

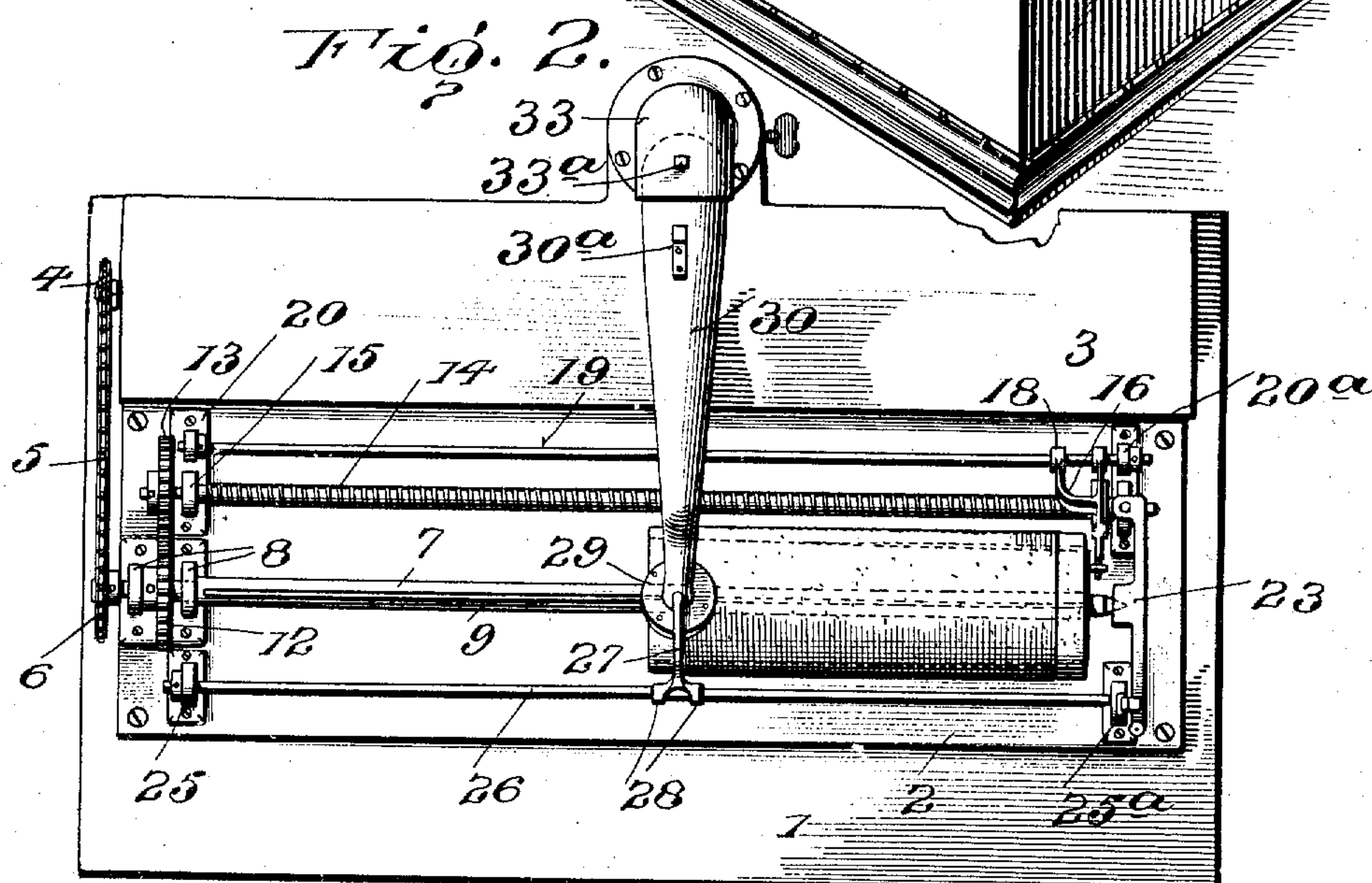
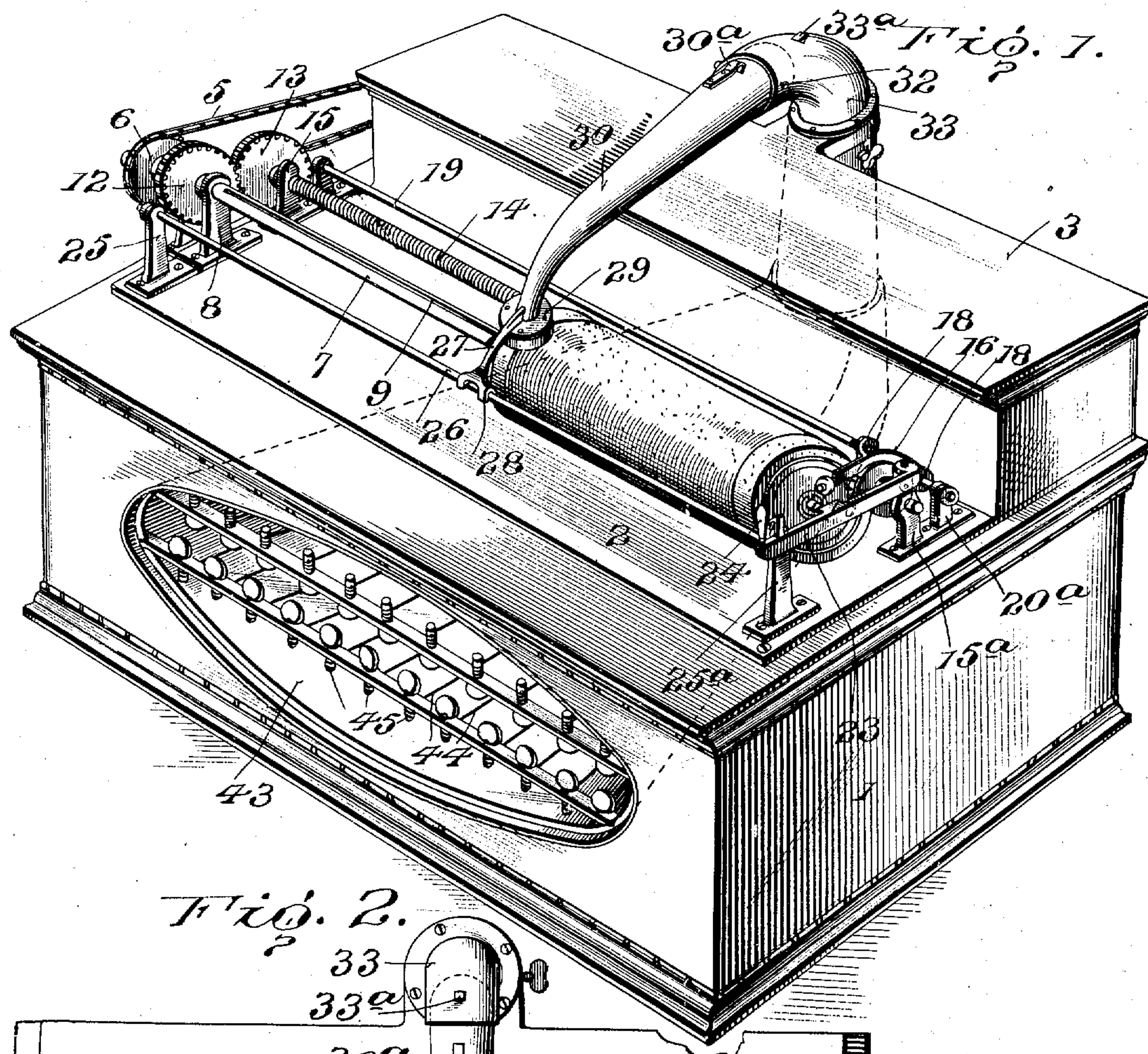
No. 884,216.

H. SCHRÖDER.
PHONOGRAPH.

APPLICATION FILED MAR. 2, 1907.

PATENTED APR. 7, 1908.

2 SHEETS—SHEET 1.



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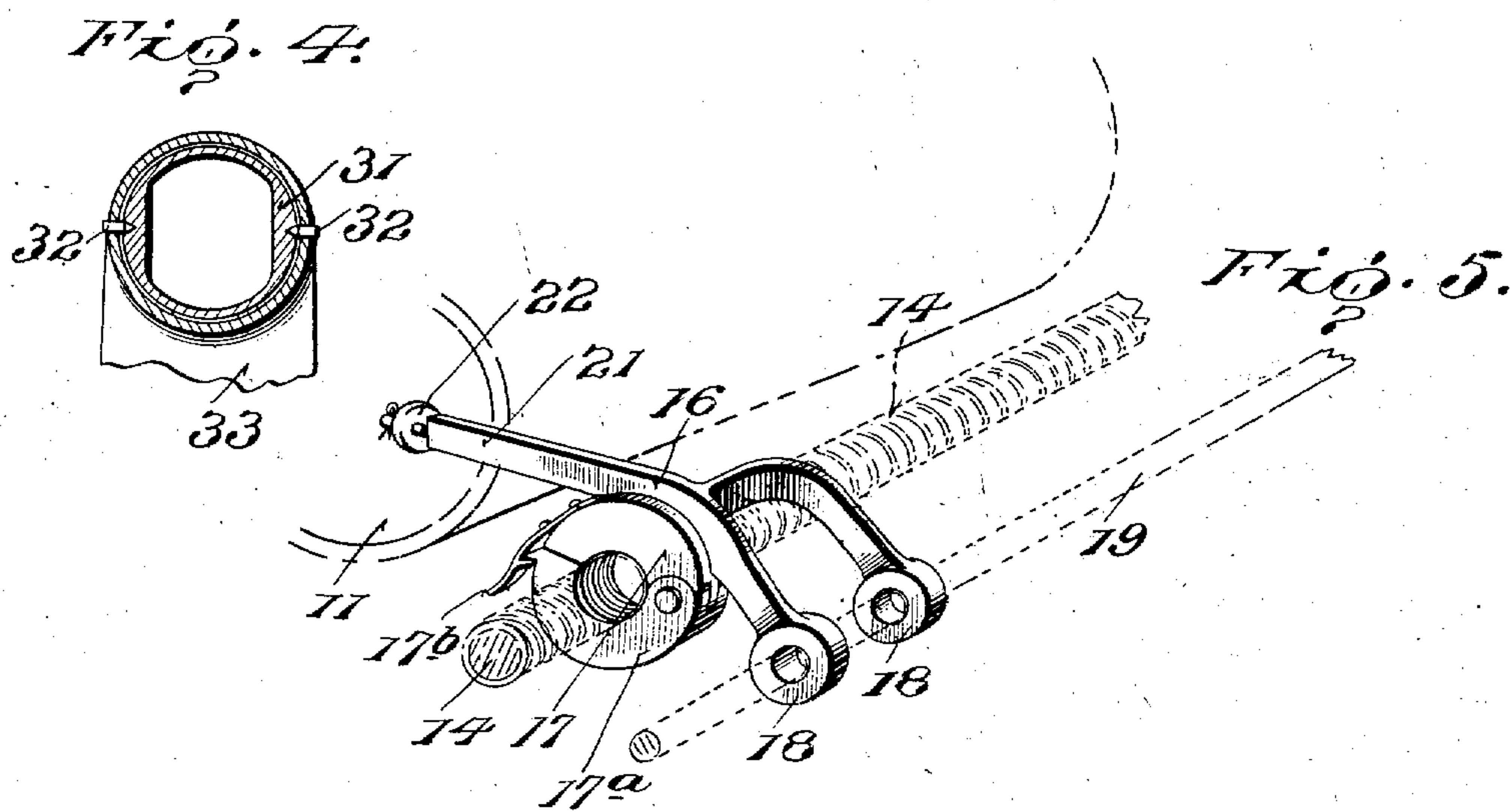
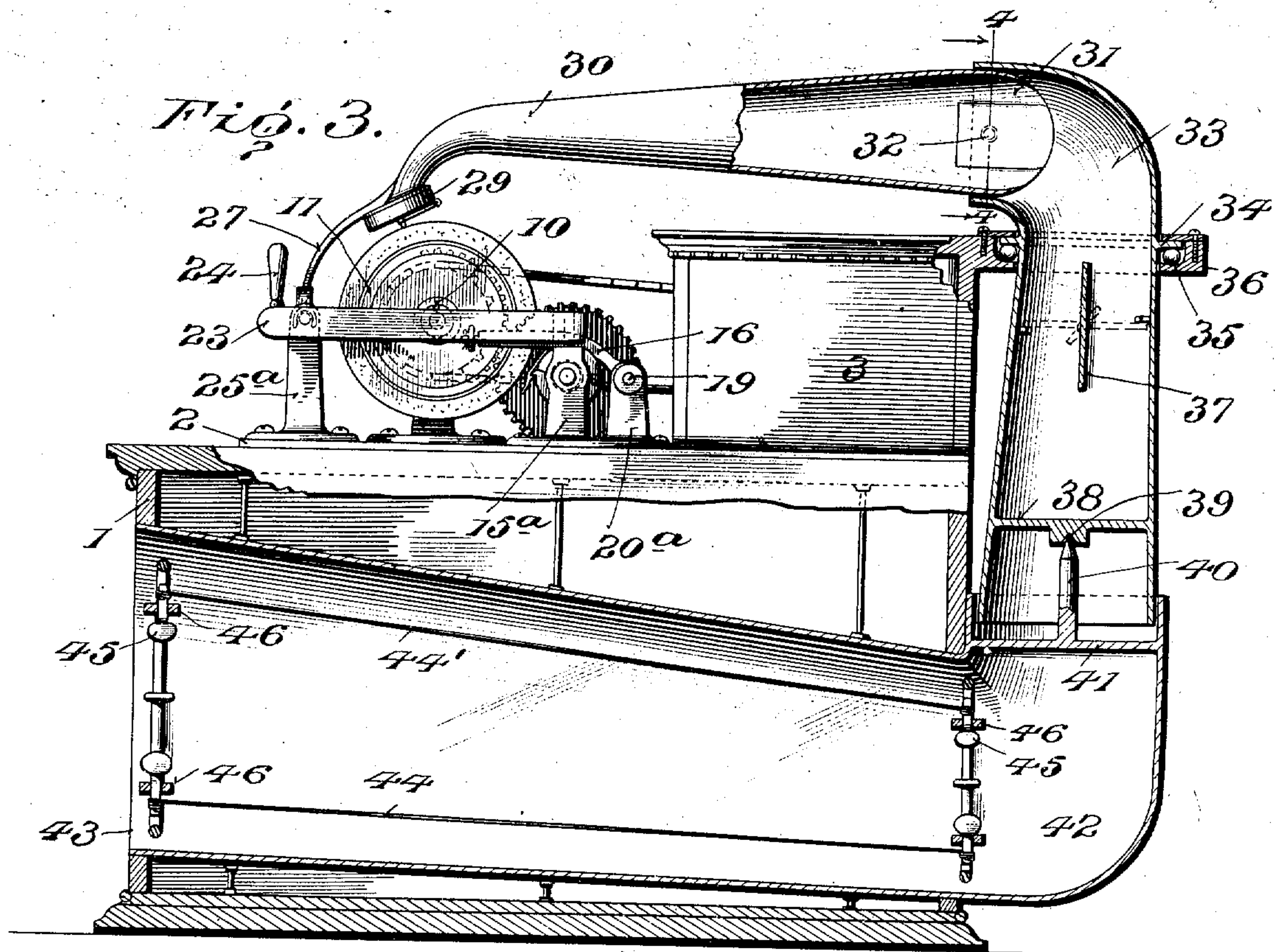
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UNITED STATES PATENT OFFICE.

HERMANN SCHRÖDER, OF NEW YORK, N. Y.

PHONOGRAPH.

No. 884,216.

Specification of Letters Patent.

Patented April 7, 1908.

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To all whom it may concern:

Be it known that I, HERMANN SCHRÖDER, subject of the German Emperor, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Phonographs, of which the following is a specification.

This invention contemplates certain new and useful improvements in phonographs of that type that employ a record cylinder, and the invention has for its primary object an improved construction of actuating means whereby the needles or stylus is held relatively stationary, while the record cylinder is revolved underneath the same and fed longitudinally.

With this and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of parts which I shall hereinafter specifically describe and then point out the novel features in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of my improved phonograph; Fig. 2 is a top plan view thereof; Fig. 3 is a transverse sectional view with parts in side elevation; Fig. 4 is a detail sectional view on the line 4—4 of Fig. 3; and, Fig. 5 is a detail perspective view illustrating a portion of the feed screw and the carriage mounted thereon.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the case or cabinet of my improved phonograph, 2 a stand or plate support, which may be secured to the top of the case, 1 in any desired manner and which is designed to support parts of the mechanism hereinafter described, and 3 designates the motor case within which may be placed an electric, spring, or any other desired type of motor.

The motor shaft is intended to carry a sprocket wheel 4 that is connected by means of the chain 5 with the sprocket wheel 6 on the outer end of the shaft or spindle 7. This

shaft 7 is journaled at one end in a pair of standards 8 extending upwardly from the base or support 2, and the shaft is provided with a longitudinal slot or groove 9. Within this groove fit one or more feathers 10 formed on the preferably tapering holder 11 for the record cylinder. By this means, the said holder may slide longitudinally on the shaft 7.

The shaft or spindle 7 carries at one end a spur pinion 12 which meshes with a similar pinion 13 on the end of a feed screw 14. The said screw is journaled in bearings on the upright standards 15 and 15^a. In order to advance the holder 11 along the shaft 7, as such shaft revolves, I provide a feed carriage 16 which embodies a clamp nut 17 working on the revoluble feed screw 14, a pair of spaced apertured ears 18 and a forwardly extending finger 21, the extremity of which carries a roller 22 adapted to bear against the flat end of the cylinder holder 11. The nut 17 is formed with a hinged section 17^a adapted to be held to the other section by means of a spring latch 17^b, so that the carriage may be disengaged from the feed screw 14 after it has completed its forward traverse and be slipped rapidly back to the starting point. The ears 18 are mounted to slide freely along a guide rod 19 that is supported at its ends on the standards 20, 20^a. It will be understood that the hinged section 17^a of the nut 17 may be swung downwardly from the upper section of the nut so as to permit the carriage 16 to be thrown upwardly and backwardly on the rod 19 as a pivot, to effect the disengagement of the carriage from the feed screw 14.

In order to provide for slipping the record on the holder 11, I provide a cross bar 23 which is hinged upon the standard 15^a and which is provided with a spring latch 24 adapted to engage another standard 25^a. This last named standard supports one end of the front guide rod 26 and the other end of said guide rod is secured in a standard 25.

27 designates a guide arm which is provided with two spaced fingers 28 adapted to rest upon the front guide rod 25, said arm 27 being secured in any desired manner to or formed integral with the sound box 29 or casing for the diaphragm.

30 designates the tapered arm which is secured in the usual manner at one end to the sound box and which is pivoted at its opposite end 31 by means of set screw pivots 32

within the upper end of the elbow 33. The tapered arm 30 is thus pivoted to swing in a vertical plane, and when raised, it may be held in an elevated position by means of the engagement of a spring latch 30^a with a stud or keeper 33^a on the elbow 33.

The elbow 33 is provided with an angular flange 34 by which it is supported on a ring of antifriction balls 35 mounted in a raceway formed in a bracket 36 which preferably extends or projects rearwardly from the motor case 3. Below its flange 34, the elbow 33 may be provided with a damper 37, and at its lower end, the said elbow is provided with a cross bar 38 formed on its lower side with a socket 39. Within this socket there fits the upper pointed end of a pivot spindle 40 which is supported at the center of the cross bar 41 in the upper end of the upwardly extending rear end of the megaphone proper 43. The said megaphone and its extension or elbow 33 by which it is connected to the tapered arm 30 are all preferably of wood, and to assist in obtaining a mellow sound, the said megaphone is provided with a plurality of strings 44 that are preferably of gut, and that are supported at their ends by means of pegs 45 by which their tension may be adjusted. The strings 44 are preferably arranged in two sets, upper and lower, and their pegs are preferably mounted in cross bars 46.

In the practical operation of my improved phonograph, the record cylinder is slipped over the holder 11, the latter being at one end of the shaft 7. As the said shaft is revolved, the gearing connection 12 and 13 will effect the revolution of the feed screw 14 and this in turn will cause the carriage 16 to be fed along said screw and thereby cause the advancement or traverse of the holder 11 simultaneously with the rotation thereof.

Having thus described the invention, what is claimed as new is:

1. In a phonograph, the combination with a sound box, and its accessories, of a spindle extending across the sound box, a support on which said spindle is mounted to revolve, a cylinder holder slidable longitudinally on said spindle and revoluble therewith, a feed screw extending parallel to the spindle and mounted on said support, means for driving the spindle and feed screw, a guide rod extending parallel to the feed screw and in the rear of the latter, and a feed carriage embodying a clamping nut mounted on said screw and provided with a hinged section, and means for holding said section closed,

spaced ears provided with apertures receiving said guide rod and slidable freely thereon, and a forwardly extending finger adapted to engage the rear end of the cylinder holder.

2. In a phonograph, the combination with a sound box, and its accessories, of a spindle extending across the sound box, a support on which said spindle is mounted to revolve, a cylinder holder slidable longitudinally on said spindle and revoluble therewith, a feed screw extending parallel to the spindle and mounted on said support, means for driving the spindle and feed screw, a guide rod extending parallel to the feed screw and in the rear of the latter, a carriage mounted on said screw and fed along the same by the revolution of the screw, said carriage being adapted to engage the rear end of the cylinder, a front guide rod mounted on said support, and extending parallel to the first named guide rod, and an arm projecting forwardly from the sound box and provided with a finger resting upon and movable freely along the front guide rod.

3. In a phonograph, the combination of sound reproducing means, including a tapered arm, of a casing adapted to support said means, a megaphone mounted within said casing and provided with an upwardly extending rear end, a pivot spindle extending vertically within the said end, and an extension for said megaphone, said extension being connected at its upper end with said tapered arm and provided at its lower end with a cross bar formed in its lower face with a socket engaged by the upper end of said pivot spindle.

4. In a phonograph, the combination with sound reproducing means, and a tapered arm, of a casing supporting said means, a megaphone mounted within said casing and extending from front to rear and provided with an upwardly extending rear end, an elbow with which the rear end of the tapered arm is pivotally connected, a rearwardly extending bracket projecting from the casing, the elbow extending through said bracket and having a revoluble movement therein in a horizontal plane, the lower end of said elbow extending into the upwardly extending rear end of the megaphone.

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

HERMANN SCHRÖDER. [L. s.]

Witnesses:

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