

## **CANDIDATE'S ANSWER**

Reply to the official communication

1. We file amended claims 1-4 which replace the claims on file.
2. We request grant of a patent based on the amended claims 1-4, and the description and drawings as originally filed.
3. Amendments (A123(2) EPC)

### 3.1

Claim 1 as amended is based on a direct combination of original claims 1 and 2, which depended directly on original claim 1. Furthermore, the feature

„the switch (4) comprises an elastic element (4b) for automatically moving the actuator (4a) from the first to the second position upon separation of the ski boot (3) from the ski (1)“

has a basis in para [008], which describes that the actuator (4a) is automatically moved by an elastic element from the first (i.e. inactive) to the second (i.e. active) position, upon separation of the ski boot from the ski.

Para [006] clearly states that the switch 4 comprises a helical spring (4b) to push the metal plate upwards. Para [008] clearly discloses that the actuator can be a metal plate, bar or push button. Para [008] further states that instead of a helical spring any other elastic element can be used. Read together, these passages form a basis for the added feature of claim 1.

### 3.2

Claim 2 was amended in response to the examiner's A84-clarity objection by specifying that the switch of claim 2 is a further switch and not the same as that of claim 1. Para [009] discloses this in line 24-25. The feature that the switch 10 is manually operable is clearly optional, see para [009], line 25: „may be a manually...“.

### 3.3

Claim 3 is an independent claim directed to a ski-binding to cover the embodiment of paras [010] – [012] and shown in Fig.3, which became necessary as original claim 1 fell for lack of novelty and amended claim 1 does not cover the one-piece binding.

It is noted that para [003] stated that the invention was also directed to a ski-binding, and that one of the two embodiments dealt with a binding, so that the subject-matter of claim 3 as amended should have been searched by the search division and does therefore not relate to unsearched subject-matter.

The subject-matter of amended claim 3 was originally disclosed in para [010], which discloses a one-piece ski binding, a switch with an actuator and a radio transmitter. This para [010] also discloses that the switch comprises a helical spring arranged for automatically moving the actuator from the first (i.e. inactive) to the second (i.e. active) position upon separation of the ski boot from the binding.

Para [012] states that the elastic element 4b can be the same as in the first embodiment. This means that a helical spring is merely one of several ways to implement an elastic element. This forms the basis for claiming an elastic element rather than a helical spring.

In para [010], the radio transmitter 5 and the switch are integrated in the intermediate section 8c of the binding. However, para [010], line 10-11, discloses that they can, instead, be anywhere in the ski binding. This forms a basis for not restricting the claim to the transmitter and switch being in the intermediate section.

The one-piece binding is disclosed as having a front, a rear and an intermediate binding section. These are, however, intrinsic features of a one-piece binding that are always present, as can also be seen from D3, [001], line 7-9. Like wheels on a bicycle, they need not be claimed separately for clarity reasons and omitting these features does not create fresh subject-matter because the designation "one-piece binding" intrinsically has such sections.

Therefore, claim 3 has a basis in the original application

documents. 3.4

Claim 4 has a basis in para [008], line 16-17 for the ski and the dependence on claims 1 and 2, and in para [012] when read in conjunction with para [008], line 16-17. For ski and ski binding the actuator is disclosed to be a metal plate, a U-shaped bar or a push button.

Therefore, the amendments do not introduce fresh subject-matter (A123(2) EPC).

#### 4. Clarity (A84)

##### 4.1

It was already mentioned that, by amending claim 2, it is clarified that switch 4 and switch 10 are distinct switches. Therefore amended claim 2 is now clear.

## 4.2

Claims 1 and 3 define a ski and a ski-binding with a reference to a ski-boot. It is submitted that such a definition is clear. Firstly, there is no doubt as to which features of the claims 1&3 are part of the subject-matter for which protection is sought. This is because a ski and a ski-binding are devices that are naturally used with ski-boots.

They are structurally clearly distinct. Furthermore, the ski and ski-binding are defined in terms of their structural features and the reference to the ski boot is used to clarify the function of these devices. Since the ski boot, in use, is the element which, in normal use of the ski and binding, pushes the actuator and releases it, there is no sensible other way of describing and clarifying the function. Lastly, for a skilled person, clearly structural limitations are defined by referencing the ski-boot in clarifying the function, e.g. as to the position and size of the switch.

It is also noted that skis and ski-bindings can be sold separately from ski boots, so that the claims would also be unduly restricted if they were directed to an assembly comprising also a ski boot in addition to a binding or a ski.

The claims are therefore clear. (A84)

## 5. Novelty (A54)

### 5.1

Document D1 does not disclose an elastic element which moves actuator 2a between the active and inactive positions 2b and 2c. Rather, this actuator is a toggle switch operated by finger which remains in either of the positions 2b or 2c.

### 5.2

Document D2 does not disclose an elastic element moving an actuator to an activating position. D2 discloses an internal switch triggered by the stimulating radio. D2 also discloses a manual switch for disabling the radio transmitter. It is clear that such a switch would also be a toggle switch which stays on or off, so there is clearly no elastic element, not even implicitly.

### 5.3

Document D3 does not disclose a radio transmitter. It was also not cited as novelty destroying.

The ski and ski-binding according to claims 1 and 3 are therefore new.

## 6. Inventive step (A56)

### 6.1 Closest prior art

D1 discloses a ski and ski-binding with an integrated radio transmitter which can be on or off and which is suitable for locating a lost skier and hence also ski or ski-binding.

D2 discloses a ski or ski-binding with a passive radio transmitter as well as a system using radio transmitter receivers to locate a skier (and thus a ski) along a slope. In D2 position data are sent to a central computer whereas in D1 a portable second beacon is used to find the lost ski/skier, even when covered in snow (e.g. due to an avalanche). In D2 the spatial resolution depends on the pole distance and would not allow the intended easy locating of lost and snow-covered skis.

D3 only deals with indicating whether a boot is correctly engaged in a binding.

Therefore, D1 is considered to represent the closest prior art because it has many features in common and is directed to the most similar purpose and use.

### 6.2 Differences

Claim 1 and claim 3 differ by the feature of their respective characterising portions.

### 6.3 Technical effect/problem

The technical effect of the differences of claims 1&3 is that the transmitter is activated automatically when a ski is lost, since the boot holds the actuator pressed down which engaged in the binding and the elastic element automatically moves the actuator to the activating position. This helps also to reduce power consumption since the transmitter can be off as long as the boot is engaged.

The technical problem is therefore to provide a ski or ski-binding which can easily be retrieved when lost in snow, which is reliably and easily activated upon loss and which has a reduced power consumption.

### 6.4 Solution

D1 itself does neither suggest the problem nor a solution. When a mountaineer is lost the others have manually toggle their beacons to transmitting mode. Such a switch cannot be automatised, since there is no way to detect in D1 when a ski/mountaineer gets lost. The beacon is furthermore a delicate small device. The actuator button would not be sturdy enough to be actuated by a ski boot, when integrated into a binding or ski. The toggle switch of the second (search) beacon is furthermore intended to stay in the chosen position, so the skilled person would not add an elastic element.

## D1 and D2

D2 does not deal with the technical problem of automatically activating the transmitter when a boot disengages. The transmitter in D1 is passive activated by an external signal. Such a passive transponder has orders of magnitude weaker signals than the transmitters of claim 1 or D1. Furthermore, when combining D1 and D2, the skilled person might be led to provide a switch to permanently disable the transmitter in order not to be tracked. Clearly such a switch would not have an elastic element activating the transmitter when the boot disengages, as this setting is independent of boot engagement.

The person skilled in the art would therefore not combine D1+D2 for solving the technical problem and even if he did, he would not arrive at the proposed solution.

## D1 and D3

D3 deals with the technical problem of signalling boot engagement by an actuator integrated in the binding and actuated by the boot. The light signal turns off after a short time to save energy.

The switch is disclosed to not be reliable in D3 because due to ice it is not always pushed upwards. Therefore, D3 teaches away from using such a switch, because it would not reliably turn on the transmitter. Even if the skilled person did combine D1 and D3, he would have to radically depart from the beacon architecture in D1 and selectively and in piecemeal fashion replace the toggle switch by the switch of D3. There is no suggestion in D1 or D3 of doing this.

Furthermore, in D3, the actuator, when pushed by an engaged boot, is in an active position lighting the lamp. The teaching of claim 1 requires it to be in an inactive position to turn-off the transmitter. So even when combining D1+D3 against all odds, the skilled person would not arrive at the proposed solution without hindsight.

There is also no suggestion how the actuator of D3 should be connected to the small hand-held device of D1 even if it was integrated in the binding. The beacon of D1 does not show a suitable interface to connect to the actuator/switch of D3.

Therefore, the ski and the ski-binding of claim 1 and 3 comprise an inventive step. (A56)

It is noted for completeness' sake that even when starting from D2, the skilled person would not provide the actuator/switch of D3, since this would not make any sense

with a passive transmitter which receives its energy from the stimulating field and has no power source of its own. The skilled person also would have no incentive to replace the manual disable switch of D2 because it should also be disabled when a skier carries a ski, not just when the ski boot is engaged.

Even when starting from D2, which is not the closest prior art, the skilled person would not be led in an obvious way to a ski or ski-binding according to claim 1 or 3.

#### 7. Unity of invention (A82 EPC)

It was shown that the characterising portions of claim 1 and 3 are special technical features which both have the same effect on top of being identical. They are therefore the same and corresponding technical features within the meaning of Rule 44 EPC.

The claims are new and inventive due to these features. They are therefore also linked by the same single inventive concept and hence meet the requirement of unity of invention. (A82)

#### 8. R. 43, 2 independent claims

Claims 1 and 3 are device claims and both independent in the same category.

This is allowed by exception if the claims relate to embodiments which cannot be covered in a single independent claim without unduly restricting the invention. As the two embodiments intrinsically have the switch and transmitter in different parts (ski or binding), they cannot be reasonably covered in a single claim.

Furthermore, these claims are directed to different solutions of the same technical problem, easily retrieving a lost ski. In one solution the automatic actuation and the transmitter is integrated in the ski itself (e.g. with a two-piece binding) and in the other solution it is integrated in the one-piece binding.

Therefore, two independent device claims are allowed by exception of Rule 43(2) since they are also unitary and they relate to the same problem and they cannot be reasonably covered in a single independent claim.

#### 9. Conclusion

We therefore submit that the currently pending application docs fulfil all requirements of the EPC and a R71(3) communication can be issued.

As an auxiliary measure, oral proceedings are requested in case the Examining Division intends to take an adverse decision for the applicant.

### Amended Claims

1. Ski (1) for use with a ski boot (3), the ski (1) comprising a radio transmitter (5) and a switch (4) connected to the radio transmitter (5), the switch (4) comprising an actuator (4a) being movable between a first position in which the radio transmitter (5) is inactive and a second position in which the radio transmitter (5) is active, characterised in that the switch (4) further comprises an elastic element (4b) for automatically moving the actuator (4a) from the first to the second position upon separation of the ski boot (3) from the ski (1).
2. Ski (1) according to claim 1 comprising a further switch (10) arranged to deactivate the radio transmitter (5).
3. One-piece ski binding (8) for use with a ski boot (3), the one-piece ski binding (8) comprising a radio transmitter (5) and a switch connected to the radio transmitter (5), the switch (4) comprising an actuator (4a) being movable between a first position in which the radio transmitter (5) is inactive and a second position in which the radio transmitter (5) is active, characterised in that the switch (4) further comprises an elastic element (4b) for automatically moving the actuator (4a) from the first to the second position upon separation of the ski boot (3) from the one-piece ski binding (8).
4. Ski (1) or one-piece ski binding (8) according to any of claims 1 or 2 or claim 3, respectively, wherein the actuator (4a) is a metal plate, a U shaped bar or a push button.

Examination Committee I: Paper B EM 2015 - Marking Details			Candidate No	
Category		Maximum possible	Marks awarded	
			Marker 938	Marker 904
Claims	Claims	30	30	30
Arguments	Basis for Amendments	22	20	21
Arguments	Unity/Clarity	11	11	11
Arguments	Novelty	6	6	6
Arguments	Inventive Step	31	29	29
<b>Total</b>			<b>96</b>	<b>97</b>
Examination Committee I agrees on 97 points and recommends the grade PASS				