

No. 651,905.

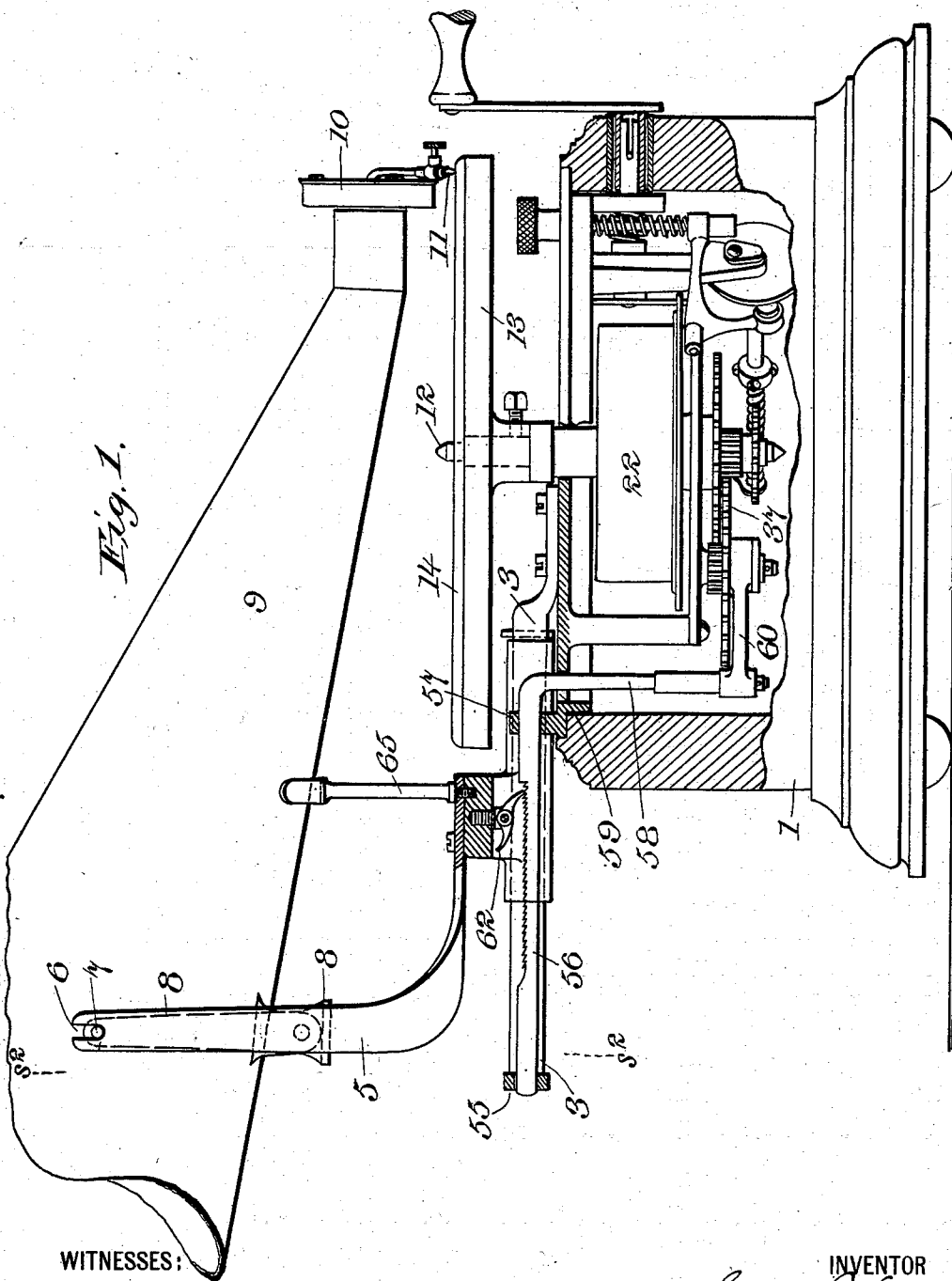
Patented June 19, 1900.

L. P. VALIQUET.
INTERMITTENT FEED FOR TALKING MACHINES.

(Application filed Nov. 27, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Thos. J. Smith,
W. H. Humphrey

INVENTOR
Louis P. Valiquet
BY
A. Van Rensselaer
ATTORNEY

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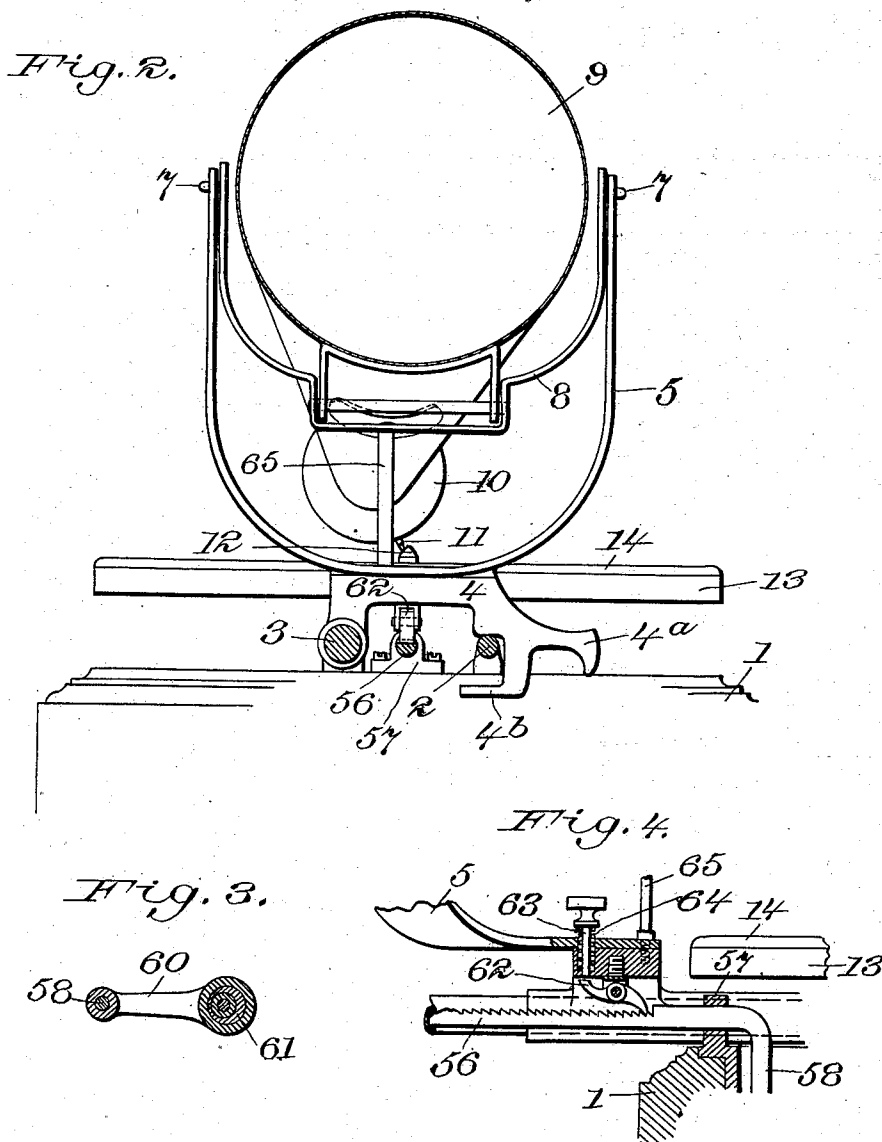
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INVENTOR
Louis P. Valiquet
BY *A. H. Schmidt*
ATTORNEY

UNITED STATES PATENT OFFICE.

LOUIS P. VALIQUET, OF NEW YORK, N. Y., ASSIGNOR TO THE UNIVERSAL TALKING MACHINE COMPANY, OF SAME PLACE.

INTERMITTENT FEED FOR TALKING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 651,905, dated June 19, 1900.

Application filed November 27, 1899. Serial No. 738,281. (No model.)

To all whom it may concern:

Be it known that I, LOUIS P. VALIQUET, 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 Intermittent Feeds for Talking-Machines, of which the following is a specification.

My invention relates to talking-machines in general, and more specifically consists of an improved construction of talking-machine designed to employ sound-records in the shape of a flat disk.

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

Figure 1 is a side elevation and partial section of the complete talking-machine. Fig. 2 is an end elevation and partial section on line 2 2 of Fig. 1. Fig. 3 is a detail of the eccentric and pitman cooperating therewith to produce the reciprocating action, and Fig. 4 is a detail of a modification.

Throughout the drawings like reference figures refer to like parts.

The casing 1, forming the base of the machine, contains a spring-motor or record-rotating apparatus driven by a spring concealed in the drum 22. The mechanism produces regular rotation of the shaft 12 and substantially conforms to the construction described and illustrated in my pending application, Serial No. 713,984, filed April 21, 1899. It will not therefore be further described.

The table 13, supported by the shaft 12 and rotated thereby, is designed to carry a flat-disk-shaped sound-record 14. The sound-box 10 is of the usual construction, the reproducing-stylus 11 cooperating with the groove in the sound-record. The reproducer sound-box is carried on the end of the horn 9, which is supported by the swinging link 8, pivoted at its center to the under side of the horn 9 and having outwardly-extending pivots 7 at its extremities. These pivots 7 fit into the slots 6 in the upper ends of the U-shaped upwardly-extending fork 5. This fork is mounted on the sliding carriage 4, which slides to and from the record on a line passing through the axis of shaft 12, being guided by the guide-rod 3, which is fastened to the upper bed-

plate of the motor. A parallel rod 2 serves as a rest for the other side of the carriage 4, and the cross-piece 55 connects the outer ends of these rods 2 and 3. A reciprocating ratchet-rod 56 is guided in this cross-piece 55 and in the lug 57, formed on the bed-plate of the motor. This ratchet-rod has a downwardly-extending portion 58 at right angles to its main portion, and this extension 58 passes down through a slot 59 in the bed-plate of the motor. Upon the lower end of this extension is pivoted the eccentric-rod or pitman 60, which cooperates with the eccentric 61, formed on the hub of the gear 37 of the motor or rigidly connected thereto.

Pivoted on the under side of the carriage 4 is the pawl 62, adapted to normally fall into engagement with the ratchet 56. The carriage 4, however, has an extension 4^a, by which it may be swung up on the guide-rod 3 as a center, so as to remove the pawl 62 from engagement with the ratchet. The horizontally-extending lower lug 4^b prevents the carriage from being tipped too far by striking the under side of the rod 2. An upright 63 may be attached to the carriage for the purpose of supporting the horn and sound-box when the carriage is tipped up to be slid back. This upright is of such length that when the carriage is down in its operative position the upright does not reach the horn, but the same is supported at its smaller end solely by the reproducing-stylus resting on the record.

In the modification shown in Fig. 4 the plunger 63, which is normally held up by the spiral spring 64, will, when depressed, strike the rear end of the pawl 62 and swing the same out of engagement with the ratchet 56 without tipping up the carriage 4, as heretofore described.

The mode of operation of my invention is as follows: When the talking-machine is to be operated, the motor is wound up in the well-known way and the carriage 4 is slid to the right (see Fig. 1) by disengaging the pawl from the ratchet by swinging up the carriage by means of the extension 4^a if the construction shown in Figs. 1 and 2 is used, or by disengaging the pawl through the action of the plunger 63 if the construction shown in Fig. 4 is employed. The carriage being slid to the right, the stylus 11 is dropped into engage-

ment with the starting-point of the sound-record 14. When the motor starts into operation rotating the sound-record, a reciprocating motion is given to the ratchet 56 by means of the eccentric 61 and pitman 60. This eccentric is so designed as to give the carriage just the same amount of feed as the stylus 11 requires to traverse the record during the time of one rotation of said eccentric 61. The swinging link 8 constitutes a yielding connection between the carriage and the reproducer, so that the step-by-step feeding action of the carriage will not interfere with the continuous movement of the stylus along the same line of motion. During the right-hand stroke of the ratchet 56 the pawl runs over one tooth and catches ready to feed the carriage toward the left on the return or left-hand stroke of the ratchet. In packing the machine the horn and reproducer can be promptly removed from the carriage by lifting them, together with the swinging link 8, up from the supporting-fork 5. When the end of the record is reached, the reproducer can be lifted up and the carriage 4 slid back to the starting-point in the manner before described.

The advantages of my invention consist in the simple and inexpensive method of feeding embodied in the construction shown and in the convenient mounting of the horn and reproducer in the fork carried by the feed-carriage. The pawl and ratchet is a much simpler and more convenient feed apparatus than the ordinary feed-screw and is more easily connected to the motor. It is automatic in its action and in engagement or disengagement and requires no oiling. By giving the reproducer a positive feed in the manner described, all possibility is avoided of the mechanism sticking and thereby compelling the stylus to jump back and cut across the record, thereby ruining the same, as sometimes occurs with machines in which the reproducer is fed by the action of the sound-record groove instead of being fed by a positive actuating mechanism, as is the case with my invention.

Of course 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 principle of operation described or the general relative arrangement of parts illustrated is preserved. Other forms of step-by-step feed mechanism could be employed, and they might be operatively connected to the record-rotating mechanism in different ways. The particular form of sliding carriage and guideways shown might be changed and the reproducer otherwise mounted on the carriage; but all such modifications I should consider matters of detail only and still within the boundaries 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 rotating sound-

record, the sliding reproducer-carriage, the reproducer hinged thereto and resting on the record by gravity, the record-rotating mechanism, and the step-by-step feed mechanism for the carriage operated by the record-rotating mechanism.

2. The combination of the rotating sound-record, the sliding reproducer-carriage, the reproducer hinged thereto and resting on the record by gravity, the record-rotating mechanism, and the reciprocating-ratchet feed mechanism for the carriage operated by the record-rotating mechanism.

3. The combination of the rotating sound-record, the sliding reproducer-carriage, the reproducer hinged thereto, by a connection slightly yielding in the direction of travel of the carriage, the record-rotating mechanism, and the step-by-step feed mechanism for the carriage operated by the record-rotating mechanism.

4. The combination of the rotating sound-record, the sliding reproducer-carriage, the reproducer hinged thereto, the record-rotating mechanism, the step-by-step feed mechanism for the carriage operated by the record-rotating mechanism, and means whereby the feed mechanism may be thrown out of gear on the return motion of the carriage.

5. The combination of the rotating sound-record, the sliding reproducer-carriage, the reproducer hinged thereto by a connection slightly yielding in the direction of travel of the carriage, the pawl on said carriage, the reciprocating ratchet coöperating therewith, the record-rotating mechanism, the eccentric rotated by the said rotating mechanism, and the pitman for transmitting motion from said eccentric to said reciprocating ratchet.

6. In a talking-machine the combination of the carriage the upwardly-extending fork having slotted ends, and the horn having a sound-box on its end and removably mounted in the slotted ends of the fork, by means of a swinging link pivoted at its center to the under side of the horn and having pivots on each extremity adapted to drop into the slots in the ends of the fork.

7. The combination in a talking-machine of the rotating sound-record, the reproducer-carriage sliding on guides and hinged to swing in a plane at right angles to the line of sliding motion, the reproducer hinged to said carriage and having its stylus resting on the sound-record when the carriage is down upon the guides in operative position, and the support for the reproducer also carried by the carriage and normally out of engagement therewith but so located as to support the reproducer when the carriage is tipped upon its hinge.

Signed by me at New York, N. Y., this 25th day of November, 1899.

LOUIS P. VALIQUET.

Witnesses:

W. H. PUMPHREY,
A. PARKER-SMITH.