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(12) # EUROPEAN PATENT APPLICATION

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(54) **Arrangement in a surface treating apparatus.**

(57) In contrast to prior known surface treating apparatus such as polishers, in which a wax container arranged in the lower part of the apparatus with the aid of a manually actuable valve is openable for supply of wax to the work surface, in the present invention a wax container (16, 17) is suggested which is placed in an encloser (15) of the operating shaft of the apparatus out of which container with the aid of a push button (20) on the handle (19) of the operating shaft (11) the medium can be supplied to the work surface.

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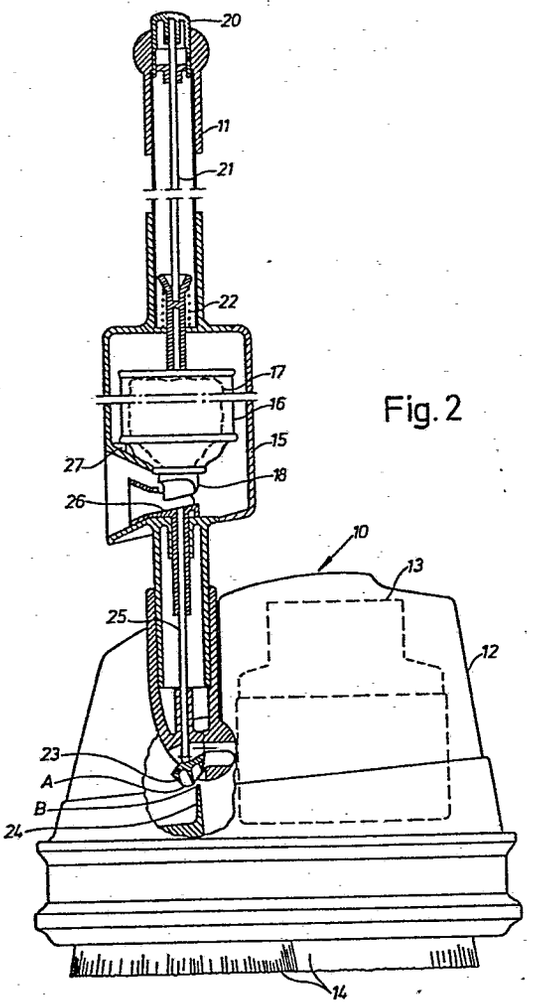

Fig. 2

Arrangement in a surface treating apparatus

The present invention relates to a surface treating apparatus, preferably a polisher of the sort comprising a lower apparatus portion having at least one brush driven by an electric motor for treatment of a work surface and an operating shaft swingably arranged in relation to the apparatus portion.

In prior known apparatus of the above sort the wax container was often located in the apparatus portion and the medium was dispensed onto the work surface by actuating a discharge valve. This was rather unconvenient for the user, who had to bend down in order to open the valve. The object of the present invention is to eliminate this drawback and for this purpose it is characterized in that an enclosure located on the operating shaft incorporates an outer stiff container and an inner flexible container having wax inside, whereby the space between both containers is filled by suitable gas under pressure for expelling polishing wax through a valve adapted in the inner container.

One embodiment of the invention will be described in the following with reference to the acompanying drawing, whereby other characteristic features and advantages of the invention will be obvious. Fig. 1 is a perspective view of the polisher, Fig. 2 shows a longitudinal section through the operating shaft and a cut-off portion of the lower apparatus portion and finally Fig. 3 is a partial section through the shaft when wax dispensing onto the work surface takes place.

The polisher, as a hole designated by 10, consists of an operating shaft 11 and an apparatus portion 12 movable on the work surface. An electric motor 13 indicated by dashed lines and located in the apparatus portion 12 drives a number of brushes 14. In a known manner the operating shaft is swingably mounted in the apparatus portion 12 and supports a closure 15 incorporating a stiff container 16 and inside the container a flexible container 17 for example of plastics

containing polishing wax. A part of the closure wall 15 is removable for inserting the container 16. The space between the container 16 and the flexible container 17 is filled by suitable gas under pressure, such as nitrogen for expelling polishing wax through a valve 18 adapted in the inner container 17.

In its free end the operating shaft has a handle 19 and a button 20 which via a push rod 21 is in connection with the upper side of the container 16. A spring 22 holds the button 20 in its upper, non operative position.

In the lower part of the operating shaft a cam surface 23 is arranged excentrically in relation to its turning centre said cam surface during movement of the shaft co-operating with a protrusion 24 firmly arranged in the apparatus portion 12. A rod 25 movable inside the operating shaft 11 bears with its lower end against the cam surface 23 and in its upper end support a funnel shaped contact surface 26. A stop surface 27 adapted on the inside of the enclosure (15) holds the container in place in vertical direction within the enclosure 15.

The device functions in the following way. As long as the operating shaft forms an angle of inclination exceeding approximately 45^{o} in relation to the work surface, the distance between the outlet valve 18 and the contact surface is so large so that actuating the container 16 by means of button 20 and push rod 21 has no effect, as evident from Fig. 2.

If the operating shaft has obtained an angle of inclination, which is less than 45^{o} in relation to the work surface the portion designated by "A" in Fig. 2 of the cam surface during its swinging movement has come into contact with the top "B" of the firm protrusion as evident from Fig. 3, whereby rod 25 and contact surface 26 has been moved against the under side of the outlet valve. When in this position button 20 is pressed down against the force of spring 22 the valve 18 is pressed against the contact surface 26, which now is within reach and due to the gas pressure polishing wax is expelled out of the container 17 onto the work surface.

In this way dispensing of polishing wax is presented as long as the operating shaft is not in its working position, which otherwise would cause inconveniance, e.g. in the form of soiling the cloths worn by the user etc. The circumstance that polishing wax all the time is separated from the propelling gas guarantees that only wax is supplied to the work surface. Enviromental effects such as non desirable bi-odours are thus eliminated.

The embodiment is only meant as an example and does not limit the same to any extent. It should be obvious that several modifications are possible within the scope of the invention as stipulated in the following claims.

Claims

1. Surface treating apparatus, preferably a polisher of the sort comprising a lower apparatus portion having at least one brush driven by an electric motor for treatment of a work surface and an operating shaft swingably arranged in relation to the apparatus portion, c h a r a c t e r i z e d in that an enclosure (15) located in the operating shaft (11) incorporates an outer stiff container (16) and an inner flexible container (17) containing polishing wax, whereby the space between both containers (16, 17) is filled by suitable gas under pressure for expelling polishing wax through a valve (18) adapted in the inner container (17).

2. Apparatus according to Claim 1, ch a r a c t e r i z e d in that means are arranged in the apparatus portion (12) and the operating shaft (11), through which during the movement of the operating shaft from its vertical position in relation to the work surface the container can be actuated so that at a certain angle of inclination between the operating shaft (11) and the work surface the outlet valve of the container (17) is openable for supply of polishing wax to the work surface.

3. Apparatus according to Claim 2, c h a r a c t e r i z e d in that the outlet valve (18) starts to open when the angle between the operating shaft (11) and the work surface is about 45^{o}.

4. Apparatus according to Claim 2, c h a r a c t e r i z e d by a cam surface (23) in the lower part of the operating shaft (11), excentrically arranged in relation to its centre of swinging, said cam surface during the swinging movement of the shaft co-operating with a protrusion (24) firmly adapted in the apparatus portion (12).

5. Apparatus according to Claim 4, c h a r a c t e r i z e d in that a rod (21) with its lower part bears against the cam surface (23) and in its upper end supports a contact surface (26) which during the movement of the shaft is movable against the outlet valve (18) of the container (17).

6. Apparatus according to Claim 2, c h a r a c t e r i z e d in that in the free end of the operating shaft (11) a handle (19) and a push button (20) are arranged which when actuated via a push rod (21) press the outlet valve (18) of the container (17) against the contact surface (26) and in this way opens the outlet valve for supply of polishing wax to the work surface.

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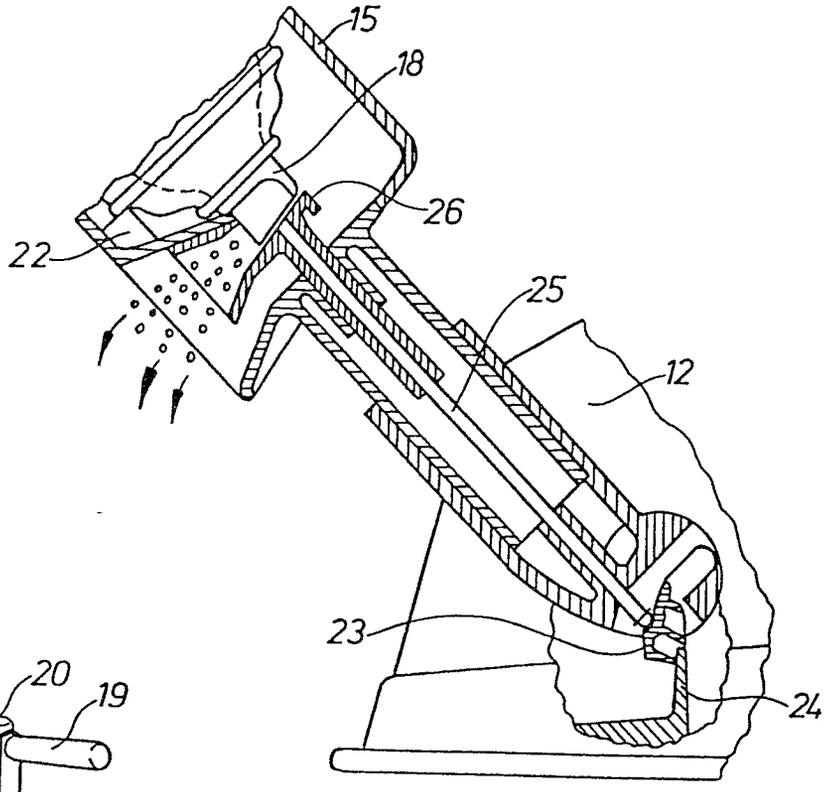

Fig.3

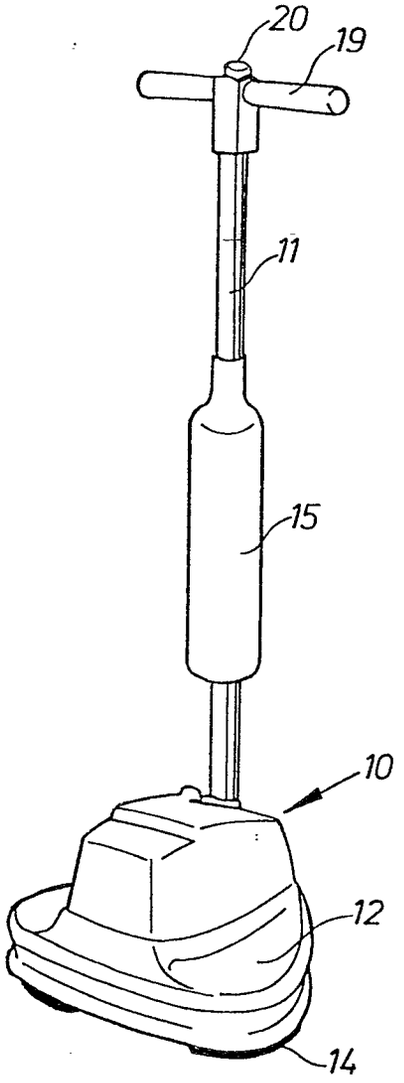

Fig.1

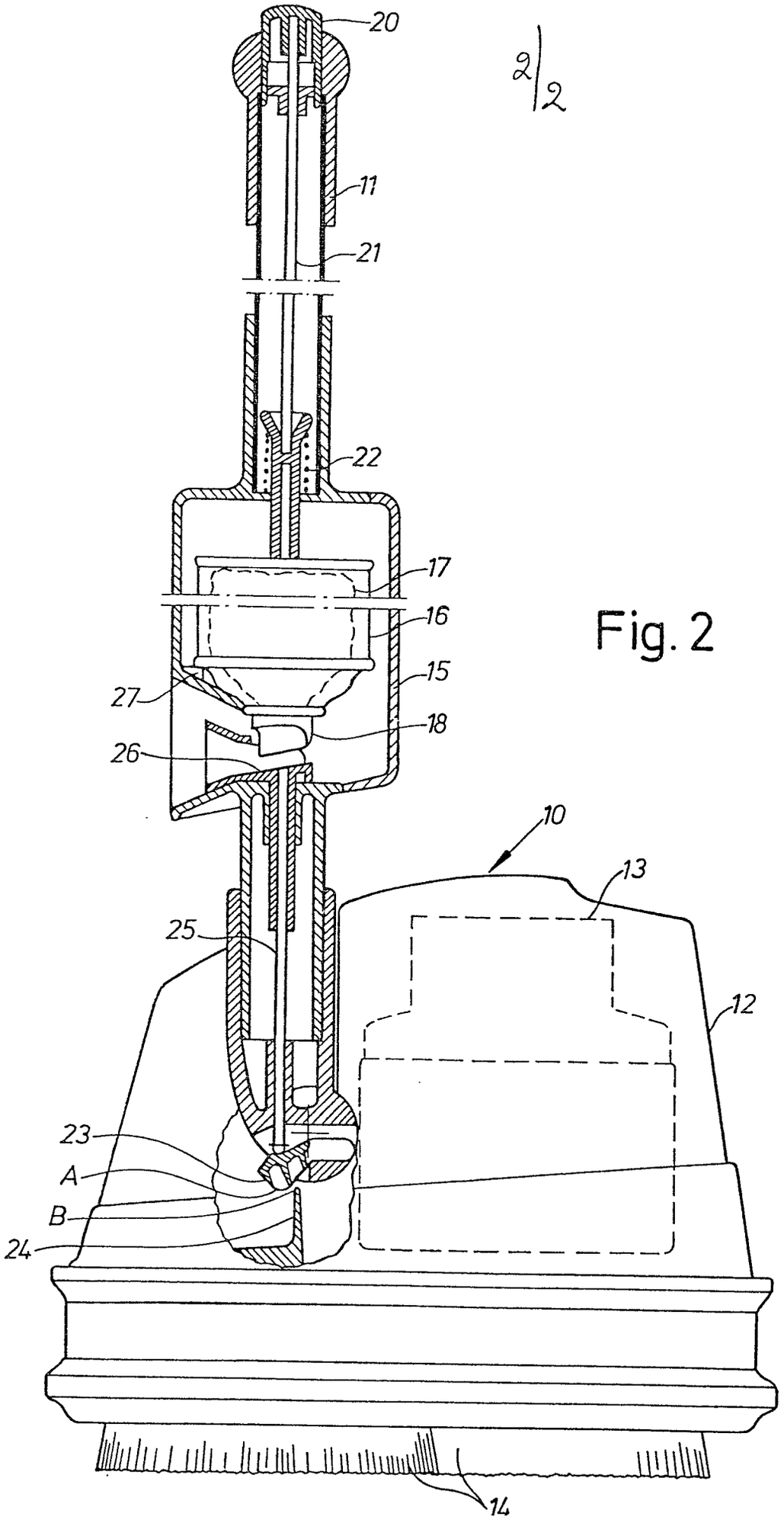

Fig. 2

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European Patent Office

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EP 81 85 0030

EUROPEAN SEARCH REPORT

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
	FR - A - 1 333 073 (SCHOCH G.) * page 1, figures 1-5 *	1
A	DE - B - 1 168 030 (BISSEL A.G.) * column 3, lines 24-54; figures 4-6 *	6
A	FR - A - 782 327 (SVETLIK M.) * page 2; figure 2 *	2

CLASSIFICATION OF THE APPLICATION (Int. Cl.³)

A 47 L 11/16
13/26

TECHNICAL FIELDS SEARCHED (Int. Cl.³)

A 47 L

CATEGORY OF CITED DOCUMENTS

X: particularly relevant
A: technological background
O: non-written disclosure
P: intermediate document
T: theory or principle underlying the invention
E: conflicting application
D: document cited in the application
L: citation for other reasons

&: member of the same patent family, corresponding document

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	22-06-1981	MUNZER