

Letter to:

European Patent Office
D-80298 Munich
Germany

Examiner

Dear Sirs,

European Patent Application No.
Applicant:
Title:

Further to the Examining Division's Communication pursuant to Article 96(2) and Rule 51(2) EPC for the above application, we enclose herewith:

- a) Revised pages, in triplicate, to replace the equivalent pages currently on file;
- b) Amendments in manuscript in single copy for the Division's convenience;
- c) New claims pages (new Claims 1 to 11) in triplicate; and
- d) Form 1037 for receipt and return.

We hereby request grant of a patent on the basis of the application documents which are now on file.

This request and the enclosed submissions do not imply the abandonment of any subject-matter previously filed in relation to this application, and the applicant reserves the right to re-instate any cancelled subject-matter and/or to file divisional applications under Article 76 EPC.

By way of precaution, in the event that the Examiner finds the present amendments unpersuasive of patentability, oral proceedings are hereby requested under Article 116 EPC.

SUBMISSIONS

Article 123(2) EPC - Added subject-matter

The pre-characterising portion of new Claim 1 is based on former Claim 1. The basis for the characterising portion of new Claim 1 is to be found on page 50, lines 58-61. New Claim 2 has been added, and is clearly based on the description given on page 52, lines 60-62.

New Claim 3 has been included, and the basis for this can be found in the description on page 50, line 62 and page 52, lines 1-2.

New Claim 4 has been included, where the basis for this feature is given on page 52, lines 18-20 and is clear from Figures 1 and 3.

New Claim 5 has been added, and has basis in the description on page 50, lines 54-55, and page 52, lines 22-33, 36-39 and 51-52. New Claim 6 corresponds to old Claim 2, and new Claims 7 to 11 correspond to old Claims 4 to 8 respectively. Old Claim 3 has been deleted.

It is submitted that the EP search report has been drawn up under Article 92(1) EPC on the basis of the original claims with due regard to the description and drawings. Since, as stated above, the basis of Claim 1 is to be found in the description, it is thus submitted that the characterising feature of new Claim 1 has been searched.

All the features of original Claim 1 are maintained in new Claim 1 thus ensuring unity between old and new Claim 1. Accordingly, the amendment satisfies Rule 86(4) EPC and should be examined in the present application.

Novelty - Article 52(1) and Article 54 EPC

Claim 1 has been delimited, in line with Rule 29(1) EPC, according to DII which is now considered to represent the closest prior art.

DII (to which the following reference signs refer) discloses an amusement apparatus ~~is known~~ which has at least two supports 1, 2, an arm 3, 4 mounted on each support for rotation about a respective rotational axis 5, 6, a passenger gondola 11 connected with each arm 3, 4 at a distance from the respective axis 5, 6, and compensating means 14 which permit the arms to be independently rotatable around the axes 5, 6.

The features of Claim 1 differ from the amusement apparatus of DII with regard to the characterising portion of Claim 1, this being that the compensation means comprises a pivotal joint provided between at least one of the supports and its respective arm.

DII teaches a compensation means, but not in the form that anticipates the characterising portion of Claim 1, since it is in the form [of] the gondola (11) comprising two segments (12, 13) connected by a sliding mechanism (14), as shown in Figure 1 of DII. There is no disclosure in DII of such a pivotal joint as required by new Claim 1, and thus Claim 1 is novel over DII.

DI does not disclose, teach or even hint at a compensation means, and hence Claim 1 is manifestly novel over DI.

DIII does not disclose, teach or even hint at a compensation means which permits the arms to be independently rotatable around the axes, as required by Claim 1. In fact, DIII discloses on page 68, lines 30-32, that the two hubs (4, 4'), and hence the two arms (5, 5'), are connected by means of a shaft (7) so as to ensure synchronised rotation of the arms (5, 5').

Therefore, Claim 1 is manifestly novel over DIII.

Accordingly, Claim 1 is novel over DI, DII and DIII. Claim 1 is the only independent claim, thus the dependent claims must perforce be novel.

Article 52(1) and Article 56 EPC - Inventive step

DII has been identified as the closest prior art. Claim 1 differs from DII in the requirement for a pivotal joint between the support and arm, where DII uses a sliding mechanism to provide the compensation means.

Therefore, the problem posed with regard to DII is that, whilst it has provided a more interesting ride, it does this in a way which creates relative movement between the segments of the gondola, and hence friction between the sliding mechanism and the two segments (or at one or both ends of the gondola if the embodiment described in lines 38-43 is utilised).

Hence, the problem posed to the skilled person seeking to improve upon DII is to reduce friction by the sliding mechanism.

However, the use of the sliding mechanism is at the core of the system used in DII, and there is no teaching whatsoever in DII to lead away from this use of the sliding mechanism. Therefore, it is submitted that a skilled person seeking to overcome the problem of movement and thus friction created in the system of DI would seek to improve that system, e.g. by use of rollers/lubrication between the moving parts, etc.

Even if the skilled person seeking to reduce the friction created in the system of DII, whilst retaining the enhanced thrills provided in that system, were aware of the disclosure of DIII, he would not consider combining the split arm 5a, 5b and pivotal joint 16 arrangement of DIII to solve the problem, since the disclosure in DIII relates to attempting to overcome a problem in imprecise positioning of amusement apparatus components, and if anything, increases friction due to more moving parts. Thus, there is no incentive for the skilled man to do so. Furthermore, even if the skilled person did, for some reason, combine the split arm 5a, 5b and pivotal joint 16 arrangement of DIII with the compensation means of DII, he would not have arrived at the present invention, as the pivotal joint 16 would not be provided between the support and the respective arm.

Even if DIII is regarded as the closest prior art, it is submitted that a skilled man would not seek to provide a compensation means to permit the arms to be independently rotatable round the axes, since that would entail removing the shaft (7) and potentially increasing the likelihood of failure of the apparatus disclosed in DIII, which is against the object of the invention described therein. Thus, there is a great disincentive to the skilled man if he seeks to combine such a compensation means from DII into the amusement apparatus of DIII, and hence DIII is not an obvious starting point. In contrast, the inventors of the present invention have provided a compensation means which does away with the necessity of the sliding mechanism disclosed in DII, and its inherent problem of friction, without compromising safety, by providing a compensation means in the form of a pivotal joint provided between the support and the arm.

It is submitted that DI is even less of a likely starting place for a skilled man to arrive at the present invention, since DI only discloses a very basic amusement apparatus, with no compensation means, and hence it is submitted that Claim 1 is inventive over DI in isolation, or if combined with either of DII or DIII.

Therefore, it is respectfully submitted that the features of new Claim 1 are inventive over the prior art DI, DII and DIII, and as Claims 2 to 11 are all ultimately dependent upon Claim 1, it is submitted that the Claims 1 to 11 filed herewith satisfy the requirements of Articles 52(1) and 56 EPC.

Yours faithfully,

Professional Representative

Claim 1 (once amended)

1. Amusement apparatus comprising at least two supports (4, 5), an arm (10, 10a) mounted on each support for rotation about a respective rotational axis (9, 9a), and a passenger gondola (17) connected with each arm (10, 10a) at a distance from the respective axis (9, 9a), and compensation means which permit the arms (10, 10a) to be independently rotatable around the axes (9, 9a), characterised in that the compensation means comprises a pivotal joint (30, 30a) provided between at least one of the supports (4, 5) and its respective arm (10, 10a).
2. An amusement apparatus according to Claim 1, wherein a pivotal joint (30, 30a) is provided between each support (4, 5) and its respective arm (10, 10a).
3. An amusement apparatus according to either of Claims 1 or 2, wherein the axis (11, 11a) of each pivotal joint (30, 30a) is perpendicular to both the longitudinal axis of the arm (10, 10a) and the rotational axis (9, 9a).
4. An amusement apparatus according to any of the preceding claims, wherein a shock absorbing element (12) is provided to act between the support (4, 5) and its respective arm (10, 10a).
5. An amusement apparatus according to any preceding claim, wherein the compensation means further comprises a mechanism (26, 31) which enables the effective length of the gondola (17) to be varied.
6. An amusement apparatus according to any preceding claim, wherein a separate motor is provided for each arm (10, 10a).
7. An amusement apparatus according to any preceding claim, wherein at least one sliding bearing (26, 26a) is provided.
8. An amusement apparatus according to Claim 5, wherein the mechanism (26) is provided on at least one end (16, 16a) of the passenger gondola (17).
9. An amusement apparatus according to any preceding claim, wherein the passenger gondola (17) is telescopic.
10. An amusement apparatus according to any preceding claim, in which the passenger gondola (17) comprises segments (17a, 17b) which are slidable toward and away from each other.
11. An amusement apparatus according to any preceding claim, wherein the passenger gondola (17) is rotatably mounted on the arms (10, 10a).

Revendications

1. Appareil de divertissement comprenant au moins deux supports (4, 5), un bras (10, 10a) monté sur chaque support pour tourner autour d'un axe de rotation (9, 9a) respectif, et une nacelle à passagers (17) reliée à chaque bras (10, 10a) à distance de l'axe (9, 9a) correspondant, ~~caractérisé en ce que~~ des moyens de compensation ~~sont prévus~~ qui permettent aux bras (10, 10a) de tourner indépendamment l'un de l'autre autour des axes de rotation (9, 9a), caractérisé en ce que les moyens de compensation comportent au moins un joint pivotant (30, 30a) prévu entre un support (4, 5) et son bras respectif (10, 10a).
2. Appareil de divertissement selon la revendication 1, dans lequel un moteur séparé est prévu pour chaque bras (10, 10a).
3. Appareil de divertissement selon l'une des revendications précédentes, caractérisé en ce que le joint pivotant (30, 30a) comporte un second axe (11, 11a) perpendiculaire à l'axe de rotation (9, 9a) associé.
4. Appareil de divertissement selon l'une des revendications précédentes, caractérisé en ce que le joint pivotant (30, 30a) comporte un second axe (11, 11a) perpendiculaire à l'axe longitudinal du bras respectif (10, 10a).
5. Appareil de divertissement selon l'une quelconque des revendications 3 ou 4 caractérisé en ce qu'il comporte un élément amortisseur (12, 12a) pour amortir les mouvements du joint pivotant autour de son axe (11, 11a).
6. 4. Appareil de divertissement selon au moins l'une des revendications précédentes, dans lequel au moins un palier coulissant (26, 26a) est prévu.
7. 8. Appareil de divertissement selon au moins l'une des revendications précédentes, dans lequel la nacelle à passagers (17) est montée rotative sur les bras (10, 10a).