Jan. 18, 1966 C. E. WATTS 3,229,321

RECORD CLEANING DEVICES

Filed Aug. 22, 1963

Fig. 1.

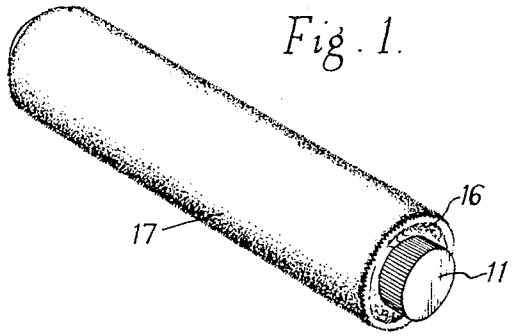


Fig. 2.

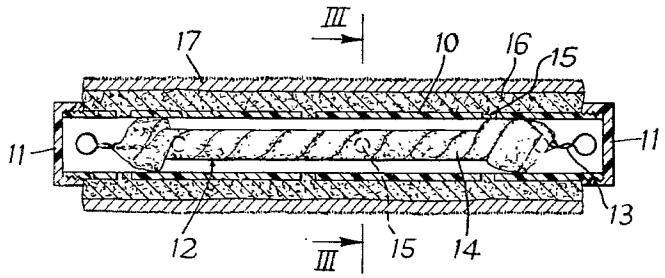
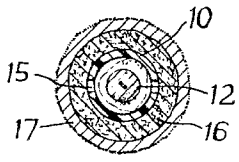


Fig. 3.



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RECORD CLEANING DEVICES

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8 Claims. (Cl. 15—506)

The present invention relates to record cleaning devices such as are used for removing dirt from the surface of gramophone records and for applying antistatic agent thereto to reduce the build-up of electrostatic charges on the record surface.

In accorrance with the invention there is provided a record cleaning device including a closed tubular container enclosing an absorbent body adapted to hold water or other liquid, a sponge body surrounding the container, and a cover of plush material over the sponge body, the container being perforated to allow the passage of moisture from the absorbent body within the container into the sponge body.

While the device may be used merely as a substitute for the damp cloth or sponge sometimes used at present for cleaning the record surface, the sponge body and plush cover are preferably impregnated with an antistatic agent. Transfer of this antistatic agent to the record surface cannot be detected and it may be that it only serves to facilitate the removal of dirt and dust from the surface by the device. A very small amount of the antistatic agent may be transferred to the record surface and this will help to disperse any accumulation of static charge on the surface.

In the place of water a solvent for the antistatic agent may be used on the absorbent body in cases where it is desired to apply a quantity of antistatic agent to the record. Butyl alcohol is a suitable solvent in some cases.

By way of example one embodiment of the invention will now be described with reference to the accompanying drawing in which:

FIG. 1 is a perspective view of a device in accordance with the invention,

FIG. 2 is a longitudinal section of the device, and

FIG. 3 is a transverse section on the line III—III of FIG. 2.

In the device shown, the container has the form of a cylindrical tube **10** of rigid synthetic plastics material closed at each end by a screw-on cap **11**. Loosely disposed within the tube **10** is an absorbent body **12** formed of a polyether sponge material. The body **12** has a core formed of a piece of wire **13** doubled over and twisted with a strip of polyether foam or sponge material which is thus gripped between the turns of the twisted wire. Upon this core strips **14** of polyether sponge are wound helically and secured with adhesive or by heat and pressure. A loop of the wire **13** is left at each end of the core to facilitate removal of the sponge body **12** for moistening.

The cylindrical tube **10** has perforations **15** at intervals along its length and around is periphery. A sheet of polyether sponge material is wrapped around the outer surface of the tube **10** to form a sponge body **16** surrounding the container and over the sponge body **16** is a cover in the form of a sleeve **17** of nylon or other synthetic plush material. The synthetic plush material is a plush or velvet material composed wholly of one or more synthetic fibres and has numerous upstanding filaments which have sufficient stiffness to brush dirt out of the record grooves. The material is pervious to water and other liquids but does not absorb and hold it as would a material composed of natural fibres.

The sponge body **16** around the outside of the container tube **10** and the plush cover **17** are impregnated with an antistatic compound such as polyethylene glycol monlaurate 400 or nonionic antistatic agent comprising a fatty acid ester, for example that sold under the trade name "Glycosperse 020." In use the absorbent body **12** inside the container is saturated with water and the moisture permeates the sponge body **16**, which protrudes into the container through the perforations. The device is held radially against the surface of a record rotating on a turntable and removes the dirt from its surface. The moistness of the sponge body and the cover and the presence of the antistatic agent prevents any buildup of static charges due to friction with the record surface. Any moisture or antistatic agent transferred to the record surface during the cleaning operation assists in preserving freedom from charge accumulation during playing of the record but the amount of such transfer is extremely small and cannot interfere with tracking of the record grooves by a stylus as would larger amounts of waxy antistatic agent.

While not in use the device is conveniently kept in a sleeve of flexible synthetic plastics material which fits closely over the cover and has a cap attached to and fitting over each end. This enclosure of the device prevents loss of moisture and allows a uniform distribution of moisture to be established throughout the sponge body and cover.

It is not necessary that both the plush cover and the sponge body should be impregnated with antistatic agent. As stated above the device may be used without any antistatic agent. If antistatic agent is used either the sponge body or the cover may be impregnated before assembly of the device or both may be impregnated before or after assembly.

If for purposes of record treatment it is necessary to apply an appreciable quantity of antistatic agent to the record the absorbent body may be moistened with butyl alcohol or other organic solvent which will dissolve some of the antistatic agent and transfer it to the record surface.

I claim:

1. A record-cleaning device comprising:
a closed tubular container;
an absorbent body enclosed within said container;
a sponge body surrounding said container, said sponge body being impregnated with antistatic agent;
and a cover of plush material over said sponge body, said container being perforated to allow the passsage of moisture from liquid absorbed on the absorbent body within said container into said sponge body.

2. A device as claimed in claim 1 in which said plush cover is impregnated with antistatic agent.

3. A device as claimed in claim 1 in which said container is a rigid cylindrical tube having removable end caps.

4. A device as claimed in claim 1 in which said cover is of nylon plush.

5. A record-cleaning device comprising:
a closed tubular container;
an absorbent body enclosed within said container;
a sponge body surrounding said container;
and a cover of plush material over said sponge body, said cover being impregnated with an antistatic agent, and said container being perforated to allow the passage of moisture from liquid absorbed on said absorbent body within said contaner into said sponge body.

6. A device as claimed in claim 5 in which said container is a rigid cylindrical tube having removable end caps.

7. A device as claimed in claim 5 in which said cover is of nylon plush.

8. A record-cleaning device comprising:
a rigid cylindrical tubular container;
a removable end caps closing said container;
an absorbent body enclosed within said container;
a sponge body surrounding said container;
and a cover of nylon plush material over said sponge body, said sponge body and said cover being impregnated with antistatic agent and said container being perforated to allow the passage of moisture from liquid absorbed by said absorbent body within said container into said sponge body.

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CHARLES A. WILLMUTH, *Primary Examiner.*