

1. GENERAL CONSIDERATIONS

- 1.1 Paper B is a test of the candidate's skill in revising the claims to the extent necessary to overcome the objections raised in a communication of the European Patent Office in view of the cited prior art documents, and in drafting a letter of response to the European Patent Office in which, according to the "Instructions to Candidates", arguments in defence of the revised claims should be presented.
- 1.2 This year's paper B introduced a change in the marking scheme. A maximum of 100 points was available, 45 for the claims and 55 for the argumentation.
- 1.3 An important aspect of the application is the compensating means which permits the arms 10, 10a to be independently rotatable around the axes 9, 9a, in other words that the arms 10, 10a can be rotated asynchronously.

The application describes in principal three basic types of compensating means for solving the problem to provide an amusement apparatus with new motion effects:

- a) a pivotable arm 10, 10a (cf. claim 3),
- b) a telescopic gondola (cf. Fig. 4 and claims 6, 7), and
- c) a sliding bearing (reference signs 27, 28 and claim 4).

Important aspects of the cited prior art documents are:

DII discloses an amusement apparatus in which the arms 3, 4 can be rotated asynchronously, i.e. the operation is identical to the one in the application, for performing spectacular movements in a cylindrical, three-dimensional space (cf. paragraph 5). The variations in the distance between the universal joints 9, 10 which occur during operation are compensated by a sliding mechanism 14 which can be provided between two gondola segments 12, 13 (cf. paragraph 2) or between the arm(s) and the gondola (cf. paragraph 6).

DIII (as DI) discloses an amusement apparatus in which the arms are always rotated synchronously, i.e. the operation differs from the one in the application. According to DIII, one arm 5 is provided with a pivotal joint 16 at such a location as to completely compensate for any stress which could occur between the arms, supports and gondola by incorrect positioning of these parts during the set up of the apparatus. From the last two sentences of DIII it can be concluded that the pivotal joint 16 could be in the vicinity of the rotational axis of the shaft 7.

- 1.4 The candidates should have accepted that the subject-matter of claim 1 is not new in view of DII which discloses the b) type compensating means. Thus, it was necessary to modify the independent claim.

Further, the candidates should have noticed that DII also discloses the c) type compensating means, because the sliding mechanism 14 can be considered as a sliding bearing, and that DIII discloses a pivotal joint (pivotable arm 5b) for avoiding stresses caused by improper positioning.

- 1.5 The candidates were expected to conclude from the application and EPO - communication that the subject-matter of claim 1 could be best defended with a solution based on the type a) compensating means with the argumentation that the problem addressed in DIII does not give any incentive to the skilled person to consider DIII, i.e. to use its pivotable arm in the DII amusement device.

2. **INDEPENDENT CLAIM**

- 2.1 A good solution is to combine the features of claims 1 and 3 with the additional specification that the "pivotable arm" of claim 3 is part of the compensating means ("pivotable arm solution").

In a straightforward combination of claims 1 and 3, the link between the compensating means and the pivotal arm is missing. Such a claim lost points either because it could be considered as being overrestricted, when the pivotable arm had to be provided in addition to the compensating means, or for inconsistency reasons, when the argumentation was based on the incorrect assertion that the compensation means comprises the pivotable arm.

Claims specifying a pivotal joint without any indication of a relationship to an arm were examined carefully as to whether they lacked an essential feature.

It was decided that the term "perpendicular" used in claim 3 should be understood in a general sense, as in document DIII, last paragraph, and does not restrict the claim to the case where the rotational axis and the pivot axis actually intersect.

- 2.2 Another acceptable solution is based on the feature that the compensating means is adapted to maintain the distance between the connections of each arm with the gondola substantially constant ("constant distance solution").

It should be noted that the distance which is maintained constant can be defined in different ways (distance between the points of connection of the gondola to the respective arms, between the sliding bearings, between the ends of the gondola, etc) and candidates answers have shown that the formulation of a claim for this solution is a very delicate matter.

Full marks were given only if the claim was formulated so that it goes beyond the mere restatement of the problem or a wish (cf. Guidelines for the Examination in the EPO, C III 4.7). Also, claims defining the invention merely in negative terms, such as "the gondola is not telescopic", do not properly define the subject-matter for which protection is sought and could lack novelty in view of DII.

An independent claim having all features of former claim 1 and merely stating in its second portion that the distance between the connections of each arm with the gondola has to be maintained constant, had to be objected in the same way as the straightforward feature combination of claims 1 and 3 as set out above under 2.1. A candidate should have at least specified that the compensating means comprises means (or is adapted) to maintain the distance between the connections of each arm with the gondola substantially constant.

Some candidates generalised the wording "the distance between the bearings 26, 26a" disclosed on lines 50-52 of pages 50 and 51 to "the distance between the points of connection of the gondola to the respective arms". It was felt that such generalisation is in line with the requirements of Article 123 (2) EPC, however, candidates were expected to justify such amendment in their argumentation.

Some candidates who have used the feature "constant distance between the bearings 26, 26a" or the generalised form, did not delimit their claim properly against the teaching of the penultimate paragraph of DII where it is stated that the sliding mechanism could also be provided at one or both ends of the gondola. The subject-matter of such claims arguably lacks novelty and consequently lost points

- 2.3 The presence of unnecessary features in the independent claims was penalised.

Examples of major unnecessary limitations are:

- compensating means are provided on both sides of the gondola;
- more than one compensating means is provided, in particular a sliding bearing in addition to a pivotable arm;
- the rotational axis and the pivot axis intersect or lie in a common plane;
- the arm is undivided, i.e. one-piece.

Examples for minor unnecessary limitations are:

- the compensating means is positioned between a support and the respective arm;
- a separate motor is provided for each arm.

- 2.4 Other solutions, such as the provision of wheels or foldable masts, were considered of very little value and earned only a few points.
- 2.5 Some candidates claimed a pivotal joint provided between a support and an arm and argued that such location was not known from DIII. However, also DIII discloses a pivotal joint 16 between a support 2 and an arm (portion) 5b. Therefore, it had to be checked if the actual claim wording is distinguished therefrom.
- 2.6 Claims clearly lacking novelty (for example claims merely stating that the distance between the arms is constant or that the length of the gondola is fixed) attracted only a few points.
- 2.7 No points were available for the proposal to file divisional applications.

3. **DEPENDENT CLAIMS**

In the case of the pivotable arm solution, claims 2 and 4 to 8 should have been retained while claim 3 should have been deleted. In the case of the constant distance solution, claims 2 to 5 and 8 should have been retained while claims 6 and 7 should have been deleted.

In order to earn good marks for the dependent claims, candidates were expected to introduce new dependent claims representing improved fall back positions. Credit was given for claiming the shock absorbing elements which dampen the pivoting movement of the arms and for claims directed to particular features of the pivot joint.

Contradicting or illogical dependencies of dependent claims lost marks.

4. **ARGUMENTATION**

- 4.1 Marks were available for the following items:
- 4.1.1 a discussion of the **sources of amendments and issues arising under Article 123(2)**, including the basis for and identification of amendments and the basis for and justification of any generalised expression or omitted feature in the independent claim. Example: a candidate claiming a compensating means with only one pivotal joint should have referred to the bottom of pages 50 and 51 and the last paragraph of pages 52 and 53.

In the event of amendments for which the basis in the original documents is questioned, in particular for generalisations, credit was given to candidates for convincing arguments concerning the allowability of the amendments under Art. 123 (2) EPC. It should be noted that a candidate who generalised a feature in order to achieve a maximum scope of protection but lost marks because the amendments were not allowable under Article 123 (2) EPC, could compensate partially for the lost points, if he showed awareness of the critical basis for these amendments in the original documents.

4.1.2 arguments concerning novelty over the available prior art documents

At least DII and DIII 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. If there is doubt about the presence of a particular feature, of course, a more elaborate argumentation is required.

4.1.3 arguments concerning inventive step

It must be emphasized that any line of argumentation which is developed in a logical and convincing manner is potentially capable of obtaining high marks. Nevertheless, it is highly recommended to use the well established problem-solution-approach sub-divided as set out below :

i) identification of the closest prior art

The most relevant prior art document is considered to be DII because, contrary to DI or DIII, it relates to an amusement apparatus in which the arms can be rotated independently. Additionally, the technical effects and purposes are most similar. Thus, for the preferred solutions, the DII amusement apparatus needs the least structural and functional changes and is therefore the most realistic starting point for the skilled person. It is pointed out that in past papers, it has been possible to base the main argumentation on different prior art documents as a starting point, however, this was not considered appropriate in the present exercise. Candidates should not discuss different or all possible starting points as a matter of routine.

ii) derivation of a problem associated with the closest prior art

The candidates should demonstrate how the problem solved by the claimed subject-matter is derived from the most relevant prior art document. To obtain good marks a candidate should explain how the problem arises in the prior art.

A satisfactory argumentation for the preferred solutions could have started with a discussion of the DII sliding mechanism 14 (=compensating means) and its disadvantages. An objective technical problem could be defined as to provide an amusement apparatus with improved compensating means.

It is not sufficient merely to state a very general or vague problem, e.g. to provide an amusement apparatus in which the disadvantages of the prior art are avoided without previously identifying the disadvantages, to provide an alternative amusement apparatus, or to provide an amusement apparatus without a telescopic gondola.

Care has to be taken that the defined problem is actually solved by the features of the independent claim.

iii) why the prior art does not lead to the invention as claimed

Although DIII discloses a pivotal joint, this joint is for a completely different purpose, i.e. to compensate for the stresses caused by improper positioning of the supports, arms and gondola. In fact, the (objective technical) problem mentioned above is not addressed in DIII. Therefore, the skilled person had no incentive to consider DIII and in particular its pivotal joint in the arm, i.e. to provide the pivotal arm 5b or the pivotal joint 16, in the amusement apparatus known from DII. A further argument is that the skilled person would not consider DIII when looking for a solution to a problem that arises from the independent movement of the arms because in DIII the arms are synchronised.

It was of great importance that the candidates demonstrated convincingly why the skilled person would not have combined the teachings of documents DII and DIII, since such combination could result in an amusement device as claimed.

4.2 Presentation

It should always be clear which arguments were considered by the candidate to be relevant to which issue. Consequently, candidates lost marks if their arguments were muddled, illogical, not consistent with what is actually claimed or not well structured.

Candidates should be aware that merely providing a formalistic approach based on guidance given in previous reports will not necessarily lead to a satisfactory result. The appropriate technical substance must always be present.

Notes to the examiners should be short. It is pointed out that alternative amendments to the claims or alternative arguments regarding the patentability of the claims, which were included in such notes, have not attracted points.

EXAMINATION COMMITTEE I

Candidate No.

Paper B (Electricity/Mechanics) 1999 - Schedule of marks

Category	Maximum possible	Marks awarded		Marking by further examiners if any	
		Marker	Marker	Marker	Marker
Claims	45				
Argumentation	55				
Total	100				

Sub-Committee for Electricity/Mechanics agrees onmarks and grade

	PASS
	COMPENSABLE FAIL
	FAIL

The Hague, 2 September 1999

J. Combeau - Chairman of Examination Committee I