B. E. LLOYD.

SOUNDING DEVICE FOR DOLLS.

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1,277,229.

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Fig. 1.

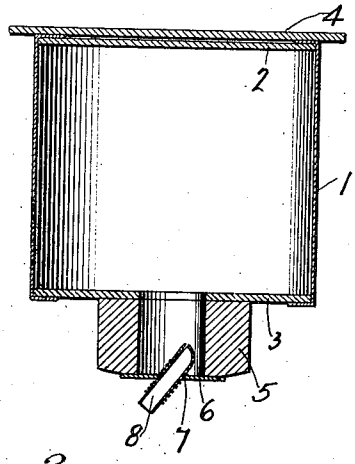


Fig. 4.

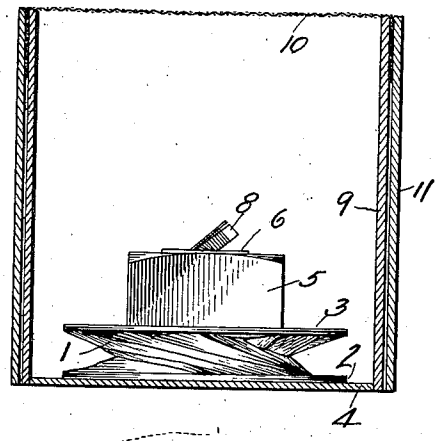
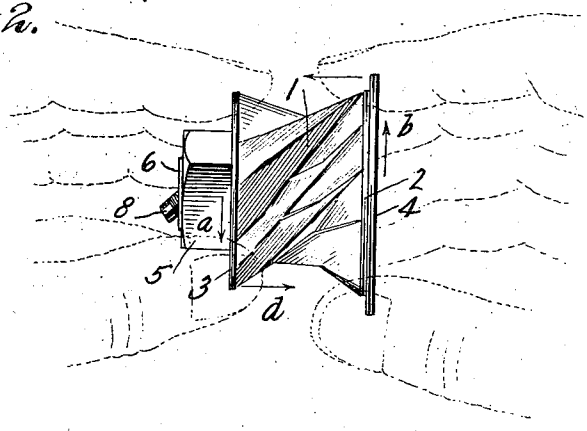


Fig. 2.



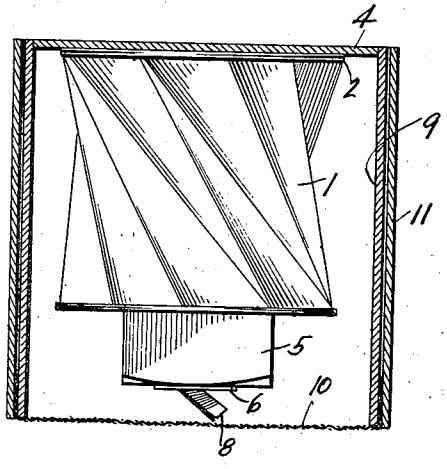


Fig. 3.

WITNESSES

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SOUNDING DEVICE FOR DOLLS.

1,277,229. Specification of Letters Patent. Patented Aug. 27, 1918.

Application filed December 31, 1917. Serial No. 209,715.

To all whom it may concern:

Be it known that I, BURT E. LLOYD, a subject of the King of Great Britain, and a resident of West Hoboken, in the county of Hudson and State of New Jersey, have invented a new and Improved Sounding Device for Dolls, of which the following is a full, clear, and exact description.

This invention relates to voices for dolls and figure toys, and it has to deal more particularly with a bellows construction.

The invention has for its general objects to provide a comparatively simple and inexpensive bellows having its body made of paper or other suitable flexible material and creased in a novel manner, whereby the bellows expands and contracts axially.

A more specific object of the invention is to provide a simple, novel and effective voice for toys, the same embodying a weighted head on one end of the bellows whereby the turning of the bellows upside down and back again will automatically expand and contract the bellows and cause a sound to be produced by the passage of the air through a reed or equivalent device.

With such objects in view, and others which will appear as the description proceeds, the invention comprising various novel features of construction and arrangement of parts which will be set forth with particularity in the following description and claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention and wherein similar characters of reference indicate corresponding parts in all the views,

Figure 1 is a sectional view of the bellows before the body thereof is creased;

Fig. 2 is a side view showing the manner of creasing the bellows so that it will automatically expand and contract;

Fig. 3 is a vertical section of the complete sound producing device for toys, the bellows being open or expanded by the device being inverted; and

Fig. 4 is a similar view showing the bellows contracted or collapsed by the action of the weight of the movable head.

Referring to the drawing, 1 designates the flexible body of the bellows which may be made of paper or other suitable material and is in the form of a cylinder attached to heads or disks 2 and 3, and at the disk 2 is another disk 4 which forms the bottom plate of the sound-producing device. The body of the bellows is twisted or spirally creased in a manner shown in Fig. 1. The heads 2 and 3 are turned in opposite directions as indicated by the arrows *a* and *b*, and at the same time the two heads are pressed toward each other as indicated by the arrows *c* and *d*, which will make permanent creases or folds in the material.

In the present instance the bellows is adapted to be expanded and contracted automatically, but this is not an essential limitation of the special form of construction of the bellows. The head 3 is provided with a weight 5 which is preferably a nut blank for cheapness of construction, and this weight is glued or otherwise fastened to the head 3, and glued or otherwise fastened to the nut is a small disk 6 which has a perforation 7 through which the reed or sound-producing device 8 is inserted, the reed being held in any suitable manner, as, for instance, by glue. As the bellows is contracted the air is forced out through the reed and a sound thereby produced.

The bellows is preferably protected by a cylinder 9 of cardboard or the like over one end of which is stretched a fabric diaphragm 10 which also protects the bellows but does not prevent the escape of the sound. This fabric head 10 is held in place by being frictionally held between the cylinder 9 and an outer cylinder 11 which is snugly fitted over the inner cylinder and clamps the marginal edge of the diaphragm 10 in place.

To operate the device the same is inverted, as shown in Fig. 3, whereby the weight 5 expands the bellows, and when the device is turned upright, as shown in Fig. 4, the weight causes the bellows to collapse and force out the air through the reed. In expanding and contracting the free head 3 has a slight rotary motion due to spiral or oblique creasing of the bellows body and consequently the head 3 must not have guiding means which would restrain it from rotating, as otherwise the bellows would not open or collapse.

From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while I have described the principle of operation, together with the device which I now consider to be the best embodiment thereof, I desire to

have it understood that the device shown is merely illustrative and that such changes may be made when desired as fall within the scope of the appended claims.

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

1. A sound-producing device comprising a bellows having helical creases.

2. A device of the class described embodying a bellows having a flexible body formed with creases lying obliquely to the axis of the bellows.

3. In a device of the class described, a bellows having a flexible body formed with creases which produce relative rotation of the ends of the bellows as the latter expands and contracts.

4. A bellows device comprising a pair of heads, and a flexible body attached to the heads, said body being helically creased to permit the heads to be moved toward and from each other.

5. The combination of a bellows having a freely movable apertured head, an apertured weight mounted on the head with its aperture registering with the aperture of the head, and a sound-producing device mounted on the weight and extending into the aperture thereof.

6. The combination of a bellows having a freely movable apertured head, an apertured weight mounted on the head with its apertures registering with the aperture of the head, a disk mounted on the weight, and a reed passing though the said disk.

7. The combination of a bellows, a sound-producing device carried thereby, a protective casing attached to and surrounding the bellows and having an open end, and a fabric diaphragm extending across the open end of the casing.

8. The combination of a bellows, a sound-producing device carried thereby, a protective casing attached to and surrounding the bellows and having an open end, a fabric diaphragm extending across the open end of the casing, and a cylinder surrounding the casing and clamping the marginal portion of the diaphragm on the casing.

BURT E. LLOYD.