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D E C I S I O N
of 21 September 1995

Case Number: T 0235/94 - 3.2.1

Application Number: 88110793.2

Publication Number: 0298455

IPC: B21J 5/02

Language of the proceedings: EN

Title of invention:
Full enclosed die forging apparatus

Applicant:
Aida Engineering Ltd.

Opponent:
Presta Press- und Stanzwerk AG

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 100(c)

Keyword:
"Extension of subject-matter (no)"
"Sufficiency of disclosure (yes)"
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0235/94 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 21 September 1995

Appellant: (Opponent)
Presta Press- und Stanzwerk AG
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Respondent: (Proprietor of the patent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 20 January 1994 rejecting the opposition filed against European patent No. 0 298 455 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: F. Gumbel
Members: S. Crane
G. Davies

Summary of Facts and Submissions

I. European patent No. 0 298 455 was granted on 2 October 1991 on the basis of European patent application No. 88 110 793.2.

Claim 1 of the granted patent reads as follows:

"A fully enclosed die forging apparatus comprising a slide (139) having an upside cylinder mechanism (140), a bolster (152) having an underside cylinder mechanism (154), and upside die (146) and an underside die (161) disposed opposedly in a vertical direction between said slide (139) and said bolster (152), an upside cylinder mechanism (140) contained in said slide (139) which urges said upside die (146) downward, an underside cylinder mechanism (154) contained in said bolster (152) which urges said underside die (161) upward, an upside punch (147) inserted in said upside die (146) that moves synchronously with the movement of said slide (139), an underside punch (159) inserted in said underside die (161) and supported by said bolster (152), characterized in that it comprises a cam mechanism (156) intrinsic to and carried by said underside cylinder mechanism (154) independently from said dies (146, 161) for causing both of said punches (147, 159) to accelerate into said dies by moving said upside die (146) and said underside die (161) downward at a slower speed than the moving speed of said slide (139)."

Dependent Claims 2 to 8 relate to preferred embodiments of the apparatus according to Claim 1.

II. An opposition against the granted patent was filed by the Appellants. They requested that the patent be revoked in its entirety on the grounds of lack of novelty and/or inventive step (Article 100(a) EPC), insufficiency of disclosure (Article 100(b) EPC) and inadmissible extension of subject-matter (Article 100(c) EPC).

As state of the art the following documents were relied on:

D1: DE-A-3 418 609
D2: JP-A-59133927
D3: DE-A-2 819 167
D4: US-A-4 463 590.

III. The opposition was rejected by a decision of the Opposition Division given at oral proceedings on 11 January 1994 and issued in writing on 20 January 1994.

IV. An appeal against this decision was filed on 17 March 1994 and the fee for appeal paid at the same time. The Statement of Grounds of Appeal was filed on 18 May 1994.

The Appellants requested that the decision under appeal be set aside and the patent revoked.

V. The submissions put forward by the Appellants in support of their request can be summarised as follows:

The statement in granted Claim 1 that the cam mechanism is "intrinsic to and carried by the underside cylinder mechanism independently from the dies" was so vague and indeterminate in nature that it could not serve to distinguish the subject-matter of the claim from document D2. Alternatively, if a particular special

meaning was given to this statement so that novelty was established then that meaning could not be derived from the original disclosure, with the effect that granted Claim 1 offended against Article 100(c) EPC. If neither of the above arguments was held to be persuasive then the subject-matter of the claim in any event lacked inventive step. Furthermore, the various inconsistencies between the description and drawings made it impossible for the skilled person to perform the invention.

VI. In a letter dated 21 June 1994 the Respondents (Proprietors of the patent) stated that they did not intend to pay any further national renewal fees so that the patent would be allowed to lapse.

VII. In a communication dated 11 May 1995 pursuant to Article 110(2) EPC, with a two months time limit for reply, the Board indicated that no record of the lapse of the patent in any Contracting State had yet been entered into the Register of European Patents (cf. Rule 92(1)(p) EPC). It was therefore not possible for the Board to follow the procedure set out in Rule 60(1) EPC and to invite the Appellants to state whether they wanted the proceedings to be continued, and if not to close them without making a substantive decision. Furthermore, the Representative of the Respondents had indicated in telephone conversations with the Registrar of the Board that he was not authorised to take any action which could lead to the case being disposed of without the need for a substantive decision. In these circumstances the Board had decided that for reasons of legal certainty it should proceed to the substantive examination of the matter.

The Board then went on to give the detailed reasons for its preliminary opinion that the appeal should be dismissed.

VIII. The Appellants did not reply to this communication.

Reasons for the Decision

1. The appeal complies with the requirements of Articles 106 to 108 and Rules 1(1) and 64 EPC. It is therefore admissible.

2. The present invention relates to fully enclosed die forging apparatus in which a slug of material to be forged is held in a mould cavity defined between an upper ("upside") and a lower ("underside") die.

The application as originally filed contains an extensive and detailed discussion of known apparatus of this type which is disclosed in document D2. In fact, Figures 9 to 17 of the application are substantially identical to the equivalent Figures of that earlier document. In the known arrangement the upper and lower dies are supported by means of respective cylinder mechanisms on the slide and bolster respectively of the forging apparatus. In operation, as the slide moves towards the bolster the upper die first contacts the lower die to close the mould cavity. Thereafter a cam attached to the slide operates via a cam mechanism supported by the lower die to move the latter downwardly at a slower speed than the slide with the effect that upper and lower punches carried by the slide and bolster move into the mould cavity to complete the forging operation.

The problems associated with having the known cam mechanism act directly on the lower die are clearly stated in the last paragraph of page 8 of the application (column 5, lines 18 to 22 of the patent

specification). These problems are in particular the large clearance needed between the slide and the bolster to accommodate the mechanism and the increased time required to replace the dies.

In these circumstance it is not incorrect, as argued by the Appellants, to refer to the objective differences between the preferred embodiment of the invention as originally described and the teachings of document D2 when establishing the proper meaning of the contentious statement in Claim 1 that the apparatus "comprises a cam mechanism intrinsic to and carried by said underside cylinder mechanism independently from said dies."

From the original description it is clear that the cam mechanism is intimately associated with ("intrinsic to") and carried by the piston 155 of the underside cylinder mechanism, and that it acts directly on this piston, i.e. is "independent" of the dies. The corresponding statement in granted Claim 1 therefore finds proper support in the original disclosure and is not objectionable under Article 100(c) EPC. It also provides a clear distinction from the state of the art according to document D2, since there the cam mechanism is effectively carried by the lower die.

The subject-matter of Claim 1 is also new with respect to the state of the art according to documents D1, D3 and D4.

Document D1 relates to forging apparatus having the features of the preamble of Claim 1. Here, in order to obtain the desired differential speed between the slide and the dies, once these have closed, the slide is connected to the lower die via a rack and pinion mechanism or a pivotal linkage mechanism. Documents D3 and D4 are more remote. In document D3 the dies are

carried on the slide and bolster via heavy springs which are compressed after the dies come together to close the mould cavity. In document D4 the lower die is fixed with respect to the bolster and there is no lower punch.

3. With respect to the objection of lack of inventive step the Board can see nothing in the cited state of the art which would have led the skilled person to modify the structure according to document D2 in such a manner that it would fall within the scope of granted Claim 1, i.e. to redesign the known cam mechanism completely such that it acted on the cylinder mechanism associated with the lower die. The arguments of the opponents that such a change is "trivial" are based wholly on hindsight. In this respect it is particularly to be noted that the underside cylinder mechanism of document D2 is not arranged in such a way as to invite considerations that it might be a suitable member for the cam mechanism to act on.

4. The Appellants have not explained why the relatively minor inconsistencies between the drawings and the description which they have identified are of such a nature that the person skilled in the art would not on the basis of what the patent specification teaches be in a position to put the invention into effect. In the opinion of the Board these inconsistencies are not such that they could not be resolved by the application of common general knowledge. Accordingly the objection under Article 100(b) EPC also fails.

5. The Board therefore comes to the conclusion that none of the grounds of opposition represent a bar to maintenance of the patent in unamended form.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

S. Fabiani F. Gumbel