

**PROFESSIONAL STANDARDS BOARD  
2000 EXAMINATIONS  
GROUP G - DRAFTING PATENT SPECIFICATIONS**

**GENERAL REPORT TO CANDIDATES**

The Examination paper in this Topic Group followed the format adopted in recent years and contained two Questions, Question 1 (the "mechanical" Question) relating to a container which can be collapsed for disposal following use, and Question 2 (the "chemical" question)

A total of 13 Candidates sat the examination, with 7 attempting Question 1, and 6 Candidates attempting Question 2. The overall Candidate pass rate was 62%.

**Question 1**

The inventive concept identified by the client in this Question, and which the Candidates were expected to address, was the provision of a plurality of bridging portions over longitudinally extending hinge or fold lines on side walls of the container. The bridging portions were spaced apart along the hinge or fold lines to limit pivotal movement of the sidewalls about the lines when the container contained pourable and flowable material, but enabled folding of the sidewalls in order to collapse the container for disposal.

The Examiners believed that this inventive concept was readily apparent from the information and materials provided to Candidates, so it was both surprising and disappointing that very few Candidates actually identified the concept as being inventive. The majority of Candidates selected as an inventive concept the provision of dual collapsing of the container, namely "flattening" by folding about longitudinally extending hinge or fold lines on side walls, and "rolling" by folding about transversely extending grooves on front and rear walls. This was not the primary inventive step identified by the client. Indeed, the grooves mainly provided their walls with rigidity, and may have also been used in progressive dispensing of material contents from the container. Whilst that feature was an important one, the Examiner's expected that it would properly form the subject of subsidiary claims.

Those Candidates who followed this alternative approach may well have unnecessarily limited the protection obtained for their client. Nevertheless, provided those Candidates consistently identified that inventive step throughout the various parts of the description, and followed through with well constructed claims directed to that step, then a pass was awarded on the basis of having exhibited an understanding of drafting techniques and an ability to put that understanding into practice.

One Candidate identified both concepts and defined them in separate independent claims. That was a commendable approach in the circumstances, and ensured appropriate protection for the client's container.

Candidates were expected to define the general container structure in broad terms, and were penalised for limiting the container or its walls to any particular shape. Similarly, definitions of "inwardly" folding side walls during collapse were penalised since the client had specifically indicated that the side walls could move outwardly during collapse.

Those Candidates who identified the bridging portions as the inventive concept were able to define that concept in quite broad terms because of the lack of relevant prior art. Thus, definitions of those portions as "triangular portions", or "extending transverse to the fold or hinge lines", were unnecessarily limiting.

Similarly, Candidates who identified the dual collapsing of the container as the inventive concept, were able to achieve broad protection. Considerable functional language could be adopted to define the successive "folding" and "rolling" steps during collapse.

Features which the Examiner's considered suitable for subsidiary claims included details of the bridging portions, the stiffening/folding portions on the front and rear walls, and the fold lines on the side and bottom walls to facilitate collapsing of the bottom wall. Details of the longitudinally extending hinge or fold lines, such as the lines being centrally located in the side walls and extending the entire length of the side walls, were simply reiterating the prior art and therefore provided no meaningful support to the main claims.

The Candidates who failed to properly describe and define one of the above inventive concepts fell into two categories. In the first category were those Candidates who directed their specification to one of the concepts but in terms which were quite inappropriate, usually unnecessarily narrow or vague. Examples of this approach included main claims which defined "V-shaped base and side walls" and "grooves being parallel or substantially parallel to the base", and claims which defined the existence of fold lines in container walls but gave no indication of their function in collapsing the container. In the latter example, the lack of functional language was perpetuated through the subsidiary claims, demonstrating to the Examiners that the Candidates did not fully appreciate the purpose of patent claims.

In the other category, Candidates directed their specification to another feature of the container, most notably the longitudinally extending fold lines in the side walls extending into the neck and top of the container in order to flatten the neck and top during container collapse. Whilst that feature was evident from the drawings of the client's container, it was not identified as being of any particular significance to the client. Candidates should guard against basing their specification on features that are not discussed in the Question. The Question is not intended to test a Candidate's ability to find a "hidden" invention.

The identification of the field of the invention and discussion of the prior art was generally satisfactory, whilst the preferred embodiment descriptions were acceptable. Typically, those answers providing the better claims also contained superior descriptions, indicating an overall higher level of understanding of the invention and better drafting skills.

Examples of main claims which the Examiner's considered to be acceptable, although not ideal, in this Question are as follows:

- A collapsible container for holding liquids, the container having:
  - a base, sidewalls and a top with an opening;
  - at least one of the sidewalls having a fold line substantially extending along the height of the container;
  - means for maintaining the foldable sidewall(s) in position when the container is filled with a liquid; and
  - wherein the folded sidewall(s) can be folded along the fold line during or after discharge of the liquid to reduce the volume of the container to a minimum for disposal.
- A collapsible container for liquids, the container having:
  - a base, sidewalls and a top with an opening;
  - at least one of the sidewalls having a fold line substantially extending along the height of the container for folding the sidewall during or after discharge of liquid contents of the container for reducing the volume of the container; and
  - means for folding the reduced volume container at least once along a transverse direction of the container to reduce the volume of the container to a minimum for disposal.

## Question 2

The inventive concept identified by the client in this question, and which the candidates were expected to address, was a living skin equivalent having a three layer interacting construction. These layers were respectively an epidermal layer of cultured keratinocyte cells corresponding to the outermost layer of the skin, a layer of high purity non-porous collagen, and a dermal layer in the form of a porous cross-linked collagen sponge containing cultured fibroblasts. The inventive assembly variously described in the text of the question and examples involve the high purity non-porous collagen being applied to the collagen sponge, with the culture keratinocytes being applied to the exposed surface of the collagen layer.

The question paper called for candidates to draft both independent claims to a "skin equivalent" and a process for making the same. A surprising number of candidates only included claims to the process for making the skin equivalent which would deprive the client of commercially effective patent protection. Candidates need to carefully review the question paper in order to identify not only the features of the invention but the type of claims which should be drafted.

The prior art set out in the question paper did not disclose the tri-layer structure of the client's invention and thus it was relatively straight forward to prepare a novel claim by defining the respective three layers and their interrelationship.

The prior art described a number of disadvantages which were associated with skin equivalents or artificial skin proposals and methods for their production. Unfortunately, a number of candidates included very rambling descriptions of the prior art, which did not clearly articulate the problem which was solved by the client's invention.

An example of a skin equivalent claim which the examiners consider to be acceptable is as follows:

*A skin equivalent including an epidermal layer of cultured keratinocytes, a dermal layer of a porous collagen sponge colonised by cultured fibroblast cells, and an intermediate layer of non-porous collagen located between the epidermis and dermal layers.*

An example of an acceptable process claim, although not ideal and somewhat unduly limiting, is as follows:

*A process for the manufacture of a skin equivalent which includes the steps of:*

- (a) providing a porous, cross-linked collagen sponge;*
- (b) inoculating the sponge with cultured fibroblast cells;*
- (c) incubating the inoculated sponge under conditions to enable growth of the fibroblast cells throughout the collagen sponge;*
- (d) applying a non-porous collagen to an upper surface of the collagen sponge so as to provide a non-porous collagen layer;*
- (e) applying cultured keratinocytes to the collagen layer;*
- (f) incubating the resultant skin equivalent for a time period until it is essentially indistinguishable from human skin.*

Subsidiary claims were generally not handled particularly well by most candidates. Candidates tended to present a large number of claims directed to non-important features of the invention which did not provide a material fall-back position.

Candidates should have included dependent claims directed to the following aspects:

- (a) the non-porous collagen being a mixture of type 1 and type 2 collagen;
- (b) the cultured fibroblasts coming from human foreskin.

The description of the preferred embodiment was generally acceptable. Those answers which provided the better claims also contained superior descriptions, which indicated a higher level of understanding of the invention and better drafting skills.