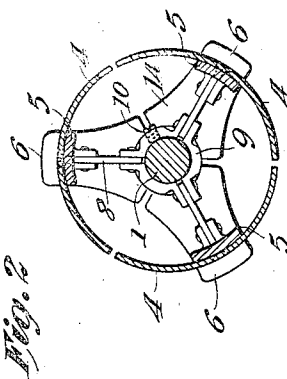
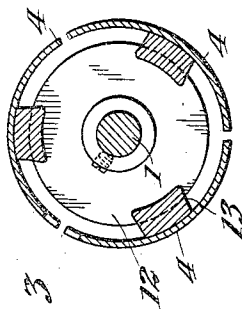
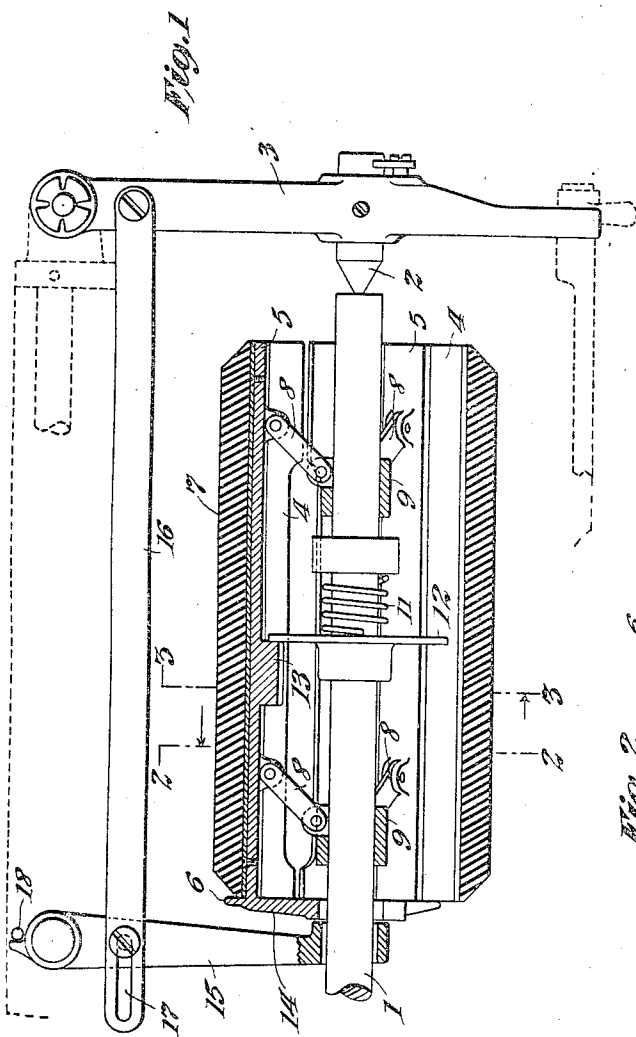


No. 855,604.

PATENTED JUNE 4, 1907.

J. W. AYLSWORTH & F. L. DYER.
PHONOGRAPH.

APPLICATION FILED MAY 8, 1906.



Witnesses:

Frank D. Lewis

Anna R. Kellum

Inventors:

Jonas W. Aylsworth and
Frank L. Dyer

by Frank L. Dyer, Atty.

UNITED STATES PATENT OFFICE.

JONAS W. AYLSWORTH, OF EAST ORANGE, AND FRANK L. DYER, OF MONTCLAIR, NEW JERSEY, ASSIGNORS TO NEW JERSEY PATENT COMPANY, OF WEST ORANGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PHONOGRAPH.

No. 855,604.

Specification of Letters Patent.

Patented June 4, 1907.

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To all whom it may concern:

Be it known that we, JONAS W. AYLSWORTH, a citizen of the United States, residing at 223 Midland avenue, East Orange, county of Essex, and State of New Jersey, and FRANK L. DYER, a citizen of the United States, residing at Montclair, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Phonographs, of which the following is a description.

Our invention relates to improvements in phonographs, and particularly to a new and improved mandrel for the same, adapted to receive and securely hold cylindrical records having perfectly cylindrical bores.

Our object is to provide a simple and effective device for the purpose and to this end the invention consists of a mandrel formed of a plurality of sections, outwardly movable so as to engage the record and securely hold the same, means being preferably provided to contract the mandrel sections when the ordinary phonograph end-gate is opened for the purpose of permitting the record to be taken off.

In order that the invention may be better understood, attention is directed to the accompanying drawing, and in which—

Figure 1, is a longitudinal sectional view, showing a part of the phonograph with our present improvements thereon, and Fig. 2, a cross sectional view on the line 2—2 of Fig. 1. Fig. 3 is a similar section on the line 3—3 of Fig. 1.

In all of these views, corresponding parts are represented by the same numerals of reference.

1 represents the ordinary mandrel shaft, the free end of which is mounted on a center 2, carried by the usual end gate 3. The mandrel comprises a plurality of sections 4, preferably formed of sheet metal carried on longitudinal ribs 5, the latter being formed with shoulders 6, to act as stops for the record 7. The record as shown is formed with a perfectly cylindrical bore. The longitudinal ribs 5 are mounted on links 8—8 carried on sleeves 9—9, at least one of which is secured to the mandrel shaft 1, as by a set screw 10. It will be obvious that if pressure is applied to swing the outer ends of the links 8 to the left (Fig. 1), the mandrel sections 4—4 will

be brought into engagement with and will tightly grip the bore of the record. This movement is preferably effected by a spring 11, surrounding the mandrel shaft and engaging a disk 12, which is in contact with lugs 13 on the ribs 5. Obviously, the tension of the spring 11 tends to hold the mandrel sections in engagement with the record. Preferably, the construction of the device is such that when the end gate 3 is opened the mandrel sections will be contracted so as to permit the record to be removed. To this end, we form the ribs 5 with inwardly extending arms 14, with which the end of the lever 15 is adapted to engage, said lever being pivoted to the frame of the machine. A link 16 extends between the end gate 3 and the lever 15, said link being formed with a slot 17, so as to permit the end gate to be almost completely opened before movement of the lever 15 is effected. As the lever 15 is moved, the mandrel sections will be swung toward the right in Fig. 1, and will be withdrawn inwardly away from the record as will be understood. The inward movement of the mandrel sections can continue only until the arms 14 are brought into contact with the mandrel shaft 1. If desired a stop pin 18 may be employed for limiting the retractive movement of the lever 15, although this is not necessary.

Having now described our invention, what we claim as new and desire to secure by Letters Patent is as follows:—

1. In a phonograph, the combination with the mandrel shaft and end gate, of an expansible mandrel carried by the mandrel shaft, and connections between the mandrel and end gate for contracting the mandrel when the end gate is opened, substantially as set forth.

2. In a phonograph, the combination with a mandrel shaft and end gate, of a sectional and expansible mandrel carried by said shaft, a lever for contracting the mandrel sections and connections between said lever and end gate, substantially as set forth.

3. In a phonograph, an expansible mandrel composed of a plurality of sections capable of radial movement, a mandrel shaft and inwardly extending arms on the mandrel sections adapted to contact with the mandrel shaft and limit the motion of the man-

drel sections inwardly, substantially as set forth.

4. In a phonograph, an expansible mandrel composed of a plurality of sections capable of radial movement, a mandrel shaft, inwardly extending arms on the mandrel sections adapted to contact with the mandrel shaft and limit the motion of the mandrel sections inwardly, and stops on the mandrel sections to position the record on the mandrel, substantially as set forth.

5. In a phonograph, an expansible mandrel composed of a plurality of sections capable of radial movement, a mandrel shaft, a system of linkages by which the mandrel sections are connected to the mandrel shaft and stops on the mandrel sections to limit the inward movement thereof, substantially as set forth.

6. In a phonograph, an expansible mandrel composed of a plurality of sections capable of radial movement, a mandrel shaft, a system of linkages by which the mandrel sections are connected to the mandrel shaft, stops on the mandrel sections to limit the inward movement thereof and stops on the mandrel sections to position the record on the mandrel, substantially as set forth.

7. In a phonograph, an expansible mandrel composed of a plurality of sections capable of radial expansion, a mandrel shaft, means allowing radial movement of the mandrel sections interposed between the mandrel sections and the mandrel shaft, and means on the mandrel sections for limiting the inward movement thereof, substantially as set forth.

8. In a phonograph, an expansible mandrel composed of a plurality of sections capable of radial movement, a mandrel shaft, pivoted links connecting said sections to the shaft, lugs projecting inwardly on the inner sides of said sections, a slidable collar and a fixed collar on the mandrel shaft the slidable collar being in engagement with said lugs, a spring interposed between said collars, and means for limiting the expansion of said mandrel sections, substantially as set forth.

9. In a phonograph, the combination of a mandrel shaft, an end gate, an expansible mandrel carried by the mandrel shaft, and means under the control of the end gate for contracting the mandrel when the end gate is open, substantially as set forth.

10. In a phonograph, the combination with a mandrel shaft and end gate, of a sectional and expansible mandrel carried by said shaft, a lever for contracting the mandrel sections, connections between said lever and end gate, and means to limit the movement of the lever away from the end gate, substantially as set forth.

11. In a phonograph, the combination with a mandrel shaft and end gate, of a sectional and expansible mandrel carried by said shaft, a lever for contracting the mandrel sections, connections between said lever and end gate, and spring actuated means for expanding said mandrel, substantially as set forth.

12. In a phonograph, the combination with a mandrel shaft and end gate, of a sectional and expansible mandrel carried by said shaft, a lever for contracting the mandrel sections, connections between said lever and end gate, means to limit the movement of the lever away from the end gate, and spring actuated means for expanding the mandrel, substantially as set forth.

13. In a phonograph, the combination with a mandrel shaft and end gate, of a sectional and expansible mandrel carried by said shaft, a lever for contracting the mandrel sections, and lost motion connecting means between said lever and end gate, substantially as set forth.

14. In a phonograph, the combination with a mandrel shaft and end gate, of an expansible mandrel carried by the mandrel shaft, and lost motion connecting means between the mandrel and end gate for contracting the mandrel when the end gate is open, substantially as set forth.

15. In a phonograph, the combination with a mandrel shaft and end gate, of an expansible mandrel carried by the mandrel shaft and means operated by the end gate for contracting the mandrel, the said means being inoperative during the first movement of the end gate but becoming operative as the end gate is opened more widely, substantially as set forth.

This specification signed and witnessed this seventh day of May, 1906.

JONAS W. AYLSWORTH.
FRANK L. DYER.

In presence of—

ANNA R. KLEHM,
FRANK D. LEWIS