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Datasheet for the decision of 3 December 2014

Case Number: T 1643/11 - 3.2.04

Application Number: 04024286.9

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IPC: A47L5/24, A47L9/20, A47L9/12, A47L9/14, A47L9/16, A47L9/28

Language of the proceedings: EN

Title of invention:
Hand-held cordless vacuum cleaner

Patent Proprietor:
Black & Decker Inc.

Opponent:
Aktiebolaget Electrolux

Headword:

Relevant legal provisions:
EPC Art. 83, 54(2), 56, 114(2)

Keyword:
Sufficiency of disclosure - (yes)
Novelty - (yes)
Inventive step - (yes)
Late submitted material -
document admitted by first instance (no)

Decisions cited:

Catchword:
See Reasons 4.4 and 4.5

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Case Number: T 1643/11 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 3 December 2014

Appellant: (Opponent)	Aktiebolaget Electrolux 105 45 Stockholm (SE)
Representative:	Schlögl, Markus Meissner, Bolte & Partner GbR Bankgasse 3 90402 Nürnberg (DE)
Respondent: (Patent Proprietor)	Black & Decker Inc. 1207 Drummond Plaza Newark, Delaware 19711 (US)
Representative:	Cavalier, Marcus Alexander Mawson Black & Decker, 210 Bath Road Slough, Berks SL1 3YD (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 27 May 2011 rejecting the opposition filed against European patent No. 1523916 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	A. de Vries
Members:	J. Wright
	T. Bokor

Summary of Facts and Submissions

I. On 19 July 2011 the appellant (opponent) lodged an appeal against the opposition division's decision of 27 May 2011 to reject the opposition against the European patent No. 1523916 and paid the appeal fee simultaneously. The statement setting out the grounds of appeal was filed on 4 October 2011.

II. Opposition was filed against the patent as a whole based on the opposition grounds novelty and inventive step mentioned in Article 100(a) EPC together with Articles 52(1), 54 and 56 EPC, and Article 100(b) EPC together with Article 83 EPC.

The division held that none of the grounds for opposition raised prejudiced the maintenance of the patent as granted having regard to the following documents amongst others:

D3: JP-A-53105065
D5: JP-A-54000466 and its English translation
D6: JP-A-5190563 and its English translation

It decided not to admit the following late filed documents, amongst others, into the proceedings:

D9: EP-A-1023864 and
D13: JP-A-54042857.

III. Oral proceedings before the Board were duly held on 3 December 2014.

IV. The appellant requests that the decision be set aside and that the patent be revoked in its entirety.

The respondent-proprietor requests that the appeal be dismissed and the patent be maintained as granted or, in the alternative, that the patent be maintained in amended form according to one of auxiliary requests 1 and 2, both filed on 3 November 2014.

V. The wording of claim 1 of the main request (as granted) is as follows:

A hand-held portable vacuum (10a) comprising:

a housing (32) having a handle (168);
a dirt cup (20) having an inlet (54) and defining a container for storage of dirt and debris therein, the dirt cup being removably attached to the housing;
an impeller (90) at least partially disposed in the housing;
a filter (414) disposed between the impeller and the inlet, the filter being formed with a plurality of pleats (460);
characterised by a filter cleaning device (300) coupled to at least one of the housing and the dirt cup, the filter cleaning device including at least one rib (436) and a hub (304), the hub being coupled to one of the filter and the rib and configured to rotate the one of the filter and the rib about the other one of the filter to generate contact between the rib and the filter to at least partially dislodge accumulated dirt and debris from the pleats.

VI. The appellant mainly argued as follows:

Regarding sufficiency of disclosure: Claim 1 as granted defines in one alternative a filter that rotates about itself, which is impossible to carry out and in another a rib which rotates about a filter which is

inconsistent with the embodiment, so the skilled person would not be able to determine what the claimed invention is, even when reading the rest of the specification, therefore he could not carry out the invention.

Regarding the admittance of documents D9 and D13:
The division had erred in not admitting documents E9 and E13 into the proceedings. The division had only considered whether machines were hand-held and portable. This approach was wrong because it was based on the wrong assumption that only these machines collect small particles and because it only considered how the machines were used, not their technical features. In any case D9 and D13 both disclose hand-held portable cleaners.

Regarding novelty: Document D5 discloses all the features of claim 1 including a filter cleaning device having a hub and a rib. A hub is to be considered as any part coupled to a rib or filter and which enables rotation of these parts about each other, so the central shaft of the T-shaped lever of D5 is a hub. A rib should be interpreted as any object that can strike and deflect filter pleats, so the arms of the T-shaped lever of D5 are ribs.

D6 discloses a hand-held portable vacuum cleaner because it has a handle for carrying it in use. It also discloses the remaining features of claim 1.

Regarding inventive step: Starting from D5, if the subject matter of claim 1 is new vis-à-vis D5 then it differs only in the features *hub* and *rib*. The objective technical problem is to provide an alternative to the ribs and an alternative way of rotating them. From

their general knowledge or from D3 or D6 it would be obvious for the skilled person to use ribs to dislodge dirt from filter pleats and to rotate the ribs with a hub rather than a shaft.

Alternatively, starting from D6, if the subject matter of claim 1 is new vis-à-vis D6, it differs only in that it is not hand-held and portable. The cleaner of D6, with its filter cleaning solution with rib and hub, could easily be made hand-held and portable merely by reducing its size. The skilled person would do this by applying their general knowledge or alternatively by considering the teaching of D5, which already discloses a hand-held portable cleaner.

VII. The respondent mainly argued as follows:

Regarding sufficiency of disclosure: The skilled person would understand that the claim wording "...configured to rotate the one of the filter and the rib about the other one of the filter" should have been completed by the wording *and the rib*, so he would not interpret the claim to mean the filter rotates about itself. Read in the context of generating contact between the rib and the filter, either the filter must rotate relative to the rib or vice versa and the embodiment discloses how to do this.

Regarding the admittance of documents D9 and D13:
The opposition division correctly assessed *prima facie* relevance of D9 and D13 and decided not to admit them, so they should not be admitted in appeal.

Regarding novelty: The subject matter of claim 1 is novel vis-à-vis D5 because D5 does not disclose a hub or a rib. A hub is the central part of a wheel. In D5

the T-shaped part of the filter cleaning mechanism is not a wheel and its central part is a shaft, but not a hub. The T-shaped part has drum-stick shaped arms rather than ridges or strips, so these are not ribs.

The subject matter of claim 1 is novel vis-à-vis D6 because D6 does not disclose a hand-held portable vacuum cleaner but a full-sized vacuum cleaner designed to roll on wheels.

Regarding inventive step: Starting from D5, replacing the central shaft of the T-shaped part with a hub and replacing its arms with ribs implies completely redesigning the filter cleaning mechanism. This would exceed application of the skilled person's general knowledge and is therefore not obvious. Nor would the skilled person consider large size cleaners such as D3 or D6 because they have large complex filter cleaning devices, driven by cable winders which would be incompatible with the filter cleaning arrangement of D5.

Document D6 is not a valid starting point for arriving at the subject matter of the claim because hand-held portable vacuum cleaners are a distinct class of cleaners designed to be held in the hand like a wand and therefore constructed differently from large cleaners that roll on the floor. Making it hand-held would involve its complete redesign, including the filter cleaning mechanism. Arriving at such a redesigned cleaner with a rib and hub is not obvious from general knowledge, let alone the teaching of D5 which has neither feature.

Reasons for the Decision

1. The appeal is admissible.

2. Background of the invention

The patent concerns a hand-held portable vacuum cleaner with a dust filter, see specification paragraph [0002]. An underlying problem with such cleaners is that the filter may quickly clog leading to a reduction in efficiency and performance of the cleaner [0003]. The main aim of the invention is to provide a means of dislodging dirt from the filter, to this end claim 1 as granted includes a filter cleaning mechanism including at least one rib and a hub, see also paragraph [0008].

3. Sufficiency of disclosure

3.1 Article 83 EPC requires that the European patent application shall disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

3.2 The appellant considers that in its present wording claim 1 encompasses as a first alternative a filter that rotates about itself, and as a second alternative a rib which rotates about a filter. The first alternative would be impossible to carry out because a filter cannot rotate about itself, so the invention cannot be performed over the whole range claimed. Furthermore he argues that, for the second alternative, rotation of a rib *about* a filter as claimed strictly means that the filter is the axis of the rotation, which is inconsistent with the detailed embodiment in which the filter rotates adjacent to the rib, so it is

impossible for the skilled person to be certain of carrying out the invention.

3.3 Granted claim 1 defines "the hub as being coupled to one of the filter and the rib and configured to rotate the one of the filter and rib about *the other one of the filter* to generate contact between the rib and the filter ..." (with italics added by the Board).

3.4 The Board acknowledges that this feature of the claim is not ideally formulated. Indeed the skilled person will immediately recognise that this formulation (.."the other one of the filter") contains a manifest syntactic error that read literally might suggest an evidently impossible alternative in which the filter rotates about itself. It is noted however that, firstly, when reading claims the skilled person does so with synthetical propensity, i.e. so as to arrive at a technically sensible interpretation that takes into account the whole disclosure of the patent, see CLBA, II.A.6.1 and the case law cited therein. Read thus, the syntactical error is immediately apparent to the skilled person, who from the context will also understand that "the other of the filter" is meant to refer to the alternative of the immediately preceding "one of the filter and the rib", i.e. the other one of the two. With his mind desirous to understand he thus reads the claim to simply refer to either the filter rotating about the rib or the other way round.

3.5 Moreover, where sufficiency of disclosure is concerned, the skilled person does not read features of the claims in isolation but will consider the complete disclosure which includes the claims, description and drawings to provide him with the necessary detail, see CLBA II.C.2, and the decisions cited therein.

Reading the above feature in its totality the skilled person will immediately realise that the claimed rotation is qualified by the requirement that it generates contact between the rib and filter and importantly it is this contact that dislodges dirt. Therefore only arrangements which produce such contact fall within the scope of the claim. With this in mind the skilled person will interpret the claim by seeking to understand how contact between rib and filter is achieved in the rest of the specification.

3.6 As seen in figures 12, 18 and 19, the ribs 436 are circumferentially mounted on the inside wall of a frustoconical prefilter 412. The filter 414 is similarly shaped to fit inside the prefilter on a common longitudinal axis. According to paragraph [0053] the filter is coupled to the cleaning wheel 36 (with its hub 304). Rotation of the cleaning wheel rotates the filter within the prefilter, causing contact between a stationary rib and rotating filter pleats. In other words the filter rotates *with respect to* the rib. Thus the skilled person will understand "rotate...about" in the claim to mean *rotate...with respect to* rather than *about* in the sense of around an axis. Furthermore the skilled person will immediately realise that when the filter rotates it must do so with respect to the rib in order to generate contact between these two. The skilled person will thus interpret the first part of the above feature to mean that either the rib must rotate with respect to the filter or *vice versa.* In other words the hub is configured to rotate the one of the filter and the rib with respect to the other one of the filter *and the rib.*

3.7 In the light of the above, the Board considers that the skilled person will dismiss an interpretation of the

claim in which the filter rotates about itself as not forming part of the scope of the claim.

Furthermore, the board holds that the embodiment of the invention described in paragraph [0053] with figures 3, 12, 18, 19 and 20 details one example of how the invention is to be carried out. Therefore the Board is satisfied that the claimed invention is disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art using common general knowledge. It follows that the ground of opposition based on Article 100 (b) EPC does not prejudice the maintenance of the patent. The Board thus confirms the decision's findings in this respect (reasons, section 3).

4. Admissibility of certain documents

4.1 The opposition division decided not to admit, amongst others, documents D9 and D13 into the proceedings.

4.2 It is undisputed that D9 and D13 were filed well after expiry of the opposition period of Article 99(1) EPC and were thus subject to the discretion afforded under Article 114(2) EPC. In accordance with established jurisprudence, late filed documents should only be exceptionally admitted into the proceedings by the opposition division if, *prima facie*, there are reasons to suspect that such late-filed documents prejudice the maintenance of the European Patent in suit, CLBA, IV.C. 1.3, as reflected in the Guidelines for examination, E-V, 2.1.

Furthermore, a Board of Appeal should only overrule the way in which a department of first instance exercised

its discretion when deciding on a particular case if it concludes that it has done so according to the wrong principles or without taking into account the right principles, or in an unreasonable way (CLBA IV.C.1.3.3 and jurisprudence cited therein, in particular T 640/91 OJ 1994, 918).

4.3 In the present case, it is undisputed that the parties were heard on the relevance of D9 and D13, (minutes point 6). This discussion is reflected in points 2.3, 2.6 and 2.7 of the decision, which considers the documents' relevant contents and than finds them to relate to a different (non-hand held, portable) type of vacuum cleaner of different internal construction, point 2.8 , concluding at point 2.9, that D9 and D13 are not more relevant than D2 to D8 already on file.

4.4 The Board has no doubt that the division considered the correct criterion, prima facie relevance, and did so in detail and in a reasoned manner. Nor in fact does the appellant contest this. Rather it takes issue with the way how the facts were assessed and the weight they were given in the division's finding. In particular, the appellant has questioned the decision's assertion that hand-held portable suction cleaners are intended to collect small sized particles and that those of D9 and D13 are not (point 2.8), arguing that this constitutes a manifestly incorrect technical assumption. As noted the Board only reviews a first instance's discretionary decision to establish whether discretion was exercised fairly and properly, and not to determine whether it would have decided differently on the facts. Nevertheless, it is open to the argument that a grossly and manifestly wrong assessment or misrepresentation of fact may impact on what is fair and proper. In the present case, whilst it may be so

that larger sized cleaners also collect small sized particles, this point of the decision, albeit in a slightly unclear way, appears intended to contrast the "*typical constructions*" of hand-held cleaners of the specification with those of D9 and D13. The minutes (point 6) indeed confirm that structural features were discussed. Therefore, contrary to what the appellant has argued, the division appears to have reached their decision by considering structural features of cleaners disclosed in D9 and D13.

4.5 In view of the above, the Board is not convinced that the division exercised its discretion in an unreasonable way or according to the wrong principles, nor does it consider that that exercise was based on a manifestly wrong technical assumption. For these reasons the Board confirmed the division's decision under Article 114(2) EPC not to admit D9 and D13 into the proceedings.

5. Novelty

5.1 Novelty with respect to D5

5.1.1 It is common ground that D5 discloses a hand-held portable vacuum cleaner. As can best be seen in figure 1 it has a housing (main body 1) with a handle 15, a detachable dirt cup with an inlet (dust box 11 with inlet 12) and a pleated filter (20). The filter is disposed between an impeller (blower fan 4) and the inlet. The vacuum cleaner also indisputably has a filter cleaning device coupled to the housing (dust removal unit 34). It comprises a T-shaped dust removing lever 35, and L-shaped handle 39. When the handle 39 is turned, the ends 37 of the T-shaped portion's arms 36 rotate with respect to the filter pleats, thereby

vibrating them to dislodge dirt (see translation, page 4, first paragraph and page 5, lines 3 to 16).

5.1.2 Thus the question of novelty vis-à-vis D5 hinges on whether, as argued by the appellant, the central part 38 of the T-shaped lever 35 is a hub and the arms 36 with end portions 37 are ribs.

5.1.3 Giving the term *hub* its normal meaning, the Board holds that the skilled person will understand it to mean the central part of a wheel. Nothing in the patent suggests a different interpretation. According to the specification paragraph [0033], with reference to figure 12, the hub 304 is the inner part of the wheel 300. The fact that the wheel 300 is not mounted on an internal shaft does not render its central part any less a hub, as the appellant has suggested, since the central part of a wheel is always a hub, irrespective of whether or not it is mounted on a shaft.

5.1.4 D5 does not disclose a wheel. The Board holds that in the absence of a wheel there can be no hub. The central part of the T-shaped lever 35 that supports the arms 36 is therefore a shaft 38, but not a hub in the normal sense of that term. For this reason alone, the subject matter of claim 1 is new with respect to D5.

5.1.5 Turning now to the feature *rib*, the Board holds that, giving the word rib its normal meaning, the skilled person understands it to be a raised strip or ridge. Nothing in the patent suggests otherwise: as for example shown in figures 18 and 19, ribs 436 are elongated strips raised with respect to the inner surface of a prefilter 412.

5.1.6 Nothing in D5 suggests the arms of the T-shaped lever 35 are ribs. They are described in the text as arms (page 4, line 8), suggesting them to be thin stick-like appendages rather than ridges or strips. Figure 2 confirms them to be thin, drum-stick shaped rods rather than strips or ridges. The subject matter of claim 1 therefore also differs from D5 in the feature *rib*.

5.1.7 In conclusion, the Board finds the subject matter of claim 1 to be novel over D5, Articles 52(1) and 54 EPC, and thus confirms the finding of the decision under appeal in this respect.

5.2 Novelty with respect to D6

5.2.1 It is also common ground that document D6 discloses a vacuum cleaner with a filter cleaning mechanism. The main components can be seen in figure 1 and are described in the translation of D6 in the paragraph bridging pages 2 and 3. The vacuum cleaner has a housing 1 with a handle shown at the top. Air is drawn into a detachable dirt cup (dust collecting box 5) via an inlet 6. A cylindrical pleated filter 8 is disposed between an impeller (electric blower 2) and the inlet.

The cleaner also has a filter cleaning mechanism: As described at the bottom of page 2, the filter 8 can be rotated by the coil wind up via a clutch 11, small gear wheel 12 and large gear wheel 13. Both gears are wheels with central portions, therefore they both have hubs and these are coupled to the filter 8 via the central shaft 15. As the filter rotates it hits an element 24 which vibrates the pleats to dislodge dirt (page 3, last 7 lines, and figure 3). As can be seen in figures 1 and 3 the element 24 is a thin strip with a base

fixed to the pre-filter 9. It therefore falls under the normal definition of a rib (see above section 6.1.5).

5.2.2 The appellant argues that the vacuum cleaner is furthermore hand-held and portable since it has a handle and is designed to be carried around in use for example when cleaning stairs.

5.2.3 The Board disagrees. In the context of vacuum cleaners, the term hand-held portable has a well defined meaning for the skilled person. In his understanding, it defines a distinct class of cleaners, designed to be held in the hand like a wand when cleaning. It is therefore compact with no wheels. This is also borne out by the specification of the present patent where the vacuum cleaner described is employed held in a single hand (paragraphs [0007] and [0023]), and has a wand-like body with no wheels (figures 1 and 2).

5.2.4 Given this understanding, the skilled person does not see the vacuum cleaner of D6 as hand-held and portable but rather as a full-sized cleaner normally pulled across the floor on its wheels when used. The handle at the top of the machine with its two apertures (figure 1) could be used for lifting the machine from the floor with two hands, but not single-handed manipulation of the cleaner as a wand. Lastly the cable coil wind-up unit (translation page 2, last 5 lines) is a feature normally associated with full size vacuum cleaners, not hand-held portable cleaners. That the user of the cleaner of D6 might be able to hold it by hand whilst cleaning stairs for example is irrelevant, as the skilled person, and indeed also any normal consumer, would still consider it primarily for use on the floor.

5.2.5 From the above, the Board concludes that document D6 does not disclose a hand-held portable vacuum cleaner. It thus confirms the finding of the impugned decision in this respect, see reasons 5.5. The Board therefore holds the subject matter of claim 1 to be new with respect to D6, Article 54(1) EPC.

6. Inventive step

6.1 The appellant has challenged inventive step starting from D5 with general knowledge, D3 or D6 and starting from D6 with general knowledge or with D5.

6.2 Starting from D5

6.2.1 Following on from the findings of the Board with respect to novelty of granted claim 1, its subject matter is seen to differ from D5 in respect of the filter cleaning device comprising *at least one rib* and a *hub*.

6.2.2 The specific technical effects of the hub and rib components of the filter cleaning mechanism claimed appear to be the same as those of the T-shaped bar shown in D5 figure 1. In the patent the hub is said to be coupled to one of the filter and rib and to rotate the one or the other (claim 1 and paragraph [0008]), whilst the rib vibrates the pleats of the filter, paragraph [0053]. Likewise in D5 the central shaft of the T-shaped bar is coupled to and rotates the drum-stick shaped arms 36, 37 which vibrate the filter pleats to dislodge dirt (page 5, line 3 to middle of page).

Consequently, vis-a-vis D5, the Board infers the objective technical problem to be to modify the hand-

held portable cleaner of D5 to provide an alternative filter cleaning mechanism.

6.2.3 The appellant has argued that the skilled person would replace the shaft of the T-shaped bar with a hub coupled to ribs as a matter of obviousness. The Board disagrees. D5 teaches to mount the central shaft in a narrow through-hole 33 and to turn this using an L-shaped handle 39 (figure 1, translation page 4 , line 5 until the end of the paragraph). Replacing the central shaft with a hub would also entail replacing the narrow through hole with a new mounting arrangement for supporting a hub not a shaft. Likewise the L shaped handle, attached to and arranged to turn the central leg would need to be replaced by some means of driving the hub. Finally, to arrive at the invention the skilled person would also have to replace the arms of the T-shaped bar with ribs. In short, replacing the shaft with a hub and the arms with ribs would require the skilled person to completely redesign the filter cleaning mechanism. In the absence of any hint as to how to do this, far from being routine, this requires skills and abilities exceeding those of the skilled person.

6.2.4 The appellant has also argued that the skilled person would combine the teachings of D5 with D3 or D6 in order to solve this problem. The Board disagrees.

D3 and D6 disclose full-size vacuum cleaners that roll on wheels and both have filter cleaning mechanisms in which filter pleats are vibrated to remove dirt (D3, figures 1 and 2, elements 46 are mounted on a hub 45 to vibrate filter pleats; D6 paragraph bridging pages 3 and 4 and figures 1 and 3, filter 8 is rotated by the

hub of gear wheel 13 whilst the element 24 vibrates the pleats).

The Board holds that the different design constraints and resultant differences in internal layouts in hand-held, portable vis-à-vis full-sized vacuum cleaners means that it is far from straightforward for the skilled person to transplant the alternative filter cleaning device of the full-sized vacuum cleaner of D3 or D6 to the hand-held, portable cleaner of D5. This would involve considerable adaption in scale and form.

For example, the cleaning mechanisms in D3 and D6 are powered by the internal cable winding drum (or an additional motor in the case of D6) via complex geared transmission arrangements (D3, figure 1 references 20 and 54; D6 figure 1, clutch 11 and gear wheels 12 and 13 and page 2, last 6 lines and page 3, first 5 lines).

The Board holds that such large and complex arrangements would neither physically fit nor be mechanically compatible with the simple transmission arrangement of D5 (see figure 1) without a complete redesign of the cleaner. Such a redesign would require for example the provision of a cable winder, a feature not normally present in hand held portable cleaners, let alone that of D5. In as far as such a redesign would not already deter the skilled person from combining the teachings, the Board considers the necessary redesign to go beyond the ordinary skills of the skilled person. The alternative of abstracting filter and cleaning element in isolation from the driving mechanism, in the Board's view also goes beyond routine skills. This is so for D6 where the arrangement of rib and hub outside the filter is quite different from that of the rotating T inside the filter in D5

(see also 6.3.3 below). Also considering D3 - leaving aside the question whether elements 46 are indeed ribs (see figure 1) - the design of the hub support with integrated bevel gear would require considerable ingenuity to transpose and adapt it to the simple manual drive of D5. For these reasons the skilled person would dismiss the alternative filter cleaning mechanisms of D3 and D6 as being incompatible with D5.

6.3 The appellant has also argued against inventive step starting from D6 in combination with the skilled person's general knowledge or the teaching of D5. Considering the Board's findings regarding novelty of claim 1 vis-à-vis D6, its subject matter is seen to differ in respect of the cleaner being a hand-held portable cleaner.

6.3.1 The objective technical problem could then be seen as adapting the vacuum cleaner of D6 for hand-held portable use. The Board holds that, given the constraints of size and weight, any such adaptation of a full-sized vacuum cleaner to hand-held portable would require a complete redesign of the machine. The shape of the cleaner of D6, with its wide body that rolls along the floor on wheels and its two handles for picking it off the floor would not lend itself to hand held operation as a wand, even if shrunk in size.

6.3.2 Thus, even if the skilled person were to start from D6, which the Board considers unlikely, he would not arrive at the subject matter of claim 1 in an obvious manner. As explained above, merely shrinking the machine would not provide a hand-held portable machine: a different handle and weight distribution would likely be required, necessitating redesigning and arranging its internal components. Furthermore the coil rewind would

not be compatible with such a hand-held machine, it would likely need to be replaced by battery packs or an external mains cable. This in turn would mean that the driving mechanism for the filter cleaning arrangement would no longer be available, so a different filter cleaning mechanism would have to be provided. In short, modification of the device of D6 to make it hand held and portable implies such a fundamental redesign that it is mere speculation and thus not obvious that the particular features of the filter cleaning mechanism of *hub* and *rib* would be retained in such a redesigned cleaner as the appellant has argued.

6.3.3 Nor is the Board convinced that the combination of the teachings of documents D6 with D5 would lead to the subject matter of claim 1.

The filter cleaning devices disclosed in D6 and D5 are fundamentally different. In D6 dust is collected outside the filter and the filter cleaning device rotates the filter 23 about a stationary rib 24 located outside the filter (figure 1). In contrast thereto the cleaner of D5 collects dust in the interior of the filter 19 and the filter is stationary whilst arms 36, 37 of the filter cleaning device rotate inside the filter. In the Board's view the skilled person would be unlikely to combine aspects of such disparate teachings in a new hybrid filter cleaning device. Such a combination goes well beyond the routine skills of the skilled person and is therefore far from obvious.

6.4 In conclusion, the arguments presented by the appellant fail to demonstrate a lack of inventive step of the subject matter of claim 1 as granted. The Board therefore agrees with the findings of the impugned decision in this respect.

7. In the light of the above, the Board confirms the opposition division's decision to reject the opposition, Article 101(2) EPC. Thus there is no need for the Board to consider the respondent's auxiliary requests.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

G. Magouliotis A. de Vries

Decision electronically authenticated