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FLATTENING APPLIANCE FOR DISK RECORDS

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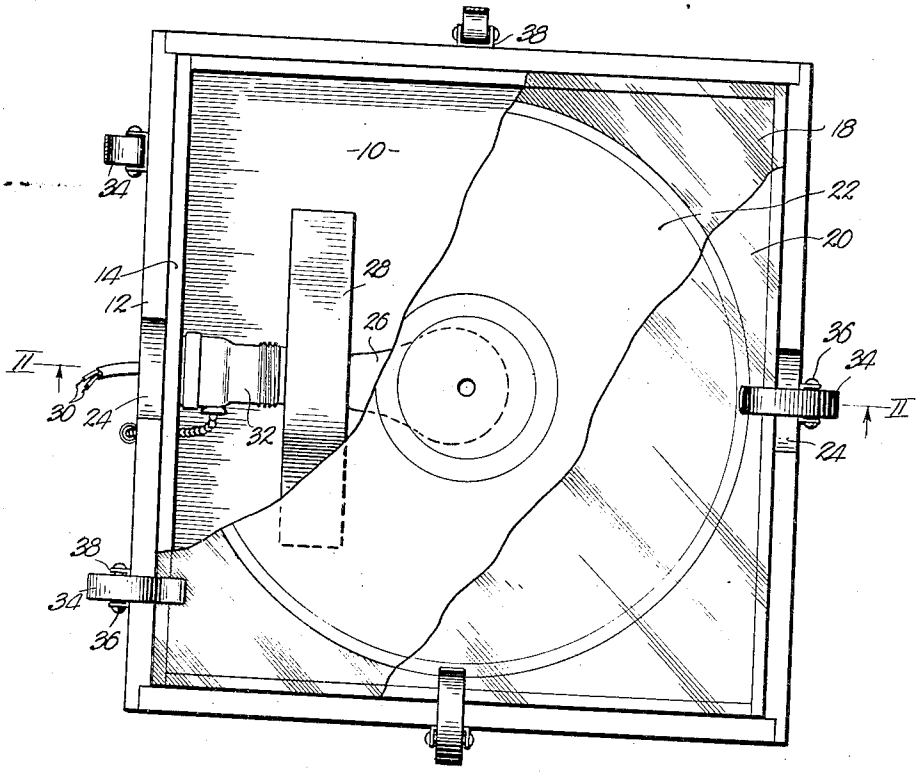


Fig. 1.

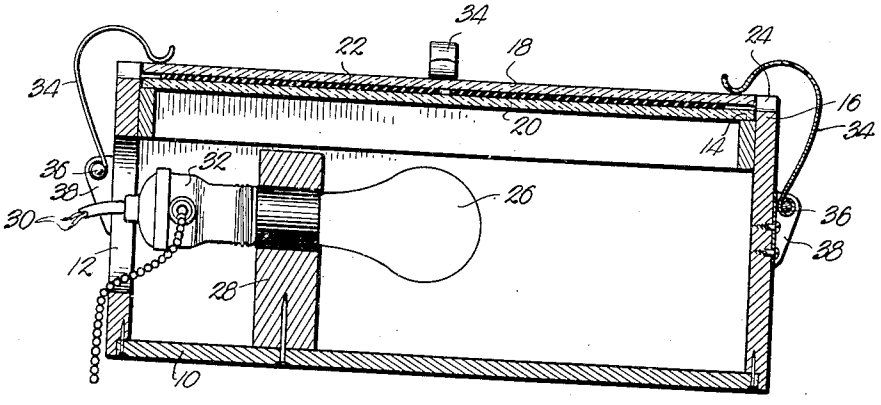


Fig. 2.

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FLATTENING APPLIANCE FOR DISK RECORDS

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3 Claims. (Cl. 18—5.3)

This invention relates to appliances and methods of flattening disk records of the type conventionally employed in phonographs or the like, and the primary aim is to provide equipment and steps in the manner of handling the same that will result in effectively, conveniently and quickly flattening disk records without injury thereto.

One of the important aims of the present invention is to provide a flattening appliance for disk records that may be used by the householder, without the necessity of acquiring an objectionable amount of skill, which may be in the form of a unitary appliance or combined with other instruments in a cabinet of the console type which forms an attractive piece of furniture.

A yet further aim of the instant invention is the provision of a flattening appliance for disk records of the aforementioned character, that is effective in operation, inexpensive to maintain, and is devoid of moving or other parts that might cause injury to the sound track of the record being treated.

This invention has for further aims to provide a disk record flattening appliance that has means for holding the record in the operative position; an element for generating heat at a particular point below the axis of the record; planar plates for applying pressure to the record as the same is rendered pliable through the action of said heat; and parts for increasing the pressure upon the two planar plates after the record has been flattened and during the time the same is allowed to cool.

A large number of minor objects of this invention will appear during the course of the following specification, referring to the accompanying drawing, wherein:

Fig. 1 is a top plan view of a flattening appliance for disk records, made in accordance with the present invention; and

Fig. 2 is a vertical central sectional view through the appliance, taken on line II—II of Fig. 1, and looking in the direction of the arrow.

The problem with which most users of disk records are familiar, is the inability to maintain the records flat and therefore, the failure of the automatic record playing equipment to handle said records when the same have become arched or otherwise distorted due to heat or other factors which render the same in an objectionable condition so far as a planar body is concerned.

The appliance embodying the preferred form of the invention is capable of flattening distorted records and comprises a case 10, having an open top and a vent opening 12, formed through one side wall thereof.

This case is provided with a circumscribing shoulder 14 around the open side and an upstanding flange 16 which cooperates with shoulder 14 in holding a pair of superposed plates of glass 18 and 20 respectively, between which the record 22 is confined. The area of the open side of case 10 is slightly greater than the diameter of record 22 to be treated, and when plate 20 rests upon shoulder 14 and plate 18 is in the position shown in Fig. 2, the record will have applied to much of its body a force due to the action of gravity upon plate 18.

Shoulder 16 precludes relative displacement of plates 18 and 20 but when the upper plate 18 is to be lifted from operative position, a portion of the edge thereof may be engaged by the operator because notches 24 formed in opposed portions of flange 16 are provided for that purpose.

A source of heat should be generated on a given point within case 10, which is below the axis of record 22. To this end, it has been found that an electric lamp 26 is satisfactory when mounted within case 10, through the medium of a bracket or analogous means 28. Lamp 26 is connected to any suitable source of current through conductors 30 and a switch 32.

Resilient clamps 34 pivotally mounted as at 36 to case 10 through the medium of ears or the like 38, are capable of applying additional force to upper plate 18 when the time for such action arrives. These clamps are conveniently swung to and from the operative position shown in the drawing, and will not affect the action of plates 18 and 20 upon record 22 when heat is being applied to said record during the first step in the method of flattening.

The positioning of heat source 26 at the center and below record 22, insures that lower plate 20 will gradually diffuse and apply the heat to record 22 from its center toward the periphery thereof. When the record is first placed upon lower plate 20, the upper plate 18 will not be heavy enough to crack or break the record but will be of sufficient weight as to gently urge the record 22 toward a flat condition as the same becomes pliable due to the application of heat.

Heat is applied evenly from the center of the record because lower plate 20 is of glass and will

not allow the passage of the heat to an unsatisfactory extent until diffusing occurs.

After the record has been flattened, clamps **34** are swung to place and the lamp **26** extinguished. As the record cools, therefore, a relatively great amount of force is holding the same between plates **18** and **20** and after the temperature of the plates and said record has returned to normal, the record may be removed for use.

A 40 watt lamp placed in such relation to record **22**, as illustrated in Fig. 2, has been found satisfactory where distorted records are such as to require substantially one hour for flattening. After this period of time has elapsed and the clamps **34** are applied, the record will cool in a short while, all in accordance with the room temperature.

It is obvious that an appliance having physical characteristics different from those illustrated and described, might be made without departing from the spirit of the invention and scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A flattening appliance for disk records of the character described comprising a case having an open side; a pair of planar plates for confining the record therebetween, closing the open side of the case; means for generating heat at a given point within the case below the axis of the record when the same is in place for treatment between the plates; and parts for increasing the pressure applied to the record.

2. A flattening appliance for disk records of the character described, comprising a case having an open side; a shoulder around the open side of the case; a flange coextensive with the shoulder; a pair of planar plates of glass resting upon the shoulder and maintained against displacement by the said flange; means for generating heat at a given point within the case; and parts for applying pressure to the plates to force the same together.

3. The method of flattening disk records of the character described, which consists in confining the record between two planar plates of glass disposed horizontally and supported for free movement toward and from each other; applying heat to the lowermost plate at the axis of the record until the record has become sufficiently pliable to assume a flat condition; stopping the supply of heat; and applying additional pressure to the plates while the record cools.

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