Sept. 25, 1956 G. WINTRISS 2,763,960

SOUND MAKER HOLDER

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Fig. 1

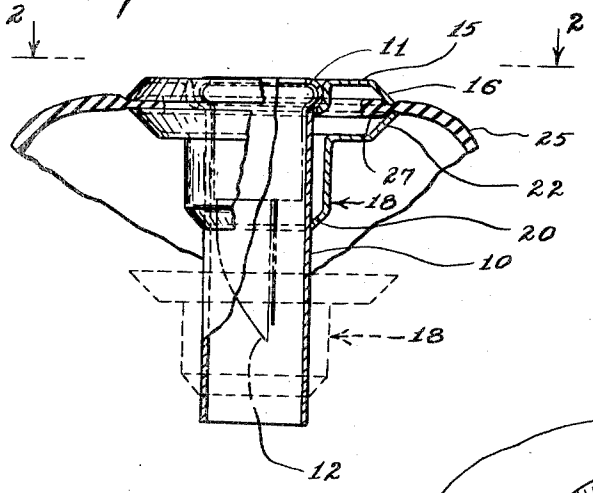



Fig. 2

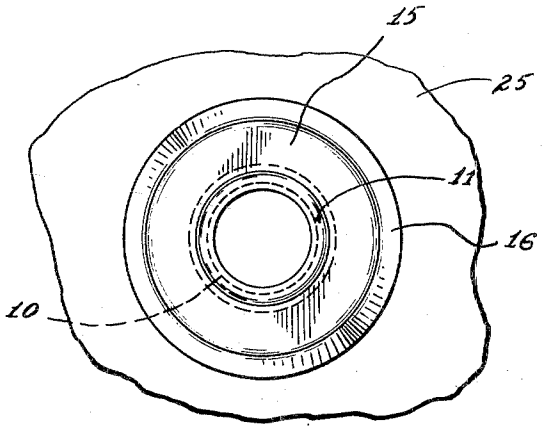



Fig. 3

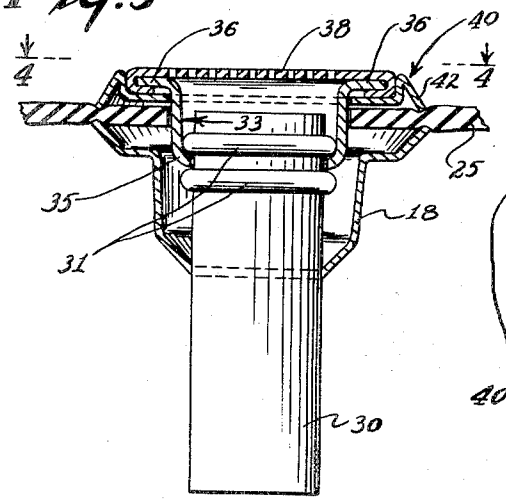
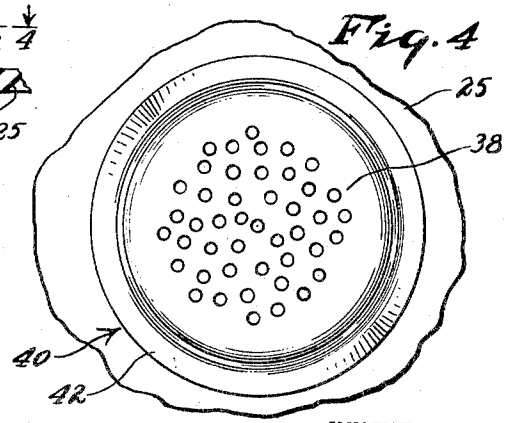



Fig. 4




INVENTOR.

George Wintriss

BY Emery, Vanney, Whittemore & Dix.

ATTORNEYS

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# SOUND MAKER HOLDER

George Wintriss, Carversville, Pa., assignor to Wintriss Inc., New York, N. Y., a corporation of New York

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7 Claims. (Cl. 46—180)

This invention relates to mounting devices for holding sound makers in toys and other objects.

It is an object of the invention to provide improved mounting devices by which pneumatic sound makers can be connected to the walls of rubber toys or other objects, which are squeezed and distorted to make air flow into and out of the toy through an opening at which the pneumatic sound maker is located.

Another object of the invention is to provide a mounting device, of the character indicated, which is more quickly and conveniently assembled during manufacture of the toy; and which provides a secure connection that prevents the sound maker from being pulled out of the toy by small children. Such a secure fastening is particularly advantageous with rubber toys because the sound makers are small and can be swallowed by small children who succeed in pulling the sound maker out of the toy.

One feature of the invention relates to an assembly in which the mounting device also locks a screen across the air passage from the sound maker to prevent children from inserting foreign objects into the sound maker with resulting damage to the reed.

Other objects, features and advantages of the invention will appear or be pointed out as the description proceeds.

In the drawing, forming a part hereof, in which like reference characters indicate corresponding parts in all the views;

Figure 1 is a sectional view through a mounting device made in accordance with this invention;

Figure 2 is an end view of the mounting device shown in Figure 1, the view being taken along the line 2—2 of Figure 1;

Figure 3 is a view similar to Figure 1, but showing a modified form of the invention; and

Figure 4 is an end view of the modified construction shown in Figure 3.

The mounting device illustrated in Figure 1 includes a sleeve 10 having an outer portion 11 of increased diameter. The sleeve 10 preferably has a slight taper and is of progressively smaller diameter toward its inner end. A reed-type pneumatic sound maker 12 is held in the sleeve 10 and is held securely in the sleeve by the clamping effect of the tapered wall of the sleeve.

A sleeve washer 15 surrounds the sleeve and is held against outward displacement by the enlarged outer end portion 11. The sleeve washer 15 is shaped so as to extend upwardly and outwardly to a plane substantially flush with the end face of the sleeve 10; and the peripheral portion of the sleeve washer 15 is bent rearwardly to provide an annular clamping lip 16.

A sleeve gripping element 18 has an inner lip 20 which fits snugly around the outside surface of the sleeve 10. This inner lip 20 is generally frusto-conical shaped with its smaller diameter toward the inner end of the sleeve so that the gripping element 18 slides toward the outer end of the sleeve 10 but will jam against the sleeve when



an attempt is made to slide it toward the inner end of the sleeve.

A clamping lip 22, around the periphery of the sleeve gripping element 18, clamps against the inside surface of a wall 25 around an annular area substantially opposite the area of the outside surface of the wall which bears against the clamping lip 16. This clamping lip 22, which is the peripheral edge of the gripping element 18 makes the gripping element an inner or inside clamping element of the assembly.

The wall 25 is a part of the side of a toy or other object to which the mounting device is to be connected. There is an opening 27 in the wall 25. When the mounting device is to be connected to the wall 25, the wall is stretched to enlarge the opening 27 sufficiently to insert the mounting device with the sleeve gripping element 18 located at a distance from the sleeve washer 15. The original position of the sleeve gripping element 18, when the mounting device is inserted through the opening 27, is shown in dotted lines in Figure 1.

The tool used for stretching the opening 27 is removed, and the edges of the opening contract into the space between the sleeve washer 15 and the sleeve gripping element 18. The sleeve gripping element 18 is then moved toward the outer end of the sleeve 10 either by holding the sleeve gripping element 18 while pushing the remainder of the mounting device, and the wall 25, downwardly, or by holding the other parts stationary while thrusting the gripping element 18 upwardly into firm clamping relation with the wall 25. Ordinarily the pressure for bringing the clamping element against the wall 25 is exerted by pressing the opposite wall of the toy inwardly against the end of the sleeve 10 and distorting it over the end of the sleeve and against the gripping element 18.

Figures 3 and 4 show a modified form of the invention in which there is a screen across the outer end of the sleeve in which the sound maker is located. In this construction, a sleeve 30 has two circumferential corrugations 31; and there is an eyelet 33 with an inwardly turned lip 35 which engages in the space between the corrugations to hold the eyelet against longitudinal displacement on the sleeve 30.

At its outer end, the eyelet 33 has an outwardly extending flange 36, and the outer edge of a screen 38 is crimped around the flange 36 to secure the screen to the eyelet.

A washer 40 is located below the flange 36, and this washer has a recessed face into which the peripheral portions of the flange 36 and screen 38 extend. The washer 40 has its peripheral portion bent rearwardly to provide an annular clamping lip 42 which bears against the front of the wall 25 to clamp the holder in position.

The modified construction shown in Figures 3 and 4 has a sleeve-gripping element 18 which is the same as the corresponding element shown in Figure 1. The sound maker is held in the sleeve 30 by friction, or by projections engaging one of the corrugations 31.

The preferred embodiments of the invention have been illustrated and described, but changes and modifications can be made without departing from the invention as defined in the claims.

What is claimed is:

1. A holder for a vibrating reed sound maker including, in combination, a sleeve for extending through an opening in a wall of a toy, all parts of the sleeve being of smaller cross section than the opening in which the assembly is intended to be used, the sleeve having an outwardly turned lip near its outer end, an outer clamping element comprising a metal stamping that fits over the sleeve and which is held against outward displacement by said lip, a second clamping element that fits over

the sleeve as a snug fit and that comprises a metal stamping having an outwardly turned lip at its forward end for co-operation with the wall of the toy and outer clamping element, and an inwardly turned edge at its inner end converging toward the axis of the sleeve at a sharp angle for jamming against the sleeve to prevent reverse movement of said second clamping element.

2. A holder for a vibrating reed sound maker, the holder comprising a sleeve having an enlarged diameter near its outer end, an outside clamping element comprising a washer surrounding the holder and abutting against the enlarged diameter portion of the sleeve to prevent the washer from coming off the outer end of the sleeve, an inwardly turned lip around the peripherial portion of the washer for clamping against the outer surface of a wall of a toy in which the holder is connected, the washer comprising a metal stamping which is recessed to receive the enlarged diameter portion of the holder, the recess in the washer being of a width and depth to contain the enlarged diameter portion of the sleeve and to leave the front face of the washer substantially flush with the outer end of the sleeve, a second clamping element having a portion which fits over the sleeve as a snug fit and which is slideable along the sleeve toward the outer end of the sleeve for bringing this other clamping element into contact with the inside face of the wall of the toy, the second clamping element having a peripherial portion comprising an outwardly turned lip for clamping against the wall, and having a hub portion that extends inwardly at a sharp angle to the surface of the sleeve for jamming against the surface of the sleeve when urged to move back toward the inner end of the sleeve from any location at which the clamping element stops when clamped against said inside face, and which location depends upon the thickness of the particular wall clamped between the clamping elements of the holder.

3. A pneumatic sound maker holder comprising a sleeve, an eyelet on the holder with a radially projecting flange, a screen over the outer end of the eyelet with edge portions clamped around the flange to hold the eyelet in position, an outside clamping element comprising a stamped metal washer surrounding the holder and held against outward displacement by the flange, the washer having an inwardly turned lip around its peripehrial portion for clamping against a wall through which the holder extends, an inside clamping element comprising a metal stamping surrounding the sleeve and having an outwardly turned lip around its peripherial portion for clamping against the inside surface of the wall, the inside clamping element having an inner edge which converges toward the inner end of the sleeve at a steep angle to the surface of the sleeve so as to jam on the sleeve when pushed toward the inner end of the sleeve.

4. A pneumatic sound maker assembly comprising a sleeve portion, an eyelet surrounding the sleeve portion and having a radially projecting flange, a screen over the outer end of the eyelet with edge portions clamping around the flange to hold the screen in position, an outside clamping element comprising a metal washer surrounding the eyelet and held against axial displacement in one direction by the flange, the washer having an inwardly turned lip around its periphery for clamping against a wall through which the holder extends, at least one radially extending projection of the sleeve portion being in contact with a confronting inside face of the eyelet, where the eyelet surrounds the sleeve portion, said projection holding the eyelet against axial movement on the sleeve portion, and a pneumatic sound maker in the sleeve portion of the assembly and held thereby.



5. The holder described in claim 3 characterized by a plurality of outwardly extending, annular corrugations on the sleeve axially spaced from one another and holding the inner edge of the eyelet between them for preventing displacement of the eyelet with respect to the sleeve.

6. A pneumatic sound maker holder comprising a sleeve, an eyelet on the holder with a radially projecting flange, a screen over the outer end of the eyelet with edge portions clamped around the flange to hold the screen in position, a converging inner edge at the end of the eyelet remote from the flange, a plurality of outwardly extending, annular corrugations on the sleeve axially spaced from one another and holding the inner edge of the eyelet between them for preventing displacement of the eyelet with respect to the sleeve.

7. A pneumatic sound maker assembly comprising a sleeve portion, an eyelet surrounding the sleeve portion and extending lengthwise along the sleeve portion for a part of the length of the sleeve portion, the eyelet contacting with the sleeve portion along at least a part of the extent of the eyelet along the sleeve portion, the eyelet having a radially extending flange at one end, a screen extending across an end face of the flange beyond the end of the sleeve portion of the assembly, the screen having edge portions which extend around the circumference of the eyelet flange and across a portion of a back face of the flange for attaching the screen to the assembly, and an outwardly extending protuberance of the sleeve portion providing a surface in contact with the eyelet and holding the eyelet against displacement on the sleeve portion, and a pneumatic sound maker having a reed and channel, the channel being held in the sleeve portion with the reed surrounded by said sleeve portion but at a clearance therefrom and in position to be operated by an airstream passing through the screen and sleeve portion.

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