

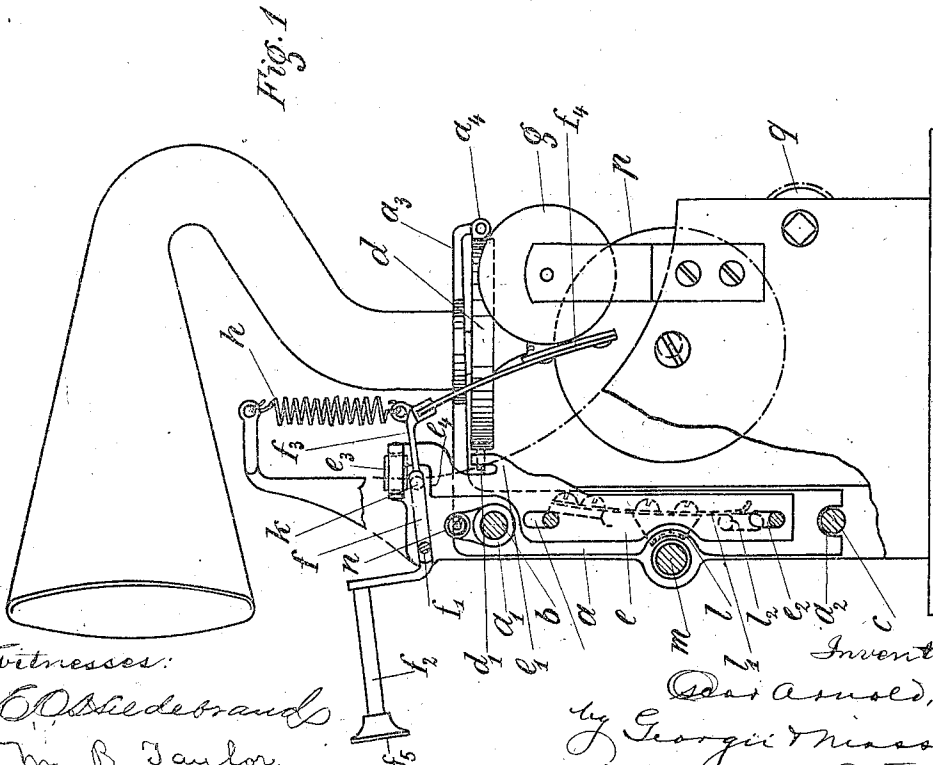
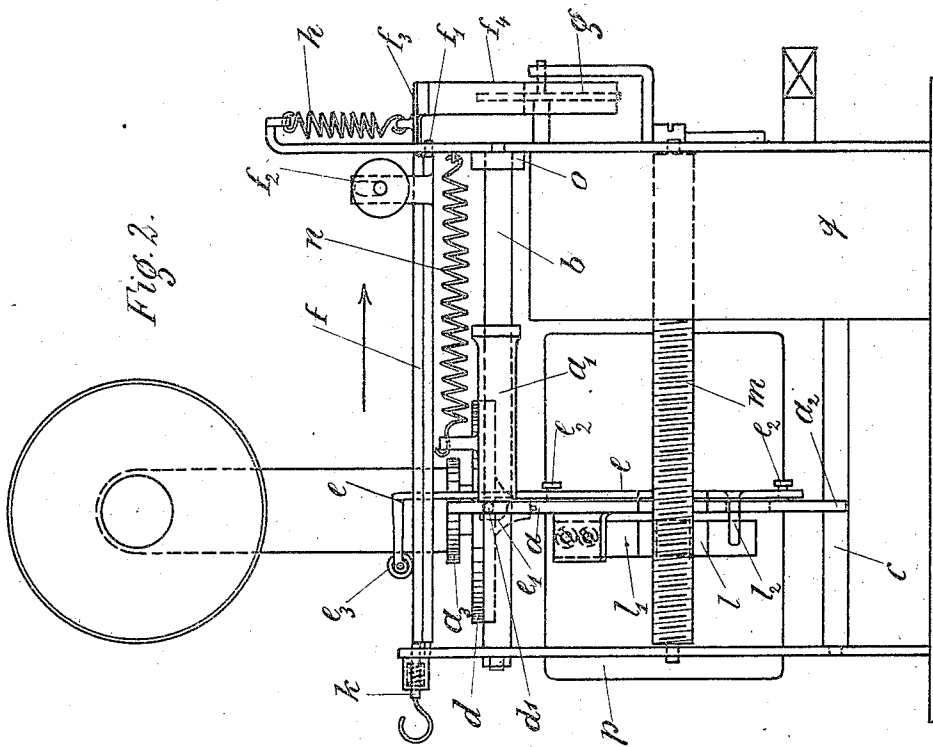
O. ARNOLD.
PHONOGRAPH.

APPLICATION FILED JULY 31, 1908.

Patented Aug. 20, 1912.

2 SHEETS—SHEET 1.

1,036,413.



Witnesses:
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Inventor:
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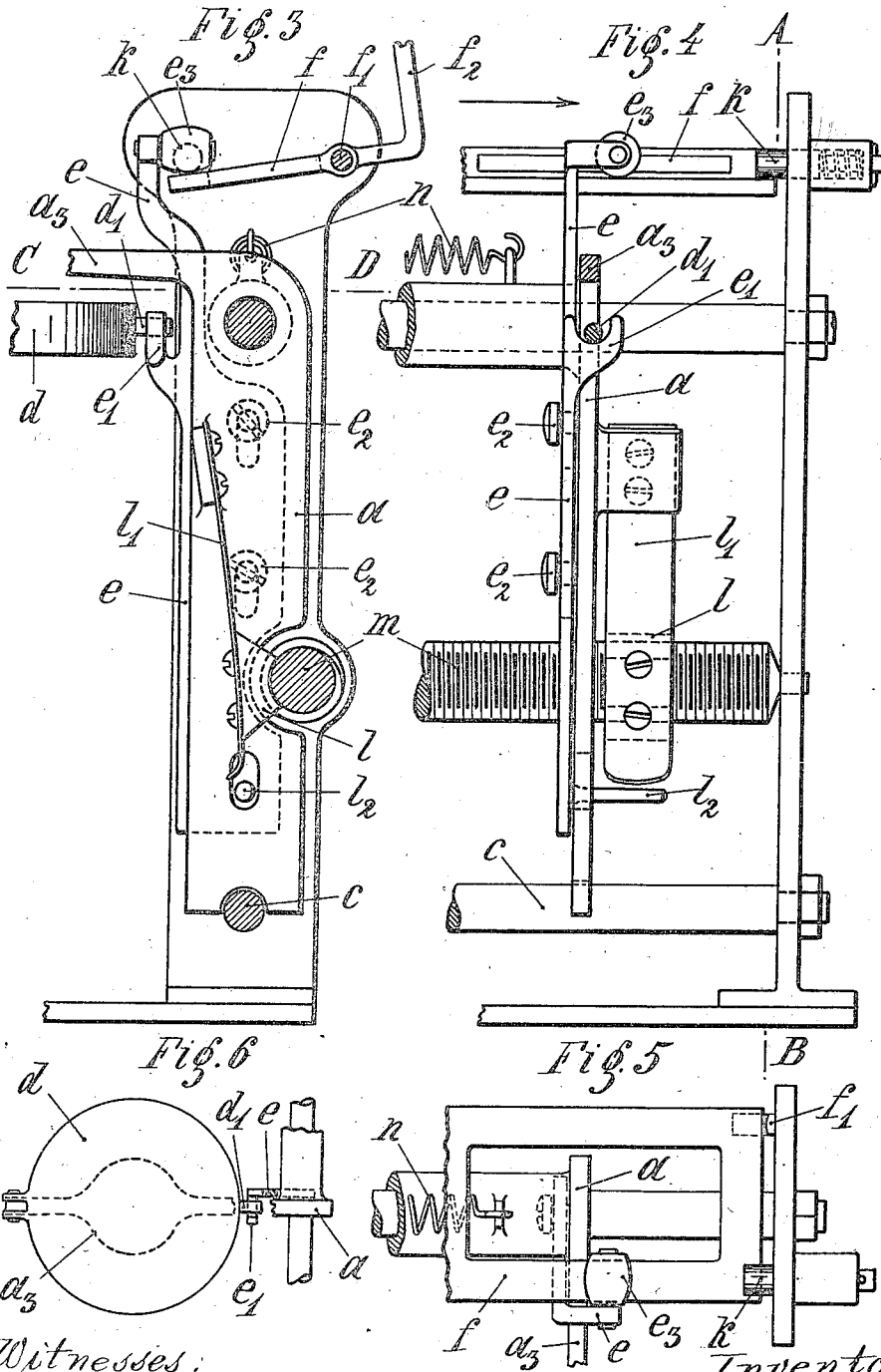
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

OSCAR ARNOLD, OF NEUSTADT, COBURG, GERMANY.

PHONOGRAPH.

Specification of Letters Patent. Patented Aug. 20, 1912.

1,036,413.

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To all whom it may concern:

Be it known that I, OSCAR ARNOLD, citizen of Germany, residing at Neustadt, in the Duchy of Coburg, in the German Empire, have invented certain new and useful improvements in Phonographs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to phonographs and particularly to an improvement therein whereby at the end of the particular record the reproducing apparatus is automatically returned to the starting point, ready for a second reproduction upon the release of the driving mechanism.

A phonograph constructed according to this invention is particularly well adapted for use in connection with talking dolls and like toys in which the speaking apparatus is built into the doll body and is caused to operate by the pressure of a button.

The invention, as hereinafter more fully described and as particularly set out in the accompanying claims, is illustrated in one embodiment in the accompanying drawing, in which:

Figure 1 is a side view partly in section; Fig. 2 is a front elevation; Fig. 3 an enlarged detail view in sectional side elevation taken on the line A—B; Fig. 4; Fig. 4 a front elevation of the same; Fig. 5 a plan view of the part shown in Fig. 4; and Fig. 6 a sectional plan taken on the line C—D, Fig. 3.

Referring to the drawings, the sound box carrier consists of an angle piece, of which the vertical arm *a* is provided in its upper portion with a guide sleeve *a*₁ and in its lower portion with a fork *a*₂, embracing and traveling on guide rods *b* and *c* respectively. The horizontal arm *a*₃ of the carrier extends over the sound box *d* in the form of a loop (see Fig. 6) and at its extremity *a*₄ it is pivoted to the sound box, which latter at its opposite side rests by means of a stud *d*₁ in a notch *e*₁ of the bar *e* which is mounted on the carrier *a* and vertically movable thereon by virtue of its slot-and-pin connections *e*₂, *e*₃. (See particularly Figs. 3 and 4.) This bar *e* is moved by means of a rocker *f* fulcrumed at *f*₁, extending into a recess *e*₄ of the bar *e*, and overlaid and held down by a guide-roll or traveler *e*₃, connect-

ed with the sound-box by being mounted on the bar *e*. Said rocker *f* serves for and is formed as a track for the guide roll *e*₃ (see Figs. 2, 4 and 5), and is formed at its right-hand end as a two-arm lever whose one arm *f*₂ carries a button *f*₅, while its other arm *f*₃ carries a spring-brake *f*₄, in frictional contact with the regulator-pulley *g*. To the arm *f*₃ is attached a tension spring *h* secured at its other end to a standard fixed to the machine frame, said spring *h* serving to normally hold the rocker in its upper position.

In the frame at the left end of the rocker *f* is mounted a spring catch *k*, which, as the rocker *f* is moved downward by pressure on the button *f*₅, slips over the rocker and holds the same down; at which time the catch *k* is in the plane of the roll *e*₃, whose function is to push back the spring catch when the carrier *a* and the bar *e* arrive at their extreme left-hand position, Fig. 2.

On the carrier *a* is mounted a leaf spring *l*₁ bearing a threaded segment *l* normally held by a pin *l*₂ secured to and extending from bar *e* as best seen in Figs. 3 and 4, out of engagement with the threaded drive spindle *m* but tending to operatively engage the same so as to move the sound box forward over the record. A return spring *n* secured at its right end to the sound box, serves to return the apparatus to the starting point, a buffer *o* of leather, rubber or the like preventing any undue shock in the return movement. The driving of the spindle *m* and of the record *p* is effected in any ordinary manner by a motor *q* through suitable gearing not shown.

The operation is as follows: Assuming the parts to be at rest and the spring *n* to have drawn the sound box and other mechanism to the starting point to the right, the spring *h* holding the brake *f*₄ in the operative position to prevent movement of the parts. When the button *f*₅ is pressed, the rocker *f* descends, releasing the brake *f*₄ and starting the motor. At the same time the bar *e* is depressed so as to disengage the pin *l*₂ from the spring *l*₁, thereby allowing the threaded segment *l* to engage the drive spindle *m*. Simultaneously with the depressing of the bar *e*, the sound box *d* drops with its needle into contact with the record *p*, and the catch *k* being released from the roller *e*₃ springs into place above the rocker *f* to hold it down. Thereupon the phono-

graph reproduces the record to its end, as the carrier *a* and the sound box travel from right to left, Fig. 2. When the carrier has arrived at the end of its stroke to the left the roll *e*, strikes the catch *k* and pushes it back, releasing the rocker *f* which is drawn up by the spring *h*, braking the motor and releasing the threaded segment *l* from the spindle *m*, when the tensioned spring *n* immediately returns the mechanism to the starting point, where it assumes a position of rest until the button *f*, is again pressed.

Having thus fully described my invention, what I claim is:—

1. In a phonograph, the combination, with a record, a sound-box adapted to travel with respect to the record, a motor, and a drive-spindle connected with the motor, and means for causing the sound-box to engage the record and the drive-spindle, of a rocker arranged to disengage the sound-box from the record and the drive-spindle; a brake adapted to arrest the motor, a connection between the rocker and the brake to apply the brake simultaneously with the disengagement of the sound-box from the spindle and record; means for locking the rocker when the sound-box is engaged with the spindle, and means for tripping said locking means at the end of the travel of the sound-box, whereby the rocker is permitted to act.

2. In a phonograph, the combination with a record, a motor, a drive spindle connected therewith, and a sound-box adapted to engage the drive-spindle and to travel with respect to the record, of a rocker provided with means for simultaneously disengaging the sound-box from the record and the drive-spindle and provided with a guide-way, yielding means directly connected to the rocker for tilting the same into its inoperative position; a traveler arranged to move over the guide-way, a catch for locking the rocker when the sound-box is in engagement with the record and the spindle and arranged in the path of the traveler, a lever arranged on the rocker for pushing it into its operative position against the stress of the yielding disengaging means, and means independent of and arranged laterally of the drive-spindle for automatically returning the sound-box to its starting position when the catch is tripped by the traveler.

3. In a phonograph, the combination, with a record, a motor to drive the same, a drive-spindle connected to the motor, a brake adapted to arrest the motor, and a sound-box adapted to engage the drive-spindle and the record, of a rocker arranged to simultaneously disengage the sound-box from the drive-spindle and the record and to apply the brake, means for locking the rocker when the sound-box is engaged with the record

and the drive-spindle and the brake is released, and means for tripping said locking means when the sound-box has reached the end of its travel, said means being mounted on the rocker, and means to automatically return the sound-box to the starting point when the locking means are tripped.

4. In a phonograph, the combination, with the sound box, the record, the motor, and the drive spindle, of a rocker arranged to permit the connection of the drive spindle with the sound box, a catch to hold the rocker in its operative position, and means carried with the sound box and arranged at the limit of its travel to release the catch, a lever secured to the rocker, a button mounted on one arm of the lever, the brake attached to the second arm of the lever and adapted to arrest the motor, a spring also attached to the second lever arm and tending to apply the brake and lift the rocker when the catch is released, means connected with the rocker to release the sound box from the spindle when the catch is released, and means to automatically return the sound box to the starting point.

5. In a phonograph, the combination, with the sound box, the record, the motor, and the drive spindle, of a threaded segment, a spring pressing the segment into engagement with the spindle, a bar provided with a pin to press the spring out of operation, a rocker arranged to lift the bar to release the segment from the spindle, a spring tending to operate the rocker, a catch to hold the rocker out of operation, means carried with the sound box to release the catch at the limit of its travel to permit the rocker to lift the bar to disconnect the driving spindle, and means to return the sound box to the starting point.

6. In a phonograph, the combination, with the sound box, the record, the motor, and the drive spindle and a brake adapted to arrest the motor, of a threaded segment, a spring pressing the segment into engagement with the spindle, a bar provided with a pin to press the spring out of operation, a rocker arranged to lift the bar to release the segment from the spindle and apply the brake, a spring tending to operate the rocker, a catch to hold the rocker out of operation, means carried with the sound box to release the catch at the limit of its travel to permit the rocker to lift the bar to disconnect the driving spindle and simultaneously apply the brake, and means to return the sound box to the starting point.

7. In a phonograph, the combination, with the sound box, the record, the motor, and the drive spindle, of a threaded segment, a spring pressing the segment into engagement with the spindle, a bar provided with a pin to press the spring out of operation, a rocker arranged to lift the bar to release the seg-

ment from the spindle, a spring tending to
operate the rocker, a catch to hold the rocker
out of operation, means carried with the
sound box to release the catch at the limit of
5 its travel to permit the rocker to lift the bar
to disconnect the driving spindle, and means
to return the sound box to the starting point,
the sound box having a swinging connection
with the bar, whereby as the bar drops to
10 permit a connection between the drive spin-

dle and sound box, the latter will also drop
into operative contact by its needle with the
record.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses. 15

OSCAR ARNOLD.

Witnesses:

OTTO LAUB,
OLGA HINGE.