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Datasheet for the decision
of 1 February 2024

Case Number:	T 1574/21 - 3.2.08
Application Number:	19158554.6
Publication Number:	3533415
IPC:	A61C17/22, A46B15/00
Language of the proceedings:	EN

Title of invention:
METHODS AND SYSTEMS FOR ORAL CLEANING DEVICE LOCALIZATION

Applicant:
Koninklijke Philips N.V.

Relevant legal provisions:
EPC Art. 76(1), 84
RPBA 2020 Art. 13(2)

Keyword:
Main request; first, second, third, fourth, eighth and ninth
auxiliary requests - divisional application - subject-matter
extends beyond content of earlier application (yes)
Auxiliary request 2A; fifth, sixth and seventh auxiliary
requests - claims - clarity (no)
Auxiliary requests 2B, 2C and 2D - amendment after summons -
taken into account (no)

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Beschwerdekammern

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Case Number: **T 1574/21 - 3.2.08**

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 1 February 2024

Appellant: (Applicant)	Koninklijke Philips N.V. High Tech Campus 52 5656 AG Eindhoven (NL)
Representative:	Philips Intellectual Property & Standards High Tech Campus 52 5656 AG Eindhoven (NL)
Decision under appeal:	Decision of the Examining Division of the European Patent Office posted on 29 March 2021 refusing European patent application No. 19158554.6 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairwoman	P. Acton
Members:	C. Vetter
	C. Schmidt

Summary of Facts and Submissions

I.   The appeal was filed by the applicant (appellant)
        against the decision of the examining division to
        refuse the patent application in suit.

II.   The patent application had been filed as a divisional
        application of an earlier application 16 784 579.1
        (parent application), which had been published as
        WO 2017/068453 Al.

III.   The examining division had decided, *inter alia*, that:

            (1) the claimed subject-matter of the main request
            as well as of the first and second auxiliary
            requests fell within the exceptions to
            patentability under Article 53(c) EPC

            (2) the subject-matter of the patent application
            according to the third to ninth auxiliary requests
            extended beyond the content of the parent
            application as originally filed (Article 76(1) EPC)

IV.   Oral proceedings were held before the Board by
        videoconference.

V.   The appellant (applicant) requested that the decision
        under appeal be set aside and that a patent be granted
        on the basis of the main request, or, in the
        alternative on the basis of any of the first or second
        auxiliary requests, auxiliary requests 2A, 2B, 2C, 2D,
        or the third to ninth auxiliary requests, filed with
        the statement setting out the grounds of appeal dated
        15 July 2021 (first to ninth auxiliary request and

auxiliary 2A) or during the oral proceedings before the
Board (auxiliary requests 2B, 2C and 2D).

VI.   Claim 1 of the **main request** reads as follows (feature
         designation added by the Board):

         M1 A method (800) for localizing an oral cleaning
         device within a user's mouth, the method comprising
         the steps of:
         M1.1 determining (840), based on sensor information
         received from a motion identifier (28), a first
         location of the oral cleaning device within the
         user's mouth;
         M1.2 detecting (845), using sensor information
         received from the motion identifier, a transition
         of the oral cleaning device from the first location
         to a second location within the user's mouth;
         M1.3 measuring (850), using sensor information
         received from the motion identifier, an amount of
         time elapsing between a start and a stop of a
         movement (defining the transition) of the oral
         cleaning device within the user's mouth; and
         M1.4 tracking movement of the oral cleaning device
         within the mouth using a Fitt's law-based model and
         the measured amount of time.

         Claim 1 of the **first auxiliary request** corresponds to
         claim 1 of the main request.

         Claim 1 of the **second auxiliary request** corresponds to
         claim 1 of the main request with the exception that the
         phrase "at the first location" is added at the end of
         feature **M1.3,** so that feature **M1.3'** reads as follows
         (feature designation added):

M1.3' measuring (850), using sensor information received from the motion identifier, an amount of time elapsing between a start and a stop of a movement (defining the transition) of the oral cleaning device within the user's mouth at the first location

Claim 1 of the **third auxiliary request** is directed to a controller configured to perform essentially the method steps of claim 1 of the main request. It reads as follows (feature designation added):

C1 A controller (30) configured to:
C1.1 determine, based on sensor information received from a motion identifier (28), a first location of the oral cleaning device within the user's mouth;
C1.2 detect, using sensor information received from the motion identifier, a transition of the oral cleaning device from the first location to a second location within the user's mouth;
C1.3' measure, using sensor information received from the motion identifier, an amount of time elapsing between a start and a stop of a movement (defining the transition) of the oral cleaning device within the user's mouth at the first location; and
C1.4 track movement of the oral cleaning device within the mouth using a Fitt's law-based model and the measured amount of time.

Claim 1 of the **fourth auxiliary request** corresponds to claim 1 of the third auxiliary request.

Claim 1 of the **fifth auxiliary request** is directed to a controller which performs essentially the method steps

of claims 1 and 14 of the parent application as originally filed. It reads as follows (feature designation added):

C1 A controller (30) configured to:
C1.1 (i) determine, based on sensor information received from the motion identifier, a first location of the oral cleaning device within the user's mouth;
C1.3' (ii) measure, using sensor information received from the motion identifier, an amount of time elapsing between a start and a stop of a movement of the oral cleaning device within the user's mouth at the first location;
C1.5 (iii) calculate, using Fitt's law and the measured elapsed amount of time, the number of teeth brushed during the elapsed amount of time; and
C1.6 (iv) determine, based on the first location and the number of teeth the oral cleaning device was displaced during the elapsed amount of time, which of the user's teeth were included in the displacement,
or to:
C1.1 (a) determine, based on sensor information received from a motion identifier (28), a first location of the oral cleaning device within the user's mouth;
C1.2 (b) detect, using sensor information received from the motion identifier, a transition of the oral cleaning device from the first location to a second location within the user's mouth;
C1.7 (c) calculate, using Fitt's law and an elapsed amount of time for the transition, a probability of which of a plurality of possible transitions occurred during the elapsed amount of time; and

C1.8 determine, based on the first location and the calculated transition probability, the second location.

Claim 1 of the **sixth auxiliary request** corresponds to claim 1 of the fifth auxiliary request.

Claim 1 of the **seventh auxiliary request** corresponds to the first alternative of claim 1 of the fifth auxiliary request.

Claim 1 of the **eighth auxiliary request** is directed to an oral cleaning device comprising a motion identifier and a controller in communication with the motion identifier, wherein the controller is configured to perform the steps **C1.1, C1.2, C1.3'** and **C1.4** of claim 1 of the third auxiliary request.

Claim 1 of the **ninth auxiliary request** corresponds to claim 1 of the eighth auxiliary request with the exceptions that the motion identifier additionally comprises a sensor system, and that the controller is not claimed as being in communication with the motion identifier.

Claim 1 of **auxiliary request 2A** essentially corresponds to claims 1 and 14 of the parent application as originally filed, and reads as follows (feature designation added):

M1 A method (800) for localizing an oral cleaning device within a user's mouth, the method comprising the steps of:
M1.1 (i) determining, based on sensor information received from the motion identifier, a first

location of the oral cleaning device within the
user's mouth;

M1.3' (ii) measuring, using sensor information
received from the motion identifier, an amount of
time elapsing between a start and a stop of a
movement of the oral cleaning device within the
user's mouth at the first location;

M1.5' (iii) calculating, using Fitt's law and the
measured elapsed amount of time, the number of
teeth brushed during the elapsed amount of time;
and

M1.6 (iv) determining, based on the first location
and the number of teeth the oral cleaning device
was displaced during the elapsed amount of time,
which of the user's teeth were included in the
displacement,
or of

M1.1 (a) determining, based on sensor information
received from a motion identifier, a first location
of the oral cleaning device within the user's
mouth;

M1.2 (b) detecting, using sensor information
received from the motion identifier, a transition
of the oral cleaning device from the first location
to a second location within the user's mouth;

M1.7 (c) calculating, using Fitt's law and an
elapsed amount of time for the transition, a
probability of which of a plurality of possible
transitions occurred during the elapsed amount of
time; and

M1.8 determining, based on the first location and
the calculated transition probability, the second
location.

Claim 1 of **auxiliary request 2B** corresponds to claim 1
of auxiliary request 2A with the exception that in

feature **M1.3'** the expression "at the first location" has been amended to "starting at the first location", so that feature **M1.3"** reads as follows (feature designation added):

> **M1.3"** (ii) measuring, using sensor information received from the motion identifier, an amount of time elapsing between a start and a stop of a movement of the oral cleaning device within the user's mouth starting at the first location

Claim 1 of **auxiliary request 2C** corresponds to claim 1 of auxiliary request 2B with the exception that at the end of the claim the following feature has been added (feature designation added):

> **M2** wherein, with reference to (i)-(iv), wherein said Fitt's law-based model comprises the formula

$$W * 2^{((MT-a)/b)-1} = D$$

> where MT is the elapsed amount of time, W, a, and b are predetermined values, and D is a distance moved starting at the first location.

Claim 1 of **auxiliary request 2D** is directed to the second alternative of claim 1 of auxiliary request 2A, i.e. features **M1.1, M1.2, M1.7** and **M1.8.**

Reasons for the Decision

1.   Request for a declaratory judgment

1.1   The appellant requested a declaratory judgment stating
         that a substantial procedural violation occurred during
         the proceedings before the Examining Division.

1.2   The request was only aimed at establishing that the
         examining division had committed a substantial
         procedural violation. No procedural consequence, such
         as the reimbursement of the appeal fee or remittal of
         the case to the Examining Division, was derived from
         this. Thus, the requested finding has no bearing on the
         course or outcome of the present proceedings.

1.3   Therefore, the appellant has no interest in legal
         protection for the requested finding.

1.4   For this reason, the request was not admitted.

2.   Main request – amendments

2.1   Claim 1 of the main request has no literal support in
         the parent application as originally filed.

2.2   The appellant argued that current claim 1 combined the
         two embodiments disclosed in paragraph [0007] of the
         description and claims 1 and 14 of the parent
         application as originally filed. Moreover, according to
         the appellant, the method steps of current claim 1
         followed from, and were implicit in, the use of the
         Fitt's law-based model.

2.3   However, paragraph [0007] of the parent application as
        originally filed provides a general disclosure of
        methods and systems for tracking movement of an oral
        cleaning device within the mouth, but does not disclose
        any specific method steps. The cited paragraph,
        therefore, does not provide support for the particular
        method of current claim 1.

2.4   Original claims 1 and 14 of the parent application, in
        turn, disclose specific method steps. However, both
        methods comprise a step of "calculating", namely, in
        claim 1 the step of

        M1.5' calculating, using Fitt's law and the
        measured elapsed amount of time, the number of
        teeth the oral cleaning device was displaced during
        the elapsed amount of time,

        and in claim 14 the step of

        M1.7 calculating, using Fitt's law and an elapsed
        amount of time for the transition, a probability of
        which of a plurality of possible transitions
        occurred during the elapsed amount of time.

        None of these calculating steps is contained in current
        claim 1.

2.5   Claim 1, instead, contains feature **M1.4** which is
        directed to

        M1.4 tracking movement of the oral cleaning device
        within the mouth using a Fitt's law-based model and
        the measured amount of time.

2.6   Step **M1.4** neither gives the number of teeth the oral
      cleaning device was displaced during the elapsed amount
      of time, nor does it tell the probability of which of a
      plurality of possible transitions occurred during the
      elapsed amount of time. Instead, step **M1.4** is limited
      to tracking the movement of the oral cleaning device
      within the mouth.

2.7   While the use of the Fitt's law-based model *per se*
      might imply some calculation taking place, this is not
      necessarily the specific one described in Features
      M1.5' or **M1.7**. Therefore, step **M1.4** constitutes a
      generalisation of steps **M1.5'** and **M1.7** which is not
      directly and unambiguously derivable from the parent
      application as originally filed.

2.8   Hence, claim 1 of the main request contravenes the
      provision of Article 76(1) EPC.

3.   *First and second auxiliary requests - amendments*

3.1   Claim 1 of the first auxiliary request is identical to
      claim 1 of the main request.

      Claim 1 of the second auxiliary request corresponds to
      claim 1 of the main request with the exception that the
      phrase "at the first location" has been added to
      feature **M1.3.** This phrase has no bearing on the above
      discussed generalisation of the original disclosure of
      the parent application.

3.2   Therefore, the above conclusion on the main request
      (see point 2. above) applies equally, so that the first
      and second auxiliary requests do not comply with the
      provision of Article 76(1) EPC.

4.   *Auxiliary request 2A - clarity*

4.1   Claim 1 of auxiliary request 2A comprises two methods
        for localizing an oral cleaning device within a user's
        mouth, namely those of claims 1 and 14 of the parent
        application as originally filed.

4.2   The claimed methods involve tracking a transition or
        movement defined by a *start* and a *stop*. In the first
        step of both methods (feature **M1.1**), a "first location"
        of the oral cleaning device within the user's mouth is
        determined.

        In the second step of the first method, an amount of
        time elapsing between a start and a stop of a movement
        of the oral cleaning device within the user's mouth is
        measured (feature **M1.3'**).

        In the second step of the second method, a transition
        of the oral cleaning device from the "first location"
        to a "second location" within the user's mouth is
        detected (feature **M1.2**).

4.3   Therefore, in the context of the claim, the skilled
        person understands the expression "the first location"
        to designate the starting point of the movement, while
        "the second location" designates the stopping point.

4.4   With this understanding, however, the phrase "at the
        first location" at the end of feature **M1.3'** does not
        technically make sense. In fact, a movement between a
        start and a stop, wherein "the first location"
        designates the starting point, cannot be measured "at
        the first location". Hence, claim 1 is not clear within
        the meaning of Article 84 EPC.

4.5   The appellant argued that "the first location" can be
        a *region* in the user's mouth, as explained in
        paragraphs [0010] and [0011] of the description.

4.6   With this understanding, however, step (iv) of feature
        1.6 of the claimed method cannot be carried out. This
        step requires (emphasis added)

>   **M1.6** (iv) determining, based on the first location
>   and the number of teeth the oral cleaning device
>   was displaced during the elapsed amount of time,
>   *which* of the user's teeth were included in the
>   displacement.

        The specific teeth, which were included in the
        displacement, can only be identified if the starting
        point of the oral cleaning device is known. A *region*,
        in contrast, comprises several teeth and therefore
        makes it impossible to tell *which* of the teeth of this
        region were included in the displacement.

4.7   Thus, the appellant's understanding of the expression
        "the first location" does not render the claim clear,
        either.

4.8   Auxiliary request 2A, therefore, does not comply with
        the provision of Article 84 EPC.

5.   *Auxiliary request 2B, 2C and 2D - admittance*

5.1   The objection under Article 84 EPC against claim 1 of
        auxiliary request 2A, which is detailed under point 4.
        above, had already been raised under points 2.2, 2.3
        and 2.5 of the Board's communication pursuant to
        Article 15(1) RPBA addressing point 7.3 of the

appellant's statement setting out the grounds of appeal.

5.2   However, it was only during the oral proceedings before the Board that the appellant reacted to this objection and filed auxiliary requests 2B, 2C and 2D, which contained an amended claim 1.

5.3   The admittance of each of these requests falls under the provision of Article 13(2) RPBA, which stipulates that any amendment to a party's appeal case made after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

5.4   The appellant did not dispute that these requests represented an amendment to its case. However, it did not provide any reasons why auxiliary requests 2B, 2C and 2D were filed at such a late stage. Therefore, the principle laid out in Article 13(2) RPBA applies and auxiliary requests 2B, 2C and 2D are not admitted into the appeal proceedings.

6.   *Third and fourth auxiliary requests - amendments*

6.1   Claim 1 of the third auxiliary request is directed to a controller configured to perform the method steps of claim 1 of the main request.

        Claim 1 of the fourth auxiliary request is identical to claim 1 of the third auxiliary request.

6.2   Therefore, the above conclusion on the main request (see point 2. above) applies *mutatis mutandis*, so that

the third and fourth auxiliary requests do not comply
with the provision of Article 76(1) EPC.

7.   *Fifth to seventh auxiliary request – clarity*

7.1   Claim 1 of the fifth auxiliary request is directed to a
        controller configured to perform the method steps of
        claim 1 of auxiliary request 2A.

        Claim 1 of the sixth auxiliary request is identical to
        claim 1 of the fifth auxiliary request.

        Claim 1 of the seventh auxiliary request corresponds to
        claim 1 of the fifth auxiliary request with the
        exception that the second method is deleted.

7.2   Claim 1 of all three requests, respectively, contains
        features **C1.3'** and **C1.6**, which read as follows:

        C1.3' (ii) measure, using sensor information
        received from the motion identifier, an amount of
        time elapsing between a start and a stop of a
        movement of the oral cleaning device within the
        user's mouth at the first location; and
        C1.6 (iv) determine, based on the first location
        and the number of teeth the oral cleaning device
        was displaced during the elapsed amount of time,
        which of the user's teeth were included in the
        displacement

7.3   As detailed under point 4. above, a lack of clarity
        arises from the expression "the first location". If the
        skilled person understood "the first location" to mean
        the starting *point* of the movement, the phrase "at the
        first location" at the end of feature **C1.3'** does not
        technically make sense. If, alternatively, the skilled

person understood "the first location" to designate
a *region* in the user's mouth, feature **C1.6** could not be
carried out.

7.4   Therefore, the above conclusion on auxiliary request 2A
       (see point 4. above) applies *mutatis mutandis*, so that
       the fifth to seventh auxiliary requests do not comply
       with the provision of Article 84 EPC.

8.   *Eighth and ninth auxiliary requests – amendments*

8.1   Claim 1 of the eighth auxiliary request is directed to
       an oral cleaning device comprising a motion identifier
       and a controller in communication with the motion
       identifier, wherein the controller is configured to
       perform steps **C1.1**, **C1.2**, **C1.3'** and **C1.4** of claim 1 of
       the third auxiliary request (see point 6. above).

8.2   Claim 1 of the ninth auxiliary request corresponds to
       claim 1 of the eighth auxiliary request with the
       exceptions that the motion identifier additionally
       comprises a sensor system, and that the controller is
       not claimed as being in communication with the motion
       identifier. However, these amendments have no bearing
       on the above discussed generalisation of the original
       disclosure of the method steps (see point 2. above),
       which are now performed by the controller.

8.3   Therefore, the above conclusion on the main request
       (see point 2. above) applies *mutatis mutandis*, so that
       the eighth and ninth auxiliary requests do not comply
       with the provision of Article 76(1) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairwoman:

C. Moser   P. Acton

Decision electronically authenticated