Selection inventions

Louise Tottie and Anette Romare of Valea outline important aspects of selection inventions relating to lists and ranges, to consider when drafting patent applications.

Selection inventions are concerned with the selection of one or more specific embodiments from a general disclosure in the prior art. A general disclosure in the prior art is not considered to take away the novelty of a later claim to a specific embodiment. For example, where the prior art discloses metal, a later claim to copper would still be novel.

However, the assessment of novelty of a selection invention is less straightforward when the prior art relates to lists or ranges.

In Europe, case law concerning the novelty of selection inventions relating to lists or ranges has evolved over time and has come to impact severely on how applicants for patents in Europe...
may amend their patent applications during prosecution, as well as on the validity of a priority claim from an earlier filed application. In all cases, the crucial question to be answered is what information can be directly and unambiguously derived from the disclosed lists or ranges.

While recent decisions from the Boards of Appeal of the European Patent Office (EPO) confirm and clarify established case law relating to lists, the situation appears to be less clear for selection inventions relating to ranges.

**Two list principle**

A well-established principle in Europe is that a selection is novel when it results from a selection of elements from two lists of some length. In contrast, no novelty is recognised when the selection is made from a single list of individualised elements. This principle derives from T 12/81, later confirmed in T 7/86 and has since been adopted by the Boards of Appeal consistently.

For instance, when a document discloses a compound having two substituents R1 and R2, wherein R1 is methyl, ethyl or propyl and R2 is chloro, bromo or iodo, the specific combination of R1 being methyl and R2 being iodo is not considered disclosed. Accordingly, if the document were a prior art document, such a specific selected combination would be novel if claimed in a new patent application. However, if the document were a pending patent application there is no basis in the application for selecting and claiming the specific combination.

It should be pointed out that the above principle only applies to lists relating to structural information. Accordingly, if one list discloses starting materials and the other list discloses process conditions, the inevitable product resulting from a combination of any one of the starting materials with any one of the process conditions is considered disclosed. Thus, no selection invention is possible since the product lacks novelty. On the other hand, in a patent application under prosecution, the lists can be used as a basis for claiming a product resulting from the combination.

The structural information in the lists need not necessarily relate to starting substances required to prepare end products, but may be entities for the preparation of mixtures. In T 401/94, the Board found the claimed composition novel since it corresponded to a specific combination of constituents which had been selected from a relatively long list in a prior art document.

The following decisions from the Board of Appeal further illustrate the view of the EPO with respect to selections from lists.

**Two components in a single list**

In T 1374/07 a claim was directed to a bread improver including particles made of at least fat and enzymes. The patent was revoked by the Opposition Division, holding that it contravened article 123(2) EPC, since the feature “made of at least fat and enzymes” lacked basis in the application as filed.

The patentee lodged an appeal against the decision arguing that the selection was made from one list, and that the case law relating to selections from two lists was not applicable.

The Board of Appeal did not agree with the patentee. The Board pointed out that although the description stated that “the particles are made of at least two different active ingredients” as well as “the improver according to the invention can fur-
other comprise one or more ingredients selected from the group consisting of emulsifiers, fat, enzymes, sugar, organic acids, minerals, polysaccharides, proteins and/or a mixture thereof”, this provides no basis for the claimed combination of fat and enzymes. The Board stated that the selection of two ingredients from a single list is equivalent to making a selection from two identical lists and that the expression “and/or a mixture thereof” cannot serve as a basis for the combination of “at least fat and enzymes” since it covers not only the 28 possible combinations of two ingredients but also the combination of three ingredients, of four ingredients, and so on. In particular, the Board stated that no teaching in the application as filed guides the skilled person towards the specific combination of fat and enzymes and therefore it constitutes added matter.

A learning point from this case is that it is important that the application explicitly recites all embodiments for which the applicant can envisage the need for useful protection. Merely listing possible constituents without any guidance as to how these may be combined affords little or no help when amending the application during prosecution.

Specific combinations from two lists

This example relates to combinations of dipeptidylpeptidase-IV inhibitors with antidiabetic agents. The claimed combination of the dipeptidylpeptidase-IV inhibitor LAF237 and an antidiabetic agent selected from rosiglitazone, pioglitazone, and troglitazone was considered by the Opposition Division to contravene article 123(2) EPC. The Board of Appeal disagreed, pointing out that the description discloses a particularly preferred embodiment in which a dipeptidylpeptidase-IV inhibitor is selected from LAF237 and DPP728 and an antidiabetic agent is selected from a list of 22 compounds. The Board concluded that the skilled person would directly and unambiguously derive 44 individual combinations, among them the three claimed combinations indicated above. All 44 combinations were considered equally preferred and useful, and the selection of three of these combinations was considered to be merely a deletion of the other 41 combinations. Such a deletion in order to improve patentability over prior art is admissible in accordance with established case law.

Thus, the specific combination of a dipeptidylpeptidase-IV inhibitor selected from LAF237 and an antidiabetic agent selected from rosiglitazone, pioglitazone, and troglitazone was considered by the Board of Appeal to be allowable. In contrast to the example of the bread improver, the Board concluded that the disclosure of the original application provided guidance to specific combinations and therefore such combinations were disclosed and could provide a basis for amendment.

Two lists, claiming priority

In decision T 0077/97 the Board held that the priority claim was invalid. The application was directed to specifically substituted taxoid compounds. The priority founding application disclosed substituted taxoid compounds, but the combination of substituents was not specifically mentioned. Consequently, the Board found the priority claim to be invalid. As there had been an intermediate publication of the specifically substituted taxoid compounds, the new application was found to lack novelty.

Annette Romare

Annette is a European patent attorney, and an authorised patent attorney (SE). She has an MSc in chemical engineering and biotechnology.

Annette joined the patent profession in 1985 and specialises in absorbent materials and products, paper, cellulose and fibre technology, polymers, adhesives, general chemistry, medical technology, packaging and packaging technology.

Annette has expertise in opposition and appeal proceedings at the European Patent Office and provides freedom-to-operate analyses and infringement opinions, as well as drafting and prosecution of patent applications. Anette has been involved in the CEIPI program as a tutor since 1994.

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This shows the importance of disclosing the specific combination of features, in this case a substituted taxoid compound, for which the applicant desires patent protection.

Numerical ranges
In situations where the prior art is a numerical range for which only the end points are disclosed, the EPO takes the view that values between the end points are not specifically disclosed. For instance, if the disclosure is an alkyl group with a chain length from one to four carbons, that is, a chain from C1 to C4, a C2-chain is not considered disclosed.

In cases where a sub-range is selected from a broader numerical range of the prior art the three-step test is applied. This test derives from decisions T 198/84 and T 279/89 and is described in the Guidelines for Examination in the European Patent Office (part G, chapter VI-8). A sub-range selected from a broader numerical range of the prior art is considered novel, if each of the following criteria is satisfied:
- the selected sub-range is narrow compared to the known range;
- the selected sub-range is sufficiently far removed from any specific examples disclosed in the prior art and from the end-points of the known range;
- the selected range is not an arbitrary specimen of the prior art, that is, not a mere embodiment of the prior art, but another invention (purposive selection, new technical teaching).

Accordingly, a selection invention from a numerical range appears to differ from other types of selection inventions in that it should be a purposive selection (a technical effect is needed to fulfill the requirement of novelty). For all other types of inventions this criterion is dealt with separately, in the assessment of inventive step.

However, some recent decisions from the Board of Appeal show that the three-step test is not applied in a consistent way.

In T 1253/05 relating to a non-azeotropic composition, the Board decided not to take the third criterion into account in the assessment of novelty. Instead, the third criterion of a purposive selection was dealt with in the assessment of inventive step. Two further decisions (T 0250/07 and T 1150/09) took the same approach and moved the third criterion from the assessment of novelty to the assessment of inventive step. Nevertheless, in decision T 126/09 the Board again applied all three criteria in the assessment of novelty.

In decision T 1827/08, the patent had a claim directed to a pipe provided with a barrier layer having a thickness of less than 1µm. The prior art disclosed a pipe with a barrier layer between 0.1 and 200µm, and an example was provided where the barrier layer was 9µm. According to the Board, the claimed pipe fulfilled the three-step test. The prior art range was justified by the provided examples. The prior art example of 9µm was far away from the claimed range of less than 1µm.

Clearly, there is no consistent EPO practice for assessment of novelty for selection inventions relating to numerical ranges. It remains to be seen if a change in practice will take place or if there will be a referral to the Enlarged Board of Appeal.

Priority from a broad range
The following example shows how the novelty of a European patent can be destroyed by the application from which it claims priority. In decision T 680/08, the Board held that the priority claim of a European patent directed to the range 0.350 to 0.415 kWh/kg was invalid since the range disclosed in the priority document was 0.325 to 0.415 kWh/kg. The priority document was a European patent application that had been published, and therefore became prior art for novelty purposes under article 54(3) EPC. Using the three-step test the Board found the claimed range of 0.350 to 0.415 kWh/kg to lack novelty.

This shows that it may be advisable not to file priority founding applications with the EPO since, in contrast to national patent applications, these applications may be held to be comprised in the state of the art.

Finding a fall back
Finally, we advise applicants for selection inventions relating to lists or numerical ranges to be careful in providing fall-back positions in the application for all embodiments for which the applicant is interested in obtaining patent protection. As can be seen from the discussion above, it will not be possible to obtain patent protection for combinations of features or for ranges which are not explicitly disclosed or to which there is no guidance in the application as filed. On the other hand, if the prior art discloses lists or ranges with no indication of how features may be combined or a specific range selected, it may be worthwhile to consider filing a patent application directed to such a selection invention.
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ANETTE ROMARE
M.Sc. Chem. Eng. & Biotechnology
European Patent Attorney

Anette has a chemical background with particular expertise in absorbent products. She has vast experience of EPO opposition and appeal proceedings as well as patent evaluations and opinions.

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