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V. STEINER

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VOICE PRODUCING APPARATUS FOR DOLLS AND OTHER TOY FIGURES

Filed Feb. 11, 1928

Fig. 1

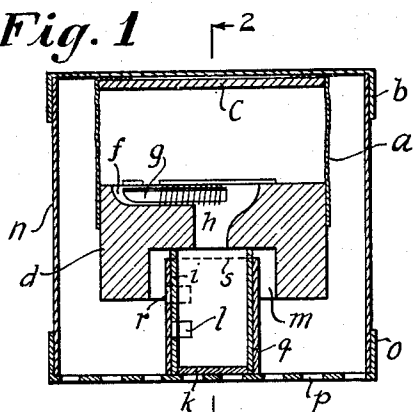


Fig. 2

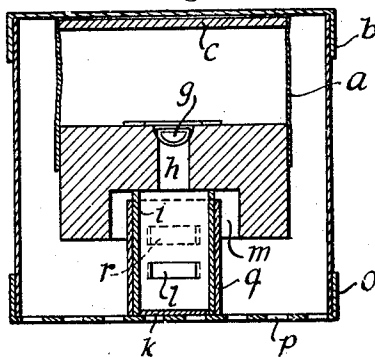


Fig. 3

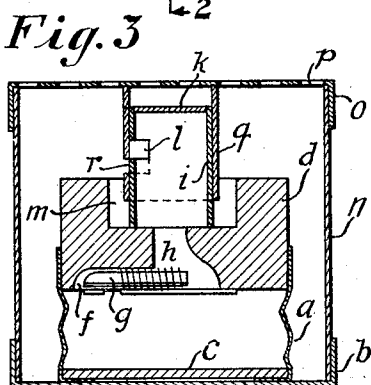


Fig. 6

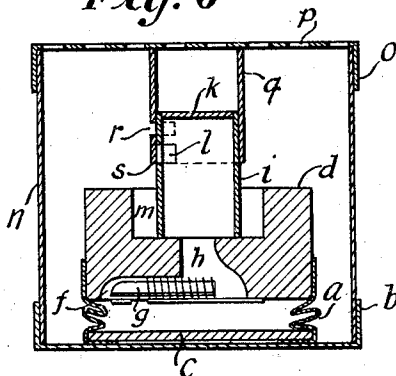


Fig. 4

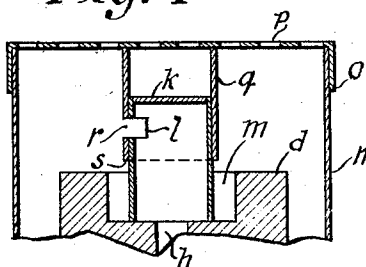


Fig. 5

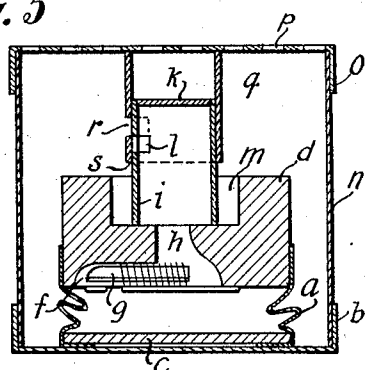
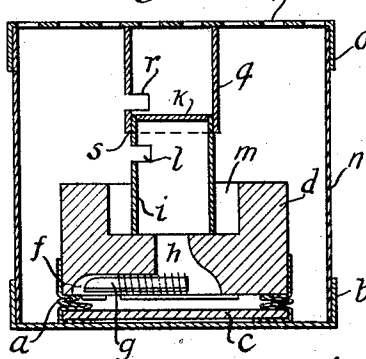


Fig. 7



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UNITED STATES PATENT OFFICE

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VOICE-PRODUCING APPARATUS FOR DOLLS AND OTHER TOY FIGURES

Application filed February 11, 1928, Serial No. 253,761, and in Germany August 25, 1927.

This invention relates to voice producing devices for dolls and more particularly is directed to an improved simplified voice for producing the sound "Mama".

Among the objects of the invention is to generally improve the construction of voice devices of the character described, so as to provide a "Mama" voice, comprising few and simple parts, which can be readily assembled to produce the desired tone effects without requiring skilled labor or adjustment, which shall be rugged and capable of withstanding rough usage, shall be cheap to manufacture, and practical and efficient to a high degree.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a front elevational view in cross-section of a voice producing device embodying the invention, showing the parts in position with the bellows fully extended;

Fig. 2 is a cross-sectional view taken on lines 2-2 in Fig. 1; and

Fig. 3 to Fig. 7 inclusive are cross-sectional views showing the successive positions of the parts during the bellows collapsing movement.

Referring in detail to the drawing, the improved voice producing device embodying this invention there shown is seen to comprise a bellows made of a flexibly collapsible, air-tight, tubular sheet material *a*, closed at one end by a base plate *c*, and at the other end by a weighted head *d*, said base plate being rigidly secured to a bottom closure member *b* of an enclosing casing *n*. In a recess *f* provided in a side of head *d* facing the bellows, there is mounted a reed *g*. Said recess communicates through the

reed with a passage *h*, extending through the head and connects with a tube *i* which is fastened to the head over the end of the passage *h* opposite the reed *g*. The free end of the tube *i* is provided with a closure piece *k* and has a slot *l* in the side thereof at a spaced distance from the piece *k*.

The enclosing casing *n* is provided with a top closure member *o* which has suitable spaced perforations *p* to permit the passage of the sound therethrough. Centrally on the under side of the member *o*, there is fixedly secured a tubular shell *q* which has a slot *r* in the side thereof, which slot *r* is preferably the same size and shape as the slot *l* in the tube *i*. The shell *q* and tube *i* are formed and assembled for telescoping movement, said shell *q* serving as a guide means for the travel of the head *d* during the operation of the bellows. To eliminate friction of the shell *q* with the head *d*, the latter is counter-bored at *m*.

The operation of the improved device will now be apparent. On turning the device upside down as shown in Figs. 3-7, inclusive, the air is forced out of the bellows through the head *d*, escaping through the slot *l* of the tube *i*. The first tone effect, namely the sound "m" is produced until the lower edge portion of the slot *l* passes by the upper edge portion of the slot *r* of the shell *q*. (See Fig. 3.) The "A" sound is emitted while the slots *l* and *r* register at which time the air is permitted to pass through the device with the least restriction. (See Fig. 4.)

The formation of the second "m" sound occurs when the upper edge of the tube slot *l* passes the lower edge of the shell slot *r*, (see Fig. 5), and the sound ceases when the lower edge of the tube slot *l* reaches the lowermost edge *s* of the shell *q* as shown in Fig. 6. The air still contained in the bellows thereafter is permitted to escape without restriction and forms a second "A" sound.

Even with the bellows completely collapsed, the shell *q* embraces a portion of the tube *i*, so that the telescoping engagement of said tube with shell and the guiding of the head *d* is effected.

The head *d* for economy of production may

be made of porcelain but heavier material may be used if the space is limited.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A voice producing device of the character described, comprising a casing, a bellows connected at one end to an end wall of said casing, a weighted head for collapsing the bellows attached to the other free end thereof, a reed connecting with said bellows, telescoping tubular members communicating with the reed, one of said members being connected at one end thereof to said head, the other of said members having an open end portion adjacent said head, said members having slots movable in and out of register with each other on actuation of the head, adapted to produce intonation of the sound emitted by the reed on movement of the bellows, the slotted portion of the member connected to said head being movable beyond the open end portion of said other member.

2. A voice producing device of the character described comprising a bellows, a weighted head for collapsing the bellows, a reed carried by the head connected to receive air from the bellows, an enclosing casing for the device, telescoping tubular members communicating with said reed, one of said members being mounted on the head, the other of said members being supported by the casing, and terminating in an open end portion, said members having slots movable in and out of register with each other on actuation of the bellows whereby the sound emitted by the reed is intoned, said head being formed with a cut-away portion for receiving said open end portion.

3. A voice producing device of the character described, comprising a casing, a bellows connected at one end thereof to an end wall of said casing, a weighted head for collapsing the bellows connected at the other free end thereof, a reed carried by the head connected to receive air from the bellows, and a slide valve for intonating the sound emitted by the reed, said valve comprising a tubular member connected at one end only to the opposite end wall of said casing and extending into said casing, and a second tubular member secured to said head and projecting

away from said bellows and having telescoping relation to said other tube.

4. A voice producing device of the character described comprising a bellows, a weighted head for collapsing the bellows, a reed carried by the head connected to receive air from the bellows, an enclosing casing for the device, said head having a passage communicating with said reed, means for varying the restriction of the sound in said passage to affect intonation thereof, said means comprising a tubular member connected to said head and another tubular member secured to said casing telescoped over said first mentioned member, said weighted head being counterbored to permit overlapping of said second mentioned member and said head during relative movement between said head and casing.

In testimony whereof I affix my signature.
VIKTOR STEINER.

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