

Candidate's examination paper

FACTS AND ARGUMENTS

The documents relied on are:

- Annex 2 (A2)
- Annex 3 (A3)
- Annex 4 (A4)
- Annex 5 (A5)

Lack of novelty Art 52(1) & 54 EPC

Claim 1:

A3 discloses a fastener for connecting work pieces (30, 32), comprising first and second parts (11, 18) adapted to cooperate with each other to hold the work pieces together, the first part (11) being formed from a cylindrical shank (14) surrounded by a sleeve (34) (which may be metal, see page 2, lines 1-2 of A3), and provided with an enlarged head (12) at one end, the head and shank being of composite material comprising electrically conductive fibres (36) (graphite fibres, see page 1, line 6 and page 2, line 4 of A3), embedded in an electrically non-conductive resin (see page 1, line 1 and line 27), and the end of the metal sleeve (34) nearer the enlarged head (12) is axially spaced from the end face of the head. Accordingly, all the features of Claim 1 are disclosed in A3 and the invention as claimed in Claim 1 is, therefore, not new over A3.

Claim 4:

The subject matter of Claim 4 is not entitled to the priority dates claimed in A1, but only to the filing date, 10/7/89. Accordingly, A4 forms part of the state of the art with respect to Claim 4 under Art. 54(3) EPC, since A4 was filed 5/7/89 (but not published till 7/1/91).

A4 discloses a fastener comprising a nut (30) and a bolt, the bolt (26) having a cylindrical shank surrounded by a metal sleeve (10) and being provided with an enlarged head. The shank is made of an epoxy resin reinforced with carbon fibres, and the end of the metal sleeve is axially spaced from the end face of the head. A non-conductive sheath 20 (see lines 30-32 of page 1 of A4) is located on the outer surface of the metal sleeve.

Accordingly, all the features of Claim 4, when dependent on Claim 2, are shown in A4, and, thus, the invention as claimed in Claim 4 is not new over A4.

Claim 5:

A4 discloses the use of fibres which constitute 60 to 80% by weight of the composite used for the sheath (20), having a tensile strength of 1350 to 1370 N/mm², together with a bolt made from a composite comprising a resin, having a tensile strength of 69 to 75 N/mm², the resin forming 20 to 50% by weight of the composite. Thus, (by subtracting from 100%) the fibres must form 50 to 80% by weight of the composite. Accordingly, the ranges, 60-80% carbon fibre and 70-80%

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polyamide fibre, claimed in Claim 5 are wholly disclosed in A4, and the ranges 48 to 69 N/mm² and 1370-1380 N/mm² overlap with the ranges disclosed in A4. Accordingly, Claim 5 is not novel in view of A4.

Obviousness Art 52(1) & 56 EPC

Claim 1:

A2 discloses a fastener for connecting work pieces, the fastener as shown in Figure 2 of A2, comprising first and second parts (32, 65) adapted to cooperate with each other to hold the work pieces together, the first part being formed from a cylindrical shank surrounded by a sleeve and provided with an enlarged head, the end of the sleeve nearer the enlarged head being axially spaced from the end face of the head (as seen in Figure 2).

As acknowledged in A1, A5 discloses a fastener having all the features of the pre-characterising portion of Claim 1, and in particular, a fastener with a first part being a cylindrical shank of composite material surrounded by a metal sleeve. Accordingly, the present invention as claimed in Claim 1 is obvious over a combination of A2 and A5, since A5 would suggest to the person skilled in the art that the metal bolt and the epoxy resin sleeve of Figure 2 of A2 could be transposed in accordance with A5, which shows a resin bolt with a metal sleeve. Thus, all the features of Claim 1 are disclosed by the combination of A2 and A5.

Claim 2:

Claim 2 is dependent on Claim 1. All the features of Claim 1 are disclosed in A3 (as discussed above). A5 discloses a two-part fastener, having a graphite fibre reinforced resin shank with an enlarged head and a metal sleeve, the fastener comprising a nut and a bolt. Accordingly, A3 and A5 are directed to similar fasteners, and the man skilled in the art would be able to read the two documents together. Thus, Claim 2 is not inventive over a combination of A3 and A5.

In addition, Claim 1 is not inventive over a combination of A2 and A5, as discussed above. Both A2 and A5 show the use of a nut and bolt type fastener. Accordingly, Claim 2 is also obvious over a combination of A2 and A5.

In addition, Claim 2 is not inventive over a combination of A2 and A3. A3 discloses all the features of Claim 1, and A2 discloses the use of a nut and bolt fastener. It would have been obvious to the skilled man to combine these two documents, as they both relate to the same field - fastening two panels or parts together particular in the aircraft industry.

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Claim 3:

The provision of a slot in the enlarged head of the shank is disclosed in A1 itself. The provision of such a slot at the other end of the shank is simply a design modification which would have been obvious to any person skilled in the art.

Claim 3 is dependent on Claim 2 and thus Claim 3 is obvious in view of a combination of A3 and A5 or a combination of A2 and A5. A5 also shows the use of a slot in the enlarged head of the shank.

Claim 4:

A2 discloses the use of a non-conductive sheath (42), located on the outer surface of the metal bolt. Thus, a combination of A2 and A5 would lead to the present invention as claimed in Claim 4, when dependent on Claim 2.

In addition, a combination of A2 and A3 would lead to the present invention as claimed in Claim 4, when dependent on Claim 2. Claim 4 is also obvious over a combination of A2 and A5 or A2 and A3, when dependent on Claim 3, since Claim 3 simply requires an obvious design modification to the known art, as discussed above.

Claim 6:

The extension of the sleeve of Claim 4 (which is obvious over a combination of A2 and A5 or A2 and A3) would have been an obvious modification of the known art, in view of the known problems with lightening and metal fastenings for aircraft discussed in A2.

General Points

1. Neither of the earlier British applications, from which A1 claims priority, were required to have claims. A description would be sufficient to establish the priority right. Both documents were filed less than 12 months earlier than A1, so the priority claims seem valid at first sight.
2. Since the last paragraph of the description and Figure 3 were not part of the first priority document, those claims (Claim 3 and Claim 6), based on the features disclosed in that last paragraph, are only entitled to the second priority date, i.e. 4/5/89.
3. Moreover, the option of having the non-conductive sheath on the outer surface of the sleeve alone was not described in either of the two priority documents. Thus, Claim 4 is only entitled to the filing date of A1, i.e. 10/7/89, as in Claim 5 which is dependent only on Claim 4.

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4. The posting date of A6 to customers on 3/5/89 will not be the effective date. The effective date will be considered to be the date of receipt of this document by the customers, who were then free to disclose or use the information without any letter of confidentiality. We need to establish what this date is.
5. A7 was published after the earlier priority date and cannot therefore be used against any material in that priority application. It is not relevant state of the art (Art. 54(2) EPC) with respect to the European application because it was only published after the earliest priority date, and only disclosed the subject matter of that earlier priority application. Such an affidavit as the client proposes will, therefore, not be of any assistance. However, in general, all facts and arguments relied on should be stated in the opposition notice.
6. Costs in opposition proceedings are not the same as legal costs awarded by a national court, and are usually only awarded against a party who has delayed proceedings by, e.g. producing late facts/evidence, or has been obstructive.
7. If there has been a substantial procedural violation by the European Patent Office, an appeal fee may be refunded. But this is not a ground for opposition of a patent (Art. 100 EPC).
8. It is only stated in Art. 24(1) that members of the Appeal Boards should not take part if they have any personal interest in the case - this provision does not apply to the opposition division. However, the client's request can be put forward and it may be complied with.
9. Commercial success is not considered by itself to be proof of patentability, even if the success was due to the technical invention and not to extraneous circumstances, such as clever advertising (Board of Appeal decision).
10. R. 60 (2) EPC states that if an opposition is withdrawn, the opposition may be continued by the EPO of its own motion. The EPO will continue with the opposition if it thinks there are serious issues to be considered, which may prejudice maintenance of the patent A1.
11. It is best to attend the oral proceedings if the proprietor requests them, but Art. 113(1) EPC states that the EPO can only make decisions based on evidence, on which the parties have had an opportunity to present their comments. So if new facts or evidence were introduced, the client/opponent would be given an opportunity to comment.

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12. Annex A6 does not appear to be particularly relevant to the present patent A1 because, although it is concerned with the problem of lightening and aircraft, it is not in any way directed to fasteners for aircraft panels and the particular problems associated with such panels. It is simply concerned with providing a desirable metallic shield coating for composite panels to absorb the lightening energy. Thus, the metal layer in A6 has a very different purpose to the metal sleeve of A1 which is to provide a strong screw fastening for the nut, and is otherwise undesirable because of its ability to conduct the lightening current. I have, therefore, not used A6 in the opposition notice.
13. A4 is only relevant under Art. 54(3) EPC to Claims 4 and 5, which have a first filing date of 10/7/89 (see paragraph 3), since A4 was filed 5/7/89, but not published until 7/1/91 (after A1 was filed). A4 is relevant because it is a PCT application which was published in German (one of the official languages of the EPO), and the PCT application designates all of the states also designated by A1.
14. A2, A3 and A5 were all clearly published before the earliest priority date of A1 and were therefore state of the art for both novelty and inventive step.