

## Examiners' Report on Paper B (Electricity/Mechanics)

### 1. General considerations

- 1.1 This year's paper presented a particular challenge with respect to Art. 123(2) EPC, arising from the client's request to incorporate two specific features of a more recent embodiment. This embodiment had been developed after filing of the application. The introduction of these features specifically tested the candidate's ability to identify whether a suitable basis for them existed in the application as filed, and, most importantly, to provide a convincing argument linking basis and amendment. In this respect candidates should have identified the following two major problems that needed to be addressed:
- whether the independent claim could be amended to cover the client's new embodiment of staggered linear mixing ribs/recesses, whilst still meeting the requirements of the Convention,
  - whether the independent claim could be amended to cover the client's new embodiment of a frusto-conical (non-cylindrical) drum, whilst still meeting the requirements of the Convention.
- 1.2 Claim 1 of the application overcomes the following problems associated with the state of the art known from D1 and described on page 1 of the application:
- An open structure – overcome by use of a lid, and
  - Poor mixing – overcome by use of at least one helical mixing rib.
- It should be noted that whilst the application discusses problems associated with the lack of robustness of the mixing ribs of D1, none of the features of claim 1 are directed towards this problem.
- 1.3 As stated in the examiner's letter D11 is indisputably novelty destroying for claim 1 as filed, the examiner having highlighted the fact that the mixer of D11 is "capable of" (i.e. suitable for) being rolled on the ground.
- 1.4 The application indicates, in several places, that it is not essential for the ribs to have a helical form. The strongest basis for this can be found on page 3, lines 21. "... the ribs can be of any suitable configuration, subject to the comments above regarding the recesses.". Candidates were therefore expected to identify that the client's wishes in this respect could be met by deletion of the feature "helical" without infringing Art. 123(2) EPC.
- 1.5 Finding a basis to justify deletion of the feature "cylindrical" from claim 1 was, on the other hand, a more complex issue. However, the application did offer an implicit basis, in that it was the ability of the mixer to roll on the ground which was essential; a cylindrical mixer wall merely being one way of achieving this. Once this observation had been made, candidates could base their argumentation on the tests laid out in The Guidelines for Examination in The European Patent Office C-VI-5.8a, namely:

- a. the feature was not explained as essential in the disclosure
- b. it is not, as such, indispensable for the function of the invention in the light of the technical problem it serves to solve, and
- c. the replacement or removal requires no real modification of other features to compensate for the change.

Whilst the validity of such an argument is open to discussion, it nevertheless offers the candidate a reasonable opportunity to obtain the broadest possible protection (as required by the "Instructions to Candidates") which would cover the client's new embodiment. Furthermore, by deleting the feature "cylindrical", the application itself would not be put at risk, since the worst that could happen would be that it would have to be reintroduced. Moreover, since a reintroduction would serve to further limit the claim, there could be no fears of contravening Art. 123(3) EPC during opposition. It was therefore considered that the best candidates would opt for deletion of the term "cylindrical" in claim 1, and support this with substantial argumentation, preferably based on the Guideline's principles cited above. It should be noted that mere citation of the correct part of the guidelines was not considered to offer a complete argument: candidates should actually have carried out an analysis of the feature against all 3 criteria.

- 1.6 A maximum of 100 points were available, 60 for the claims and 40 for the argumentation. Of the 60 points available for the claims, 50 points were for independent claim 1. Within these 50 points were allocations for the deletion of the "helical" and "cylindrical" features **together with the** argumentation in support of these actions. Although such combined marking of claims features and argumentation is not a standard procedure for this paper, it was felt necessary in this instance in order to provide greater marking accuracy, since maintenance or deletion of these features was only meaningful in the light of the justification offered.

## 2. Independent claim

- 2.1 In view of the above considerations, the highest marks were obtainable for a candidate who amended claim 1 by:
  - a. deleting the feature "helical",
  - b. deleting the feature "cylindrical"
  - c. Introducing a "recess" feature, whereby this feature is physically formed in the exterior of the drum by the existing rib feature, and
  - d. Introducing a feature in the characterizing portion, whereby the recess forms a hand-hold. It was acknowledged that the application provided several different ways of expressing this feature, most of which were considered adequate provided they did not lead to an unnecessary limitation.

However, in view of the sensitive nature of the deletion of the features "helical", and particularly "cylindrical", candidates were penalised if they undertook such deletions without providing full and effective argumentation.

- 2.2 Whilst deletion of the feature “cylindrical” together with a full justification was the preferred solution, it was clearly not wrong to leave this feature in claim 1, since deciding on a basis for its deletion was a finely judged matter. Thus another acceptable solution, but one that obtained slightly fewer points, was as for 2.1, but to retain the term “cylindrical” in claim 1. A number of candidates who opted for this solution also wrote an explanatory note to the examiner proposing a separate application to cover a frusto-conical embodiment. Replacement of the “cylindrical” feature with the feature “frusto-conical” was considered to be a major mistake.
- 2.3 Some candidates, whilst overlooking the possibility of broadening claim 1 by deleting the term “helical”, maintained it and added an alternative feature of “axially aligned” ribs (from page 3, line 27). Such a solution for this aspect of the claim fulfilled the client's wishes and conformed with the requirements of Art. 123(2) EPC. It was thus acceptable, but being unnecessarily restricted incurred a small deduction.
- 2.4 Solutions which simply maintained the feature of “helical” ribs, or replaced it with a feature of “axially aligned” ribs indicated that the candidate had failed to comprehend a major requirement of the paper. Such solutions were therefore penalised, regardless of any explanations offered in a note to the examiner and/or proposals for a separate application to cover the embodiment of axially aligned mixing ribs.
- 2.5 Candidates were penalised for formulating a new independent claim that lacked essential features. The two most common failings in this respect were:
- to add a feature relating to hand-holds, but not to stipulate that these were formed by the ribs (an oversight which also ran the risk of lack of novelty due to the handles on DII) , and
  - deletion of the feature of a lid from claim 1. The application as a whole clearly presents the lid as an essential feature, and consequently deletion contravenes Art. 123(2) EPC
- 2.6 The presence of unnecessary features in claim 1 resulted in deductions. An example of such a feature is the actual dimensions of the hand-holds. Others can be found below under the list of features considered appropriate for dependent claims.
- 2.7 Most new independent claims based their inventiveness on the introduction of the feature concerning hand-holds formed by the rib recesses, and in so doing also established novelty over DI and DII. A few candidates opted to base inventiveness on features such as a blow-moulded body or the presence of a lid, thereby formulating claims which lacked novelty or had a very poor basis for inventiveness in the light of DI and DII. Such claims were considered of very little value and earned only a few points.
- 2.8 No points were available for a second independent claim, such as a method claim.

### 3. Dependent claims

- 3.1 Candidates were expected to deal with the objection raised in the communication concerning original dependent claim 2. Satisfactory solutions were either to incorporate it into claim 1 or to delete it altogether. It was not considered adequate to maintain original claim 2 and merely state that the examiner's view was not shared.
- 3.2 As in previous years, in order to receive good marks for the dependent claims candidates were expected to introduce new dependent claims representing improved fall back positions. Contradictory or illogical dependencies lost marks. Whilst a few points were available for retaining the dependent claims already in the application, it was expected that candidates would recognise that there were a far larger number of features available in the application to use as the basis for the dependent claims. Examples of these were:
- the embodiment of 4 helical ribs, pitch and other features thereof,
  - the measure for water in the lid,
  - the drum being blow-moulded from polyethylene or polypropylene, and
  - the lid being injection moulded from polyethylene

Although it was strongly indicated in the application that feature a. was a preferred embodiment, not enough candidates incorporated this feature into the dependent claims.

### 4. Argumentation

Attention is drawn to the fact that points for certain argumentation were awarded under the points allocated to the independent claim (see para. 1.6 above).

#### 4.1 Basis of amendments - Art. 123(2) EPC

Marks were available for a discussion of the sources amendments (other than those mentioned above) and issues arising under Art. 123(2) EPC. In the case where amendments for which the basis in the original documents was in any way questionable, the mere indication of the location of a basis in the application as filed was not considered adequate. A full justification should always be given for generalisations.

#### 4.2 Clarity - Art. 84 EPC

Credit was given for dealing with the objection raised in paragraph 5 of the communication from the examiner. Whilst this was a fairly simple matter, candidates who failed to do this overlooked the requirement in the "Instructions to Candidates" that they are expected to respond to all points raised in the official communication.

### 4.3 Novelty - Art. 54 EPC

DI and DII should have been discussed. It is enough to demonstrate novelty by the identification of a feature which is not disclosed in the respective document. To attract full marks however, the identification must be presented clearly and precisely, particularly if there is doubt about the presence/absence of a feature. For instance, a statement that DII lacked hand holds formed by the ribs needed to be supported by a short discussion of the dimensions of the rib recesses themselves, pointing out that they were too small to accommodate a finger.

### 4.4 Inventive Step – Art. 56 EPC

#### Identification of the closest prior art

4.4.1 DI or DII could equally well be chosen as the closest prior art. Some candidates who chose DI as the closest prior art on the basis that it is ground-rolled, failed to observe that DII is in fact **suitable** for being rolled on the ground (as pointed out in the examiner's communication), and thus displayed a lack of appreciation of this important aspect of analysing an apparatus claim.

4.4.2 Too many candidates chose the closest prior art with the simple justification that "...it teaches the greatest number of features of claim 1..." without making a feature-by-feature analysis. Such an analysis is not only clearer to the examiner, but is a safeguard against making wrong assumptions.

#### Derivation of a problem associated with the prior art

4.4.3 Candidates are expected to demonstrate how the problem solved by the claimed subject-matter is derived from the closest prior art. This should include an explanation of how the problem arises in the prior art. It is not sufficient merely to state a very general or vague problem. In particular, problems simply aimed at "improving" the apparatus or its performance fail to identify any specific technical problem, and are not satisfactory for the problem-solution approach. The objective problem analysis should start with a comparison of claim features with those of the prior art, identify the distinguishing features of the claim over the prior art, and as a result the objective problem should be deduced. Too many candidates had a preconceived objective problem. Their analysis was consequently manipulated, illogical and lacked clarity.

4.4.4 When starting from DI, the lack of robustness of the drum, particularly of the ribs fastened onto the inner wall of the drum, would have made a reasonable starting point for a discussion of the problem. The need for hand-holds could also have been discussed.

- 4.4.5 When starting with DII as the closest prior art, a good argumentation could have been started with a discussion of the use of the mixer of DII in areas lacking electrical power. Taking motivation from DI, the skilled man could, in a first step, take the drum of DII directly from its mount and roll it on the ground. However, this would then present difficulties associated with rolling the drum on the ground by hand, despite the presence of hand grips. The skilled man would therefore have to undertake a second step in which he overcame the objective technical problem of rolling the drum of DII by hand on the ground.
- 4.4.6 As in previous years, a few candidates developed satisfactory problem-solution arguments, but carelessly omitted from claim 1 the very feature(s) which actually overcame the stated problem.

Why the prior art does not lead to the invention as claimed

- 4.4.7 DI shows the idea of operating a mixing drum by rolling it on the ground. The drum according to DI is to be manufactured in-situ with locally available materials. The modifications to be made to DI in order to arrive at the invention might focus on the aspect that DI is, in essence, a home-made device, whilst the invention is the result of an industrial process, with all its inherent advantages.
- 4.4.8 Whilst DII discloses recesses formed by the ribs, these recesses are both dimensionally incapable of providing hand-holds, and have a completely other function i.e. to receive the drive pins which rotate the drum. The arrangement of the handles on the drum of DII are for lifting the drum into the carrier, and by their orientation and position on the frusto-conical portion of the drum are not suited to act as hand-holds during rotation of the drum on the ground. As such, the objective technical problem mentioned above is not addressed by DII. Even allowing for the fact that the skilled man may receive motivation from DI to use the mixer of DII as a ground-rolled drum, DI is silent on the aspect of hand-holds. Therefore there is no incentive in any of the prior art to increase the size of the recesses formed by the ribs of DII so that they can accommodate fingers.
- 4.4.9 Only argumentation which was clearly laid out and followed a logical, step-wise approach could receive full marks. Vague argumentation was penalised. In particular, it was not adequate to simply claim that the teachings of DI and DII would not be combined by the skilled person.

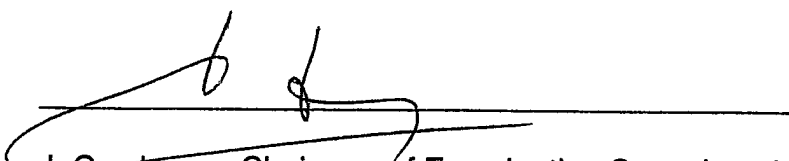
Paper B (Electricity/Mechanics) 2000 - Schedule of marks

Category	Maximum possible	Marks awarded		Marking by further examiners if any	
		Marker .....	Marker .....	Marker .....	Marker .....
Claims	60				
Argumentation	40				
Total	100				

Sub-Committee for Electricity/Mechanics agrees on .....marks and recommends the following grade to the Examination Board:

- PASS (50-100)
- FAIL (0-49)
- COMPENSABLE FAIL (45-49, in case the candidate sits the examination for the first time)

The Hague, 30 August 2000

  
 J. Combeau - Chairman of Examination Committee I