CANDIDATE'S ANSWER

Effective dates of claimed embodiments

Claims 1, 2 and 5 of Annex 1 are identical to the claims 1, 2 and 3, respectively, of the priority document. Their effective date is, thus, the priority date of 15.10.2009.

Claim 4 dependent on claim 2 finds basis in the paragraphs [0013] and [0014] which were also in the priority document. It has an effective date of 15.10.2009.

Claim 3 was not in the priority document and it finds basis in paragraph [0017] which was also not included in the priority document. The right to priority is, thus, not validly claimed. The effective date is the filing date of 04.10.2010.

Claim 6 was not in the priority document and it only finds basis in paragraph [0018] which was not in the priority document. The priority claim is not valid and the effective date is the filing date.

List of evidence

The Annexes 3, 4, and 5 were published before the priority date of 15.10.2009. They form part of the state of the art under Art. 54(2) EPC.

The Annex 6 was published on 03.04.2010, that is, before the effective date of the claim 3 and of the claim 6. It is, thus, prior art under Art. 54(2) EPC for said claims.

Annex 6 is a European patent application with an earlier priority date (i.e. 03.10.2008) than the effective dates of the claims 1, 2, 4 dependent on 2, and 5. It is, thus, prior art under Art. 54(3) EPC for said claims.

Annex 2 is an internet citation published and last modified on 18.09.2010, that is before the effective dates of the claims 3 and 6. Consequently, the original blog entry, that is the paragraphs [0001]-[0010] of Annex 2 form part of the state of the art under Art. 54(2) EPC for claims 3 and 6.

We also offer Ms Udenevis as a witness to confirm that the content of the blog entry of Annex 2 was disclosed orally in the public trade fair “Skip, Hop & Jump” that took place in Seattle in September 2009, that is, before the effective dates of the claims 3 and 6.

Claim 1, lack of novelty (54(3) EPC) in view of Annex 6

The Annex 6 discloses a golf club (Annex 6, [0005]; figure 2) comprising an elongated shaft (92) whose outer diameter tapers from a larger width next to the grip (95) to a smaller width next to a head (96) (see Annex 6, [0005]).

The golf club of Annex 6 is a sports article (Annex 6, [0008]). The shaft is at least partially mounted inside the grip (Annex 6, [0005]) and, thus, it can be considered a partially enclosed core (Annex 1, [0005]). In view of its varying outer diameter, the thickness of the shaft varies along the longitudinal direction, i.e. the direction along which the golf club extends (Annex 1, [0003]).

The grip (95) and the shaft (92) form an elongate body (see the figure 2 of Annex 6) with the features of the claim 1.

Annex 6 further discloses dampers (97a), (97b), (97c), each of which comprises piezoelectric material (Annex 6, [0006]) and having embedded an integrated circuit (Annex 6, [0007]), which is an electronic component (Annex 1, [0016]).

Annex 6, thus, discloses in combination all of the technical features of the claim 1, thereby taking away its novelty.

Claim 1, lack of novelty (54(2) EPC) in view of Annex 5

Annex 5 discloses a snow ski (Annex 5, [0002]), which is a sports article (Annex 1, [0001]).

The snow ski comprises an elongate body (see figure 1) comprising a core in its inner structure (Annex 5, [0002]). The core is thinner at the shovel 72 and tail 73 and thicker at the waist 74 (Annex 5, [0003]). Its thickness, thus, varies along the longitudinal axis 79 (Annex 5, [0002]) of the ski.

The snow ski further comprises an electronic system 80 comprising a plurality of monolithic platelets 83 of piezoelectric material and a control circuit (Annex 5, [0004]).

The control circuit is an integrated circuit (Annex 5, [0006]), i.e. an electronic component (Annex 1, [0016]).

The electronic system 80 dampens the unwanted oscillation mode (Annex 5, [0005]) and is, thus, a damper.

Annex 5 discloses all the technical features of the claim 1 in combination, thereby taking away its novelty.

Claim 2, lack of inventive step in view of Annex 3 and Annex 4

Claim 2 is directed to a unidirectional snowboard with means for dampening torsional modes.

Annex 3 discloses a unidirectional snowboard (Annex 3, [0004]) with means for dampening torsional modes (Annex 3, [0006]). It represents, thus, the closest prior art.

Annex 3 discloses a snowboard of the unidirectional type with constant thickness and standard shape (Annex 3, [0004]; figure 3). It discloses, thus, a sports article comprising an elongate body.

Annex 3 further discloses basic dampers comprising couplers and a simple dissipative electronic circuit (Annex 3, [0006]). The couplers comprise piezoelectric material P27 in the form of a monolithic platelet (Annex 3, [0004]). A monolithic platelet is an example of a flat piece (Annex 1, [0013]). The electronic circuit is an electronic component. Said basic dampers are positioned on selected locations on the snowboard so as to dampen the torsional modes (Annex 3, [0006]).

The unidirectional snowboard of the claim 2 differs from this known item in that the elongate body has a core with thickness varying along the longitudinal axis.

The above feature offers the advantage of better adaptation of the snowboard to a user standing on it, thereby improving ergonomics (Annex 1, [0009]).

The objective technical problem resides in adapting the snowboard known from Annex 3 so as to improve the ergonomics.

Annex 4 relates to an ergonomic sportsboard and is, thus, a relevant form of information.

It teaches a sportsboard comprising a core extending from one end of the sportsboard to the other, said core providing a desired curvature of the upper surface (Annex 4, [0004]). The height W, i.e. the thickness of the core (see figure 2), increases locally (Annex 4, [0005]) thereby varying along the longitudinal axis of the board (see fig.1, the longitudinal axis corresponding to the direction from left to right).

Annex 4 explicitly mentions that the above structure of the core improves ergonomics by being better adapted to the anatomy of the user (Annex 4, [0003] & [0006]); it shows a board wherein both feet are attached (Annex 4, figure 1) as it is the case with snowboards (Annex 1, [0001]); and it mentions the suitability of the board for ridding at high speeds (Annex 4, [0006]), which is desired in Annex 3 ([0009]).

The skilled reader would, thus, be prompted to combine the teachings of Annexes 3 and 4 thereby arriving, in an obvious manner, at the subject-matter of the claim 2.

Claim 2, thus, lacks an inventive step under Art. 56EPC.

Claim 4 dependent on 2

Claim 4 comprises in combination the features of the claims 1, 2 and 4.

Annex 3 remains the closest prior art for the reasons provided in the context of claim 2.

The additional feature of claim 4, that is, that the piezoelectric comprises P27 is already known from Annex 3 (see [0004]).

The distinguishing feature of claim 4 (dependent on 2) over Annex 3 is the one already discussed above.

Claim 4 (dependent on 2), thus, lacks an inventive step in view of the Annexes 3 and 4 for the reasons already specified in the context of claim 2.

Claim 3, lack of inventive step in view of Annexes 2 and 6

The Annexes 2 and 6 are state of the art under Art. 54(2) for the subject-matter of claim 3.

Claim 3 is directed to a freestyle snowboard with dampening means. It is dependent on claim 3.

Annex 2 is directed to a freestyle snowboard (see below) and it discloses all the features of the independent claim 1 (see above). It represents, thus, the closest prior art.

Annex 2 discloses a freestyle snowboard (see Annex 2, [0003]; figure 2) with a damper in the form of patches embedding monolithic platelets of piezoelectric material P27 (Annex 2, [0007]).

The subject-matter of claim 3 differs from this known item in that the damper comprises a composite of a matrix and fibres of said piezoelectric material.

This has the technical effect of reducing the risk of breaking (Annex 1, [0017]).

Annex 6 relates to piezoelectric films (see title) for use as dampers in sports (Annex 6, [0008]) and is, thus, a relevant source of information.

Annex 6 discloses a flexible film comprising a piezoelectric material transformed into fibres and then embedded in a polymer resin having suitable flexibility after curing (Annex 6, [0003]). A flexible polymer resin is a form of matrix (Annex 1, [0017]).

Said flexible piezoelectric film is suitable for use as a damper in sports articles such as snowboards (Annex 6, [0008]); it may be used instead of monolithic platelets; and it is more reliable (Annex 6, [0009]).

The skilled person would therefore have an incentive to replace the monolithic platelets of Annex 2 with the damper disclosed in Annex 6 thereby arriving at the claimed subject-matter.

Claim 3, thus, lacks an inventive step.

Claim 4 dependent on claim 3, added subject-matter

Claim 4 was added during examination.

It is dependent on claim 3 and, thus, it comprises in combination the features that (i) the damper comprises a composite of a matrix and fibres of piezoelectric material and (ii) the piezoelectric material comprises P27.

The above feature (i) is disclosed in [0017] of the originally filed description in combination with the material P66B.

The above feature (ii) is disclosed in paragraphs [0013] and [0014], said paragraphs only referring to its formation into a monolithic platelet.

The above passages of the original text are not linked to each other.

The claimed combination of features is, thus, not directly and unambiguously derivable from the application as filed. Claim 4 gives, thus, rise to an objection under Art.100(c)EPC.

Claim 5, lack of inventive step in view of Annex 5 and Annex 3

The claim 5 is directed to a damper for frequency-selective damping in a sports article.

The Annex 5 discloses a damper for the above purpose (see below) that is structurally very similar to the claimed one in that it comprises a flat piece as sensor and flat pieces as dampers (see below). It represents, thus, the closest prior art.

Annex 5 discloses an electronic circuit (80) for damping unwanted oscillation modes in a snow ski (Annex 5, [0005]), which is a sports article (Annex 1, [0001]).

It comprises a monolithic platelet for use as a sensor (Annex 5, [0006]). The monolithic platelet has piezoelectric material (Annex 5, [0004]) and it is a flat piece (Annex 1, [0013]).

It further comprises further monolithic platelets (Annex 5, [0004]; figure 2) for use as damping elements (Annex 5, [0005]).

It further comprises a microcontroller (Annex 5, [0006]) implemented as part of an integrated circuit (Annex 5, [0008]) that is frequency selective in the

range of 10 to 25Hz. The microcontroller is electrically connected to the monolithic platelets.

The damper of claim 5 differs from this known damper in that its integrated circuit is frequency selective between 30 and 80Hz.

This feature improves reduction of chatter because damping is focussed on the unwanted oscillation modes, which are torsional modes for snowboards. The objective technical problem resides in obtaining less chatter for snowboards.

Annex 3 relates to oscillation modes for a sports article (see title). It is, thus, a relevant source of information.

It teaches that in snowboards the chatter is not caused by longitudinal modes between 10 and 25Hz but by torsional modes which have frequencies 30-80Hz. It thereby provides an incentive to the skilled reader to adapt the frequency range of the damper known from Annex 5 so as to make it suitable for use with snowboards.

The skilled person would thereby arrive, without exercising inventive activity, at a damper falling within the scope of claim 5.

Claim 5 lacks an inventive step under Art. 56EPC.

Claim 6, lack of inventive step in view of Annex 2 and Annex 3

Claim 6 is directed to a method for obtaining a sports article in which torsional modes are damped, the method including a step of selecting a position of the damper.

The Annex 2 reports on a method of building a prototype (Annex 2, [0003]) comprising a damper for dampening periodic twisting motions (Annex 2, [0005]), i.e. torsional modes (Annex 1, [0008]). Moreover, Annex 2 addresses

the issue of finding the best position of the damper. Annex 2, thus, represents the closest prior art to the subject-matter of claim 6.

Annex 2 discloses providing a standard freestyle snowboard comprising a core machined so that the snowboard varies in thickness according to figure 1 (Annex 2, [0003]). Said figure shows the “slices” 41, 42 and 43, which are cross-sections along the longitudinal axis of the snowboard. Said slices are clearly shown to have different thicknesses in figure 2. Annex 2, thus, discloses providing an elongate body (see figure 2) having a core with thickness varying along the longitudinal axis of the elongate body (see again [0003] and the figures).

Annex 2 further discloses providing the damper in the form of a patch embedding monolithic platelets of piezoelectric material P27 (Annex 2, [0007]), the patch further embedding electronic components (Annex 2, [0008]).

The method of claim 6 differs from this known method in that the position of the damper is selected by measuring, without the damper, the amplitude of a torsional mode at a plurality of locations.

Instead, Annex 2 teaches a trial-and-error process with the damper mounted on the snowboard (Annex 2, [0006]).

The above distinguishing feature achieves the technical effect of saving time since it is not necessary to repeatedly mount the damper (Annex 1, [0018]).

The objective technical problem resides in adapting the method of Annex 2 so as to save time.

The above problem is acknowledged in Annex 2 ([0006]) thereby giving strong motivation to the skilled reader to solve this problem.

Annex 3 relates to snowboard oscillation modes (title) and is, thus, a relevant source of information.

It teaches a process for mapping the distribution of mechanical stress from torsional modes by using couplers as sensors at iterated locations (Annex 3, [0005]). Said process finds the peaks of the distribution of mechanical stress.

At a separate step, basic dampers formed by combining the couplers with a dissipative electronic circuit are placed at the locations of said peaks achieving considerable damping of the torsional modes (Annex 3, [0006]).

The skilled reader would recognize that the process of Annex 3 represents a solution to the objective technical problem. He would, thus, be prompted to combine the teachings of Annexes 2 and 3 thereby arriving in an obvious manner at the subject-matter of claim 6.

Claim 6, thus, lacks an inventive step under Art.56EPC.

Examination Committee II: Paper C 2015 - Marking Details			Candidate No	
Category		Maximum possible	Marks awarded	
			Marker 222	Marker 253
Novelty	Novelty Use	10	10	8
Novelty	Novelty Argumentation	7	6	7
Inventive step	Inventive Step Use	24	20	20
Inventive step	Inventive Step Argumentation	42	29	30
Other	Other Use	10	9	9
Other	Other Argumentation	7	5	6
Total			**79**	**80**

Examination Committee II agrees on 80 points and recommends the grade PASS