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H. C. HARRISON

1,950,109

TURNTABLE FOR PHONOGRAPH RECORDS

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FIG. 1

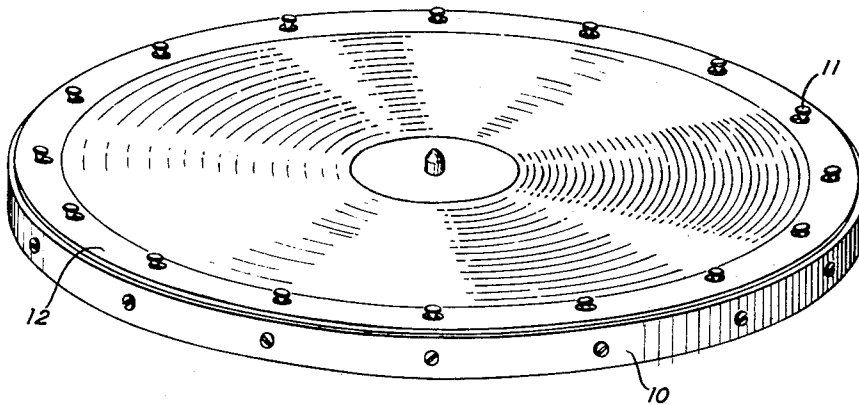


FIG. 2

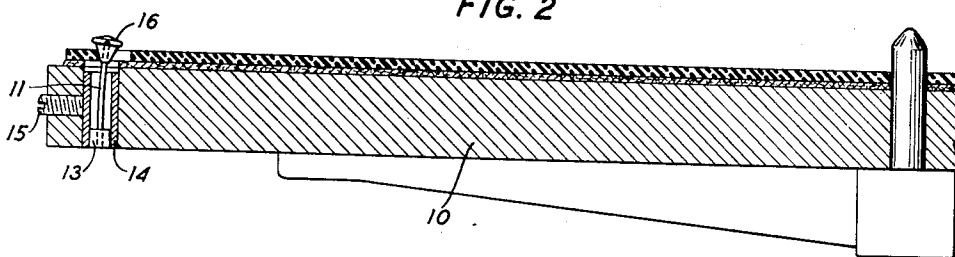
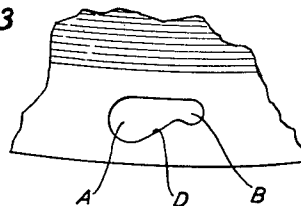


FIG. 3



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TURNTABLE FOR PHONOGRAPH RECORDS

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7 Claims. (Cl. 274—39)

This relates to phonographs and particularly to the turntables thereof.

In the ordinary phonograph using hard rubber or other rigid disc records, the turntable usually employed is simply a heavy, flat, metal cylinder with a locating mandrel in the center. For the newer, thin, flexible records, such a turntable cannot be used advantageously, since these records have a tendency to warp and buckle, which makes their surfaces irregular and the reproduction therefrom poor unless such irregularities are removed.

It is the object of the present invention to provide a turntable for flexible records which will cause the record to present a regular surface to its cooperating translating device.

The novel means used to accomplish this object comprises a turntable having located about its periphery a number of springs adapted to exert an outward radial force upon the record to stretch it, thereby straightening out the warped or buckled portions.

In the accompanying drawing which forms a part of the specification:

Fig. 1 is a perspective of a preferred embodiment of the novel turntable showing a record in place;

Fig. 2 is a sectional elevation showing a spring in detail; and

Fig. 3 is an enlarged portion of a record illustrating one type of aperture.

Referring now to Fig. 1, 10 is a turntable made suitably heavy to smooth out some of the vibration usually occurring in phonographic apparatus and arranged in a concentric circle near the periphery of the turntable and integral with it are a number of vertical springs 11. These springs may be sixteen in number or more depending largely upon the uniformity of tension desired in the record.

The record 12 is of the thin flexible type and is designed with a blank margin in which are punched or drilled a series of circular apertures corresponding in number to the springs. The apertures are located, however, in a circle the diameter of which is slightly smaller than that of the spring circle so that when the record is in place the springs will be bent radially inward and will thereby exert an outward restoring force upon the record which force produces a radial tension in the record.

One form of spring which may be used is shown in detail in Fig. 2. It is comprised of a short length of steel music wire 11, .044" in diameter pressed into a holding member 13 which is forced

into a piece of tubing 14. The tubing is held by a set screw 15 in an opening in the turntable. The springs are provided with conical caps 16 to prevent the record from creeping up on the spring and eventually disengaging from it entirely. The conical shape is necessary to facilitate the removal of the record from the turntable. An abutting edge on the underside of the cap would cause the record to jam and the springs would have to be pressed in toward the center individually to release them.

The record is placed on the turntable by threading it on the locating mandrel in the usual manner and then rotating it until the apertures in the record are over the springs. By running the hand around the edge of the record the springs are snapped through the apertures and the record is tensioned.

For ease of operation the apertures may be designed as shown in Fig. 3. The part A is made large enough to fit over the cap and B is made of a diameter to accommodate the lower portion of the conical section of the spring. The record can now be placed flat on the turntable without the necessity of snapping the springs. To tension the record it is rotated slightly in the direction indicated, causing the spring to slide along the oblique portion D until it snaps into B. The portion D displaces the spring radially and thereby tensions it.

The invention has been described with reference to a particular embodiment for purposes of illustration but its scope is not to be limited to that disclosed in the drawing and specification.

What is claimed is:

1. In a phonographic machine, a turntable, a flexible record thereon, and springs secured to the turntable for tensioning the record radially.
2. In a phonographic machine, a turntable, a flexible record thereon, and springs secured to the turntable for tensioning the record radially, each of said springs comprising a member rigidly secured at one end to the turntable and adapted to be flexed radially of the turntable.
3. In a phonographic machine, a turntable, a flexible record thereon, and springs secured to the turntable for tensioning the record radially, said springs comprising a member rigidly secured at one end near the underside of the turntable and adapted to be flexed radially of the turntable at its free end, and a conical cap at the free end for maintaining said members in contact with the record.
4. In a phonographic machine, a turntable, a flexible record thereon, provided with apertures

spaced equidistantly about the edge thereof and a plurality of springs secured to the turntable and extending through the apertures in the record to tension the record radially.

- 5 5. In a phonographic machine, a turntable, a flexible record thereon, provided with apertures spaced equidistantly about a circle located concentrically with and in proximity to the edge thereof, corresponding springs secured to the
10 turntable and arranged in a concentric and slightly smaller circle and adapted to snap through the apertures to exert an outward radial force upon the record.

6. In a phonographic machine, a turntable, a flexible record thereon, provided with oblique apertures and spring means secured to the turntable and cooperating with the apertures in the record to tension the record radially.

7. In a phonographic machine, a turntable, a flexible record thereon, and a plurality of spaced means each independently connected between the turntable and the outer margin of the record for exerting a radial tension on said record to cause the entire surface of said record to lie in substantially the same plane.

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15	80
20	85
25	90
30	95
35	100
40	105
45	110
50	115
55	120
60	125
65	130
70	135
75	140
	145
	150