No. 684,943. Patented Oct. 22, 1901.

G. W. MERRILL, JR.

PHONOGRAPH OR GRAPHOPHONE.

(Application filed Jan. 31, 1900.)

(No Model.) 2 Sheets—Sheet 1.

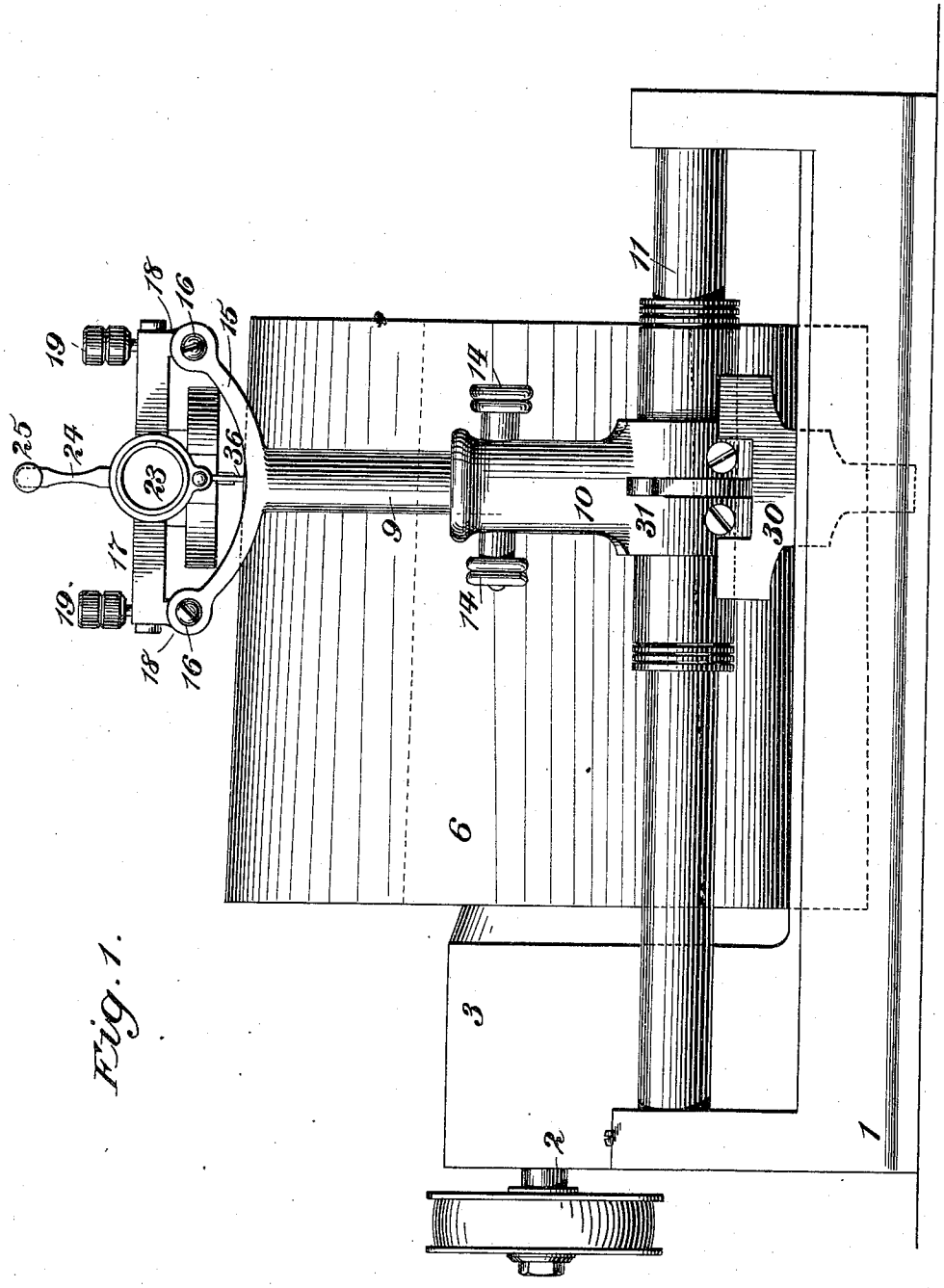

Fig. 1.

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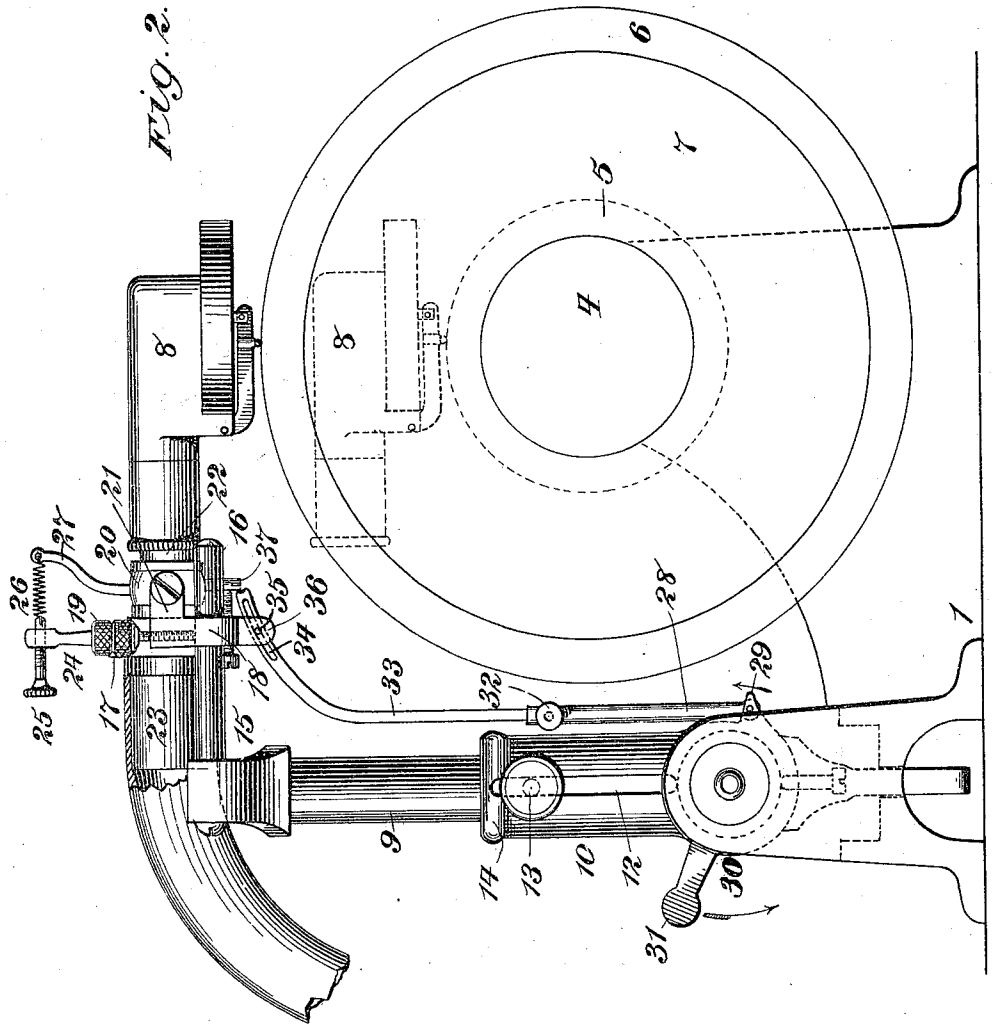
Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE W. MERRILL, JR., OF BROOKLYN, NEW YORK, ASSIGNOR OF ONE-HALF TO ROBERT MERRILL, OF BROOKLYN, NEW YORK.

PHONOGRAPH OR GRAPHOPHONE.

SPECIFICATION forming part of Letters Patent No. 684,943, dated October 22, 1901.

Application filed January 31, 1900. Serial No. 3,437. (No model)

To all whom it may concern:

Be it known that I, GEORGE W. MERRILL, Jr., a citizen of the United States, residing in Brooklyn, Kings county, State of New York, have invented a new and useful Improvement in Phonographs or Graphophones, of which the following is a specification.

My invention relates especially to that class of devices wherein a recorder is employed for transferring to a record-cylinder sounds of any character or description and wherein a device is employed for reproducing such sounds, such as the phonograph and graphophone, and has for its object the provision of means and mechanism whereby record-cylinders of different diameters may be used upon one and the same instrument and in the provision of means for adjustably supporting and regulating the position of a recorder or reproducer in relation to such record-cylinders.

My invention also involves certain novel and useful combinations or arrangements of parts and peculiarities of construction and operation, all of which will be hereinafter first fully described and then pointed out in the claims.

In the accompanying drawings, forming a part hereof, Figure 1 is a front elevation of an instrument to which my invention is applied; and Fig. 2 is an end elevation looking from the right of Fig. 1, part of said figure being shown in section.

Similar numerals of reference wherever they occur indicate corresponding parts in both figures.

1 is the supporting-base of the instrument.

2 is a shaft mounted in a bearing 3 and carrying a mandrel 4, of the usual size and construction for the reception of a recording-cylinder 5, the diameter of which is indicated by the dotted lines, particularly in Fig. 2 of the drawings. When it is desired to employ a larger record, such as 6, the record 5 is removed and the secondary mandrel or sleeve 7 is slipped onto said mandrel 4.

In order to provide means for properly locating, adjusting, and holding the recorder or reproducer 8, I have provided a perpendicular rod 9, which adjustably fits into a sleeve 10, mounted upon the carrying-rod 11 of the instrument. This sleeve 10 is slotted at 12 at each side, and by means of a set-screw 13 and operating-nuts 14 thereon the rod 9 may be secured in any desired position. At the top of the rod 9 is mounted a yoke 15, from which extend two horizontal arms 16.

17 is a transverse bar having perforated ears 18 at each end, through which the rods 16 pass.

19 represents set-screws in the bar 17, which bear upon the rods 16. The transverse bar 17 carries a ring 20, swiveled upon ears 21, said ring receiving the tube 22, upon which the recorder or reproducer 8 is mounted and pressing against the tube 23 for the reception of a transmitting tube, horn, or the equivalent. Attached to the ring 20 is an arm 27, and to the bar 17 is an arm 24, said arm having a screw-threaded perforation for the reception of a screw 25, which engages with a spring 26, passing to the upper extremity of the arm 27. With this arrangement the bearing of the stylus upon the record-cylinder can be accurately adjusted by regulating the tension of the spring 26.

In order to provide means for throwing the stylus of the recorder or reproducer into and out of contact with the record-cylinder, I have provided a tube 28, pivoted to a projection 29 upon one side of a ring 30, which encircles the rod 11, the other side of the ring carrying a manipulating-arm 31. Adjustably secured by a set-screw 32 within the tube 28 is a rod 33, slotted at 34 for engaging with a pin 35, fixed in a projection 36 beneath the cross-bar 17. The extremity of the rod 33 bears against a lug or screw 37, projecting downward from the ring 20. When in the position indicated, the stylus of the reproducer 8 rests against the record 6; but by throwing the arm 31 downward the stylus will be raised therefrom. If a record, such as 5, is used and the support for the recorder or reproducer is to be lowered to the position shown by the dotted lines in Fig. 2 of the drawings, the rod 32 is telescoped into the tube 28 and held in the proper position by means of the set-screw 32.

It will thus be seen that I have provided means for adjustably supporting the recorder or reproducer in such a way that it may be

moved horizontally or vertically, such adjustments being independent of each other. I have also provided means for adjusting the bearing of the recording or reproducing stylus upon the record without interfering with its working when the machine is in operation and have also provided means for moving the support for the recorder or reproducer in two directions to facilitate the adjustment of the cutting-stylus to the most advantageous position and have adapted one machine to the use of record-cylinders of different diameters.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In a graphophone, the combination with the mandrel, of an upright post adjacent thereto, rods, 16, projecting from said post above the mandrel, a yoke slidably mounted upon said rods, a ring connected with said yoke by transverse pivots, a recorder, 8, carried by said ring, means for moving the ring and recorder in an upward direction about said pivots, and spring-controlled means for limiting the downward movement of said ring and recorder about the pivots, substantially as set forth.

2. In a graphophone, the combination with the mandrel and the sleeve 10, of a vertically-adjustable rod, 9, the parallel, horizontal rods, 16, carried thereby, the cross-piece 17, slidably mounted on said rods, 16, a ring 20, pivotally supported by said cross-piece, 17, and the recorder carried by said ring, substantially as set forth.

Signed by me at New York this 27th day of January, 1900.

GEORGE W. MERRILL, JR.

Witnesses:
ROBT. MERRILL,
A. M. PIERCE.