Aug. 5, 1924.

1,503,518

F. G. SCHNEIDER

SOUND PRODUCING DEVICE

Filed July 12, 1922

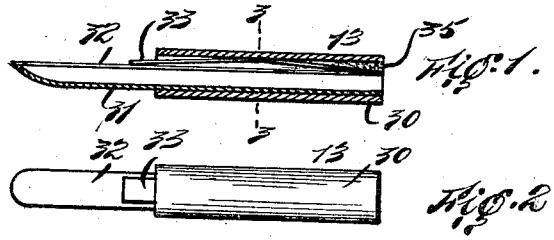


Fig. 1.

Fig. 2

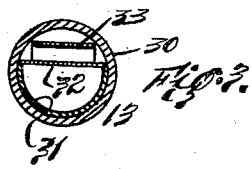


Fig. 3.

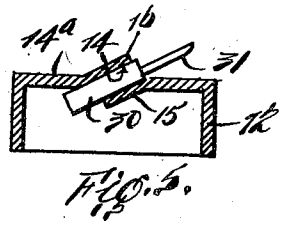


Fig. 5.

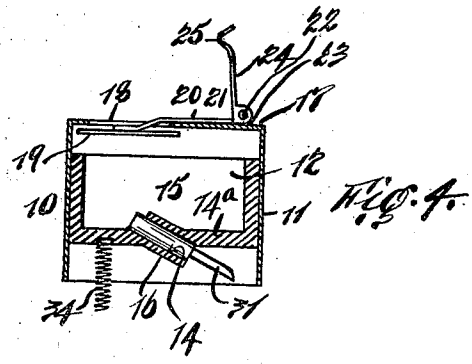


Fig. 4.

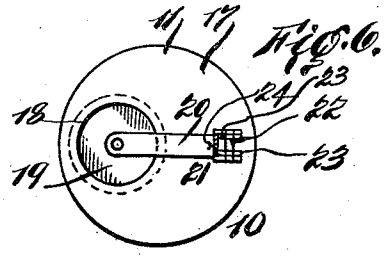


Fig. 6.

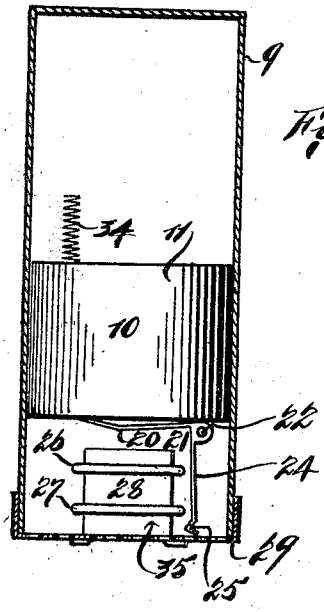


Fig. 8.



Fig. 7.

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UNITED STATES PATENT OFFICE.

FRANK G. SCHNEIDER, OF BROOKLYN, NEW YORK.

SOUND-PRODUCING DEVICE.

Application filed July 12, 1922. Serial No. 574,417.

To all whom it may concern:

Be it known that I, FRANK G. SCHNEIDER, a citizen of the United States of America, residing at Brooklyn, Kings County, State of New York, have invented certain new and useful Improvements in Sound-Producing Devices, of which the following is a specification.

This invention relates to improvements in sound producing devices, but more particularly to improvements in mama voices for dolls. My invention has for one of its objects to improve the reed portion of such devices and also to improve the construction of such voices generally.

I will now proceed to describe my invention in detail, the novel features of which I will point out in the appended claims, reference being had to the accompanying drawing, wherein:—

Fig. 1 is a longitudinal sectional view of the reed portion of the device;

Fig. 2 is a top plan view thereof;

Fig. 3 is an enlarged sectional view on line 3—3, Fig. 1;

Fig. 4 is a sectional detail view of the plunger portion of the device;

Fig. 5 is a sectional view of the weight forming part of the plunger;

Fig. 6 is an end view of the plunger;

Fig. 7 is a detail perspective view of one of the reed elements; and

Fig. 8 is a longitudinal sectional view of the complete device, the plunger being illustrated in elevation.

My improved device for producing sound to simulate ma-ma is comprised of a casing 9 containing a slidable plunger 10 the plunger carrying the reed for producing the sound and also a valve mechanism to interrupt the sound. The plunger is made up of of a shell 11 and a therein contained weight 12 in the form of a cup (in this instance), said cup being made out of lead or other suitable material heavy enough to cause the plunger to move longitudinally of a casing 9, when said casing is tipped. In this instance, the weight 12 carries a reed 13 fitted within an opening 14 formed in the head 14^a of the weight, said opening having adjacent thereto circular flanges 15 and 16 to form a seat for the reed. The head 17 of shell 11 is provided with an opening 18 for the passage of sound waves, said opening being opened and closed alternately by a valve 19 of rubber or other flexible material carried by the arm 20 of a lever 21 pivoted at 22 to ears 23 carried by the shell 11. The arm 24 of lever 21 is offset at 25 to provide a cam to cooperate with annular ridges 26 and 27 carried by a drum 28 supported by the perforated cap 29. The cap 29 fits over the open end of casing 9, as indicated in Fig. 8.

The reed 13 is comprised of a tubular body member 30 within which is fitted a semi-circular channeled duct 31 over the open portion of which is fitted a flexible sound producing tongue 32, preferably made of silver. The tongue is held in position upon the duct and the duct and its reed held in the body member by a resilient or spring like plate 33. To assemble the reed, the duct 31 and superimposed reed will be compressed and slipped into place between tongue 32 and inner wall of the body member, as indicated in Figs. 1 and 3. This form of reed is superior to the forms commonly used, as it is more easily assembled and the parts are more securely held together. A further advantage of this structure is that the duct 31 and its tongue can be adjusted longitudinally of the body member by merely forcing same to the right or left in Fig. 1. The duct and tongue are held in place by the pressure of the plate 33 upon same. When the duct and tongue are properly adjusted within the body member, the reed will be inserted in the opening 14 in weight 12 and held by shellac or otherwise. The plunger 10 carries a buffer spring 34.

When the casing is positioned, as indicated in Fig. 8, the plunger 10 will be positioned adjacent the perforated cap 29, as indicated in Fig. 8, with the cam portion 25 of lever arm 24, located in line with space 35 between ridge 27 and cap 29, the opening 18 being closed. When the casing is in this position, valve 19 will close opening 18 by gravity. When the casing is tipped to cause the plunger to move toward the opposite end of the casing, valve 19 will open, causing the cam portion 25 to enter space 35, thereby opening the valve. When plunger 10 moves, the valve will be opened and closed alternately by the ridges 26 and 27, thereby interrupting the sound produced by air passing through reed 13 to produce the sound of ma-ma. The weight 12 will be

forced into the shell 11. Of course, the device can also be arranged to emit sounds other than ma-ma.

To prevent air from passing through body member 30 between it and tongue 32, I plug the space above the tongue with shellac or otherwise, as indicated by 35, Fig. 1.

What I desire to secure by Letters Patent is:—

1. In a sound producing reed, a body member, an air duct slidably secured thereto, a tongue carried by the duct, and means comprising a metallic spring member to secure the duct in adjustable positions.

2. The combination of a tubular body member, a sound producing medium carried thereby, and a yieldable metallic pressure exerting means to hold the sound producing medium in position, said sound producing medium being normally adjustable relative to the body member.

3. In a sound producing device, a casing open at one end, a plunger within same, having an opening at one end thereof and at one side of the center of the plunger, a lever carried by the plunger, a valve operable by the lever to open and close said opening, a cap for the open end of the casing, and means carried by the cap to cooperate with said lever to actuate the valve to close and open said opening alternately, when said plunger moves away from the said cap.

4. In a sound producing device, a casing open at one end, a plunger within same, having an opening at one end thereof and at one side of the center of the plunger, a lever carried by the plunger, a valve operable by the lever to open and close said opening, a cap for the open end of the casing, a drum carried by the cap, and annular ridges carried by the drum to cooperate with said lever to actuate said valve to close and open said opening alternately when said valve moves away from said cap.

FRANK G. SCHNEIDER.