

INVENTION ANALYSIS AND CLAIMING: Assembling the Dependent Claims — Part II



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It is desirable for the overall claim suite in a patent application to include multiple claim families—a “family” being an independent claim and the claims which depend from it, either directly or indirectly. Among the reasons are to a) define the broad invention in more than one way,² b) present the invention in various settings,³ and c) define the invention using various statutory claim types. If each claim family were to include dependent claims reciting even a modest number of fallback features and terminology definitions in all of their possible combinations, the overall claim count could get quickly get out of hand. Yet we do want to provide effective fallback positions in the event that the invention is not as broad as we originally thought. And

we want to define key terms in the claims to anticipate potential indefiniteness.

The guidelines discussed below can help us balance these competing considerations

CLAIMS INDEPENDENTLY IMPARTING PATENTABILITY SHOULD BE NON-CHAINED

Each significant fallback feature or terminology definition should be recited in a dependent claim that depends directly from the parent claim in question.

In the example of FIG. 1, parent (in this case, independent) claim 1 is directed to a printing ink formulation believed to be novel and non-obvious. There are two fallback features—an additive that promotes quick drying of the ink and a unique blue colorant (pigment). Both the additive and the colorant are believed to be inventive in combination with the basic printing ink formulation recited in claim 1, each thereby providing an effective position of retreat should the broad ink formulation turn out to be in the prior art. The non-chained approach is appropriate here because a potential infringer might use the quick-drying additive without the colorant or vice versa. Thus, as shown in FIG. 1, claims 2 and 3 directed to these features each depend directly from the parent claim 1. Claims 2 and 3 are each defensible positions of retreat. We would therefore not want to only chain these features by, for example, making claim 3 dependent from claim 2. To do so would be to give up potentially valuable subject matter.

Similar considerations apply to definition claim 4. Claim 1 might recite, for

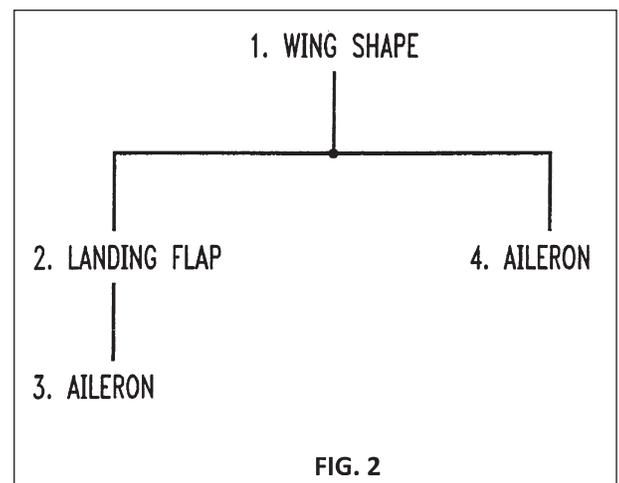
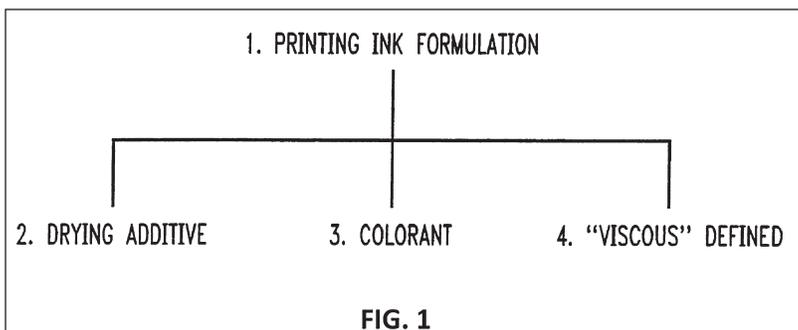
example, that the printing ink is “viscous.” The term is potentially indefinite. The printing ink industry does distinguish between printing inks that are relatively resistant to flow at one extreme and those that are relatively less resistant to flow at the other—the latter presumably being the “viscous” ones. But how could one know whether any particular ink between those two viscosity extremes is or is not “viscous?” Definition claim 4 puts some boundaries on the term “viscous” by defining it as a particular viscosity range, e.g., “between 300-400 centipoises.” By depending directly from claim 1, definition claim 4 protects the broad subject matter of claim 1 from possible invalidity based on indefiniteness.

Of course, a claim defining “viscous” could also be chained with claims 2 and/or 3 in order to also protect *those* claims from the possible indefiniteness of the term “viscous” inherited from their parent claim 1.

CLAIMS IMPARTING PATENTABILITY IN COMBINATION SHOULD BE CHAINED

Claims reciting features that would not be obvious to combine with each other and the parent claim subject matter should be chained. Such claims should also be presented in non-chained form if they appear to be independently novel and non-obvious, as in the previous example.

This is the situation depicted in FIG. 2 for a family of claims directed to the airplane wing of FIG. 3. The inventor of this wing has discovered that the particular aileron and landing flap configurations that he used in his prototype synergistically affect the wing’s flying characteristics in a non-obviousness way, providing an argument for the non-obviousness of the combination of the aileron and the landing flap with the broad wing shape. Claim 3 of this claim



family combines all three elements. The inventor also believes that the aileron and landing flap configurations independently enhance the patentability of the basic wing shape. As a result, those features are set forth in respective fallback feature claims 2 and 4 each depending directly from independent claim 1.

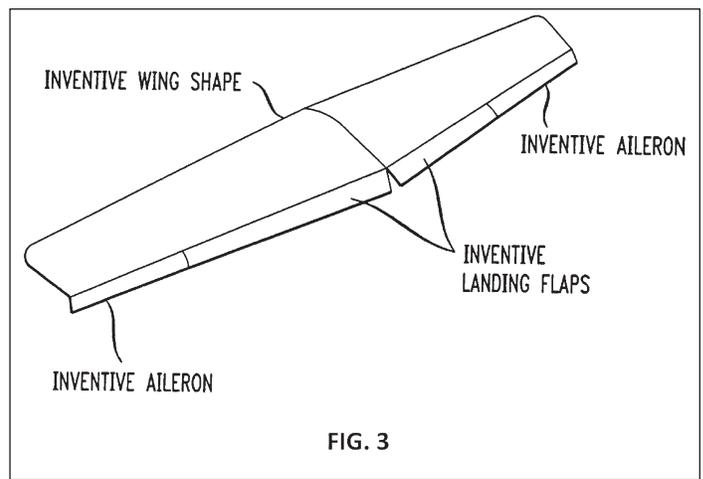
Although claims 3 and 4 are both directed to the aileron feature, each serves a useful function for this invention's Planned Retreat. Aileron claim 4 gives up less subject matter than aileron claim 3. Claim 3, on the other hand, establishes a potentially more secure position of retreat due to the arguably non-obviousness of combining the aileron and the landing flap with the broad wing shape.

CLAIMS NOT IMPARTING PATENTABILITY IN COMBINATION SHOULD NOT BE CHAINED

When no synergistic result or other indicium of non-obviousness arises from the combination of particular features, chaining them is not going to achieve much from a patentability standpoint. We should *sepa-*

ately claim each feature in combination with the parent claim and be done with it. If the affect of the aileron on the performance of the wing of FIG. 3 is the same no matter what landing flap is used (and vice versa) then claim 3 is superfluous from the Planned Retreat point of view.⁴

Specifically, if the wing-shape-plus-aileron combination were, on the one hand, not known or obvious, then we could always retreat to aileron claim 4. Claim 3 would be superfluous because claim 4 would be a better position to retreat to given that claim 3 also requires the wing to have the recited landing flap. Claim 3 is also superfluous if, on the other hand, the wing-shape-plus-aileron combination *were* known or obvious because under the facts assumed above, the patentability of the wing-shape-plus-



landing-flap-combination recited in claim 2 would not be enhanced by adding the aileron to the combination.

ENDNOTES

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2. *Intellectual Property Today*, January, 2009.
3. *Intellectual Property Today*, October, 2007.
4. *Intellectual Property Today*, June, 2007.

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BOX = 7.5"W x 5"H