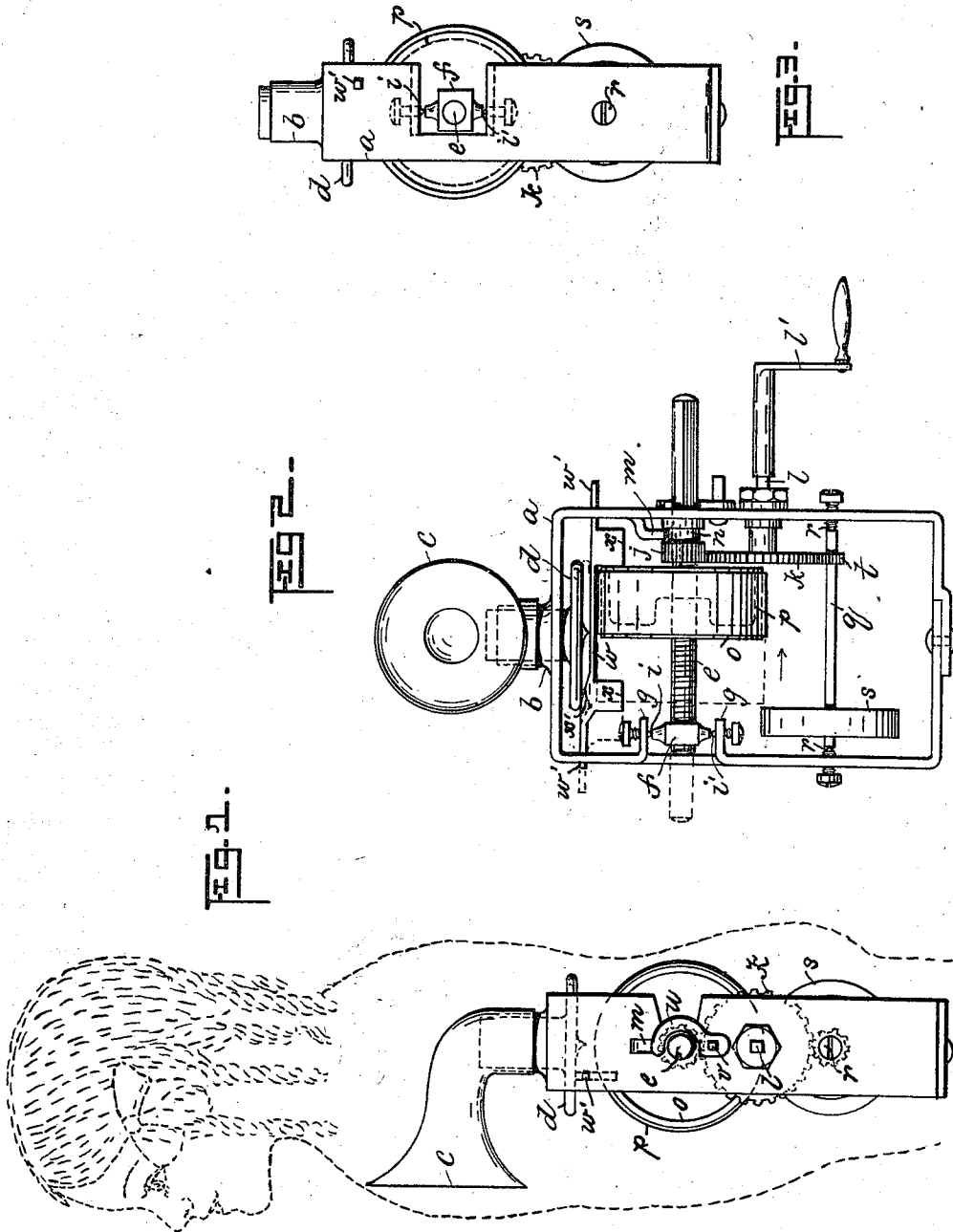


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 PHONOGRAPH FOR DOLLS OR OTHER TOYS.
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1,015,587.

Patented Jan. 23, 1912.



WITNESSES

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERMAN RINGEL, a citizen of the United States, residing in the city of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Phonographs for Dolls or other Toys, of which the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make, construct, and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, forming a part of this specification.

My invention relates more especially to phonographs designed to be placed in dolls or other toys, whereby it can be constructed in a manner so simple and inexpensive, as to be adapted to almost universal use in the production of articulate sounds, and especially short sentences or phrases of everyday speech.

The object I have in view is to produce a simple, cheap and efficient construction, and my invention consists in the various novel devices and combinations as more fully hereinafter explained and pointed out by the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved phonograph, showing the same in position in a dotted view of a doll. Fig. 2 is a front view of the phonograph; and Fig. 3 is another side view of the same.

Similar letters of reference refer to like parts throughout the specification and drawings.

In the drawings, *a* represents a metal strap bent to form a rectangular supporting frame and provided at its top with a tubular extension *b* for the reception of the horn *c*, and the reproducer *d*.

e is the operating shaft screw-threaded, one end of which passes through the pivotally arranged nut *f*, which is pivotally mounted in the rectangular flanges *g* formed integral with the supporting frame *a*. The lower end of the nut *f* rests against a centering point *i'* in the lower flange *g*; and the other end of the nut rests against a centering point *i* passing through the upper flange *g* of the frame. A gear wheel *j* is mounted upon the operating shaft *e* and meshes with a gear wheel *k* which is secured to the han-

dle-shaft *l*. The handle shaft carrying the gear wheel *k* is directly journaled in one side of the frame *a* and has secured to it the handle *l'*. The gear wheel *j* is splined to the shaft *e* and held in position against the frame *a* by means of the tongue *m*, which is formed integral with the frame *a*, the end of which is in engagement with a groove *n* formed on said gear. Upon the shaft *e* is mounted a mandrel *o*, which carries the sound record *p*. A countershaft *q* extends across between the side pieces of the frame *a* beneath the shaft *e*, both ends of which set against the centering points *r*. The shaft *q* carries a balance wheel *s* on one end, while near its other end, it carries a gear wheel *t* which meshes with the gear wheel *k*, thus connecting shafts *q* and *e* together, so that the balance wheel *s* will steady the revolving movement of the shaft *e*.

To provide for the removal of the sound record *p* from the supporting frame *a*, the side piece of the frame *a* through which the shaft *e* passes, is slotted on one side, and the shaft is swung laterally into this slot, it being held by a pivoted locking lever *u*, which is pivoted at the point *v* to the side piece of the frame.

The means employed for disengaging the reproducing point from the record while the record is moved back to the position of starting, consist essentially of a loosely mounted sliding bar *w* preferably square in cross-section, the ends *w'* of which pass through and slide in correspondingly formed square apertures located in the upper ends of the side pieces of the supporting frame *a*. This sliding bar *w* is provided on its lower edge with depending wings or lugs *x*, the inner edges of which are designed to engage with the inner and outer edges of the mandrel *o* and to be moved by said mandrel.

The upper left hand end of the sliding bar *w* is provided with a beveled portion, as at *x'*, designed to engage with the edge of the reproducer *d* and to lift the same, thereby disengaging the reproducing point from the record, and this is accomplished when the right hand edge of the mandrel *o* engages the inner edge of the right hand depending wing or lug *x* of the sliding bar *w*, and forces said bar toward the right hand end of the frame *a*. The tubular stem of the reproducer *d* is loosely located in the tubular

extension *b* of the supporting frame *a* and the reproducing point rests by gravity upon the sound record *p*.

To operate the instrument, the parts, namely, the shaft *e* and mandrel *o* being in the position shown in dotted lines in Fig. 2, the handle *l'* is turned, revolving the sound record *p* beneath the reproducing point and at the same time advancing the sound record in the direction of the arrow and to the position shown in full lines, by reason of engagement of the shaft *e* with the pivotally arranged nut *f*. In this traveling movement of the record *p* which is secured to the mandrel *o*, the right hand end of the mandrel will engage with the inner end of the right hand wing *x* of the sliding bar *w* and will force the bar toward the right, causing the edge of the reproducer *d* to engage with the beveled portion *x'* of the upper edge of the bar *w*, thereby disengaging the reproducing point from the record. To carry the sound record back to the point of starting, so that it can be again reproduced, the handle *l'* is turned in the opposite direction, whereupon, the left hand end of the mandrel *o* engages with the inner edge of the left hand wing *x* of the sliding bar *w* which forces the bar toward the left hand end of the frame and permits the reproducer *d* to ride down on the beveled portion of the upper edge of the bar *w*, when the parts are again in the position shown in Fig. 1.

To provide for the removal of the sound record, the latch *u* is moved in a horizontal position and away from the operating shaft *e*, thus permitting said shaft to be swung around the pivoted nut *f* and out of the frame, thereby providing ready means for putting a new record on the mandrel without entirely removing the shaft *e* from the frame *a*. An opening in the body of the doll in juxtaposition to the phonograph which can be closed by a suitable door or cover, will serve the purpose of gaining access to the operating mechanism of the apparatus.

The construction of the phonograph described in this specification was devised for use in a doll or other image; but, as will be readily understood, the same apparatus may be used in a box or case of any form desired, and that many variations in the specific form and construction of the several parts may be made without departing from the spirit of the invention.

I claim:

1. In a phonograph, the combination with a supporting frame, a loosely mounted reproducer mounted in the upper part of said supporting frame, of a longitudinally moving operating shaft, a mandrel rigidly secured to said shaft and rotating therewith, and a stationary pivotally supported feed nut, said feed nut being located in the supporting frame for advancing the operating

shaft, said shaft being centered by said nut, so that by swinging it laterally it moves with said nut, and means slidably mounted in the upper end of the supporting frame adapted to be acted upon by the sides of the mandrel and to act upon the under side of the reproducer for disengaging the reproducing point from the record while the record is being turned back to the position of starting.

2. In a phonograph, the combination with a reproducer, an operating shaft, mechanism operatively connected with said operating shaft for advancing it, a pivotally supported feed nut for advancing the operating shaft, said shaft being centered by said feed nut, so that by swinging it laterally it moves with said nut and means slidably mounted in the upper end of the supporting frame adapted to act on the under side of the reproducer for disengaging the reproducing point from the record while the record is being turned back to the position of starting.

3. In a phonograph, the combination with a supporting frame, of a pivotally arranged feed nut located in one side of said supporting frame, an operating shaft being centered at one end by said feed nut, and held in a slot in the frame at the other end, so that by swinging it laterally it moves with the said nut, mechanism operatively connected with said operating shaft for advancing it, and a loosely mounted reproducer mounted in the upper end of said supporting frame.

4. In a phonograph, the combination with a supporting frame, of a pivotally arranged feed nut located in one side of said supporting frame, an operating shaft being centered at one end by said feed nut, and held in a slot in the frame at the other end, so that by swinging it laterally it moves with the said nut, mechanism operatively connected with said operating shaft for advancing it, a loosely mounted reproducer mounted in the upper end of said supporting frame and means yieldingly supported in the upper part of said frame for disengaging the reproducing point from the record while the record is being turned back to the position of starting.

5. In a phonograph, the combination with a supporting frame provided with integral inwardly projecting flanges, a feed nut pivotally located between said flanges, an operating shaft passing through and being longitudinally moved by said nut and capable of being swung laterally with said nut, mechanism operatively connected with said operating shaft for advancing it, a loosely mounted reproducer mounted in the upper part of said supporting frame and a slide bar located in the upper part of said frame, the lower edge of said bar being provided

with depending lugs and the upper edge with a beveled portion for disengaging the reproducing point from the record while the record is being turned back to the position of starting.

6. In a phonograph, the combination with a supporting frame provided with integral inwardly projecting flanges, a feed nut pivotally located between said flanges, an operating shaft passing through and being longitudinally moved by said nut and capable of being swung laterally with said nut, a gear wheel splined on the operating shaft and held in position by a tongue formed integral with the supporting frame, means secured to the frame and in engagement

with said gear wheel for advancing the operating shaft, a loosely mounted reproducer mounted in the upper part of said supporting frame and a slide bar located in the upper part of said frame, the lower edge of said bar being provided with depending lugs and the upper edge with a beveled portion for disengaging the reproducing point from the record while the record is being turned back to the position of starting.

This specification signed and witnessed this 11th day of February, 1910.

HERMAN RINGEL.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."