exacerbated.[137]

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[130] MPEP p. 2100-126 (int. cit. omitted)
[131] MPEP p. 2100-126 (int. cit. omitted)
[132] MPEP p. 2100-118 (int. cit. omitted)
[133] i.e., a Professor or a Ph.D. – MPEP p. 2100-126 (int. cit. omitted)
[134] MPEP p. 2100-127 (int. cit. omitted)
[135] Miller Joseph Scott, *Remixing obviousness*, Texas Intellectual Property Law Journal, Winter 2008 – 16 TXIPLJ 237, 240
[136] Wu Jun, *Rewinding time: advances in mitigating hindsight bias in patent obviousness analysis*, Kentucky Law Journal, 2008-2009 – 97 KYLJ 565, 570
[137] Patent E., *Obviousness*, Harvard Law Review, November 2007 – 121 HVLR 375, 380

A study revealed that participants to the study were more likely to find a solution based on prior art obvious if they were provided with the solution in addition to the problem.[138]

As early as a century ago, the Supreme Court identified a concern about judging combination inventions in hindsight: "Now that, [the invention] has succeeded, it may seem very plain to any one that he could have done it as well." – *I-knew-it-all-along* felling.[139]

An Examiner should be aware of the distortion caused by hindsight bias reading into the prior art the teachings of the invention in issue.[140]

It is necessary that the Examiner forget what she or he has been taught about the claimed invention and cast the mind back to the time the invention was made (often many years), to occupy the mind of PHOSITA.[141]

Hindsight is inferred when the understanding within the knowledge of PHOSITA leading to the modification of the prior art in order to arrive at the invention has not been explained.[142]

3.3.3 Graham factors

Inquiry into the *Graham* factors is a necessary first step in determining obviousness.

In the KSR case the Justice reaffirmed the *Graham*[143] factors which are meant to help assessing the *inventive step*:

(A) Determine the scope and content of the prior art
(B) Ascertain differences between the prior art and the claims
(C) Resolve the level of PHOSITA
(D) In case of doubt whether the invention involves an *inventive step* or not an inquiry into secondary considerations as e.g., commercial success, longfelt but unsolved needs, failure of others, might be utilized.

"While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls."[144]

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[138] Simic Emer, 37 AIPLAQJ 227, 254
[139] Mandel Gregory N., *Another missed opportunity: the Supreme Court's failure to define nonobviousness or combat hindsight bias in KSR v. Teleflex*, Lewis & Clark Law Review, Summer 2008 – 12 LCLR 323, 338 (int. cit. omitted – year 1882)
[140] 550 U.S. 398, 421 – KSR
[141] MPEP p. 2100-121 (int. cit. omitted)
[142] BPAI 2009-000189 p.13 (int. cit. omitted) – Process for reducing the quantity of sulphur present in gasoline feed
[143] 550 U.S. 398, 405-406 (int. cit. *Graham* 383 U.S. 1, 17-18 (1966)) – KSR
[144] BPAI 2009-002813 p.8 Wafer handling system (int.cit. 550 U.S. 398, 407 – KSR)

The presence of secondary considerations does not mean that the evidence is dispositive of the issue of obviousness.[145]

After resolving the Graham factors the Examiner must determine whether the claimed invention as a whole would have been obvious to PHOSITA by looking at the entire subject matter disclosed in the specification[146].[147]

3.3.4 Teaching suggestion motivation - TSM

There are a number of jurisprudential methods that the Supreme Court and the Federal Circuit have developed in an effort to combat the hindsight problem, e.g. jury instruction warning jurors about the hindsight bias and instructing them to avoid it (it turned out to have little, if any, mitigation effect), the use of secondary consideration evidence to establish non-obviousness, and the Federal Circuit's TSM requirement.[148, 149]
The Supreme Court's unanimous opinion did not utterly reject the Federal Circuit's TSM test: "When it [CAFC] first established the requirement of demonstrating a teaching, suggestion, or motivation to combine known elements in order to show that the combination is obvious, the court *captured a helpful insight*. […] Helpful insights, however, need not become rigid and mandatory formulas; and when it is so applied, the TSM test is incompatible with our precedents."[150]

This meant that the motivation or the suggestion can be found also implicitly in the prior art resulting in a more flexible TSM approach and a lowered non-obvious standard.

In KSR the Supreme Court views it as more important to avoid the wrongful grant of an obvious patent than to avoid the wrongful denial of a non-obvious one.[151]

3.3.4.1 Combination

The Supreme Court reaffirmed the need for caution in granting a patent based on the combination of elements found in the prior art.[152]

When a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious. To overcome the obviousness the combined elements have to create some new synergy.[153]

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[145] MPEP p. 2100-116
[146] Patent specification = patent description + patent claims
[147] MPEP p. 2100-118, 125 (int. cit. omitted)
[148] Mandel Gregory N. – 12 LCLR 323, 338-339 (int. cit. omitted)
[149] Cf. also chapter 3.3 letter G
[150] 550 U.S. 398, 418-419 – KSR
[151] Miller Joseph Scott, 16 TXIPLJ 237, 240
[152] 550 U.S. 398, 415 – KSR
[153] 550 U.S. 398, 417 (int. cit. omitted) – KSR

When the prior art *teaches away* from combining certain known elements, discovery of a successful means of combining them is more likely to be non-obvious.[154]

3.3.4.2 Secondary evidence

Secondary evidence, which is primarily used in cases of doubt about obviousness or to rebut the prima facie case of obviousness, may include evidence of commercial success, long-felt but unsolved needs and failure of others.[155]

Further secondary evidence exists as commercial acquiescence via licensing, professional approval, copying by and praise from infringers. Secondary evidence has to be assessed objectively e.g., in the case of commercial success it has to be established a *nexus* both due to the invention and between the invention and the commercial success. In the case of licensing e.g., it has to be established that the licensee does not acquire license only for fear of infringement.[156]
When the commercially successful device is the claimed invention itself, there is a presumption of nexus. However, the inventor still has to show that the alleged commercial success is due to the claimed invention.[157]

3.3.5 Cases from Board of Patent Appeals and Interferences

In this chapter I present a series of cases from BPAI rather than from CAFC. In this way it will be established a better ground for comparison reasons. In all the cases there are citations from the KSR case. The cases were decided in year 2009.

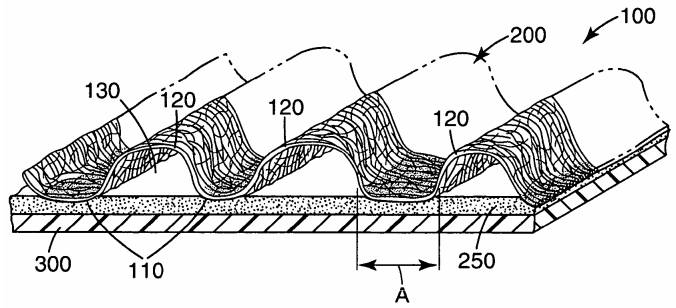
3.3.5.1 Wipe for cleaning (yes IS)

This case, BPAI 2009-009892[158], is an appeal against the Examiner's decision to refuse the patent application (priority date February 2006) on the ground of lack of *inventive step*. BPAI reversed the decision.

The present invention relates to a wipe 200 (woven material) that can be used to wipe up both small and large particles of dirt. The wipe includes peaks (raised ridges 120) that are separated from each other by valleys 110

[154] 550 U.S. 398, 416 (int. cit. omitted) – KSR
[155] 550 U.S. 398, 406 (int. cit. omitted) – KSR
[156] Blair-Stanek Andrew, *Increased market power as a new secondary consideration in patent law*, American University Law Review, April 2009 – 58 AMULR 707, 712 *et seq*.
[157] 570 F.3d 1356, 1361 (2009) – In re Mettke
[158] Cf. also Patent application – publication number 20060141881 A1

with adhesive A provided in the valleys. The advantage of this wipe is that the adhesive can contact a surface sufficiently to pick up sand and other heavy particles, but not to so great a degree that the coefficient of friction between the wipe and the surface is unduly high, which can make wiping difficult. The adhesive is provided in the valleys 110 thus when wiping the pests are not fastening onto the peaks scratching the surface to be clean. The user does not have to scrunch up the wipe, as in the prior art, to try to capture the dirt so it can be thrown out in the trash.



Prior art Lewis discloses a sheet material having a crepé tissue. This crepé tissue is bond to the sheet material by adhesive which penetrate only part way into the hills of the crepé, i.e. not to the working surface of the crepé. The scope of the Lewis is for fluid retention in washcloths and towels i.e., not dirt as in the invention. The adhesive in Lewis is disclosed as affecting absorbency and thus it should not come in contact with the surface to be wiped.

Prior art Brown discloses a cleaning sheet for collecting and retaining dust, larger particles or other debris. The cleaning sheet has holes which adhesive at their bottom.
Prior art Kemp discloses a three-ply absorbent wiping product including two outermost layers of highly creped tissue paper on each side of the central ply.

BPAI, citing KSR, analyses whether PHOSITA would have had an apparent reason to combine the known elements in the prior art as to come to the invention.

According to BPAI, PHOSITA would not have had that reason as Lewis teaches away from using adhesive coming in contact with the surface to be wiped.

BPAI did not comment on why PHOSITA would not have come to the invention starting from Brown or Kemp and using the common general knowledge. Would PHOSITA with reasonable expectation of success, not have modified Brown or Kemp, in the manner claimed by invention? This argument had been raised neither by the Examiner nor by the appellant.

3.3.5.2 Universal-control mechanism (yes IS)

This case, BPAI 2008-005168[159], is an appeal against the Examiner's decision to refuse the patent application (priority date June 2003) on the ground of lack of *inventive step*. BPAI reversed the decision.

The invention relates to a universal-control mechanism for remotely controlling operation of implements (18, 28 e.g. drill, chair) in a dental operatory. Most prior art implements are controlled by many foot pedals (30 Fig.1) but with the disadvantage of many cables on the floor which becomes a safety issue. The increased number of pedals might also confuse the dental professional. The invention discloses a universal-control mechanism which comprises only one foot-pedal (30 Fig.2), a switch (38 Fig.3) which is operated by the dental professional in order to choose the implement e.g. 28 and digital logic (40, 42 Fig. 3) to activate the implement. Thus, the dental professional depresses the pedal and the digital logic sends a command through an RF transmitter to the RF receiver (42 Fig.3) of the implement to activate it.

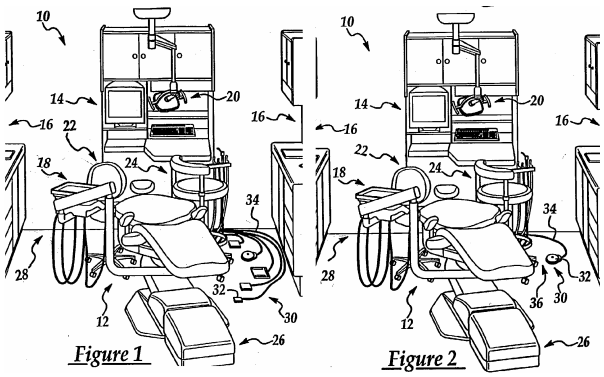
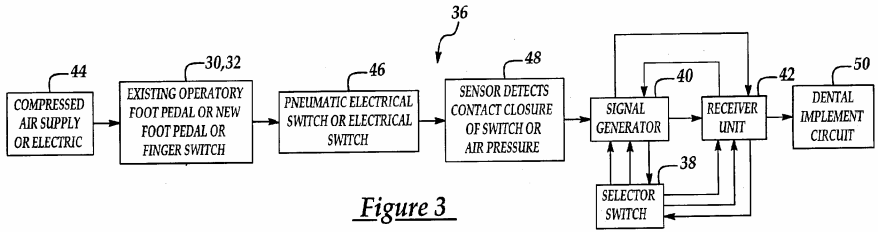


Fig.1 Prior art: many foot-pedals 30; Fig.2 Invention: one pedal 30



Prior art Beier discloses a switching device for dental instruments. The device uses switches which are opened when the associated instrument is withdrawn from its holder. A series of electronic logic involving a pedal are regulating the instrument in use yet not using RF (wireless).

Prior art Murry describes a device for applying irrigation, aspiration, and ultrasonic power for e.g. removing tartar. The device may be controlled by a wireless remote control switch as an RF transmitter.

[159] Cf. also Patent application – publication number 20030232305 A1

The Examiner asserted that PHOSITA would have combined the prior art Beier and Murry to use an RF transmitter and receiver in order to get rid of the wires, PHOSITA being aware of the advantages thereof.

BPAI concluded that the Examiner gave vague assertions about replacing wires with an RF transmitter and receiver which are not sufficient to meet the specific claim limitations.

In my opinion the Examiner did give explanation. There were minor differences, e.g. in the invention the RF transmitter sent a logical address to the controller which actuated the chosen implement but in Murry it sent a voltage value, though digitally encoded as in the invention, to regulate the power of the implement.
BPAI has, probably too strictly, applied the principle: "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness[160].".

3.3.5.3 Absorbent article (yes IS)

This case, BPAI 2009-005271[161], is an appeal against the Examiner's decision to refuse the patent application (priority date December 2002) on the ground of lack of *inventive step*. BPAI reversed the decision.

The invention was about an absorbent article e.g., disposable diapers, comprising a chassis 10 having a front waist region 12, a back waist region 14 and a crotch region 16. It comprised further a unitary elastomeric structure (details in Fig.3) attached to the waistband region 66 in a tensioned state such that the resulting elastomeric waistband portion is gathered (Fig.2) and stretchable (Fig.1) to an extent permitted by the degree of gathering of the waistband region. Another feature of the invention was that the elastomeric structure had a modulus of elasticity that decreases from a chassis centerline towards its lateral sides 70, 72 (Fig. 3). The problem with prior art was that these articles comprised either very tight elastomeric properties hurting the wearer or very low elastomeric properties which through the multiple uses by the wearer the elastomeric became worn down. It was also difficult to accurately predict and control the tensions arising in the diaper under multiple wear conditions thus the diaper being worn down.

[160] 550 U.S. 398, 418 (int. cit. omitted) – KSR
[161] Cf. also Patent application – publication number 20040122411 A1

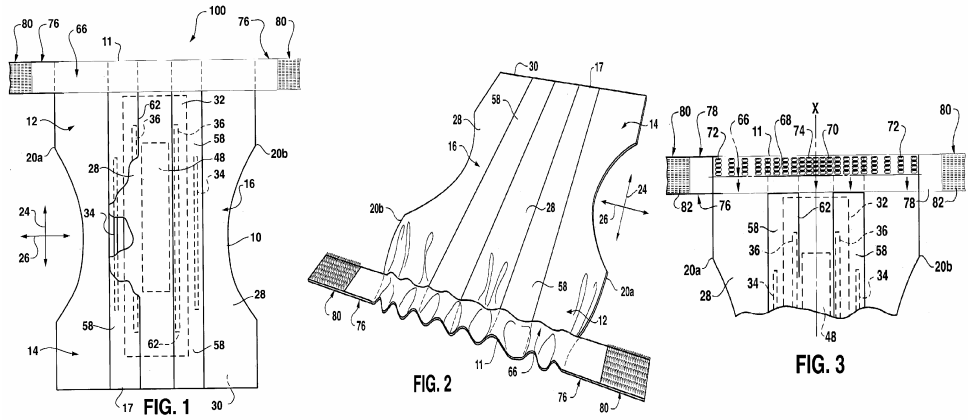


Fig.1 Stretched condition; Fig.2 Relaxed condition

Prior art Buell disclosed similar absorbent article but without elastomeric structure around the waist – in fact it disclosed the waist band made of polyethylene film and of nonwoven polypropylene (the specification did not though explicitly state that the waist band was elastomeric). Though BPAI acknowledged that PHOSITA would have found it obvious to use an elastomeric material in a tensioned state (being aware of the advantages thereof), PHOSITA would not find it obvious to modify prior art Buell according to the invention because Buell did not disclose elastomeric material whatsoever at the waistband region.

BPAI acknowledged also that PHOSITA would have found it obvious to configure an elastomeric belt with modulus of elasticity that decreases from a chassis centerline towards its lateral sides. It further argued that because Buell did not disclose elastomeric material at the waistband region PHOSITA would not find it obvious to modify Buell with this feature.

It may be questionable why BPAI, though it acknowledged that PHOSITA was aware of the advantages of the elastomeric material, concluded that it involved an *inventive step* to modify Buell according to the invention.

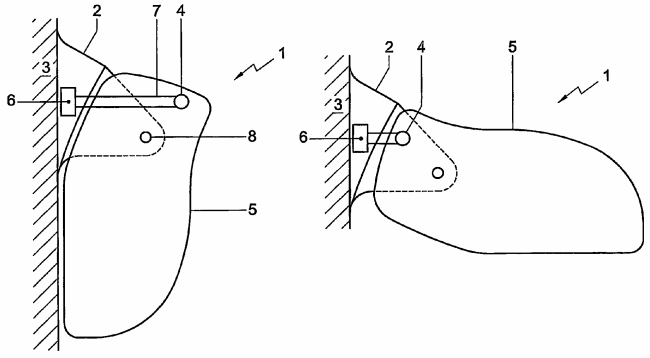
3.3.5.4 Wing mirror unit (yes IS)

This case, BPAI 2009-006169[162], is an appeal against the Examiner's decision to refuse the patent application (priority date April 2003) on the ground of lack of *inventive step*. BPAI reversed the decision.

The invention was about a wing mirror which could be rotated in a folded and unfolded position. The construction basically comprised an actuator 6 being connected to a main pivot 4 and an auxiliary fix pivot 8, whereas pivot 4 was movable outwardly or inwardly in a linear path transversal to the car body. These pivots permitted the mirror to be folded very near the car body or further from the car body in unfolded position. The problem with the state of the art was that without that pivot construction the

[162] Cf. also Patent application – publication number 20060285235 A1

manufacturer had to choose between building the mirror which in folded position was very near the car body but not too far away from car body in unfolded position or the other way round.



Wing mirror – folded (left picture) and unfolded position (right picture)

Prior art Crandell disclosed all the features of the invention but the actuator which moved the main pivot in an arc-shaped link.
Prior art McKee disclosed a rear-view mirror with a set-up of levers and arms which permitted a linear translation of a pivot.

BPAI looked for a reason which would have made PHOSITA to combine the prior art in the manner taught by the invention "[i]t can be important to *identify a reason* that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.[163]". BPAI chose to cite KSR at the line where it might be understood that an explicit reason had to be found.

Though the Examiner has showed how the modification would have been done by PHOSITA BPAI cited further a case from 1992 to underline the need for finding the explicit reason to modify the prior art "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art *suggested the desirability* of the modification.[164]".

BPAI stated also that the Examiner's reasoning was based on hindsight as the Examiner has not explained how the specific understanding within the knowledge of PHOSITA would have led PHOSITA to the modification of the prior art in order to arrive at the invention. BPAI did not explain how thorough this explanation had to be delivered by the Examiner.

BPAI argued that the Examiner had given *no scientific reasoning* explaining the motivation to PHOSITA to combine Crandall and McKee leading to modification of Crandall's coupling mechanism to accommodate *linear movement of the main pivot relative to an auxiliary fix pivot*.

[163] BPAI 2009-006169 p. 6 (int. cit. 550 U.S. 398, 418-19) Wing mirror unit
[164] BPAI 2009-006169 p. 6 (int. cit. omitted) Wing mirror unit

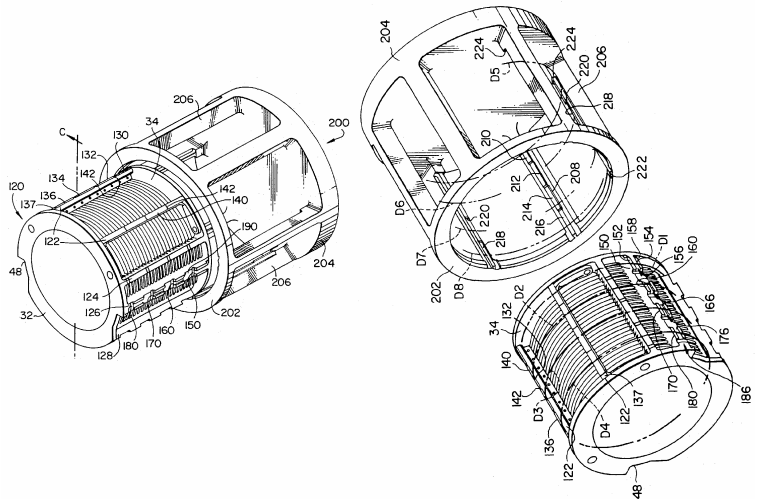
3.3.5.5 Wafer handling system (yes IS)

This case, BPAI 2009-002813[165], is an appeal against the Examiner's decision to refuse the patent application (priority date March 2003) on the ground of lack of *inventive step*. BPAI reversed the decision.

The invention was about an automated semiconductor wafer processing systems for cleaning the wafers (e.g. semiconductor substrates which requires very low levels of contamination). The problem with the prior art was that the cleaning was not generally uniformly processed (e.g. the process liquids and/or gases were not sprayed through and onto the wafers) because the carrier and the rotor were built tight (without bigger open spaces).

This invention discloses a carrier and a rotor with open spaces and a series of arrangements onto the outer surface of the carrier and onto the inner surface of the rotor. These arrangements (e.g. ribs 124, steps 130, lug ribs 126, rail 208, side bar 206, steps 210) permitted both having open spaces in the assembly carrier-rotor and a better secured carrier into the rotor when rotating centrifugally.

The design reduced the need for precise dimensional tolerances on the carrier and/or the rotor. This allowed the carrier and rotor to be manufactured of Teflon which has more resistance to the washing chemicals than stainless steel. Teflon is not hard material and this diminishes also the risk of breaking the wafers during the washing process.



Carrier (120) full with thin disc wafers and Rotor (200 or 204)

Prior art Thompson disclosed a carrier with a plurality of arrangements almost as the ones in the invention without e.g. a reinforcement bar like 206 in the invention.

[165] Cf. also Patent application – publication number 20030188447 A1

Prior art Bayne disclosed a carrier having a plurality of arrangements to allow the carrier to mate with an element to hold the carrier more securely in that element.

BPAI argued shortly that "[the] examiner has not provided a sufficiently articulated reasoning with some rational underpinning for combining the references.". To build the assembly of Teflon was not either obvious as neither of the prior art gave a hint that this material would resolve the problem stated in the invention i.e., excessive rigidity.

Perhaps BPAI should have affirmed the appeal stating that it is in the grasp of PHOSITA to make the necessary steps and experiments in achieving improvements of an apparatus. The construction of the assembly in the invention is not a simple one but requires a certain amount of engineering – however this is not patentable.

3.4 Summary

Before KSR it was necessary for a *precise* hint in the prior art in order for PHOSITA to come to the claimed invention in an obvious manner. The Supreme Court of the United States of America in KSR changed this approach meaning that e.g. obvious-to-try ***together with*** anticipated success[166] lead PHOSITA to the claimed invention in an obvious manner – the *common sense/common general knowledge* approach will have to play a greater role in the assessment of inventive step[167].

Post-KSR PHOSITA will thus be able to arrive obviously at the claimed invention using hints in the prior art which *implicitly* points at the claimed invention – the TSM test shall no longer be applied rigidly.[168]

According to *Graham factors*[169] the level of technical skills of PHOSITA has to be resolved before the assessment of inventive step. Though there are guidelines[170] for establishing the level of PHOSITA, in the presented cases BPAI does not discuss about how BPAI arrived at the conclusion that PHOSITA possesses those by BPAI stated technical skills.

The *hindsight phenomenon* is taken into account by BPAI when reversing a decision on ground of lack of inventive step. *Hindsight* might nevertheless be present, e.g. as a factor of excessive awareness also when granting the patent application meaning that the patent is granted to avoid further prosecution on *hindsight* grounds.

[166] Cf. chapter 3.2 letters A through D
[167] Conclusion formulated after discussion with Ph.D candidate Mister Timo Minßen.
[168] *Ibidem*
[169] Cf. chapter 3.3.3 letter C
[170] Cf. chapter 3.3.1

BPAI's main line of argumentation is based on rejecting[171] the Examiner's findings on how PHOSITA *would tackle* a technical problem. Since BPAI does not explain why its findings on what PHOSITA *would not do* when trying to solve the technical problem are the correct ones, it implies that BPAI considers itself automatically certificated to decide whether the invention involves an inventive step or not – which in turn might lead to a *subjective approach* to the assessment of inventive step.

[171] "[…] the Examiner has not established that an ordinary artisan [PHOSITA] would have understood that any advantages […]." – BPAI 2009-005271 p.12 Absorbent article;
"[…] the Examiner has adduced no scientific reasoning or evidence explaining the motivation to [PHOSITA] to combine [the prior art]." – BPAI 2009-006169 p.5 Wing mirror unit.

4 Concluding comments

In order to diminish the problem of patent over-issuance[172] the United States of America Supreme Court opted for a more flexible approach regarding the technical skills of PHOSITA. Nevertheless, we can see from the cases from USPTO reviewed in this thesis that PHOSITA still needs *precise* hints in the prior art in order for her or him to come obviously to the claimed invention.

An investigation of USPTO statistics between 1963 and 2008 regarding the total (U.S. and foreign) number of utility patent applications and patent grants reveals a continual grow up to year 2003. Thereafter the patent grants follow some dips and tops, particularly years 2006 and 2007, which might be explained by the grant of certiorari (June 2006) and the Supreme Court decision (April 2007) in the KSR case (cf. the figures[173] hereafter which show that KSR might have influenced even EPO):

Year	Utility Pat. Application, All Origin Total	Utility Pat. Grants, All Origin Total
2008	456 321 (*EPO 146 561*)	157 772 (*EPO 59 819*)
2007	**456 154 (*EPO 141 439*)**	**157 282 (*EPO 54 700*)**
2006	**425 967 (*EPO 135 423*)**	**173 772 (*EPO 62 777*)**
2005	390 733 (*EPO 128 719*)	143 806 (*EPO 53 255*)
2004	356 943 (*EPO 123 759*)	164 290 (*EPO 58 725*)
2003	342 441 (*EPO 116 834*)	169 023 (*EPO 59 989*)
2002	334 445 (*EPO 106 342*)	167 331 (*EPO 47 380*)

The above figures for year 2008 show that the granting of patents both at EPO and USPTO are on the rise again. It might be interpreted as the KSR decision is no longer regarded as a landmark decision but as a decision from which the Examiner and the Board of Appeal can deviate.[174]

The obviousness is judged against PHOSITA, whose skill level has to be assessed stepping back in time, which *together with hindsight* bias exerts a greater impact on obviousness analysis. The affected obviousness analysis results in a systematic error, which might give a false threshold for a true patent protection.[175]

[172] Also called for *junk patents*

[173] Statistics from *www.uspto.gov* and *www.epo.org* – visit 2009-11-12

[174] The figures in the table should not be considered as a source of robust interpretation because both of a too little amount of data and of other circumstances which might have influenced these figures (e.g. political and/or economical events).

[175] Wu Jun – 97 KYLJ 565, 570

Both at EPO and USPTO, when reversing a decision taken on grounds of lack of inventive step the Board of Appeal rejects the Examiner's findings about the skills of PSA/PHOSITA usually stating that the Examiner *has not clearly* explained how PSA/PHOSITA would have an incentive to combine the teachings of the prior art in the manner claimed by the invention. The Board of Appeal however, does not offer more explanations concerning its findings about the skills of PSA/PHOSITA thus contributing to a subjective approach to the assessment of inventive step.

When determining whether an invention involves an inventive step or not at EPO as well as at USPTO the main focus in the guidelines for examination lies on *anticipated results*, e.g. obvious-to-try ***together with*** reasonable expectation of success.[176] *Common general knowledge* or *implicitly* found motivation in the prior art also obviously lead PSA/PHOSITA towards the claimed invention. However, from the results of the cases from both EPO and USPTO analysed in the thesis I may conclude that PSA/PHOSITA still needs a *precise* hint in the prior art in order to arrive at the claimed invention in an obvious manner. The *common general knowledge* of PSA/PHOSITA is barely discussed by the Board of Appeal though at least concerning USPTO the *common general knowledge* should be more emphasized after KSR. This show a discrepancy between the theory and the practice during the prosecution at EPO and USPTO which in turn might further contribute to a subjective approach to the assessment of inventive step.

Yet another aspect which might impair an objective assessment of inventive step is the assembly line for PSA/PHOSITA. The guidelines offer instructions about this indeed, e.g. *PSA is both a logical person and an expert in a technical field but she or he is not possessed of any inventive or creativity capability* or *PHOSITA is creative but not inventing*. The question which arises is *whether it is possible to build a PSA/PHOSITA which rigorously follows the guidelines* – especially when to combine these two compounds *expert in a technical field* and *not possessed of any inventive or creativity capability* which actually they cancel one another.

The product or method which the inventor claims in her or his patent application is based on statements. The Examiner and later the Board of Appeal do not have in front of them the product *up-and-running*. This might further contribute to an arbitrary decision in the assessment of *inventive step* – hampering attempts to make the assessment of *inventive step* predictable.

From some of the decisions by the Board of Appeal reviewed in this thesis it might be understood that the requirement of *inventive step* is one and the

[176] Cf. chapter 2.2.1 first paragraph, chapter 2.2.2.1 and chapter 3.3 letters A through F. Particularly, the different aspects gathered in chapter 3.3 letters A through F may be enlarged to cover even more situations. Nevertheless, this might not unload the burden of finding out who is PSA/PHOSITA and what would PSA/PHOSITA do when confronted with a technical problem which needs to be solved.

same as the requirement of novelty – because of the low level of skills in the art assigned to PSA/PHOSITA[177].
Recall also the *problem-solution-approach* at EPO whereby the Examiner may formulate a different problem than the one the invention explicitly sets out to solve. This might further obstruct an objective assessment of inventive step.[178]

How can it be determined satisfactorily that an invention is not in fact a chain of trial and error with reasonable expectation of success? How can it be determined for sure that the invention though regarded as novel is not in fact an inspiration from some other technical source which in turn means that the *inventive step* is not an achievement of the patentee?

I think it has to be a technology achievement *not obvious to **many** persons skilled in the art and not only to **a** person skilled in the art*. I mean that, today it is difficult to rightly assess the involvement of *inventive step*. There are many factors which contribute to *inventiveness* which are not and might not be easily asserted or clearly put forward and if so, it might result in obvious patents.

The following stereotyped statements can invariably be found in patent applications both at EPO and USPTO:

(A) "Additional objects and advantages of the invention […] may be obvious from the description, or may be learned through practice of the invention."
(B) "It should be readily *apparent* to those skilled in the art that various modifications and variations may be made to the embodiments of the invention described herein without departing from the scope and spirit of the invention."

The second statement particularly, tells us that the patentee regards PSA/PHOSITA as having higher skills in the art when they are to reproduce the invention than when the patent application is to be prosecuted.

[177] Cf. FN 8 – Recall Art. 27 footnote 5 TRIPS
[178] Cf. chapter 2.2.2 letter B

5 Reform the patent law?

An invention is a result of perspiration (work) and inspiration (*inventive step*) whereby the inspiration may be patented.

A wrong assessment of *inventive step* leads to a patented perspiration with the effect of hindering work and development. A right assessment of *inventive step* might also lead to deficiencies as 20 years of protection against infringement is not easy justifiable for an invention which in some cases probably remains an idea on the paper tucked away in a drawer and thus preventing an engineer to build and make use of the apparatus claimed by the invention even though the engineer conceived the apparatus by herself or himself.

Perhaps the patent law needs reforms.[179]

The main obstacle towards the achievement of objectivity when assessing the inventive step is PSA/PHOSITA whose skills must be elucidated consistently. This artisan will have been a product of many Examiners and Board of Appeal when she or he sets out to solve a number of technical problems. Thus the focus shifts from the estimation of the invention towards the manufacture of a product which in fact no one knows for sure either the whereabouts of this artisan or whether she or he exist whatsoever.

Many of the inventions are combination of prior art or small improvements of prior art. To assess the involvement of inventive step in such cases is difficult unless the invention clearly stands out from the prior art.

The *inventive step* requirement might be abolished (or changed to a *technical step* requirement[180]) keeping though the *novelty* requirement. Implement then a system similar to *copyright*[181] whereby an unwitting engineer about the *copyright* invention may be allowed to develop and build an apparatus as long as it is an *independent creation*[182].[183]

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[179] Is there a need for Utilitarianism in patent law? – The greatest good for the greatest number of people even though some people (the patentees) have to give up part of their happiness.

[180] An already existing requirement is that the invention must be a solution to a technical problem.

[181] It shall not be understood as e.g. the Copyright legislation in the United States of America or any other country is transcribed and subsequently transferred into the patent law.

[182] Cf. the limitations on exclusive rights in Copyright Law 17 U.S.C. e.g. sec. 107 (1) – *non-commercial fair use* or sec. 114 – *the exclusive rights of the owner do not extend to independent created sound recordings*.
Cf. also Art. 19 Council Regulation (EC) No 6/2002 of 12th December 2001 on Community designs – *protection does not extend to independent creations* – OHIM.

[183] In a expert opinion requested by EPO it was stated that the main purpose of absolute patent protection is not to secure the inventor the right to use her or his invention, but to secure her or his position when defending her or his invention against copiers.

Thus, an inventor obtains a *copyright* for her or his invention automatically with the creation of the invention as long as it fulfils the other requirements as *novelty* and *technical step* – i.e. one is prohibited to copy the invention without licence.

Should another inventor arrive independently at the patented invention than the protection period for the patented invention shall be terminated at that point of time – this feature of the reform helps to avoid obvious patents being maintained valid for a too long period of time.

Of course as any reform it does not only bring solutions but also new questions, e.g. how is it going to be demonstrated that the unwitting engineer built the apparatus by herself or himself – *an independent creation*. A solution could be an *affidavit* that she or he made an independent creation, like in the priority disputes when assessing the novelty in the United States patent law. This might not be sufficient but further criteria in this regard could be developed.

With this solution the duration of the protection may be increased to more than 20[184] or 25[185] years.

This solution to a reform of patent law is in some way similar to the solution found in Art. 52 EPC which states that e.g. mathematical methods are not patentable. In my opinion mathematical methods are very much patentable as any other apparatus because most of e.g. electronic apparatuses comprise a very high amount of mathematics. Nevertheless, EPC has found it necessary not to grant patent for this kind of invention very probable because of the risk of hampering the development.

5.1 Improve the present patent grant procedure instead?

Probably, a method to counter-balance the risk of granting patent for an obvious invention would be to shorten the time of exclusivity rights for the inventor to say 6 years as in the case of the French patent variant *certificat d'utilité*[186].

Yet another possibility to ensure a better assessment of the *inventive step* would be to separate the Examiner's evaluation of obviousness from the rest of the patent prosecution using two patent Examiners. The first Examiner would undertake the traditional analysis without making an obviousness finding and would also make findings regarding the problem to be solved

[184] Art. 63 (1) EPC & 35 U.S.C. sec. 154 (a) (2)
[185] Art. 63 (2) (b) EPC [e.g. 105 § Swedish patent law (1967:837)] & 35 U.S.C. sec. 156 (d) (5) (E) (i)
[186] Actually, this certificate is for inventions which are short-lived.

and other necessary information such as the skill level of a person having ordinary skill in the art. The second Examiner would not be informed of the actual invention and would make the obviousness finding based only on the problem to be solved and the ordinary skill level.[187]

I may say, as I worked at EPO as Examiner that this kind of workflow had been present at EPO but because of financial reasons it has been abandoned with the result that the Examiner has to do both the search and the examination.

Finally, I would like to reproduce a statement from the Supreme Court of the United States of America stated in KSR which underlines the importance of innovation as well as the importance of progress:

”We build and create by bringing to the tangible and palpable reality around us new works based on instinct, simple logic, ordinary inferences, extraordinary ideas, and sometimes even genius. These advances, once part of our shared knowledge, define a new threshold from which innovation starts once more. And as progress beginning from higher levels of achievement is expected in the normal course, the results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts.”[188]

[187] Patent E., *Obviousness*, Harvard Law Review, November 2007 – 121 HVLR 375, 384
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1567/2007	Washing machine
1734/2007	Fiber optic receptacle
1921/2007	Gas flow silencer

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