(Model.)

W. H. FROST.

TOY OR MUSICAL INSTRUMENT.

No. 270,543. Patented Jan. 9, 1883.

Fig. 3.

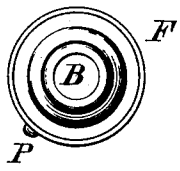


Fig. 4.

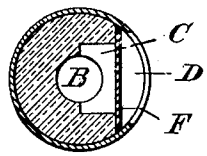


Fig 1.

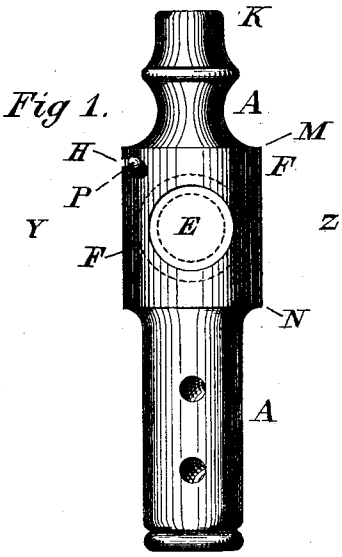


Fig. 2.

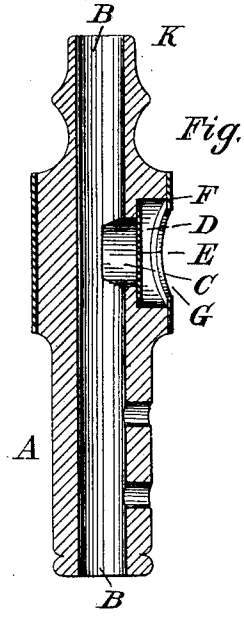


Fig. 5.

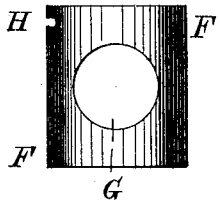
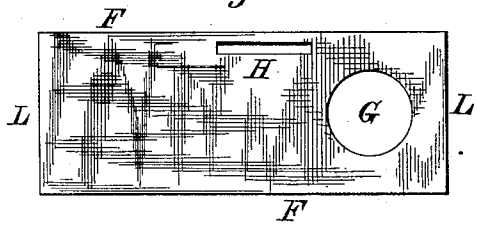


Fig. 6.



WITNESSES,

Edward Ke. Hill.
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INVENTOR,

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UNITED STATES PATENT OFFICE.

WARREN H. FROST, OF WORCESTER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO S. E. HENDERSON, OF CLEVELAND, OHIO.

TOY OR MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 270,543, dated January 9, 1883.

Application filed August 28, 1882. (Model.)

To all whom it may concern:

Be it known that I, WARREN HERBERT FROST, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and novel Toy or Musical Instrument, of which the following is a specification.

My invention consists of a new and novel toy or musical instrument, of which the following is a description, my objects being, first, to provide, in a compact and convenient form, an instrument or toy which will impart a vibratory or reedy sound to the voice when the voice is sent into such musical instrument or toy; second, to provide a means of protecting the diaphragm or piece of material which imparts the reedy tone to the voice from injury. I attain these objects by means illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the complete toy or musical instrument. Fig. 2 is a sectional side elevation through the center of the toy or instrument. Fig. 3 is a plan of the toy or instrument. Fig. 4 is a sectional plan through the toy or instrument at the line Y Z, Fig. 1. Fig. 5 is an elevation of the tube which serves as a protection to the diaphragm E. Fig. 6 shows the tube, Fig. 5, as cut from thin material, before being formed into a tube.

Similar letters refer to similar parts throughout the several views.

A is the body of the toy or musical instrument, consisting of any suitable material, preferably wood, with a hole, B, extending through its length from end to end, and a hole, C, extending from the outside to the hole B.

Over the outside end of the hole C, I fasten a piece of thin material, E, preferably of paper or membrane, which I term the "diaphragm."

In order to afford better protection to the diaphragm E, I bore the hole D in line with the hole C, but of larger diameter, which gives me a flat surface on which to fasten the diaphragm E over the hole C. The toy or instrument can now be used by singing, speaking, or humming into either end of the hole B, but preferably at the mouth-piece K. The sound is similar to that produced by covering a comb with paper and humming with the lips against it. Proper modulations of the voice will produce imitations of birds and animals, as the caw of a crow, the crow of the cock, the moo of a cow, &c.

As the diaphragm E is liable to breakage by contact with other bodies when the toy or instrument, as previously described, is carried loosely in the pocket, I have invented a means of protecting the same by covering the diaphragm E with a solid body when the toy or instrument is not in use and exposing the diaphragm E to the air when the toy or instrument is to be used. The best way to accomplish this I find to be by shaping the pattern, Fig. 6, from sheet metal, with one or more holes at G and slot H, and forming the same into a tube, Fig. 5, the ends L L meeting. I now slip this tube F over the body of the instrument, the tube F covering the length of the toy or instrument A from M to N. Through the slot H in the tube F I fasten a screw or tack, P, into the wood A. The tube F can now be turned part of a revolution on the cylindrical toy or instrument A, the screw or tack P preventing longitudinal motion and holding the tube F in its place. On turning the tube F on the body of the toy or musical instrument A so that the hole G comes over the diaphragm E the diaphragm E is exposed to the air and the toy or instrument can be played. Now, if the tube F is turned part of a revolution on the wood A, the hole G in the tube F will come over solid wood, and the solid portion of the tube F is over the diaphragm E and hole D, thus protecting the diaphragm E from injury by contact with anything from outside.

This instrument or toy, to which I propose to give the name "kazoo," may be made in many forms and of many different materials; but I prefer the construction and materials here described as being attractive, durable, and cheap.

The principle of my invention is as follows: The sound-waves coming from the vocal organs in their passage through the hole B impinge against the diaphragm E, setting said diaphragm in vibration, which vibration produces a reedy tone in addition to the sound from the vocal organs. Any sound or tone coming from the vocal organs passed through the toy or instrument will set the diaphragm in vibration,

thus making the toy or instrument capable of a vast variety of sounds.

I am aware that a toy or musical instrument is made which imparts a reedy sound to the voice, as does my invention, by the vibration of a diaphragm. It is made in the form of a tube with a diaphragm over one or each end, with an opening in the side of the tube near the end, into which opening the voice is sent to produce a sound; but in playing such an instrument it must be held in the position of a fife or flute, and is inconvenient and clumsy; whereas in my improvement the sound comes in a straight line from the mouth through the instrument, vibrating the diaphragm E in its passage, making the toy or musical instrument of an attractive and convenient form.

If the diaphragm E is entirely shut off from contact with the outside air, it will not vibrate, though the diaphragm may be partly covered and still work.

I can cover the diaphragm E with any suitable material which has one or more openings through which the sound-waves from the diaphragm E can reach the outside air, while the opening or openings may be made of such small size as to leave enough solid material over the diaphragm for the purpose of protecting said diaphragm. For instance, a piece of tin with four holes in it of about one-fourth inch diameter can be fixed permanently over the hole D and diaphragm E, thus giving the sound-waves from the diaphragm E an outlet through the four small holes, while the tin protects the diaphragm E at the same time.

I am not aware that anything similar in construction to my invention has ever been made; and

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A toy or musical instrument which imparts a reedy or vibratory sound to the voice, made in a tubular or cylindrical form, with a hole, B, extending through its length, and a hole, C, joining the hole B, with a diaphragm of thin material over the open end of the hole C, substantially as described.

2. The combination, with such toy or musical instrument, of a solid material nearly or entirely covering the diaphragm for the purpose of protecting said diaphragm, substantially as shown.

3. The combination, with such toy or musical instrument of cylindrical shape from M to N, of a tube or hollow cylinder, F, with one or more holes at G, which tube or hollow cylinder is capable of being turned on such toy or musical instrument so that either the hole or holes at G or the solid portion of the tube F can be brought over the diaphragm E, substantially as shown, and for the purpose set forth.

WARREN HERBERT FROST.

Witnesses:
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E. A. KNIGHT.