Jan. 14, 1958 S. FREIMAUER 2,819,558

SELF LOCKING REED SOUNDING UNIT

Filed Aug. 19, 1955

Fig. 1

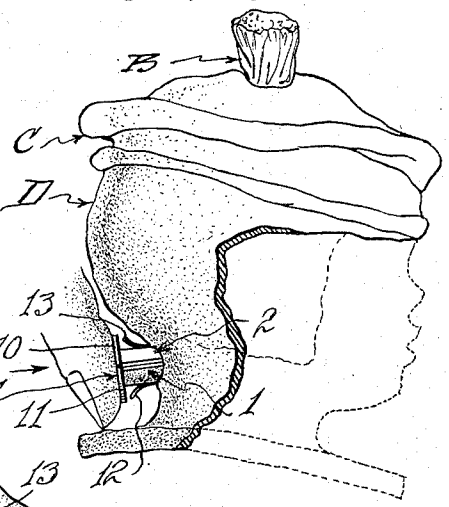


Fig. 2

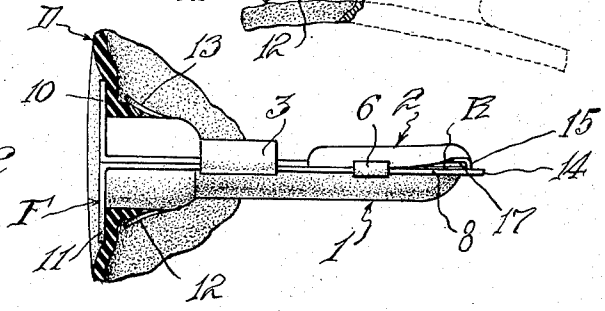


Fig. 3

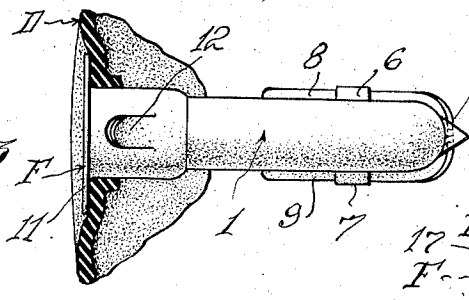


Fig. 5

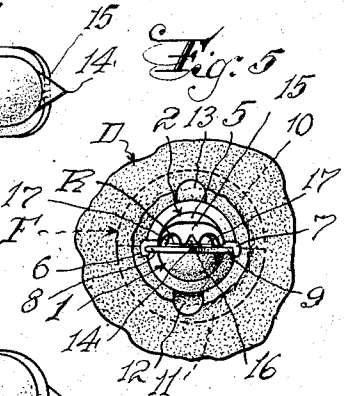
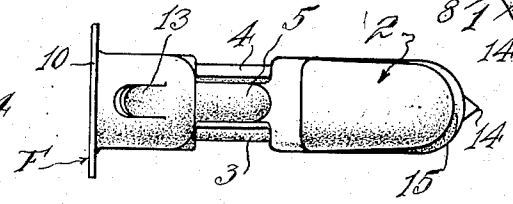


Fig. 4



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SELF LOCKING REED SOUNDING UNIT

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Application August 19, 1955, Serial No. 529,563

5 Claims. (Cl. 46—117)

This invention relates to an improvement over the reed sounding unit shown and described in my application Serial No. 383,161, filed September 30, 1953. After making thousands of the units shown and described in said application and making further tests and experiments I have discovered how to make a cheaper and better reed unit than that shown and described in said pending application.

While attaining the principal object of the structure of said application a further object of my present invention is to provide a cheaper construction which I have found to be highly satisfactory in operation and a construction which is more versatile in its use. My present improved construction is shown in the annexed drawing wherein:

Figure 1 shows how the unit may be quickly and easily applied to any structure in which the material is soft and flexible like soft rubber or a composition thereof which is largely used in the manufacture of dolls.

Figure 2 is a side view of my improved unit as fully installed in the arrangement shown in Figure 1.

Figure 3 is a view of Figure 2 looking upwardly at the bottom of the unit.

Figure 4 is a view similar to Figure 3 but looking down on the top of the unit itself.

Figure 5 is a view of Figure 2 looking from right to left.

The foregoing figures are on a much enlarged scale from a working unit.

In the different views wherein like numbers refer to corresponding parts, D is a fragmentary view of a doll's head as made of flexible material such as soft rubber or a composition thereof. In certain cases the doll's head is provided with a cap C on which a push button B is applied. The unit per se is made of two parts or pieces **1** and **2** of suitable metal. The pieces **1** and **2** are formed so as to provide a reed sounding chamber between them and the reed R is held in position between them. Part **1** has a pair of lips **3** and **4** which are bent over as shown in Figure 4 so as to engage the member **2** on opposite sides of a strengthening rib **5** which also acts to hold the reed R in position and formed outwardly on the piece **2**. Also the piece **2** has integral clips **6** and **7** which are bent over longitudinally extending ribs **8** and **9** formed on the edges of the member **1** which assist in supporting the reed held in place between the two members **1** and **2**. Each of the pieces **1** and **2** has outwardly turned semi-circular flanges **10** and **11** which when the parts are in assembled relationship forms a flange type collar F for engagement with the doll material when the unit is forced into position as shown in Figures 2 and 3. Adjacent the flange F each of the pieces **1** and **2** has outwardly projecting fingers **12** and **13** for engaging the inside of the doll material after the unit has been forced into locking position as shown in Figures 2 and 3. Opposite its flange **11** of the unit the member **1** has a sharp pointed projecting end **14** which is adapted to punch a hole right through the soft flexible material of the doll as shown in Figure 1. The member **2** has, adjacent the pointed end **14**, a downwardly turned end **15** which is split into two triangularly shaped parts to form an orifice **16** to allow air to pass therethrough. Adjacent these triangularly shaped parts is a somewhat longitudinal opening **17** on each side to form a supplemental air passage to the opening **16**. These said air passages are relatively small so as to prevent any stuffing material which may be used within the doll from

getting into the reed unit and interfering with its action, however, it is to be undertsood that should the unit get stopped up it can be withdrawn by applying sufficient air power to the flange F.

It is to be understood that the unit structure per se is only operative to make sounds by suction applied to the end having the flange F or reversely by forcing air through the orifice **16** and openings **17** toward the flange F. This is accomplished by quickly pressing downward on the button B or giving it a tap. This will force air through the unit the same way as suction applied at the flange end F and cause the unit to make a funny sound.

From the foregoing construction it will be seen that I have provided a sound unit that can be readily, quickly and economically made and one that will work highly efficiently when air is forced through the openings **16** and **17** toward the flange end of the unit which can be done by a squeezing or equivalent operation of any part of the flexible doll material.

Having thus described my invention, what I claim is:

1. For use in a doll structure having hollow head and neck portions made of flexible material such as soft rubber, a reed unit having at least three parts, two of said parts having interlocking means for holding them together, said two parts being formed so as to provide an air cavity between them, one of said parts having a sharp pointed end for the purpose described extending beyond the cavity end, while the other of said parts terminates in a small end bent to engage the pointed end of said first mentioned part, and a reed member longitudinally and operatively extending from a point inwardly a short distance from the said sharp point and between said two parts forming said cavity, both of said two parts having cooperative collar formations at their ends opposite to said sharp pointed end and each part having at least one outwardly projecting finger adjacent said collar formations for engaging the inner surface of the doll material after the unit has been forced into position through the doll material.

2. A reed unit as set forth in claim 1, further defined in that the said small bent end is divided into two slightly spaced sections as and for the purpose described.

3. A reed unit as set forth in claim 1, further defined in that the said small bent end is divided into two triangularly shaped sections, the pointed ends of which preferably engage the pointed end of the first mentioned part.

4. A reed unit composed of two pieces of suitable material formed to make a reed sounding chamber when in assembled position with means for locking the two pieces together with a reed member held in vibratory position between said two pieces, the pieces having at adjacent ends semi-circular flanges to form a positioning collar, each piece also having an outwardly extending locking finger adjacent its flange collar part, one of said pieces having its end opposite its flange part terminating in a sharp projecting point for puncturing a flexible material such as soft rubber, said other piece having its end, adjacent said sharp point, terminating in a bent over end which extends into contact with the end having the sharp point for the purpose described.

5. A reed unit as defined in claim 4 further defined in that said bent over end is split to form an air passage therebetween as well as around the outer edges of the bent over end.

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