

No. 641,578.

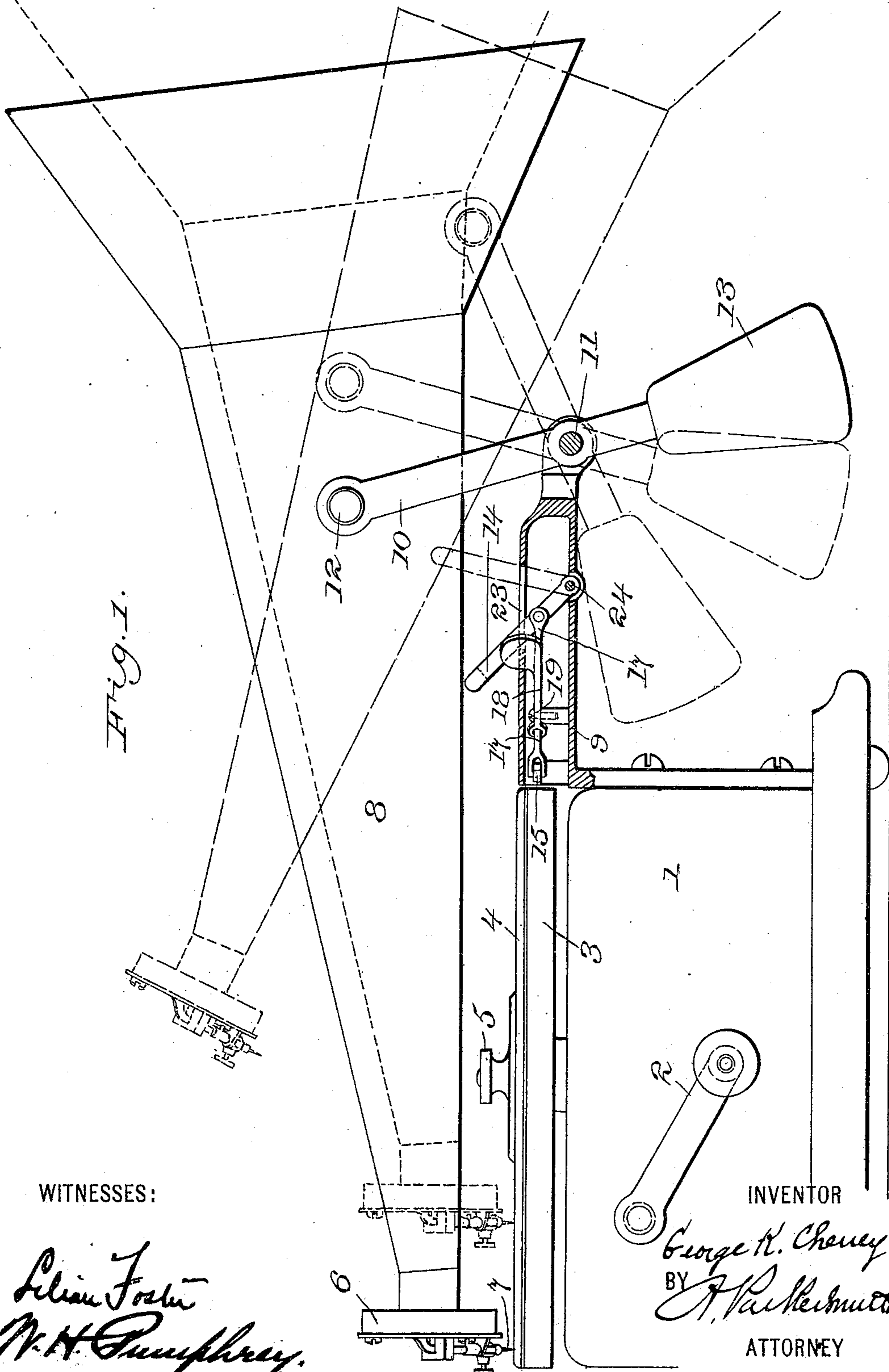
Patented Jan. 16, 1900.

G. K. CHENEY.
TALKING MACHINE.

(Application filed Apr. 29, 1899.)

(No Model.)

2 Sheets—Sheet 1.



No. 641,578.

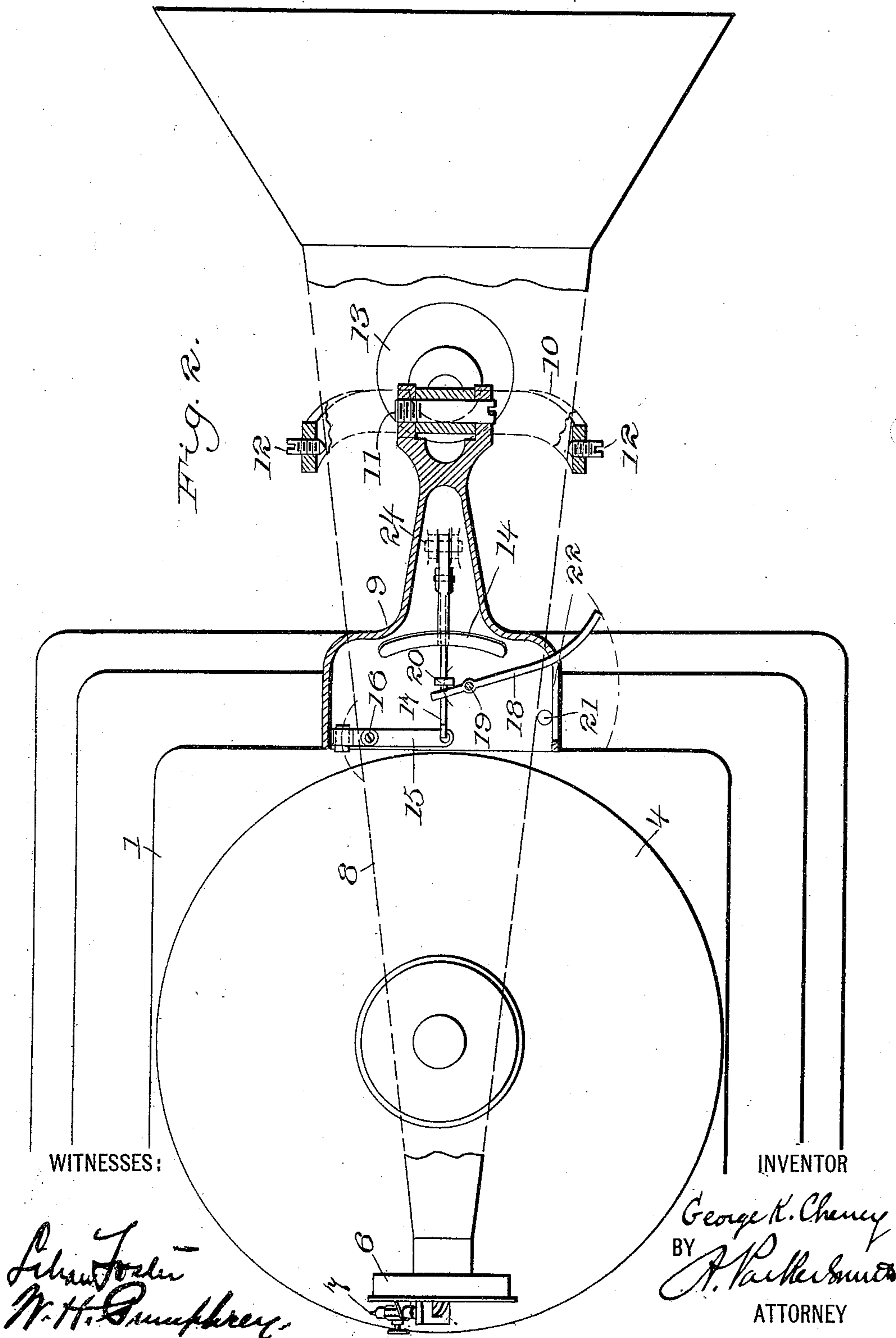
Patented Jan. 16, 1900.

G. K. CHENEY.
TALKING MACHINE.

(Application filed Apr. 29, 1899.)

(No Model.)

2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

GEORGE K. CHENEY, OF NEW YORK, N. Y.

TALKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 641,578, dated January 16, 1900.

Application filed April 29, 1899. Serial No. 714,977. (No model.)

To all whom it may concern:

Be it known that I, GEORGE K. CHENEY, a citizen of the United States of America, and a resident of New York city, county of New York, State of New York, have invented certain new and useful Improvements in Talking-Machines, of which the following is a specification.

My invention relates to talking-machines; and it consists of an improved means for mounting the reproducer and horn whereby freedom of movement for traversing the reproducer across the record is secured, together with convenient means for lifting the reproducer out of engagement with the record.

It also consists in an improved apparatus for operating the brake for the rotating record, in combination with the reproducer, so that when the brake is applied the reproducer is lifted out of engagement with the record, and vice versa.

The preferred form of apparatus embodying my invention is illustrated in the accompanying two sheets of drawings, in which—

Figure 1 is a side elevation of the gramophone with my invention applied thereto, certain parts being shown in section. Fig. 2 is a plan view of the same, with some parts broken away and others in section.

Throughout the drawings like reference-figures refer to like parts.

The gramophone-base 1 contains any ordinary form of motor, (not shown,) which is wound up by the crank 2. This motor rotates a horizontal table 3, on which is carried the sound-record 4, having sound-waves represented in the undulations of a spiral groove therein. The sound-record is held to the table in any convenient manner, as by the thumb-screw 5. The sound-reproducer 6, having the stylus 7, engaging with the grooves in the sound-record, is carried by the horn 8.

The casing 1 has a hollow casting 9 fixed to one side, upon the outer end of which is hinged the swinging frame 10 by means of the shaft 11 or equivalent construction. The horn 8 is hinged to the upper end of the swinging frame 10, as by the pointed screws 12 12. To this swinging or hinged supporting-frame is preferably attached the counterweight 13, the center of gravity of the whole apparatus being slightly below 11, the pivotal point of attach-

ment to the main frame or casting 9. A swinging rest 14 for the reproducer is pivoted to the main frame at 24 and provided with a curved or forked upper portion adapted to engage with the under side of the horn 8 and swing said horn up in the position of broken lines shown in Fig. 1.

A brake-lever 15 is pivoted to the main frame at 16 and has its other end connected to the swinging rest 14 by the link 17, so that the brake-lever and rest move simultaneously. A small lever 18 is pivoted to the main frame at 19 and slides loosely on the link 17 until it strikes the lug or collar 20 on said link.

A stop 21 for the lever 18 is placed at the proper position on the casting 9. The lever 18 projects through the slot 22 in the casting 9, so that its outer end can be seized by the thumb and forefinger of the operator. The swinging rest 14 projects up through the slot 23 in the top of the casting 9.

The method of operating my invention is as follows: The parts being as shown in full line in Fig. 1, the table 3 will rotate under the action of the motor. The axes 11 12 of the hinged support for the reproducer being parallel to the line of travel of the sound-record at the point of its contact with the reproducing-stylus 7 the supporting apparatus will present a rigid resistance against movement in that direction, so that the reproducer will remain practically stationary while the sound-record 4 travels under the reproducer-stylus 7 and impresses the sound-vibrations upon the diaphragm in said reproducer. The hinged supporting apparatus, however, is perfectly free to yield from left to right, (looking at Fig. 1,) so that the apparatus will be fed over by the action of the sound-record into the position shown in dotted lines in Fig. 1 and the entire record reproduced. The counterweight 13 normally tends to hold the swinging support 10 in a vertical position, so that the weight of the horn is approximately counterbalanced in whatever position it is. Thus little or no resistance is presented to the feeding action of the sound-record. When the operator wishes to stop the machine, he throws the brake-lever 18 over against the stop 21, thereby throwing on the brake and at the same time forcing the pivoted rest 14 up into the position shown in broken lines in Fig. 1. This

lifts the horn and reproducer into the broken-line position in Fig. 1. In starting the machine into operation again the operator takes hold of the horn 8 and replaces it in the full-line position. This places the stylus at the beginning of the record and automatically takes off the brake and leaves the machine free to operate.

The advantages of my invention consist in its cheapness and simplicity, in the doing away with all sliding friction and substituting pivot friction therefor, in the positive action of the rest in holding the horn and reproducer lifted above the record, so that the reproducer-stylus is not liable to be violently driven down upon the record, and in the automatic action of the brake in connection with the throwing of the reproducer into and out of engagement with the sound-record.

It is evident, of course, that various changes could be made in the details of construction illustrated without departing from the spirit and scope of my invention, so long as the relative arrangement of parts shown in the drawings or the principle of operation disclosed in the specification is preserved. Other forms of brake, swinging rest, and connecting mechanism might be substituted, springs might take the place of weight, and certain features of the invention might be applied to other forms of talking-machines than the particular form illustrated and known as the "gramophone;" but all these changes I consider matters of form and not of substance, and the resulting apparatus I should still regard as being within the scope of my invention.

Having therefore described my invention, what I claim as new, and desire to protect by Letters Patent, is—

1. The combination of the main frame, the rotating sound-record, the reproducer cooperating therewith, the supporting-frame hinged to the main frame and to the reproducer, the axes of both hinges being substantially parallel to the line of travel of the sound-record at the point of its contact with the reproducer-stylus, and the rest for said reproducer also hinged to the main frame.

2. The combination of the main frame, the rotating sound-record, the reproducer cooperating therewith and the supporting-frame hinged to the main frame and to the reproducer, the axes of both hinges being substantially parallel to the line of travel of the sound-

record at the point of its contact with the reproducer-stylus.

3. The combination of the main frame, the rotating sound-record, the reproducer cooperating therewith, and the supporting-frame hinged to the main frame and to the reproducer, the axes of both hinges being substantially parallel to the line of travel of the sound-record at the point of its contact with the reproducer-stylus, together with the counterweight suspended from the hinged frame below its pivotal point of attachment to the main frame.

4. The combination of the main frame, the rotating sound-record, the reproducer cooperating therewith, and the hinged support on the main frame for said reproducer, the axis of the hinge being substantially parallel to the line of travel of the sound-record at the point of its contact with the reproducer-stylus, together with the rest for said reproducer also hinged to the main frame, the axis of its hinge being substantially parallel to that of the hinged support.

5. The combination of the main frame, the rotating sound-record, the reproducer cooperating therewith, and the hinged support on the main frame for said reproducer, the axis of the hinge being substantially parallel to the line of travel of the sound-record at the point of its contact with the reproducer-stylus, together with the rest for said reproducer also hinged to the main frame, the brake for the rotating record, and connecting mechanism between said brake and the hinged rest.

6. The combination of the main frame, the rotating sound-record, the reproducer cooperating therewith, and the hinged support on the main frame for said reproducer, the axis of the hinge being substantially parallel to the line of travel of the sound-record at the point of its contact with the reproducer-stylus, together with the rest for said reproducer also hinged to the main frame, the brake for the rotating record, and connecting mechanism between said brake and the hinged rest, and the lever for simultaneously operating said brake and hinged rest.

Signed by me at New York city, New York, this 27th day of April, 1899.

GEORGE K. CHENEY.

Witnesses:

LILIAN FOSTER,
A. PARKER-SMITH.