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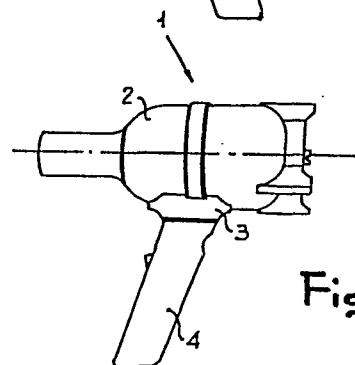
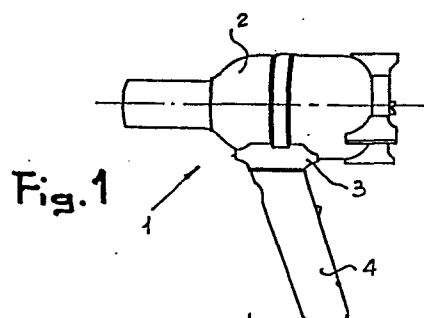
⑤④ **Improved hair-drier with inclined and revolving handle for professional and personal use.**

⑤⑦ The present invention relates to an improved type hair-drier (2) with slant and swing handle (4) which can be employed for professional as well as for personal use.

When employed for professional use, the handle (4) is slanted in the rearward direction to provide a correct direction of the hair blow; by contrast, when employed for personal use, the handle is requested to be slanted in the forward direction, which provides the correct slope of the blowing body.

In the hair-drier of the present invention, the handle is formed by a small saddle-shaped base (3) which is an integral part of the central blowing body (2) of the appliance and a slant handle (4), pivoted under the base.

On the plane of the hangrip facing the saddle-shaped base, a semicircular groove (10) and a few hemispheric seats (12) are cutted to allow a rotation of 180° of the handle and its fastening in the different possible positions.



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IMPROVED HAIR-DRIER WITH INCLINED AND REVOLVING HANDLE  
FOR PROFESSIONAL AND PERSONAL USE

The present patent relates to a hair-drier with a slant and swing handle which, because of the particular disposition and structure of its parts, can be employed for professional as well as for personal use.

5 The hair-drier is one of the most common appliances found in every home. In the past few years good quality hair-driers are found even in private houses, whereas before they were found only in places where they were used for professional work. As a consequence of this, the production of hair-driers has become highly standaridized.

10 However, now that the power and the sturdiness of the hair-driers have become standard for private as well as for professional use, what is required from the appliance is to have a different handle or handgrip according to the different work situations. In the professional situation, in order to improve on its correct and less tiring regular use by an operator who is standing when drying hair

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of a seated person, the hair-drier's handle is advantageously slanted in the rearward direction so that the air blows towards the hair. By contrast, in the personal use, the air from the hair-drier blows towards the head  
5 of the person who handles it with the arm. In this case, it has been found to be more convenient to have the hair-drier's handle slanted in the forward direction because, by holding it vertically, the air blows towards the hair. The available hair-driers either have a handle perpendicular to the blowing body, thus satisfying the requirement of both types of possible users, or they are built  
10 in two different types with the handle slanted in opposite directions. In the case, of course, there are the disadvantages of double production and inventory.

15 The present invention avoids the abovementioned drawbacks and limitations of the conventional appliance. In particular, the present invention provides a hair-drier with a handle that rotates around a pivot so that it can be used by the professional as well as by other persons.

20 According to the present invention there is provided a hair-drier including a blowing body and handle which is adapted to axially rotate through an arc of  $180^{\circ}$  and is slightly slanted relative to the perpendicular to the blowing body, so that it slants in the forward direction  
25 when the hair-drier is employed for personal use and in

the rearward direction for professional use.

Thus, in the hair-drier of the present invention, the handle is formed by a small saddle-shaped base, which is an integral part of the central body of the appliance, and the handle per se slants and pivots under the base. In one embodiment of the present invention, on the plane of the handgrip facing the saddle-shaped base, a semi-circular groove is cut in which a pin is engaged extending from the lower plane of such saddle-shaped base.

Whenever the handle is turned for a rotation of up to 180°, the pin runs within the groove.

Moreover, on the plane of the saddle-shaped base facing the handle a few hemispheric seats are grooved along a half-circle where a small spring-loaded sphere protruding from the plane of the handle itself during the rotation of the handle.

The present invention will be further illustrated by way of example which reference to the accompanying drawings, in which: -

Fig. 1 is a side elevation of a hair-drier for professional use according to one embodiment of the invention;

Fig. 2 is a side elevation of the hair-drier of Fig. 1 for personal use;

Fig. 3 is an exploded view of the hair-drier of Figs. 1 and 2; and

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Fig. 4 is detailed view of the coupling between saddle-shaped base and handgrip on the hair-drier of Figs. 1 and 2.

The Figures show in its generality the hair-drier according to the invention, which comprises a central part represented by the blowing body 2, a saddle-shaped base 3 of the handle which is conventionally connected to body 2, and the handgrip 4 per se which is connected to base 3 by pivot 5. Pivot 5 has the functions of maintaining the saddle-shaped base 3 and handgrip 4 together and, at the same time, being the fulcrum for the hand-grip rotation. The connection between base 3 and handgrip 4 must be sufficiently tight to give reliable use of the hair-drier and at the same time allow for a smooth rotation of the handle 4. This is achieved by the particular way pivot 5 is mounted onto the base and the handle. On base 3, pivot 5 is mounted from the top and held there by its head 5', whereas in the handle 4 it is held by a coaxial screw 8 which engages the pivot 5 in its hollow and internally threaded lower part. Screw 8 is provided with a washer that holds a spring 6 loaded against the plate 4' of the handgrip so that a force is present that keeps the two plates 3' and 4' in abutment. Pin 9 extending from plate 3', when this is in contact with plate 4', runs within groove 10 until, after a rotation of 180° one way or the

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other, it encounters walls 10' and 10" that act as a stop, thus avoiding entanglement of the wires 13, which cross the same groove 10, with the risk of breaking.

During the rotation of the handgrip a spring-loaded sphere 11 extending out of plate 4' falls into a series of hemispheric seats 12 recessed in plate 3' and located on a semicircle.

In this way, one obtains a stable rotational positioning of the handgrip relative to the whole body of the hair-drier.

What we claim is:-

1.- A hair-drier including a blowing body and handle which is adapted to axially rotate through an arc of 180° and is slightly slanted relative to the perpendicular to the blowing body, so that it slants in the forward direction when the hair-drier is employed for personal use and in the rearward direction for professional use.

2.- A hair-drier according to claim 1, in which the handle comprises a saddle-shaped base which is an integral part of the blowing body and a slant handgrip pivoting over said base.

3.- A hair-drier according to claim 2, in which on an upper plate of the handgrip facing the saddle-shaped base, a semicircular groove accommodates the end of a pin extending from a lower plate of the saddle-shaped base, said pin being arranged to move within the groove when the handle is rotated by up to 180°.

4.- A hair-drier according to claim 3, in which on the lower plate of the saddle-shaped base, a plurality of

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hemispherical seats sequentially disposed around a semi-circle engage a spring-loaded sphere extending from the upper plate of the handle on rotation of the handle.



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Fig. 1

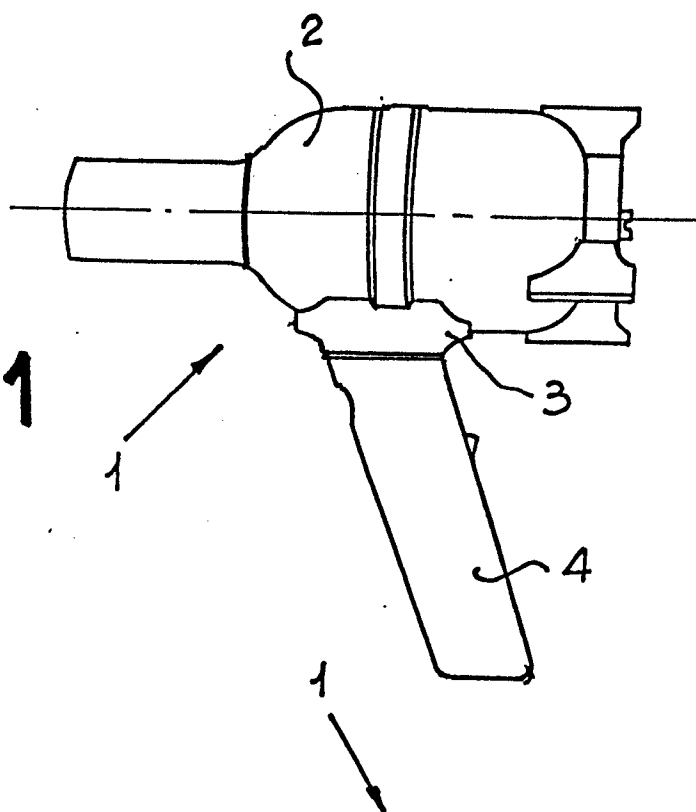
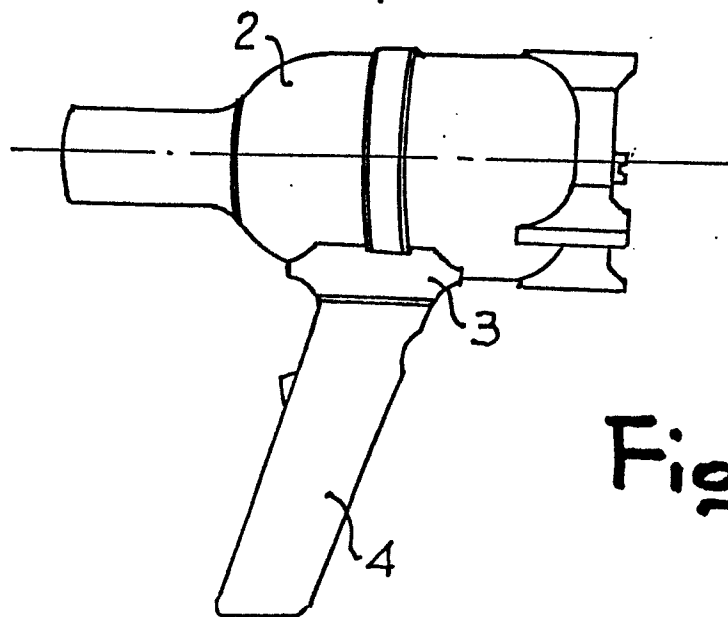


Fig. 2



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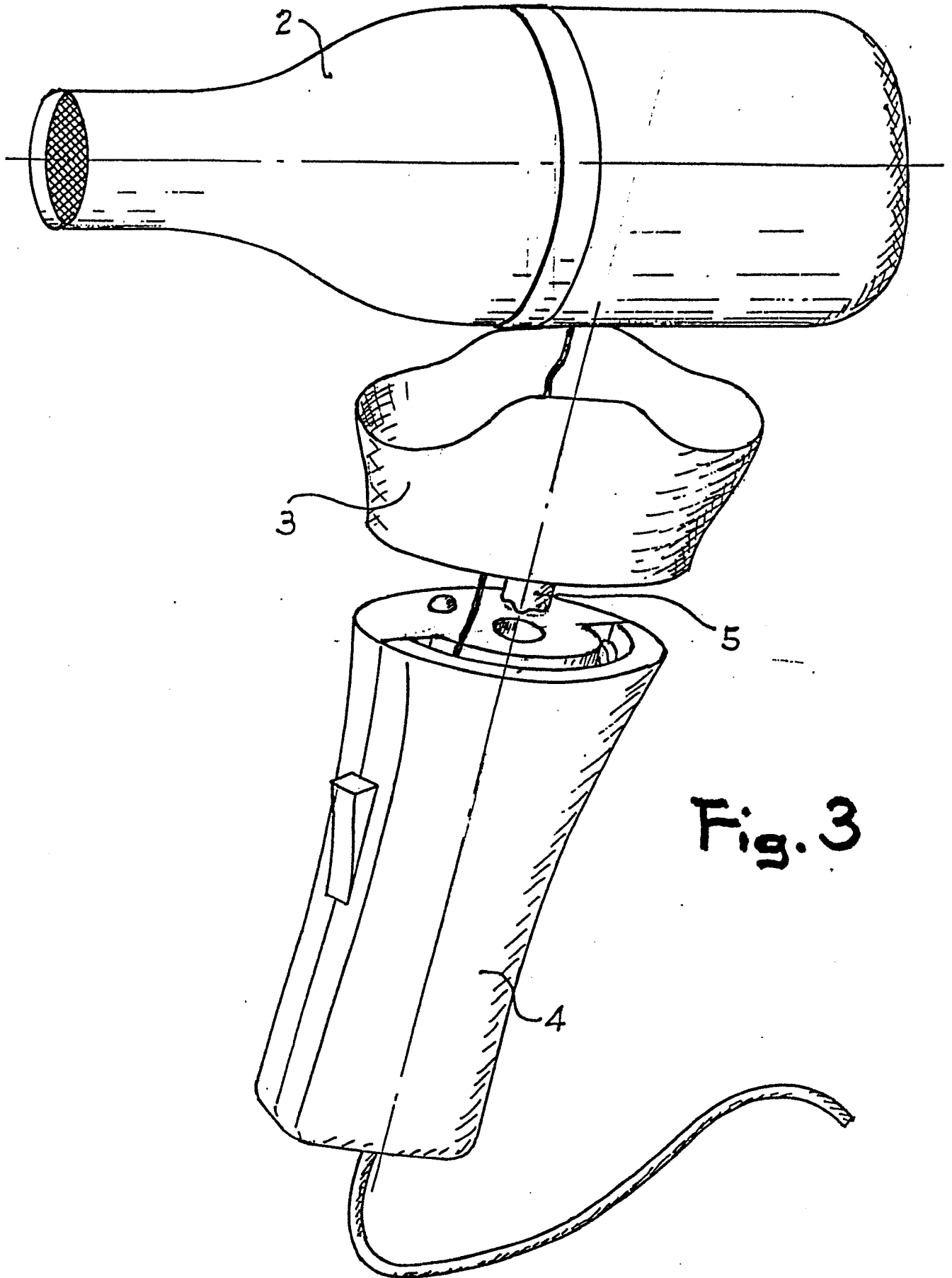
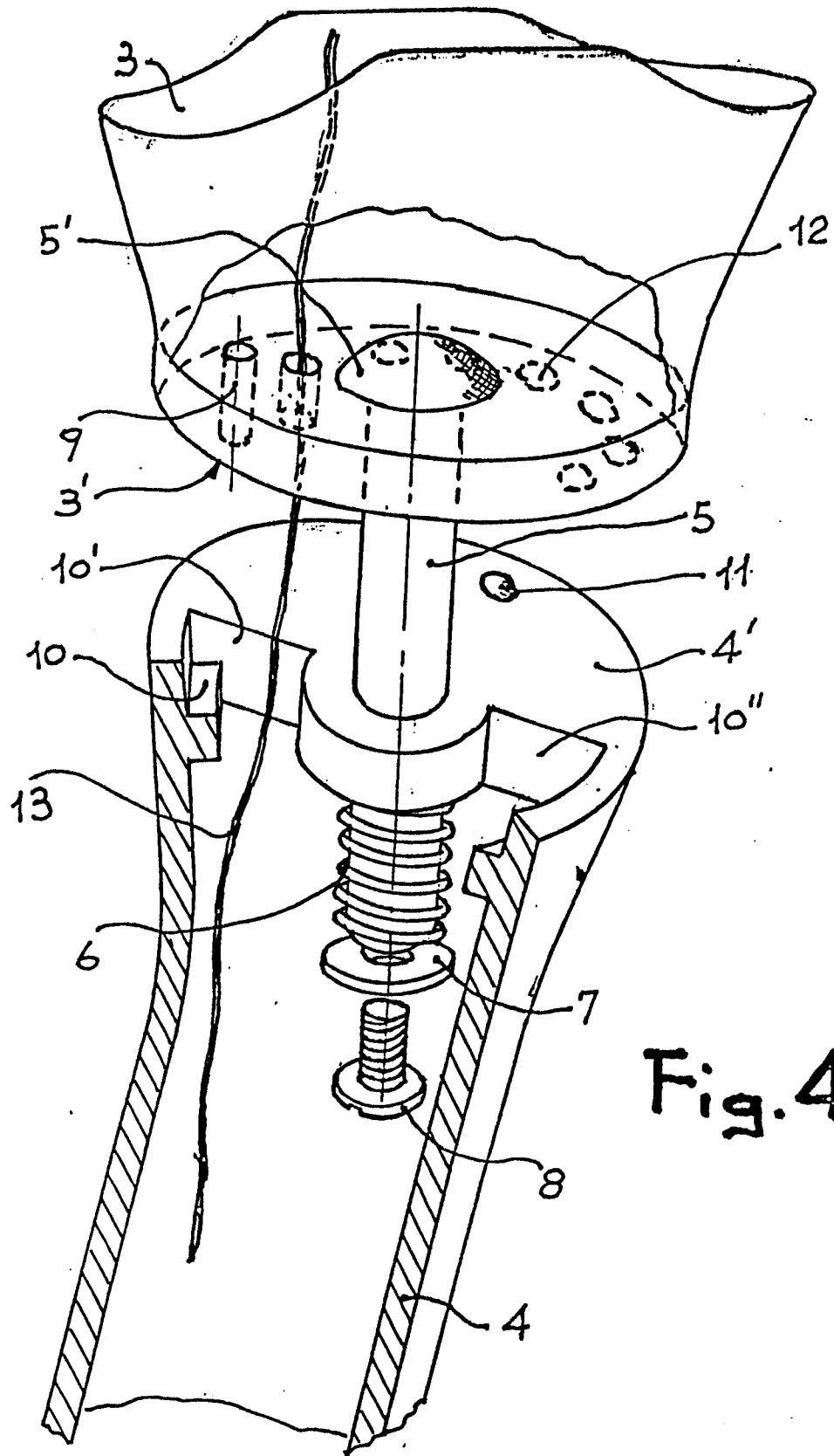


Fig. 3





European Patent  
Office

# EUROPEAN SEARCH REPORT

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Application number

EP 84 83 0221

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
A	US-A-4 198 558 (BENTY) * Column 5, line 22 - column 6, line 46; figures 1-5 *	1,3	A 45 D 20/12
A	DE-A-2 528 478 (LICENTIA PATENT-VERWALTUNGS-GmbH) * Figure 1 *	1	
A	FR-A-2 262 498 (ROTEL) * Page 2, lines 5-17; figures 1,2 *	1,4	
A	US-A-4 097 883 (ADAMSKI) * Column 2, line 24 - column 3, line 15; figures 1-6 *	2,3	
A	PATENTS ABSTRACTS OF JAPAN, vol. 3, no. 20 (M-49), 20th February 1979, page 28 M49; & JP - A - 53 143 453 (SHARP K.K.) 13-12-1978	3	TECHNICAL FIELDS SEARCHED (Int. Cl. 4)  A 45 D G 03 B
A	GB-A-1 550 031 (APPLIANCE DESIGN PROBE) * Figure 1 *	4	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12-03-1985	Examiner SIGWALT C.
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			