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**Datasheet for the decision  
of 3 September 2013**

**Case Number:** T 0925/10 - 3.5.05

**Application Number:** 04700797.6

**Publication Number:** 1581858

**IPC:** G06F3/033

**Language of the proceedings:** EN

**Title of invention:**

Operating device for a computer

**Applicant:**

Hippus N.V.

**Headword:**

Ergonomic mouse/HIPPUS

**Relevant legal provisions:**

EPC 1973 Art. 56

**Keyword:**

Inventive step - (yes, after amendment)

**Decisions cited:**

T 0204/83

**Catchword:**



**Beschwerdekammern  
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Case Number: T 0925/10 - 3.5.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.05**  
**of 3 September 2013**

**Appellant:** Hippius N.V.  
(Applicant) Parkstraat 35  
4818 SJ Breda (NL)

**Representative:** Nederlandsch Octrooibureau  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 29 January 2010  
refusing European patent application No.  
04700797.6 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chair:** A. Ritzka  
**Members:** K. Bengi-Akyuerek  
G. Weiss

## **Summary of Facts and Submissions**

I. The appeal is against the decision of the examining division, posted on 29 January 2010, to refuse European patent application No. 04700797.6 on the ground of lack of inventive step (Article 56 EPC) with respect to a main request and a first auxiliary request, having regard to the disclosures of

D1: WO-A-00/51069 and  
D3: US-A-2002/0084985.

II. Notice of appeal was received on 29 March 2010. The appeal fee was paid on the same day. With the statement setting out the grounds of appeal, also received on 29 March 2010, the appellant re-filed the claims of the first auxiliary request underlying the appealed decision as a main request and submitted a new set of claims as a first auxiliary request. It requested that the decision of the examining division be set aside and that a patent be granted on the basis of the main request or the first auxiliary request. In addition, oral proceedings were requested as an auxiliary measure.

III. A summons to oral proceedings scheduled for 3 September 2013 was issued on 16 May 2013. In an annex to this summons, the board expressed its preliminary opinion on the appeal pursuant to Article 15(1) RPBA. In particular, objections were raised under Articles 54 and 56 EPC 1973, mainly having regard to D1.

IV. With a letter of reply dated 2 August 2013, the appellant filed seven post-published documents as evidence of the technical effect and advantages provided by the present invention compared to the cited

prior art, and submitted further arguments in support of novelty and inventive step.

V. Oral proceedings were held as scheduled on 3 September 2013, during which a new main request (claims 1 to 5) was filed while the former main request and first auxiliary request were withdrawn. The appellant finally requested that the decision under appeal be set aside and a patent be granted on the basis of the new main request. At the end of the oral proceedings, the decision of the board was announced.

VI. Claim 1 of the main request reads as follows:

"Operating device for a computer comprising a support for a human hand provided with at least one button positioned such that it can be operated by the extremity of a finger, said device comprising a bearing surface (4) being horizontal in the position of use and a bulbous part (5), shaped in accordance with the shape of the human hand, arranged thereon, said bulbous part (5) comprising a surface (6) for the palm of the hand for supporting the mid section of the hand (metacarpus)/wrist section (carpus) of the operator, a central surface (7) for supporting the proximal phalanges of the fingers and a distal surface (8) for supporting the medial phalanges and distal phalanges, wherein said distal surface (8) is, near the boundary with said bearing surface, at an angle ( $\alpha$ ) of approximately  $70-90^\circ$  with said bearing surface, said bulbous part (5) comprising a lowered portion being embodied as an accommodation (22) for supporting the thumb, the longitudinal axis (26) of the portion of the accommodation (22) embodied for receiving the metacarpal I of the thumb is at an angle  $\gamma$  of approximately  $40^\circ$  with the longitudinal axis (28) of

the portion adjacent thereto for receiving the index finger, the angle  $\beta$  between the arm and the surface of the palm of the hand of the user is approximately  $165^\circ$ , the support surface (25) of the centre part of the palm is at an angle ( $\varphi$ ) of  $5^\circ$ - $10^\circ$  with respect to the bearing surface, the angle made by the surfaces represents the angle of the tangent that is drawn in the centre of the surface concerned, and wherein the angle ( $\delta$ ) between the central surface (7) and the distal surface (8) is at approximately  $45^\circ$ ."

### **Reasons for the Decision**

1. Admissibility of the appeal

The appeal complies with the provisions of Articles 106 to 108 EPC (cf. point II above) and is therefore admissible.

2. MAIN REQUEST

This request was filed during the oral proceedings before the board in response to the objections raised by the board and differs from the first auxiliary request underlying the appealed decision in that claim 1 as amended, apart from minor re-wordings, further specifies that

- a) the angle made by the surfaces represents the angle of the tangent that is drawn in the centre of the surface concerned;
- b) the angle  $\beta$  between the arm and the surface of the palm of the hand of the user is approximately  $165^\circ$ ;

- c) the support surface (25) of the centre part of the palm is at an angle ( $\varphi$ ) of  $5^{\circ}$ - $10^{\circ}$  with respect to the bearing surface;
- d) the angle ( $\delta$ ) between the central surface (7) and the distal surface (8) is at approximately  $45^{\circ}$ .

Feature a), related to a clarification of the angles used, is supported by page 2, lines 26-27 as filed, feature b) is supported by page 3, lines 2-3, page 5, line 12, and claim 5 as filed, feature c) is based on page 5, lines 15-16, and feature d) is supported by e.g. claim 4 of the application as filed.

Hence, the above amendments comply with the provision of Article 123(2) EPC.

## 2.1 Article 52(1) EPC: Novelty and inventive step

In the board's judgment, claim 1 meets the requirements of Article 52(1) EPC in conjunction with Articles 54 and 56 EPC 1973, for the following reasons:

- 2.1.1 The present invention concerns an ergonomic operating device such as a computer mouse. According to the application, the problem to be solved by claim 1 is to provide an operating device for a computer with which a relaxed position of the user's hand is obtained and thus phenomena such as RSI (Repetitive Strain Injury) are restricted or prevented for an "average western hand" (cf. page 2, lines 2-3; page 6, lines 15-16 and 25-26 of the application as filed).
- 2.1.2 The board concurs with the examining division and the appellant in considering D1 as the closest prior art, since it is, like the present invention, also related to an ergonomic operating device ("housing shell 22")

comprising a bearing surface ("flat bottom 20"), a surface for the palm of the hand ("rear surface 32"), a central surface ("top surface 30"), a distal surface ("front surface 24"), and accommodations for the respective fingers (see e.g. Figs. 1A and 2B).

2.1.3 Even though the angle between the respective axes of the thumb support ("depression for a thumb 46") and the support for the index finger ("depression for a forefinger 36") appears to be about  $40^\circ$  according to Fig. 2B of D1, the whole disclosure of D1 does not allow any technical teaching to be derived from this angle merely being obtained by measuring the diagrammatic representation of Fig. 2B (see T 204/83, OJ EPO 1985, 310, point 4). Therefore, the board agrees with the examining division and the appellant that D1 fails to directly and unambiguously disclose that the longitudinal axis of the portion of the accommodation embodied for receiving the metacarpal I of the thumb is at an angle  $\gamma$  of approximately  $40^\circ$  with the longitudinal axis of the portion adjacent thereto for receiving the index finger according to claim 1.

However, contrary to the view of the appellant, the board holds that, due to the breadth of the phrase "approximately  $70-90^\circ$ " as claimed, the corresponding angle between the front surface and the bottom surface according to D1 (see page 11, lines 3-4: "... the front surface ... is essentially vertical ..."; page 12, lines 26-27: "... the range of useful slopes of the front surface here can be about  $50-130$  degree relative to the bottom, and preferably about  $76-108$  degree ...") in connection with Fig. 1A from which an angle of about  $75^\circ$  is directly derivable) falls within the range of "approximately  $70-90^\circ$ " as claimed.

2.1.4 Hence, the difference between the subject-matter of claim 1 and the disclosure of D1 is considered to be that

- i) the angle between the longitudinal axis of the portion of the accommodation embodied for receiving the metacarpal I of the thumb and that of the index finger is approximately  $40^\circ$ ;
- ii) the angle between the arm and the surface of the palm of the hand of the user is approximately  $165^\circ$ ;
- iii) the angle between the central surface and the distal surface is at approximately  $45^\circ$ ;
- iv) the angle between the support surface of the centre part of the palm and the bearing surface is  $5^\circ$ - $10^\circ$ .

Consequently, the subject-matter of claim 1 is considered to be novel over D1 (Article 54 EPC 1973).

2.1.5 According to the application as filed, feature i) yields the technical effect that the thumb is positioned in an optimal way on the operating device with respect to the index finger (cf. page 5, lines 27-31), while features ii) and iii) are supposed to provide an adequate supination such that the palm of the hand is able to rest in a relaxed position on the centre part of the palm (cf. page 3, lines 2-5; page 5, lines 12-15). Finally, distinguishing feature iv) ought to provide a rotation which enables full contact with the operating device and avoids hunching of the shoulder (cf. page 5, lines 15-18).

The appellant convincingly argued at the oral proceedings before the board that the above distinguishing features contributed to an overall synergistic effect which consisted in ensuring a stable



and relaxed hand shape on the operating device as a result of biomedical tests and thereby solved the technical problem of preventing or reducing RSI symptoms for the device user.

2.1.6 The objective problem to be solved by claim 1 is therefore regarded as being how to provide an operating device for a computer, which during operation provides a relaxed hand position such that the risk of RSI-based injuries is reduced.

2.1.7 Starting from the teaching of D1, the skilled person would notice that D1 likewise addresses the problem of eliminating harmful stresses in wrist and hand joints when using a pointing device and preventing computer-related injuries by ensuring a relaxed and comfortable hand posture (see e.g. page 1, lines 20-23; page 7, lines 16-19). Furthermore, as to distinguishing feature i), D1 exhibits some schematic representations (see, in particular Figs. 2B, 3B, and 4B) from which slightly different angles between the respective depressions for the thumb and the index finger may be derived. In this context, the board agrees with the finding in the decision under appeal that this angle being about 40° would be rendered obvious by the teaching of D1, especially when taking into account that it is also associated with the effect of ensuring a relaxed hand position on the pointing device.

2.1.8 However, it is apparent to the board that D1 is completely silent as to the actual angles between the rear, top, and front surfaces of the pointing device under consideration. In other words, the structural interrelationships between the respective device surfaces are not of concern at all in D1. The only angles to which D1 refers relate to the angle between

the front surface and the bearing surface (see e.g. page 12, lines 21-27; page 15, lines 7-8 and 32-33; page 20, lines 2-5) and to the inclination angles of the ring finger support and the mouse buttons (see page 14, lines 1-2; page 17, lines 3-5).

Moreover, the board considers that the angles according to distinguishing features ii) to iv) cannot be derived by the mere application of trial-and-error or normal design procedures, contrary to the finding of the examining division (cf. appealed decision, section 1.2), since those angles are strongly interrelated with each other and appropriately reflect the desired natural shape of a relaxed user's hand positioned upon the claimed operating device according to the present application. To put it differently, the definition of these angles sufficiently characterises the holistic structural concept with regard to the operating device and thus credibly provides a synergistic effect which goes beyond the sum of the individual effects of features i) to iv).

2.1.9 The other documents on file, i.e. D2 (DE-A-196 16 450) and D3, both cited in the application as filed, do not render the subject-matter of claim 1 obvious either, regardless of whether they are considered alone or in combination with D1.

Document D2 relates to an ergonomic mouse device in which the thumb support is substantially parallel to the support for the index finger (see column 3, lines 6-31) and fails to provide any explicit or implicit angle value throughout the whole document, while document D3 deals with an ergonomic mouse device wherein the wrist is supported by a separate block or sleeve, and solely addresses angles between the palm

and the central surface of the device (see e.g. paragraphs [0073] and [0074] in combination with Fig. 2A).

- 2.2 In conclusion, the subject-matter of the present claims is new and involves an inventive step in view of the cited prior-art documents within the meaning of Articles 54 and 56 EPC 1973.
  
3. Since all the other requirements of the EPC are also found to be fulfilled, the board decided to grant a patent on the basis of claims 1 to 5 according to the main request.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to grant a patent in the following version:

#### Description (pages):

- 1, 3 to 6 as originally filed;
- 2 filed at the oral proceedings before the board;

#### Claims (nos.):

- 1 to 5 filed as main request at the oral proceedings before the board;

#### Drawings (sheets):

- 1/5 to 5/5 as originally filed.

The Registrar:

The Chair:



K. Götz

A. Ritzka

Decision electronically authenticated