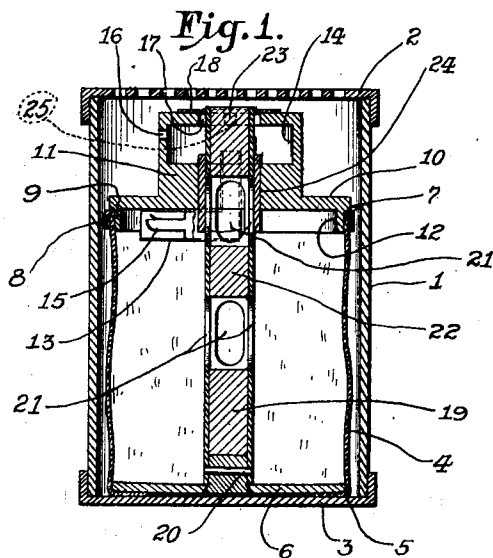
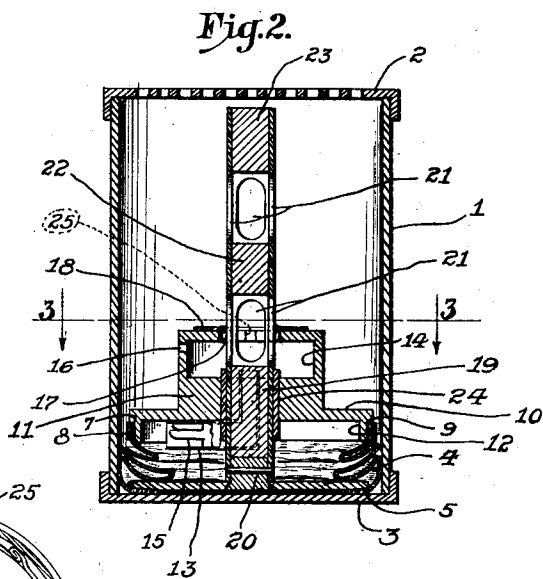
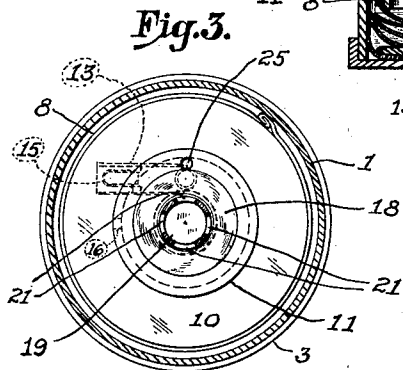


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TALKING TOY MECHANISM

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TALKING-TOY MECHANISM.

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This invention relates to sound producing devices, and has to do more particularly with a device for use in talking dolls of the "ma-ma" type.

5 One of the objects of the invention is to provide a so-called voice of the type described, which shall be provided with improved means by which the character of the sound emitted may be controlled and varied.

10 Further and more specific objects, features and advantages will more clearly appear from the detailed description given below taken in connection with the accompanying sheet of drawings which form a part of this
15 specification.

In the accompanying drawing, wherein I have shown a preferred form of embodiment of my invention:

20 Figure 1 shows a vertical cross-sectional view of the device with the collapsible chamber in distended position.

Figure 2 is a view similar to Figure 1, but showing the chamber collapsed; and

25 line 3—3 of Figure 2.

Referring now to the drawing, wherein similar reference characters refer to similar parts throughout the views thereof, the reference character 1 designates a casing, preferably cylindrical in form, and constructed of some light, cheap material, such as paste-board, fibre or the like. This casing is provided with a perforated head 2, enclosing one end, and a solid head 3 enclosing
30 the other. Mounted within the casing is a bellows 4, this bellows being cylindrical in form as shown, and being constructed of any suitable material, such as thin sheet rubber, rubberized fabric, or other similar air-proof
40 material.

One edge 5 of the bellows is clamped under a disc 6, which is secured to the solid head of the casing. The other edge 7 of the bellows is clamped by means of a band 8 in
45 a channel 9 formed in the marginal edge of a head 10, this head being formed of any suitable material of considerable weight. It may be constructed for instance of wood, suitably weighted, or made of metal, such as lead. The head 10 is shown to have an offset portion 11, and mounted on the lower
50 face of the head, which is suitably channeled, as at 12, is an L-shaped tube 13, one leg of the L lying along the face of the head, and the other leg extending upwardly

through a suitable aperture into a sound chamber 14 formed in the offset portion of the head.

Disposed within the L-shaped tube is a reed 15, and it will be noted that upon a
60 collapse of the bellows, air will be forced through the tube 13, the reed 15, into the chamber 14. This chamber 14 is provided with a small aperture 16, and also with a central port 17, this port having an annu-
65 lar lip 18 thereabout, the inner edges of the lip slightly overlying the edges of the port. This lip will be preferably formed of resilient material, such as thin rubber.

Disposed centrally of the bellows, and extending therethrough, is an operating rod or
70 post 19, this post being anchored in the end of the bellows, as is shown at 20, in any suitable manner. The post will be formed of a tube, as of metal, having spaced compart-
75 ments 20 and 21 therethrough, these compartments being formed with a plurality of apertures, and being spaced apart by a solid portion 22. The outer end of the post 23 is also made solid. That is the post is com-
80 posed of a hollow tubular member closed at its upper end by a plug 23 and at its lower end by a similar plug, and in the middle by a plug 22 forming suitable spaces between the plugs. The tube is apertured opposite
85 said spaces and the post is of such size and length that when the bellows is in distended position the post will extend therethrough, and the solid portion 23 will project a slight
90 distance beyond the port 17, the lip 18 lying in contact with the outer walls of the post. The head 10 is also provided with a guideway 24 mounted therein, and provid-
95 ing a more or less air-tight passage for the post 19. The chamber 14 is also provided with a second aperture 25 for a purpose pres-
ently to be described.

The operation of the device is as follows:

The voice is to be mounted within the
100 body of a doll in such position that the head 10 will be movable by gravity so as to produce a cry when the doll is moved. Ordinarily these voices are positioned so that
105 when the doll is to be in the reclining position the voice will sound. When the doll is moved to such reclining position, the various parts of the voice will be in the position indicated in Figure 1, and the head 10 will
110 then be free to move under the influence of

gravity so as to collapse the bellows. As the head 10 moves downwardly, along the post 19, it will have a tendency to collapse the bellows, thereby force air therefrom, this air passing through the reed into the chamber 14, wherefrom a small quantity will escape through the apertures 16 and 25, it being noted that the solid portion 23 of the post at this time lies within the aperture 17. The amount of air which is permitted to escape through the apertures 16 and 25 is sufficient to permit a steady downward movement of the head 10, but not enough to cause the reed to vibrate sufficiently to give off a loud cry. The continued downward movement of the head, however, will eventually bring the first compartment 20 so that the apertures therein will lie on either side of the lip 18, whereupon air may escape through the reed, the chamber 14, and the apertures in the compartment 20, to the atmosphere. The quantity of air thus allowed to escape, will cause the reed to give off a loud cry. This cry is ended, however, by the solid portion 22 of the post 19, coming into contact with the lip 18. As the head 10 continued downward, eventually the second apertured portion 21 will pass through the port 17, whereupon a second cry will be emitted. The combination of syllables so produced gives the "ma-ma" sound, and this is more nearly approximated by reason of the resilient lip on the port 17, since the action of this lip in coming in contact with the solid portions of the operating rod shuts off the sound in a manner similar to that of the action of the human lips.

When the bellows is completely collapsed, as is shown in Figure 2, the sound will be cut off, inasmuch as the flow of air through the reed ceases. The doll will then be raised, whereupon the position of the voice will be inverted, so that the bellows will be distended by the movement of the head 10 under the influence of gravity, this head occupying a position similar to that shown in Figure 1, but being prevented now from collapsing the bellows. When the doll is to give off a second cry, its position is changed so that the head 10 may again collapse the bellows, whereupon the cycle of operations is repeated.

While I have shown the operating post provided with two spaced compartments, so as to produce a "ma-ma" cry, it is clear that various other syllables may be produced by the spacing and number of the apertured compartments, as well as the length of such compartments, it being understood that the latter factor determines the length of the cry which will be emitted.

It will be seen that I have provided a voice well adapted to attain the objects and aims previously set forth. The device consists of only a few working parts, none of

which is likely to get out of order. Furthermore, the device is entirely enclosed, and in operation none of the working parts project therefrom. As has been explained, the voice closely simulates the cry of an infant, and may be provided with working parts so as to simulate various kinds of cry.

As many changes could be made in this construction without departing from the scope of the following claims, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative only and not in a limiting sense.

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

1. A sound producing device having a bellows, a sound chamber carried by one head of the bellows, a reed also carried by said head and arranged to be operated by the bellows and connected with the sound chamber so that the sound from the reed will issue into the sound chamber, said sound chamber having a port through which the sound may issue therefrom to the outside, and a valve member fixed with respect to the other head of the bellows and controlling said port, said valve member comprising a hollow tubular member, with a plurality of plugs therein, said plugs being spaced apart so as to provide a plurality of spaces therebetween and the tubular member being apertured opposite said spaces to provide passageways for the escape of sound there-through, said spaces and passageways being each positioned to register with said sound chamber port.

2. A sound producing device having a tubular bellows, one head of the bellows being a weighty head whereby the bellows may be compressed and distended by gravity, a sound chamber carried by the weighty head, a reed also carried by said weighty head and arranged to be operated by the bellows and connected with the sound chamber so that the sound from the reed will issue into the sound chamber, said sound chamber having a port through which the sound may issue to the outside, and a valve member fixed with respect to the other head of the bellows and extending through said port to control the issuance of sound therefrom, said valve member comprising a hollow tubular member, with a plurality of plugs therein, said plugs being spaced apart so as to provide a plurality of spaces therebetween and the tubular member being apertured opposite said spaces to provide passageways for the escape of sound therethrough.

3. A sound producing device having a bellows, a sound chamber, a reed operated by the bellows and arranged so that the sound from the reed passes into the sound chamber, said sound chamber having a port through

which the sound issues therefrom to the outside and a valve member extending through said port to control the issuance of sound therefrom, said valve member comprising a
5 hollow tubular member with a plurality of plugs therein, said plugs being spaced apart to provide a plurality of spaces therebetween and the tubular member being provided with apertures opposite said spaces, said ap-
10 tures being positioned to register with said sound chamber port when the bellows is operated and each aperture being of a length to permit the sound to pass therethrough and through said port from the sound chamber to the outside when the aperture regis- 15
ters with said port.

In testimony whereof, I affix my signature.

LOUIS V. ARONSON.