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PATENTED JAN. 22, 1907.

C. C. SHIGLEY.

MANDREL FOR PHONOGRAPHIC RECORDS.

APPLICATION FILED FEB. 17, 1905.

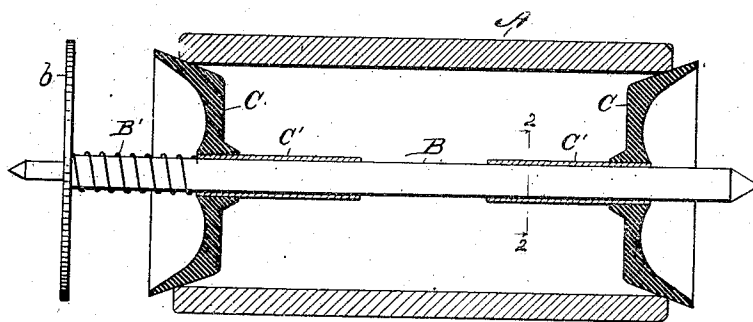


Fig 1

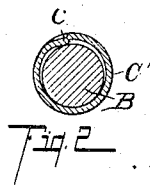


Fig 2

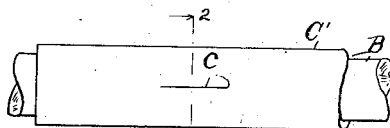


Fig 3

Witnesses

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UNITED STATES PATENT OFFICE.

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MANDREL FOR PHONOGRAPHIC RECORDS.

No. 841,727.

Specification of Letters Patent.

Patented Jan. 22, 1907.

Application filed February 17, 1905. Serial No. 246,147.

To all whom it may concern:

Be it known that I, CYRUS C. SHIGLEY, a citizen of the United States, residing at the village of Hart, in the county of Oceana and State of Michigan, have invented certain new and useful Improvements in Mandrels for Phonographic Records, of which the following is a specification.

This invention relates to improvements in mandrels for phonographic records.

My improved mandrel for phonographic records is particularly adapted for use in phonographs such as illustrated and described in United States Letters Patent No. 773,164, issued to me on October 25, 1904, although it is desirable for use in other relations.

The objects of my invention are, first, to provide an improved mandrel for phonographic records by which the mandrel is properly centered; second, to provide an improved mandrel for phonographic records by which the mandrel may be readily adjusted longitudinally to bring the same into proper relation to the phonographic mechanism; third, to provide an improved mandrel for phonographic records by which the record is yieldingly supported to allow the expansion or contraction thereof under varying temperatures.

Further objects and objects relating to structural details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined, and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a central longitudinal view of my improved mandrel for phonographic records with the record in position thereon, the mandrel-shaft B, spring B', and friction-wheel b being shown in full lines. Fig. 2 is an enlarged cross-sectional view taken on a line corresponding to line 2 2 of Figs. 1 and 3. Fig. 3 is an enlarged detail view showing the manner of securing the head C upon the shaft.

In the drawings similar letters of reference refer to similar parts throughout the several views.

Referring to the drawings, the mandrel-shaft B is provided with a suitable bearing-pivot at each end. The shaft is provided with a disk-like friction-wheel b. On the shaft B are inwardly-facing conical heads C. These heads are mounted upon sleeves C', adapted to receive the mandrel-shaft B. The inner head is held yieldingly outward by the coiled spring B', arranged between it and the friction-wheel b, as clearly appears from the drawings. The outer head C is adjustably secured to the shaft by friction. This is preferably accomplished by indenting the carrying-sleeve of the head, as at c.

When it is desired to place a record, as A, upon the mandrel, the outer head is removed and the record placed in position. The outer head is then adjusted upon the mandrel to the proper point to bring the record into proper relation longitudinally to the phonographic mechanism. The inner head is forced into engagement with the inner end of the record-roll by the spring B'. Owing to the conical form of the heads, the record-roll is automatically centered in relation to the mandrel-shaft, the record-rolls being held by the conical or tapered heads wedging into the same. The inner head readily yields to compensate for the expansion or contraction of the record-roll during changes of temperature, so that the record-roll is not loosened by expansion and does not become contracted so as to cause injury thereto or to prevent its ready removal, as is sometimes the case where solid mandrels are used.

I have shown and described a mandrel-shaft with a friction-wheel thereon such as is particularly adapted for use in my improved phonograph illustrated in my patent heretofore referred to. It is evident, however, that this may be varied to meet particular requirements. I have illustrated and described my improved mandrel for phonographic records in detail in the form preferred by me, although I am aware that it is capable of considerable variation in structural details without departing from my invention.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a shaft having a friction-wheel thereon; a pair of inwardly-facing conical heads; carrying-sleeves for said heads adapted to receive said shaft; a coiled spring arranged on said shaft between said friction-wheel and the inner head, adapted to hold the inner head yieldingly outward; and an indentation on the carrying-sleeve of the outer head adapted to hold said sleeve in frictional engagement with the said shaft, for the purpose specified.
2. The combination of a shaft; a pair of inwardly-facing conical heads; carrying-sleeves for said heads adapted to receive said shaft; a spring adapted to hold one of the heads yieldingly toward the other; and an indentation in the carrying-sleeve of the other head adapted to hold said sleeve in frictional engagement with the said shaft, for the purpose specified.
3. The combination of a shaft having a friction-wheel thereon; a pair of inwardly-facing conical heads; carrying-sleeves for said heads adapted to receive said shaft; and a coiled spring arranged on said shaft between said friction-wheel and the inner head, adapted to hold the inner head yieldingly outward, for the purpose specified.

4. In a mandrel for phonographic records, the combination of a shaft; a pair of inwardly-facing conical heads sleeved upon said shaft; means for holding one of said heads yieldingly in position; and means for holding the other of said heads in frictional engagement with said shaft, for the purpose specified.

5. The combination of a shaft; a pair of inwardly-facing conical heads; carrying-sleeves for said heads adapted to receive said shaft; a spring adapted to hold one of the heads yieldingly toward the other, the sleeve of the other of the heads having a frictional engagement with the said shaft, for the purpose specified.

6. In a mandrel for phonographic records, the combination of a shaft; a pair of inwardly-facing conical heads of uniform taper slidably mounted on said shaft; means for retaining one of said heads in its adjusted position on said shaft; and a spring for holding the other head yieldingly in position, for the purpose specified.

In witness whereof I have hereunto set my hand and seal in presence of two witnesses.

CYRUS C. SHIGLEY. [L. S.]

Witnesses:

ESTHER E. ORTH,
GERRIT VANDERBEEK.