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F. G. SCHNEIDER

VOICE FOR DOLLS

Filed March 8, 1922

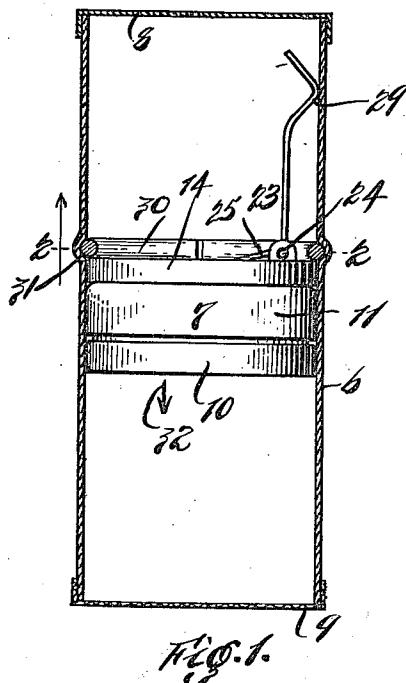
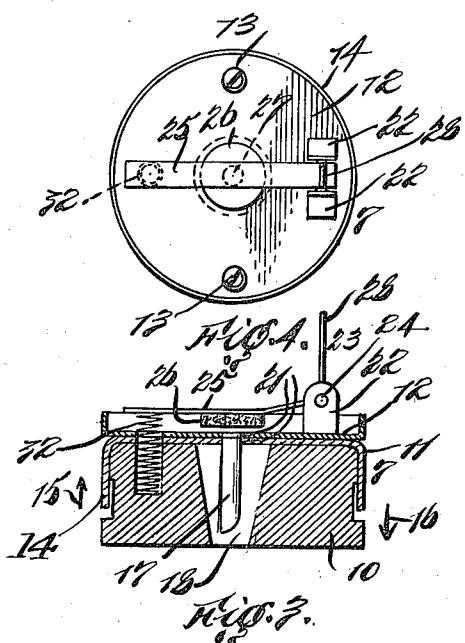


Fig. 1.



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## UNITED STATES PATENT OFFICE.

FRANK G. SCHNEIDER, OF BROOKLYN, NEW YORK.

## VOICE FOR DOLLS.

Application filed March 8, 1922. Serial No. 542,080.

*To all whom it may concern:*

Be it known that I, FRANK G. SCHNEIDER, a resident of Brooklyn, Kings County, State of New York, and a citizen of Hungary, have invented certain new and useful Improvements in Voices for Dolls, of which the following is a specification.

This invention has for one of its objects the production of a sound producing mechanism without the employment of a bellows. To produce a current of air to operate a reed, I employ a plunger which is movable longitudinally of a casing, the said plunger carrying a reed and also means to interrupt the sound produced by the air passing through the reed. The above is a general statement of my invention, a more detailed description of which will follow.

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 illustrates a longitudinal sectional view of an embodiment of my invention, the plunger being in raised position.

Fig. 2 is a sectional view, the section being taken on line 2-2 in Fig. 1;

Fig. 3 is a sectional view of the plunger;

Fig. 4 is a plan view looking from the top thereof; and

Fig. 5 is a similar view looking from the bottom.

As herein arranged, my invention comprises a tubular casing 6, preferably cylindrical containing a plunger 7 which is movable longitudinally of the casing. The casing is preferably closed at one end by an airtight head 8 and at the other end by a covering 9, such as silk or the like, through which sound will pass. The head 9 serves to keep dust or dirt out of the casing without interfering with the passage of sound. The plunger 7 is made up of a cylindrical block 40 of heavy material 10 carrying a packing member 11 made preferably out of paper. The packing 11 is held in position by a flanged or cup shaped disk 12 which is secured to block 10 by screws 13, said screws 45 passing through the packing 11. It will be seen that the flanged portion 14 of the packing is free to yield; hence, when the plunger is moved in the direction of the arrow 15, air will flow out of the casing past said flange 14. When the plunger moves in the

opposite direction as occasioned by tilting the doll in which the device is embedded, flange 14 will be forced against the wall of the casing, thereby forming a relatively tight connection. When the plunger moves 60 in the direction of arrow 16, air will be forced through a reed 17 located within a pocket 18 in plunger block 10, said reed being carried by disk 12. The block being 65 comparatively heavy will compress the air and force it through the reed. The disk 12 and packing 11 are each provided with an opening 21, alining with the adjacent end of pocket 18, for the passage of air. The disk 12 carries ears 22 to which a bell crank 70 lever 23 is pivoted at 24. One arm 25 of lever 23 carries a valve or shutter 26, preferably of felt, to close the open end 27 of the reed 17. The other arm 28 of lever 23 is offset at 29 to form a cam surface to cooperate with a ring 30 to close the valve or shutter, or move same to close the open end of the reed. The ring 30 is carried in an annular groove 31 formed in the wall of casing 6. As the ring 30 is split, it can be 80 easily inserted into or removed from the groove 31.

To maintain the valve or shutter normally away from the open end of the reed, I employ a spring 32 which is carried by the 85 block 10. The spring 32 forces the adjacent end of lever 23 away from block 10; hence, the valve 26 way from the open end of reed 17. When the plunger starts to move in the direction of the arrow 32 (Fig. 1), air will 90 pass through reed 17, thereby producing a sound. While the cam surface 29 is passing over ring 30, the interior portion of which projects into the bore of the casing to form a projection over which the cam 29 95 must pass, the valve 26 will be forced against the open end of the reed, thereby shutting off the flow of air and compressing spring 23. After the cam passes over the ring 30, the valve will open, being forced open by 100 spring 32, and air will again flow through the reed. The interruption of the sound, produced by the reed while the plunger is in motion, will produce two sounds simulating the word ma-ma.

My improved sound producing device is more especially intended for use in connection with the so-called talking dolls, and as it is very compact, can be fitted into dolls of small as well as the larger sizes.

What I desire to secure by Letters Patent is:—

1. In a sound producing device, a casing, one end of which is substantially airtight, a weighted plunger having an opening therein, and movable within the casing and having airtight contact with the surface thereof to force air through said opening, a reed carried by the plunger and disposed in the opening therein, a valve operable by the movement of said plunger to control the flow of air through the reed, and means within the casing to cooperate with the movement of the plunger to operate the valve.
2. In a sound producing device, a casing, a plunger movable longitudinally thereof, a reed carried by the plunger, a bell-crank lever pivotally supported by the plunger, a valve for closing the open end of the reed, carried by one arm of said lever, the other arm of said lever being offset to provide a cam surface, means to maintain said valve

normally open, and means projecting into the bore of the casing arranged to be impinged upon by said cam surface, to close said valve during the movement of the plunger.

3. In a sound producing device, a casing, a plunger movable longitudinally thereof, a reed carried by the plunger, a bell-crank lever pivotally supported by the plunger, a valve for closing the open end of the reed, carried by one arm of said lever, the other arm of said lever being offset to provide a cam surface, means to maintain said valve normally open, and a ring carried by the casing and projecting into the path of movement of the said cam surface arranged to be impinged upon by said cam surface to close the valve during the movement of the plunger.

In testimony whereof I hereunto affix my signature.

FRANK G. SCHNEIDER.