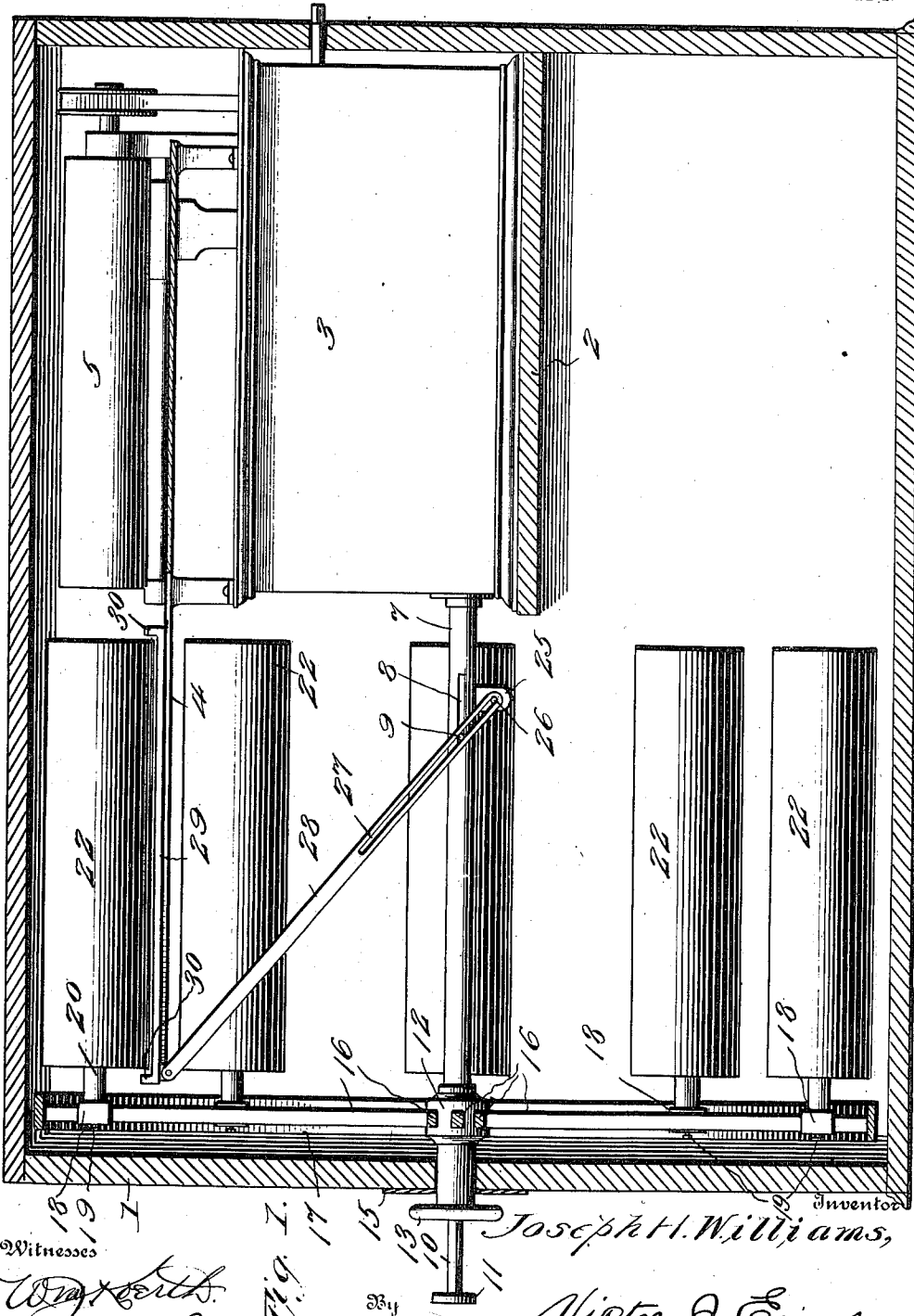


J. H. WILLIAMS.
 FEED APPARATUS FOR PHONOGRAPHS.
 APPLICATION FILED DEC. 31, 1902.

963,195.

Patented July 5, 1910.

3 SHEETS—SHEET 1.



Witnesses
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Arthur D. Lawson
 Fig. 1

Joseph H. Williams,
 Inventor

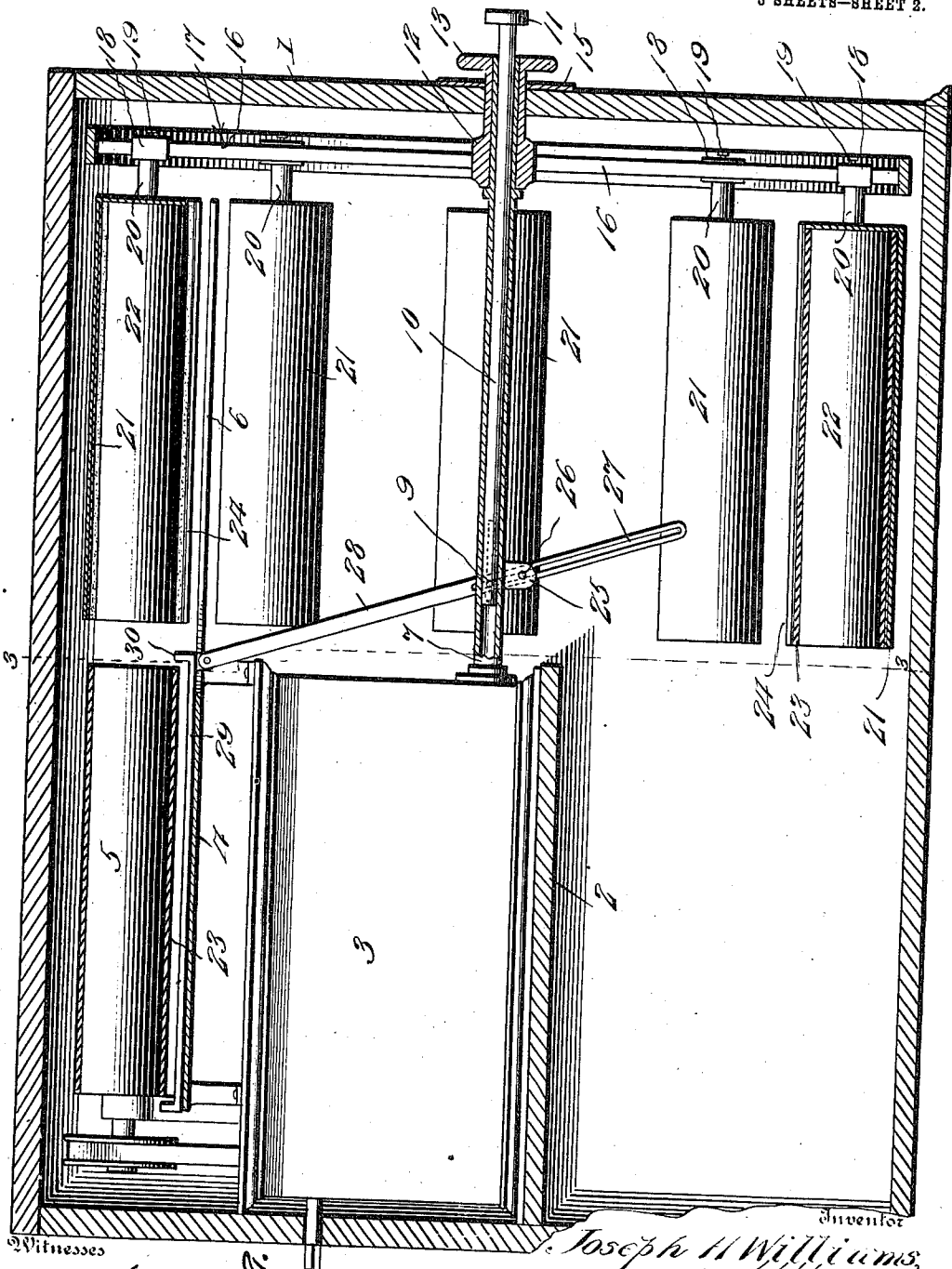
Victor J. Evans
 Attorney

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3 SHEETS—SHEET 2.



Witnesses
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 Fig. 2.

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3 SHEETS—SHEET 3.

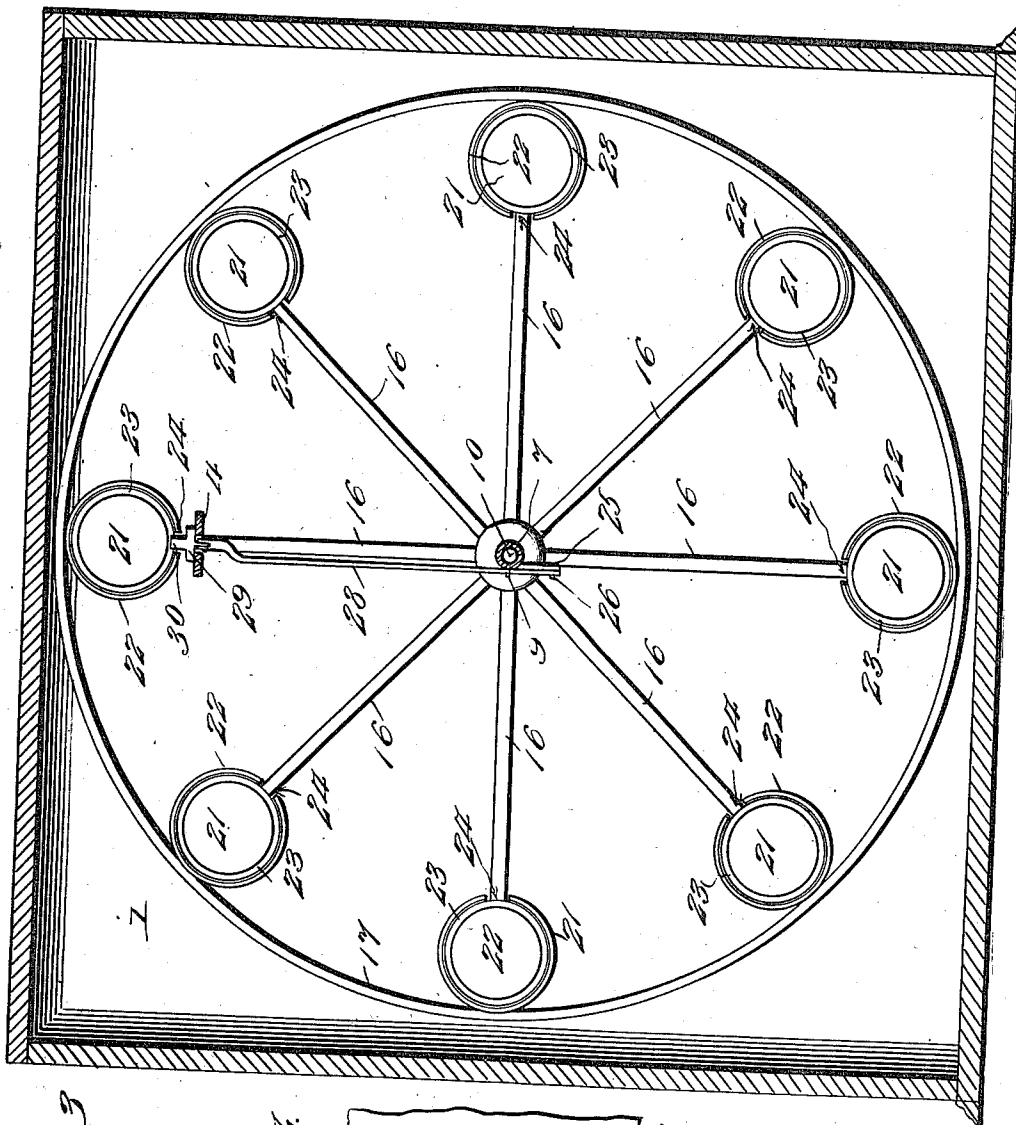
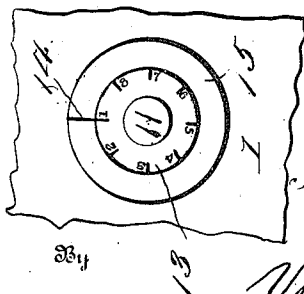


Fig. 3

Fig. 4.



Witnesses
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Inventor
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UNITED STATES PATENT OFFICE.

JOSEPH H. WILLIAMS, OF HARPER, KANSAS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
GEORGE H. UNDERHILL, OF BOSTON, MASSACHUSETTS.

FEED APPARATUS FOR PHONOGRAPHS.

963,195.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed December 31, 1902. Serial No. 137,314.

To all whom it may concern:

Be it known that I, JOSEPH H. WILLIAMS, a citizen of United States, residing at Harper, in the county of Harper and State of Kansas, have invented new and useful Improvements in Feed Apparatus for Phonographs, of which the following is a specification.

My invention relates to new and useful improvements in feed apparatus for phonographs and similar devices employing cylindrical records and its object is to provide means whereby a desired one of a series of records may be promptly placed in, or removed from position upon the cylinder of the phonograph.

The invention consists in arranging a phonograph or similar device within a casing at one end of which is arranged a horizontally extending shaft from which extends a suitable number of spokes. Each spoke is provided with a horizontal spindle connected to a cylinder having a stem therein equal in diameter to the internal diameter of the cylindrical record used in connection with the phonograph. A record is adapted to be placed within each one of these cylinders and upon the stems therein and the spokes to which the cylinders are connected may be readily revolved so as to bring the desired cylinder in horizontal alinement with the record holding cylinder of the phonograph. Each of the cylinders connected to the spokes is provided within its inner face with a slot which is adapted to receive a slide when said cylinder is brought into position in alinement with the phonograph cylinder. Means are provided for operating this slide when desired.

The invention also consists in the further novel construction and combination of parts hereinafter more fully described and claimed and illustrated in the accompanying drawings showing the preferred form of my invention and in which,

Figure 1 is a vertical section through the device and showing the slide and its operating mechanism in operation; Fig. 2 is a central vertical section through the apparatus as it appears from the opposite side; Fig. 3 is a section on line 3—3 of Fig. 2; and Fig. 4 is an elevation of the operating knobs and showing a dial.

Referring to the figures by numerals of reference, 1 is a casing within which is ar-

anged a shelf 2 adapted to support an ordinary phonograph 3 or other device employing cylindrical records. A guide plate 4 is mounted upon this phonograph at a point directly below the record holding cylinder 5 and is provided with a slotted extension 6 which projects longitudinally therefrom and beyond the inner end of the phonograph. A stationary tubular shaft 7 extends from the inner end of the phonograph and is supported at its outer end within the end of the casing 1. This shaft is slotted at opposite sides as shown at 8, to receive guide pins 9, extending laterally from a plunger 10, slidably mounted within the tube and extending from the outer end thereof, said plunger having a knob 11 whereby the same can be pressed inward or drawn outward by hand.

A sleeve 12 is revolubly mounted upon shaft 7 and extends through the end of casing 1, the outer end of the sleeve being provided with a dial 13 having numerals arranged successively from 1 upward, located adjacent to the periphery thereof. This knob is adapted to be turned in either direction to cause any one of the numerals to register with a mark 14 formed upon a plate 15 secured to the casing and encircling sleeve 12. Extending from the inner end of the sleeve 12 are spokes 16 connected at their outer ends by a rim 17. Adjustably mounted upon each spoke 16 is a slide 18 which may be locked at any suitable point upon the spoke by means of a set screw 19 or other suitable device. A spindle 20 projects rearwardly from each slide 18 and is secured to the center of one end of the cylinder 21 having a longitudinally extending stem 22 centrally arranged therein and equal in diameter to the diameter of cylinder 5 of the phonograph. The space between stem 22 and the inner surface of the cylinder 21 is slightly greater than the thickness of the wall of the record 23 used in connection with the phonograph. A slot 24 extends longitudinally within the inner face of each cylinder 21 and is for the purpose hereinafter more fully described.

An ear 25 depends from the stationary shaft 7 and a lug 26 projects laterally therefrom and engages a slot 27 formed longitudinally within a strip 28. The upper end of this strip is pivoted to the inner end of a slide 29 having upwardly turned ends 30, said slide being slightly greater in length

than the record 23. This slide is mounted upon the plate 4 before referred to and as the slot 27 is engaged by one of the guide pins 9, it is obvious that when knob 11 and
 5 plunger 10 are drawn outward, the slide 29 will be moved longitudinally upon the projecting portion 6 of plate 4 and into position between the cylinders 21.

In using the device herein described, a
 10 record is placed upon the stem 22 within each cylinder 21 and the plunger 10 is drawn outward to bring the slide 29 into position between said cylinders 21. The sleeve 12 is then revolved by means of knob 13 until
 15 the number designating the desired record registers with the mark 14. This will cause the spokes 16 to revolve until the cylinder 21 containing said record has been brought to position in horizontal alinement with cyl-
 20 nder 5 and with its slot 24 directly above slide 29. Plunger 10 is then forced inward and causes strip 28 to swing toward the phonograph, the lug 26 serving as a fulcrum therefor. The slide 29 will be carried with
 25 the strip and as the arms or ends 30 thereof are of sufficient length to project over the ends of the record arranged above the slot 24, it is obvious that said record will be moved longitudinally thereby and conveyed
 30 from cylinder 21 to cylinder 5, upon which it will be deposited and held by the slide. I have shown this arrangement of the parts in Fig. 2. When it is desired to remove the
 35 record from cylinder 5, plunger 10 is drawn outward and the operation of the slide above described is reversed and the record 23 is carried back into its cylinder 21 and one of the remaining cylinders can then be moved into position above the slotted plate 6 and
 40 the record extracted therefrom in the manner hereinbefore described.

By using the term "phonograph" I do not wish to limit myself to any particular make of machine. The word is used broadly
 45 to cover any form of machine employing cylindrical records for reproducing sounds.

In the foregoing description I have shown the preferred form of my invention, but I do not limit myself thereto, as I am aware
 50 that modifications may be made therein without departing from the spirit or sacrificing any of the advantages thereof, and I therefore reserve the right to make such changes and alterations as may fairly fall
 55 within the scope of my invention.

Having thus described my invention, what I claim as new and desire to secure by Let-
 60 ters-Patent is:

1. The combination with the record hold-
 60 ing cylinder of a phonograph; of a revoluble series of record containing cylinders and means for extracting a record from any one of the cylinders and depositing it upon the record holding cylinder.

65 2. The combination with the record hold-

ing cylinder of a phonograph; of a revoluble series of record containing cylinders, means for bringing any one of said cylinders in alinement with the record holding cylinder, a slide adapted to engage and re-
 70 move the record from any one of said cylinders and means for operating the slide.

3. The combination with the record hold-
 ing cylinder of a phonograph; of a revoluble series of record containing cylinders, 75 means for revolving said series to bring any one thereof into alinement with the record holding cylinder, a slide adapted to project into and engage the record within any one of the cylinders, and means for operating
 80 the said slide, whereby a record may be withdrawn from its containing cylinder and deposited upon the holding cylinder of the phonograph.

4. The combination with the record hold- 85 ing cylinder of a phonograph; of a revoluble series of record containing cylinders any one of which is adapted to be brought into alinement with the record holding cylinder, a stem within each containing cylinder
 90 adapted to support a record within said cylinder and means for extracting or inserting the record from or into the containing cylinder.

5. The combination with a record hold- 95 ing cylinder of a phonograph; of a revoluble series of record containing cylinders any one of which is adapted to be brought into alinement with the record holding cylinder, a stem within each containing cylinder
 100 adapted to support a record within its cylinder, a slide adapted to project into any one of the containing cylinders and engage the record therein and means for operating
 105 said slide to remove the record.

6. A record conveying device for phono-
 graphs comprising a revoluble series of slot-
 110 ted record containing cylinders, a record supporting stem within each of said cylinders, a guide extending between the cylinders, a slide mounted thereon and adapted to travel within the slot in any one of the cylinders, record engaging ends upon the
 115 slide and means for imparting longitudinal movement to the slide.

7. A feed device for phonographs comprising a stationary shaft, a revoluble sleeve
 120 thereon, spokes extending from the sleeve, slotted record containing cylinders adjustably secured to the spokes, a stationary guide, a slide mounted thereon and adapted to project into any one of the slots and engage the record within the cylinder, and
 125 means for operating said slide whereby longitudinal movement may be imparted to the record.

8. In a record feeding device for phono-
 graphs, the combination with a revoluble
 130 series of spokes and means for operating the same; of slotted record containing cylinders

adjustably secured to the spokes, a record engaging slide adapted to be moved into the slot in any one of the records, a plunger and means connecting said plunger and slide whereby motion may be transmitted to the slide.

9. In a feed device for phonographs, the combination with a stationary shaft; of a sleeve journaled thereon, means for rotating the sleeve, connected spokes extending from the sleeve, a slotted record containing cylinder secured to each spoke, a guide extending between the cylinders, a record engaging slide mounted upon the guide and adapted to project into any one of the slots, a plunger longitudinally movable within the shaft, and a slotted strip connected to the plunger and slide whereby longitudinal movement may be imparted to the slide from the plunger.

10. In combination with a phonograph mandrel adapted to receive a cylindrical record, a magazine having a plurality of mandrels adapted to be successively moved into axial alinement with said phonograph mandrel.

11. In combination with the record-supporting mandrel of a phonograph, a magazine consisting of a plurality of mandrels that may be successively moved into axial alinement with said phonograph mandrel, and means for moving said magazine mandrels successively into alinement with the phonograph mandrel.

12. In combination with the record-supporting mandrel of a phonograph of the class referred to, a magazine consisting of a plurality of mandrels that may be successively moved into axial alinement with said phonograph mandrel, and means for transferring records from said magazine mandrels to said phonograph mandrel.

13. In combination with the record-supporting mandrel of a phonograph, a maga-

zine consisting of a plurality of mandrels that may be successively moved into axial alinement with said phonograph mandrel, means for transferring records from said magazine mandrels to said phonograph mandrel, and for returning the records from the said phonograph mandrel to the said magazine mandrels.

14. In a multiple record phonograph, the combination with a record carrier for holding and conveying a series of records; of means for advancing said carrier as a whole with said records to bring successive records into an approximate playing position, and means for shifting a record from said carrier and from said approximate playing position into an exact playing position.

15. In a multiple record phonograph, the combination with a plurality of cylindrical records, of a holder for said cylindrical records, means to free a record from said holder and to shift it to a playing position, and means to present said records successively to said shifting means.

16. In a multiple record phonograph, the combination with a record carrier for holding in serial relation a plurality of cylindrical records, a sound reproducing device, said carrier being movable through a path adjacent the sound reproducing device, means for moving said carrier to bring said cylindrical records successively into an approximate playing position and means to shift a record from the carrier into playing position on the sound reproducing device and then back to the carrier after the record has been played.

In testimony whereof, I affix my signature in presence of two witnesses.

JOSEPH H. WILLIAMS.

Witnesses:

J. S. KNOWLES,
DELLA WILLIAMS.