BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen
(D) [ ] No distribution

D E C I S I O N
of 16 October 2001

Case Number: T 0235/99 - 3.2.3

Application Number: 90403053.3

Publication Number: 0426551

IPC: B24B 9/14

Language of the proceedings: EN

Title of invention:
Apparatus for judging whether an uncut lens should be machined or not and lens grinding machine having the same

Patentee:
Kabushiki Kaisha TOPCON

Opponent:
Wernicke & Co. GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - no"
"Intention to file auxiliary request not announced in due time"

Decisions cited:
T 0595/90

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Case Number: T 0235/99 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 16 October 2001

Appellant: (Proprietor of the patent)
Kabushiki Kaisha TOPCON
75-1, Hasunuma-cho
Itabashi-Ku
Tokyo (JP)

Representative:
I1gart, Jean-Christophe
Brevalex
3, rue du Docteur Lancereaux
F-75008 Paris (FR)

Respondent: (Opponent)
Wernicke & Co. GmbH
Jägerstrasse 58
D-40231 Düsseldorf (DE)

Representative:
Rehders, Jochen
Velten Franz Mayer & Jakoby
Kaistrasse 20
D-40221 Düsseldorf (DE)

Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 30 December 1998 revoking European patent No. 0 426 551 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: C. T. Wilson
Members: U. Krause
M. K. S. Auz Castro

Summary of Facts and Submissions

I. The Appellant is proprietor of European patent No. 0 426 551 which was revoked by an Opposition division of the European patent office with decision dated 30 November 1998 and issued in writing on 30 December 1998.

The Appellant filed the notice of appeal on 25 February 1999 and paid the appeal fee on the same day. The statement of the grounds of appeal was submitted on 27 April 1999 and included amended claims 1 to 7. The amended independent claim 1 reads as follows (the last feature printed in italics was added to claim 1 of the main request underlying the decision under appeal):

"1. An apparatus suitable for judging whether at least a part of the external configuration of a sucking disk is located outside a lens frame configuration or not, comprising:

a displayer (2) for displaying an image (211) of a lens frame showing the configuration of a lens frame (501) of a spectacle frame (500) with a material lens enframed therein or of a template obtained by copying the same;

an imaging circuit (104) for an image displayed on said displayer;

input means for inputting an optical center position of said material lens relative to a geometrical center of said lens frame; characterised by

memory means (103) for initially storing an outer configuration (213) of a sucking disk (C) which is sucked and attached to said uncut lens; and

an arithmetic/judgment circuit (102) which causes said imaging circuit to display said image of said lens

frame (211) on said displayer (2), the configuration of said lens frame being calculated from vector radius information, which is input by a frame configuration measuring apparatus of said lens frame of the spectacle frame or from vector radius information of said template obtained by copying the same, and which causes said imaging circuit to simultaneously display an image of said outer configuration (213) of said sucking disk (C) on said displayer together with said lens frame image, a position of said image of said outer configuration of said sucking disk being obtained such that the center (O') of said outer configuration of said sucking disk (C) is caused to coincide with said optical center position (O) of said material lens on the basis of information concerning an outer configuration of said sucking disk, *and which judges whether a part of said lens frame image (211) is included in or contacts with said sucking disk external configuration image (213) or not*."

II. In Oral proceedings held on 16 October 2001 the issue of inventive step was discussed in detail with reference *inter alia* to the following documents:

D4: EP-A-0 160 985

D5: EP-A-0 206 860

III. The essential arguments of the Appellant can be summarized as follows:

The invention deals with the problem of preventing a collision between the sucker and the grinding wheel, called "machining interference". This problem was not described in the prior art and is quite different from

the problem of ensuring that the fresh lens is large enough to be shaped or trimmed to the shape of the lens frame or spectacle frame, as solved in D5 by placing a lens onto the image of the spectacle frame and in D4 by automatically comparing the radius vector values of the spectacle frame with the radius of the fresh lens. Since the sucker is deformable it is not easy to detect beforehand whether a sucker attached to a lens would extend beyond the outer contour of the lens after shaping or grinding the lens. Even if a machining interference was detected, no solution was offered in the prior art whereas the patent disclosed the possibilities of using either a flattened sucker, as shown in figure 5, or of slightly changing the decentration of the sucker, as described on page 9, lines 24 to 33. The latter solution was made possible by displaying the image of the sucker, thereby showing the extent of the machining interference and the suitable further decentration.

The Respondent submitted essentially the following counterarguments:

The collision problem has been known since reading-glasses with half-lenses were available, which was long before the priority date of the patent. The problem was typically solved by visually checking the size of the sucker in an apparatus as shown in D5 which already mentions the advantage of avoiding parallax errors when comparing an image of the lens frame, rather than the real frame, with the lens. In a desire to automatize this check the skilled person knowing the automatic check for the size of the fresh lens described in D4 would adapt this known solution to a comparison of the sucker size with the spectacle frame, in particular as

the problem of comparing two contours was the same and only the resulting signal, indicating that the sucker was too large rather than that the lens was too small, had to be different. Any further measures to be taken in case of a possible collision, ie a further decentration of the sucker or the selection of a flattened sucker, were not part of the claim. It was equally difficult to take account of the deformation of the sucker in the resulting automatic check as in the conventional visual check.

IV. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of claims 1 to 7 filed on 27 April 1999.

The Respondent requested that the appeal be dismissed.

After the chairman had closed the debate the Appellant indicated an intention to submit an auxiliary request. Permission to file any further requests was refused by the Board as the intention was not announced in due time.

Reasons for the Decision

1. The appeal meets the requirements of Articles 106 to 108 EPC as well as of Rules 1(1) and 64 EPC and is, therefore, admissible.

2. *Amendments*

The amended claim 1 is supported by granted claims 4 and 7. In comparison with granted claim 4, which is based on original claim 6 and the description of the

data input and image display on pages 7 and 8 of the published application, the feature concerning the check of "an already sucked and attached" uncut lens has been omitted in amended claim 1. However, this feature refers to a possible use or environment of the apparatus, rather than to the apparatus itself, and its omission is therefore not considered to extend the scope of the claim to include embodiments of the claimed apparatus which were previously excluded. It is apparent from page 22, lines 2, 3 and the text bridging pages 22 and 23 of the original application (page 9, lines 11 and 27 to 32 of the published application) that the added feature concerning the automatic check of the sucker size can be realised without the warning means defined in granted claim 7, and that this check also includes a contact between the images of the lens frame and of the sucking disk. The amended claim 1 is, therefore, not open to objections under Articles 123(2) and (3) EPC.

3. *Novelty*

In view of the amended claim 1 the objection under Article 54 EPC was not upheld by the Respondent. This is in agreement with the finding of the Board that none of the documents cited in the Opposition proceedings discloses an apparatus comprising all the features of claim 1. Thus, the subject-matter of claim 1 is considered to be new.

4. *Inventive step*

4.1 In the view of the Board the closest prior art is represented by document D5. The apparatus disclosed in D5 comprises an arithmetic circuit (8) which is

connected with memory means (9) storing lens frame configuration data which may be input from a frame measuring apparatus, and with a display (7) for displaying an image of the lens frame configuration. The frame image can be shifted by entering corresponding data via the keys (14) in order to take account of a decentration between the geometrical center of the frame and the optical center position of the lens. A fresh lens is then placed onto the display in such a manner that the center of the lens coincides with the optical center position of the lens, and it is determined by a visual check using an optical system (24) whether the frame image is entirely within the contour of the lens. Thereafter a sucker (22) carried by a rotatable arm (20) is brought into a position vertically above the center of the lens and lowered onto the lens to be attached thereto. This allows a visual comparison of the sucker with the frame image therebelow to judge whether part of the sucker extends beyond the lens frame defining the shape of the lens to be shaped, in which case there would be an interference with the grinding wheel during the shaping process.

As pointed out by the Appellant, neither D5 nor any other available document mentions the machining interference problem or a solution thereof. In the Board's judgement, however, this does not mean that this problem was neither known nor solved in the art. In fact, since an optician shaping the slim reading glasses, which were available before the priority date of the patent, ran the risk of grinding away portions of the sucker projecting beyond the lens shape, thereby either destroying the sucker or interrupting the grinding operation, he had to check beforehand that

such an interference would not occur. This check or "judgment" requires a comparison of the outer configuration of the sucker, at the correct position, with the final shape of the lens which corresponds to the lens frame or the image thereof. Since D5 uses the frame image instead of the real lens frame, it can be presupposed that the necessary judgment was done by comparing the contour of the sucker with the frame image on the display.

4.2 The apparatus defined in claim 1 differs from this known apparatus in that the judgment is made by displaying an image of the stored outer configuration of the sucker on the display for comparison with the displayed frame image, and in that the arithmetic/judgment circuit is adapted to make the judgment. Accordingly, it is not necessary to actually take the sucker and place it on the display for comparison with the displayed frame image, and any parallax errors caused by a vertical distance between the sucker and the frame image are eliminated. Hence, it is evident that both differences make the judgment faster and more accurate as compared with a visual check by comparison of the real sucker with the frame image. This advantage can, therefore, form the basis of the objective problem to be solved.

4.3 In the Board's view, the check for machining interference is related to the check whether the unshaped or fresh lens is sufficiently large to fit the frame in that the essential element of both checks is a comparison of two contours in order to find intersections. In a check for machining interference the contour of a sucker must be compared with the contour of a lens frame, whereas in a check for a

sufficient size of the lens the contour of the fresh lens must be compared with the contour of the lens frame. Owing to this technical similarity the same problems can be expected in both checks. The skilled person faced with the above objective problem will therefore also consider the techniques available for checking for a sufficient size of the fresh lens to find ways to make the judgment for machining interference faster and more accurate. A solution corresponding to that of claim 1 is found in documents D4 and D5.

4.4 According to D5, the known step of superposing the unshaped fresh lens and the lens frame, as described in column 1, lines 48 to 51, was replaced by the step of placing the lens on a frame image, whereby the check for a sufficient size of the fresh lens could be made without having to correct for any parallax errors (see column 5, lines 10 to 16). The higher accuracy of the check is obtained by replacing the part causing the parallax error, in this case the lens frame, by its contour on a display. In the check for machining interference a parallax error is not only due to the lens frame, but also to the sucker which, in D5, may be spaced from the image of the lens frame by the curved lens placed onto the display. The skilled person will therefore conclude, on the basis of the teaching of D5, that this error can be eliminated by using an image of the sucker, rather than the real sucker, and display the image of the sucker on the display together with the image of the lens frame for comparison. Consequently, the sucker outer configuration data must be stored in a memory connected to the display in the same manner as the frame configuration data in D5.

4.5 The resulting visual comparison between the contour line of the lens frame and the contour line of the sucker on the display is still time-consuming and inaccurate especially in borderline cases where a region of contact or close relationship of both contour lines is shown on the display. It is therefore desirable to add a means for making a judgment, or assisting in making it to gain precision, in these cases. A suitable means is disclosed in document D4 which describes a device for comparing the digitized radius vector data of a spectacle frame with digitized configuration data of a fresh "pre-edged" lens for judging whether or not the lens can be shaped to fit the frame (see for example claim 5 and page 19, line 12, to page 20, line 20 of the description), ie in a check for a sufficient size of the lens. According to the description on page 2, lines 19 to 24 of D4, this automatic judgment solves the problem of insufficient precision of the known visual judgment. Taking into account the technical similarity of the check for machining interference with the check for a sufficient size of the lens, as set out above, it is evident that this automatic judgment means is equally suited for checking machining interference and will provide the same advantage of enhancing the precision of the judgment in particular in the mentioned borderline cases, especially as this automatic judgment can be based on the sucker configuration data stored for displaying the sucker contour line. The skilled person faced with the above defined objective problem will therefore incorporate this feature into the known apparatus.

4.6 The Appellant points out that the check for machining interference further differs from the check for a

sufficient size of the fresh lens in that in the former case the sucker must be smaller than the lens frame, whereas the latter case requires that the fresh lens is larger than the lens frame. This difference is not in dispute, but it relates to a conclusion drawn on the basis of the judgment made by comparison of the respective contours, rather than to the judgment itself, as defined in claim 1. Moreover, a skilled person can be expected to draw the appropriate conclusion if the sucker is found to be too large.

The Appellant further argues that no proposal could be found in the prior art of how to proceed if machining interference was detected, whereas the patent described the possibilities of using a sucker of different shape or of a further decentration in a direction which was easily derivable from the superposed images of the lens frame and of the sucker. This argument cannot be taken into consideration for the reason alone that claim 1 is directed to an apparatus which includes neither of these solutions or possibilities. Moreover, it overlooks the fact that these measures have no particular relation to the features distinguishing the claimed apparatus from the conventional apparatus of D5, in the sense that only the claimed apparatus may be so adapted as to enable the skilled operator to choose one of these measures. Rather, the same measures can equally be taken when using the prior art apparatus. In fact, if possible machining interference is detected by comparing the sucker with the image of the lens frame in D5, as described *supra*, the skilled person has the same possibilities of using either a smaller sucker or moving the sucker away from the interference region by a sufficient amount which corresponds to the extent of the interference, as long as this further decentration

remains within acceptable limits. The same applies to the argument that the patent may take account of the size of the sucker after attaching it to the lens because claim 1 is silent about any correction for the deformation of the sucker caused by the attachment and the operator must therefore take care of this deformation in the claimed apparatus in the same manner as in the prior art. Thus, these arguments cannot support a non-obviousness of the device defined in claim 1.

4.7 The Board therefore concludes that the invention as defined in claim 1 does not involve an inventive step.

4.8 The intention of the Appellant to submit an auxiliary request was uttered after the Chairman had declared the debate closed. The closure of the debate normally terminates the possibility of further submissions. Observations or requests submitted there after could only be taken into account if the Board reopened the debate which depends on its discretion (see decision T 595/90, OJ EPO 1994, 695; see also Article 11(4) Rules of procedure of the Boards of Appeal, OJ EPO 2000, 316). The Board did not see any reasons for this as the Appellant had been given ample opportunity to present all arguments it thought relevant. Besides, the Board does not see any possibility for maintaining the patent in another amended form. Permission for submission of any further auxiliary requests was therefore refused.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

A. Counillon C. T. Wilson