

(Non-)obvious alternatives

Recent EPO case law

In this article we highlight selected aspects of the problem-solution approach employed by the European patent Office (EPO), particularly focusing on the importance of the determination of the technical effect for the formulation of the objective technical problem, and on the implications thereof for whether or not the claimed invention is obvious in view of the prior art.

We will specifically look at the situation when the objective technical problem is formulated to be the provision of an **alternative**, and thus at cases in which the claimed invention provides a mere alternative to the prior art **without any apparent improvement or new technical effect**.

Based on two recent decisions of the Boards of Appeal, T 2591/22 and T 2166/22, and further decisions, we discuss certain criteria which seem relevant for the Boards in determining inventive step in a situation where the claimed subject-matter represents an alternative.



The problem-solution approach

The problem-solution approach has been developed by the EPO as a tool to »objectively and predictably« assess inventive step. It has three main steps, namely (i) the determination of the closest prior art, (ii) establishing the objective technical problem to be solved, and (iii) considering whether or not the claimed invention, starting from the closest prior art and the objective technical problem, would have been obvious to a person skilled in the art¹. Herein, we will specifically focus on steps (ii) and (iii).

For step (ii), one has to find out what technical effect, if any, is achieved by the distinguishing feature(s) as compared to the closest prior art. Based on the identified technical effect versus the closest prior art, the objective technical problem is then formulated as follows:

- If the technical effect is a new technical effect or a technical effect which is not achieved by the closest prior art and thus a different technical effect, the objective technical problem underlying the claimed invention is the provision of a product/process/use (depending on the claim category) that provides this different technical effect.
- If the technical effect is an improvement of a technical effect already (but to a lesser extent) achieved by the closest prior art, the objective technical problem is the provision of a product/process/use with such an improved technical effect.
- If there is no evidence or convincing rationale that the claimed subject matter achieves a technical effect that is different from or improved *versus* the technical effect of the closest prior art, the objective technical problem must be formulated as a less ambitious problem, namely the provision of another, alternative product/process/use (i.e., having essentially the same technical effect as the one achieved by the closest prior art). It is particularly this scenario that we deal with in the present review.

In the latter case, i.e., when the objective technical problem is formulated as the provision of simply a further, alternative product/process/use with respect to the closest prior art, it is important to understand that this does not automatically mean that such alternative subject matter is obvious. Rather, in step (iii), the question to be asked is whether the skilled person who wished to provide such alternative product/process/use with the same, already known technical effect and without any additional advantage would have made the respective modification, i.e., would have applied the specific distinguishing feature(s).

In the following, we will present two opposition/appeal cases that are quite illustrative, as they emphasize some notable considerations in the situation when the objective technical problem is formulated as the provision of an alternative.

T 2591/22 - The technical effect must be convincingly achieved by the distinguishing feature

This case (before the Board 3.2.06) relates to an absorbent article with a particular placement of the cuff end bond region in the front waist region in relation to where the side panels are attached to the chassis in the back waist region. The distinguishing feature *versus* the closest prior art is a certain minimum ratio of the distances of the locations of these two diaper construction elements from the lateral centerline of the absorbent article. According to the Patentee, the technical effect of this claimed ratio was reduced sagging of the absorbent article when worn. The patent does not contain any data or other evidence proving this alleged technical effect. However, the patent discloses several theoretical considerations, *inter alia* a so-called »no-sag criterion«, which is a mathematical relationship between different parameters – however, not the claimed parameters reflecting the distinguishing feature in question. Additionally, the Patentee provided extensive further technical explanations, both in writing and during the oral proceedings, to support the alleged reduction of sagging.

The Board was not convinced that the distinguishing feature really achieved any different (or improved) technical effect than that obtained by the absorbent article disclosed in the closest prior art. The Board's conclusion derived on the one hand from the fact that the »no-sag criterion«

¹ Introduced with effect from 6 September 2005 by Art. 3, 8 para. 1 of the 14th Act amending the Medicinal Products Act of 29 August 2005 (Federal Law Gazette I p. 2570)





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did not recite any of the parameters of the distinguishing feature, and on the other hand from concrete, technical reasons that rendered the relevance of the distinguishing feature unclear, both in itself in the way it was formulated and with regard to its numerical lower limit for the alleged technical effect, particularly over the entire breadth of the claim. The Board specifically stated (margin no. 4.1.4 of the Reasons):

*»Since the theoretical considerations submitted by the respondent are unconvincing, the Board can only agree with the appellant that **no evidence, e.g. in form of experimental data**, is on file which could support the respondent's allegation of the influence of the claimed ratio and its lower limit value on the reduction of sagging. In view of the considerations in point 4.1.3, the Board is also not convinced that sagging **will always be reduced** by feature E in case all other parameters of the two diapers, one of which presenting the claim features and the other not, were the same.«*

Consequently, as the Board was not convinced that the purported technical effect was achieved, the objective technical problem was formulated as the provision of an alternative absorbent article.

The Board considered the claimed absorbent article an obvious alternative to the known absorbent article disclosed in the closest prior art. Specifically, the Board

stated (margin no. 5 of the Reasons) that a proper selection of appropriate positions and dimensions belonged to the common practice of the skilled person. Another prior art document on file – although not disclosing the precise claimed dimensional ratio – demonstrated that the respective positions and dimensions were open to variation. According to the Board, this meant that the precise ratio was not relevant and was merely an **arbitrary value** (to which, thus, no technical effect was attributed). Also, the Board emphasized that there was **no evidence** on file supporting the Patentee's argument that the claimed feature was counter-intuitive. Consequently, the patent was revoked for lack of inventive step.

This decision not only demonstrates the very systematic application of the problem-solution approach of the Board, but it also highlights **two important aspects that usually tend to be discussed in great detail in life science cases, but rarely in cases in the mechanics/engineering field**, namely:

- A conclusive argumentation (or even better: **experimental evidence**) is crucial to support the presence of the purported technical effect.
- A technical effect relied upon as basis for the formulation of the objective technical problem must be present essentially **across the entire breadth of the claims**.

Finally, it is quite remarkable that, although the differentiating feature itself was not even disclosed in any prior art reference (it was only generally mentioned that the respective dimensions were open to variation, but the ratio, let alone a particular ratio, was never specifically addressed), the Board still considered the claimed subject matter as obvious because the claimed feature was considered arbitrary. Further, an argument for a prejudice or counter-intuition would only have been taken into account had there been **concrete evidence** in this regard.



T 2166/22 - The technical effect must be achieved over the whole breadth of the claim

This second case (before a different Board, namely the Board 3.2.01) focuses, even more than the first case, on the breadth of the claim, and the question of whether a certain technical effect relied upon is achieved throughout this entire breadth. This is of importance not only in life science cases (where the breadth of the claims is often an issue, not only under Art. 56 EPC but also under Art. 83 EPC), but also in cases in the mechanics/engineering field. This case is also instructive as it demonstrates where the boundary between an obvious alternative and a non-obvious alternative could lie.

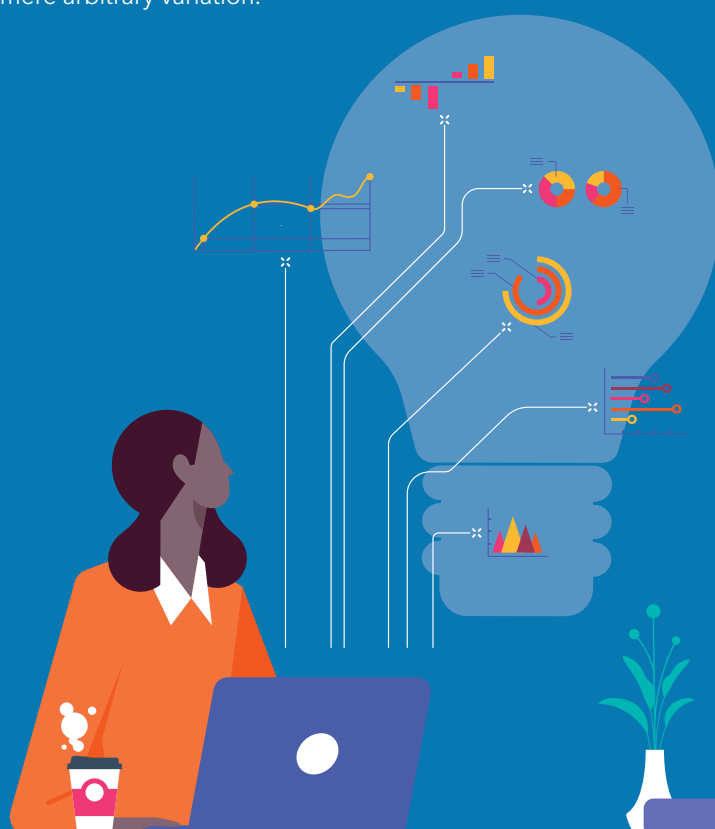
The claims of the opposed patent again relate to an absorbent article. This absorbent article is equipped with a wetness detection unit. Wetness is detected by means of electrodes spaced across the length of the absorbent material. These electrodes are connected to the detection unit by means of conductors. The conductors have different lengths based on the positioning of the electrodes along the article. The distinguishing feature of the claims of the Main Request over the closest prior art is that the longer conductors have to exhibit a lower electrical resistance per unit length than the shorter conductors. The Patentee argued that this resulted in all conductors having the same overall electrical resistance, i.e., differences in conductor resistances due to different lengths were compensated for. According to the Patentee, this allegedly increased the accuracy of the wetness detection. There is no data in the patent, and there was no data on file supporting this alleged technical effect.

The Board judged that the alleged technical effect of increased wetness detection accuracy was not achieved over the whole scope of the claims of the Main Request (margin no. 1.4.2 of the Reasons), because the way the distinguishing feature was phrased allowed for over- or under-compensation of the resistance differences of the various conductors. In other words, the compensation of resistance differences relied upon by the Patentee was **not achieved over the whole scope** of the claims (or stated differently, the distinguishing feature was not phrased sufficiently precisely). Hence, the objective technical problem underlying the claimed subject matter as a whole was formulated as the provision of an absorbent article with an alternative wetness detection device. The claimed solution was considered obvious by the Board, as the skilled person may **arbitrarily** use a lower electrical resistance per unit length for the longer conductors, e.g. by increasing the cross-sections of these conductors as a well-known measure to adjust the electrical resistance per unit length.

This latter feature was spelled out in an Auxiliary Request, which was equally considered obvious for the same reasons as the Main Request (margin no. 3.1.3 of the Reasons). The feature in question was thus only a **selection among a number of known possibilities** available to the skilled person.

The Patentee filed a further auxiliary request with the additional feature that the cross-sectional areas of the conductors were substantially proportional to the lengths of the conductors. With this reformulated distinguishing feature, the Board seemed satisfied that, unlike in the higher ranking requests, it was ensured that there were essentially no differences between the respective resistances of the individual conductors.

The Board stated that, regardless of whether or not the alleged technical effect of an increased accuracy of the wetness detection was achieved, and thus whether the objective technical problem was formulated to be the provision of an absorbent article with an improved or with an alternative wetness detection, the claimed subject matter was not obvious in view of the prior art. In the Board's opinion, the skilled person would not change the cross-section of all conductors **in such a specific way** to arrive at conductors having essentially the same overall resistance. None of the cited documents taught this specific measure (margin no. 4.3 of the Reasons). Thus, it seems that in this case, although a technical effect had actually not been proven, the Board apparently considered the feature in question to be more than a mere arbitrary variation.



The degree of contribution to the art

From the latter case it may be concluded that the more specific a distinguishing feature, and thus the narrower the scope of the claims, the higher the chances that the EPO will consider such a claim inventive and not a mere arbitrary modification of the closest prior art. This ties in with the established principle of T 939/92 that the **protection conferred must be commensurate with the invention's contribution to the art.**

More recently, this principle has been confirmed, e.g., in T 1179/16, where the Board (again, a different Board, namely the Board 3.3.06) said (margin no. 3.4.4. of the Reasons) that:

*»the question of whether a skilled person would consider a modification of the prior art **critically depends on the problem solved by the alleged invention**. On the one hand, if an invention **solves a specific technical problem**, a solution in the prior art should only be regarded as obvious when it is explicitly or implicitly linked to that particular problem or when there is a one-way street situation. On the other hand, if the only contribution of the invention is to propose something different from the prior art (i.e., **the provision of an alternative**), then it is usually appropriate to consider that **the skilled reader would take into account any alternative known in the underlying technical field** (unless the closest prior art teaches away from it). In such cases it **might not be required to justify the selection of a particular solution**, because it is assumed that an invention based on incorporating known features for the sole purpose of establishing novelty must be rendered obvious by a corresponding step of selecting **any alternative known in the art.**«*
(emphasis added)



Summary

The decisions discussed above highlight important aspects when assessing inventive step in a situation where the objective technical problem is formulated to be the provision of an alternative, i.e. with no different or improved technical effect.

Thus, when determining inventive step in such a scenario, important points to consider are:

Is the distinguishing feature a well-known alternative that is suitable for the general purpose of the invention, and is this disclosed somewhere (e.g., in a supporting prior art document or a common general knowledge document, see e.g. T 2591/22, T 2166/22, T 910/16)?

If yes, are there any concrete reasons (e.g., incompatibility, prejudice etc. – but again, evidence is usually required) for

the skilled person that would speak *against* using this feature (see e.g. T 2044/09, T 2210/19)? In this context, **especially in case the distinguishing feature replaces another feature that is required or at least present in the closest prior art**, particular care must be taken to consider whether the skilled person would expect that the distinguishing feature still achieves the **same** technical effect as achieved by the closest prior art (see e.g. T 465/19, T 1791/22, T 148/10). If not, the skilled person might be inclined **not** to use said feature, which would speak **against** obviousness.

However, if there are no concrete rationales that speak against using the distinguishing feature, the claimed subject matter is obvious, **even if there is no particular motivation or pointer in the prior art to use the distinguishing feature**.

Practical take-aways

When arguing against inventive step (e.g. as an opponent):

It is advisable to extensively invest in finding reasons (ideally accompanied by concrete evidence) why the purported technical effect is not achieved by the claimed subject matter *versus* the closest prior art, as this influences the formulation of the objective technical problem and thus the assessment of inventive step. When doing so, it is recommended to properly construe the claim by considering its (reasonably) broadest scope.

When arguing in favor of inventive step (e.g. as applicant/patentee):

It is imperative to find convincing arguments (and ideally evidence, not least in the form of data – even in the mechanics/engineering field!) as to *why* a certain technical effect relied upon is indeed achieved by a particular distinguishing feature. Further, it can be very helpful to identify reasons (again, ideally backed-up by published evidence) which would prevent the skilled person from providing this feature.



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