To all whom it may concern:

Be it known that I, THOMAS A. EDISON, a

citizen of the United States, residing at Llew-

eyln Park, in the county of Essex and State

of New Jersey, have invented a certain new

and useful Improvement in Phonographs,

(Case No. 907), of which the following is a

specification.

The objects of this invention are to enable

the user of the phonograph to stop or start the

recorder while in the act of speaking into the

phonograph without moving the feed arm or

from the feed screw by the hand, and without

opening the motor circuit, as has hereto-

fore been necessary, and to control the position

of the recorder and reproducer while turning

off the surface of a blank, as hereinafter

described.

In the accompanying drawings which il-

strate the improvement, Figure 1 is a view

showing the recorder resting on a phonograph

blank, a section of the speaking tube and the

mechanism for raising the recorder from the

blank. Fig. 2 is a face view of a portion of

the devices shown in Fig. 1. Fig. 3 is a view

of the recorder and reproducer looking from

under the side. Fig. 4 is a section on line x x

of Fig. 1, and shows the circuit controller;

and Fig. 5 is a side view of one of the parts

shown in Fig. 3.

The phonograph blank 1 is mounted on a

cylinder which is revolved in the ordinary or

any suitable manner. The rocking holding

arm 2 which supports the recorder and repro-

ducer is connected with a guide sleeve, which

sleeve has a feed arm engaging with a feed-

screw in the usual or any suitable manner not

necessary to be illustrated in this case. Near

one end of the arm 2 is attached the presser

4 foot adapted to bear on and move along the

guide rest 3.

4 is a tilting bar pivoted at each end to a

suitable support or bracket as indicated at 6.

7 is a dash pot connected with the tilting

bar to steady and regulate the movement of

said bar. Below the tilting bar, supported in

any suitable manner, is an electro magnet 8

included in a circuit 9 extending to a circuit

controller on the speaking tube in a position

convenient to be operated by the hand which

holds said tube to the mouth. The circuit

controller in the form illustrated consists of

a spring 10 connected to one wire of the

circuit, and a pin 11 connected to the other wire

of the circuit. These wires terminate in a

plug 12 having two conducting plates 13, 14,

adapted to make contact with two correspon-

ding plates in the socket into which the plug

is inserted. The two socket plates are con-

nected respectively to the two terminals 15, 16

of the magnet, as indicated in Figs. 1 and 2.

17 is an armature for the magnet and has a

centrally located pivot 18. This armature is

connected by means of a link or rod 19 with

the tilting bar 4. The upper end of 19 pref-

erably merely rests against said bar, although

it may have a pivotal connection. When the

circuit is open the weight of the recorder arm

resting on the tilting bar is sufficient to de-

press the tilting bar and armature into the

position shown in Figs. 1 and 2, but when the

circuit is closed by pressure on the spring 10,

the armature 17 is caused to turn on its pivot

taking the position shown in dotted lines in

Fig. 2, thereby raising the inner edge of the

tilting bar and moving the recorder from the

phonograph blank. It will be understood

that this motion also disengages the feeding
device of the phonograph. When the operator

desires to proceed with his dictation, he re-

moves his finger from the spring 10 allowing

the circuit to open, and the parts resume their

normal position. A battery is shown in the

circuit 9 but in practice a branch from the

motor battery will ordinarily be used.

In using the phonograph after a record has

been made on the blank, it is often desired to

remove said record in order that the blank

may be again used. In some phonographs the

mechanism is so arranged that the old

record can be cut off and a second record

made on the blank just behind the cutting

off tool, but in certain other phonographs the

entire surface must be cut off before the sec-

ond record is made on the blank. In this form

of phonograph I find it very desirable that the

recorder and reproducer be raised enti-

ly away from the surface of the blank
during the operation of cutting off the old

record. I therefore provide a support for the

plate on which the recorder and reproducer

are mounted. As illustrated in Fig. 3, the

rocking holding arm 2 terminates in a ring

20 which carries the diaphragm 21 and dia-

This text is a description of a phonograph mechanism that includes a tilting bar system and a method for stopping and starting the recorder without interrupting the recording process. The invention also includes features for raising the recorder from the phonograph blank when the circuit is closed, allowing for the removal of the record.
phragm support 22. To this support is pivoted a plate 23 which carries the recorder and reproducer 24 arranged in a well-known manner, so that when in one position the recorder 5 bears on the phonogram blank, and when in another position the reproducer bears on said blank.

24 is an arm connected with 22, and 25 is a cam which can be moved by the milled head 26 for moving the arm 24 to adjust the position of the reproducer onto the line of record. 27 is a plate, preferably struck up from a piece of sheet metal, pivoted at one end to the ring 20. The opposite end is adapted to project under the plate 23.

28 is a screw or pin projecting from 22 and movable therewith when the diaphragm and diaphragm support are turned to change the position of the recorder and reproducer. Plate 27 is provided with a cam surface 29 against which 28 bears as it is moved in the manner above described. Plate 27 is provided with a downward projection 30 to serve as a handle for moving the plate in one direction.

The operation of the device just described is as follows: In the position shown in Fig. 3 the diaphragm is supposed to be turned to bring the reproducer over the bearing surface of the phonogram blank. The plate 27 is, however, pushed inward so that its end rests under the plate 23 and supports it so that the reproducing point does not actually touch the blank. This is the position occupied during the cutting off of an old record. When said operation has been completed the arm 24 is moved away from the cam 25 thereby turning the diaphragm and its support and moving pin 28 against the cam surface 29, thereby automatically withdrawing the end of plate 27 and allowing plate 23 to descend so that the recorder shall rest on the surface of the blank. To again move the plate 27 under 23 the extension 30 is pressed by the finger of the operator, since the pin 28 does not operate on the cam surface in its reverse movement.

Having thus described the invention, what I claim is—

1. In a phonograph, the combination with the rocking holding arm, the guide rest therefor, and the tilting bar, of an electro-magnet controlling the position of the tilting bar, a circuit including said magnet, and a circuit controller in said circuit, substantially as set forth.

2. In a phonograph, the combination with the rocking holding arm, the guide rest therefor, and the tilting bar, of an electro-magnet, a movable armature therefor, a mechanical connection between said armature and said tilting bar, a circuit including said magnet, 60 and a circuit controller in said circuit, substantially as set forth.

3. The combination, in a phonograph, of a recorder and reproducer carried by a single support, which support can be turned to bring either the recorder or reproducer into operative position, a movable plate adjacent to said support and projecting or adapted to project under it, and a pin movable with the support and pressing against said said plate to move it, substantially as described.

4. The combination in a phonograph, of a recorder and reproducer carried by a single support, which support can be turned to bring either the recorder or reproducer into operative position, a movable plate having a cam surface and adapted to project under the recorder and reproducer support, and a pin movable with said support and pressing against said said cam surface to move the plate, substantially as described.

5. The combination of a plate supporting a phonograph recorder or reproducer, or both, a movable ring upon which the plate is supported, a pin movable with the ring, and a pivoted plate adapted to extend under the recorder support having a cam face against which the pin bears to move the plate, substantially as described.

6. The combination of a plate supporting a phonograph recorder or reproducer, or both, a movable ring upon which the plate is supported, a pin movable with the ring, and a pivoted plate adapted to extend under the recorder support having a cam face against which the pin bears to move the plate in one direction, and a handle for moving it in the reverse direction, substantially as described.

This specification signed and witnessed this 4th day of February, 1891.

THOS. A. EDISON.

Witnesses:

E. J. BERGREN,
L. O. WEBER.