Jan. 1, 1963 B. DONER 3,071,272

INFANT FEEDING BOTTLE

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FIG. 1.

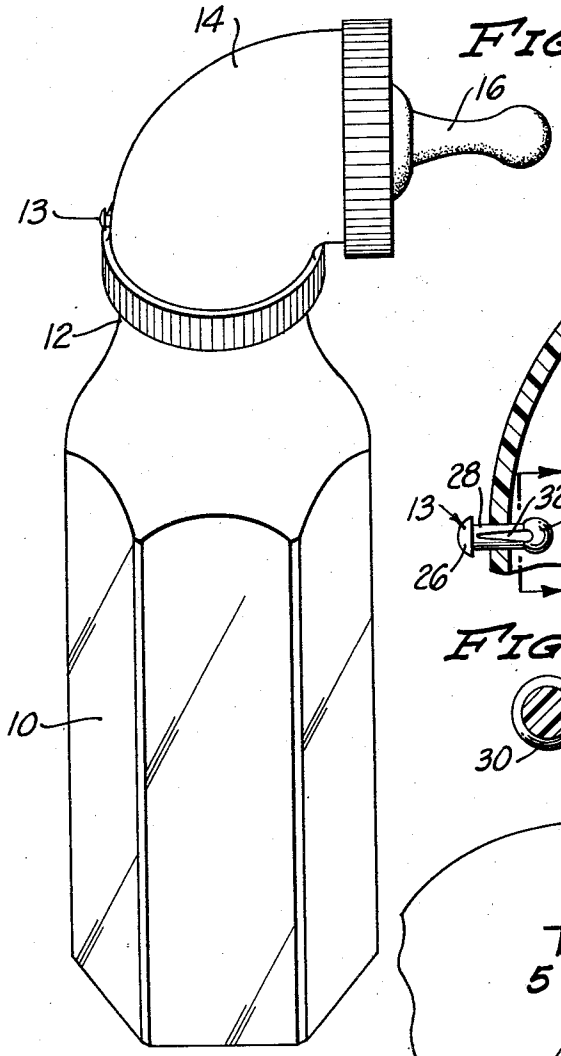


FIG. 2.

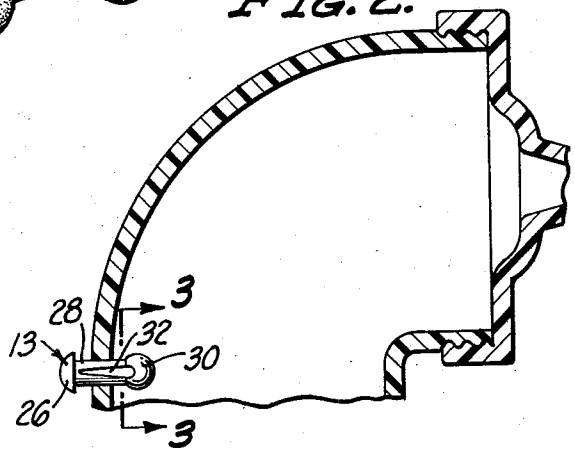


FIG. 3.

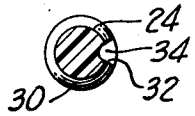


FIG. 4.

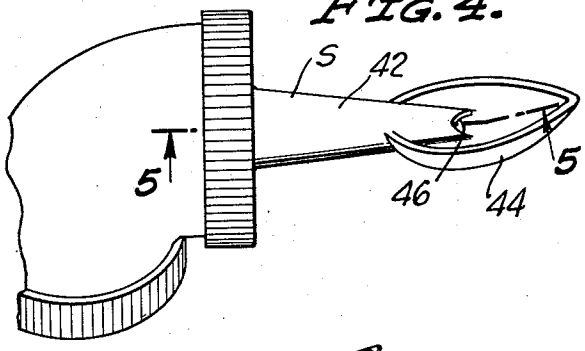
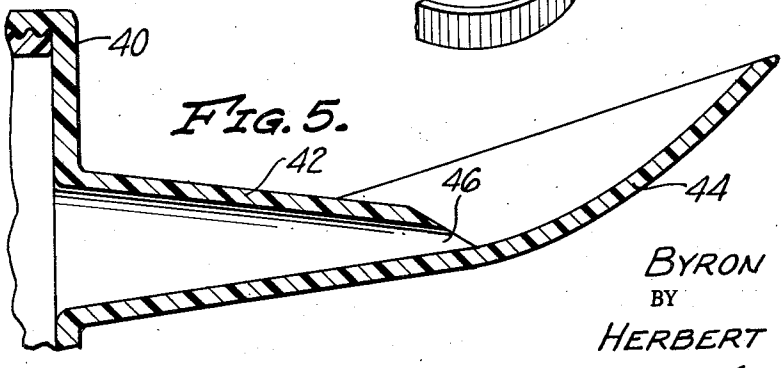


FIG. 5.



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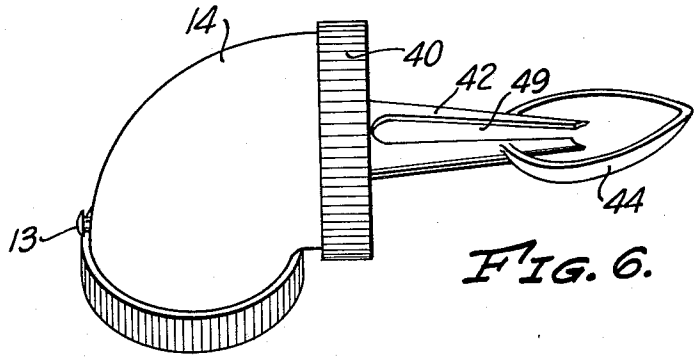


FIG. 6.

FIG. 8.

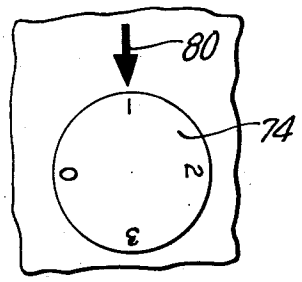
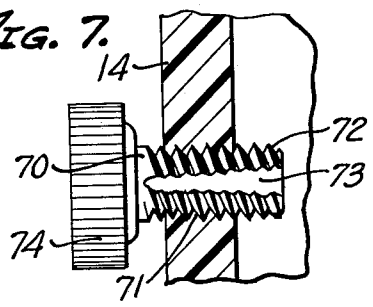


FIG. 7.



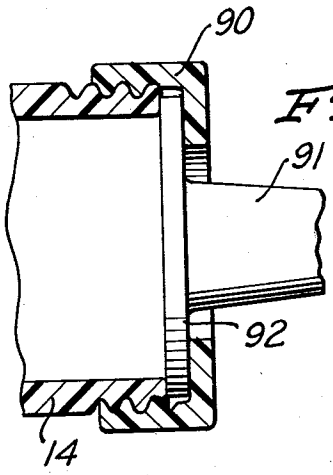


FIG. 9.

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INFANT FEEDING BOTTLE

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2 Claims. (Cl. 215—11)

This invention relates generally to infant feeding bottles and particularly to devices in which air can be bled to a nipple or spoon.

One of the main objects of the invention is to provide an air bleeding means for infant feeding bottles. Such provision is made in such way that the air bleeding means does not flood with the fluid being used and thus eliminates the need to allow air to feed back to the nipple of the bottle during use.

Another object of the invention is to provide an infant bottle having a detachable nipple or spoon feeding connection.

Infant feeding bottles of the nipple type have always required removing of the nipple from the baby's mouth to permit entrance of air into the bottle when the nipple collapses in the child's mouth. It is a fundamental theory of the present invention to provide a simple device for bleeding air into the feeding bottle to prevent collapse of the nipple and to provide such bleeding at a point where it will not flood with the fluid. It is also contemplated that a detachable spoon feeding device will have an air bleeding mechanism attached thereto.

Still another object of the invention is to provide an infant feeding bottle of both nipple and spoon type.

Still another object of this invention is to provide a spoon with an open channel for easy cleaning of the spoon and the feeding areas and the food channels.

Yet another object is a provision of a simple feeding bottle for weaning an infant from nipple to spoon.

Still another object of this invention is to assist in the elimination of colick, vomiting, and blowing back by the infant by allowing him to continue during the time he uses a bottle to receive solid food or liquid without the introduction of air into his mouth and stomach.

A further object of the invention is to prevent the sucking up of saliva from the baby by the vacuum action when the child released the nipple from his mouth.

Another object of the invention is to allow the child to have the full feeding of food rather than being only half fed as when the feeding material is air raided.

A still further object of this invention is to control the amount of food being fed to an infant and the rate of feed by controlling the amount of air depending upon the size of the individual infant.

Still another object is to provide a container in which the unused portion of the food may remain in the container without contamination and the like.

Yet a further object of the invention is to provide a means to have one air control for bleeding air into a bottle by which the correct amount of air may be set by a dial.

A further object of the invention is to provide a spoon feeding milk bottle which prevents spilling or over-feeding.

The foregoing and other objects and advantages of this invention will be clear to those skilled in the art on reading the following specification in conjunction with the accompanying drawings, in which:

FIGURE 1 is an elevational view of the nipple type bottle feeder and air bleeding mechanism;

FIGURE 2 is an enlarged view partially in section of the air bleeding means;

FIGURE 3 is a sectional view on the line 3—3 of FIGURE 2;

FIGURE 4 is a perspective view of the detachable spoon feeding device;

FIGURE 5 is a sectional view taken on the line 5—5 of FIGURE 4;

FIGURE 6 is a perspective of an alternative embodiment of the spoon feeding device;

FIGURE 7 is an enlarged sectional view of an alternative embodiment of the air bleeding mechanism;

FIGURE 8 is a plan view of the top of the air bleeding mechanism shown in FIGURE 7; and

FIGURE 9 is an alternative construction for the nipple and or spoon feeding device at its point of connection to the bottle.

Referring to the drawings, a conventional infant liquid feeding bottle is shown at 10. Detachably connected thereto at 12 is a gooseneck shaped top or feeding member 14. The shape of the top 14 facilitates feeding and a nipple 16 having a flanged shoulder 18 is detachably connected thereto by means of the inner and outer threads 20 and 22, respectively. The nipple 16 is conventional and means is provided to bleed air into the bottle 10. A circular aperture 24 is made in the gooseneck portion 14. A bleed member B has a rivet head 26 and circular shank 28 slideable in close fitting relationship in the opening 24. A ball 30 is formed with or attached to the inner end of the shank 26 to prevent complete withdrawal of the bleed member for the bottle. The aperture or bleed opening 24 has a continuous groove 32 formed therein. The shank 28 of the bleed member B has a groove 34 formed on its outer surface communicating with the groove 32 in the opening 24. The groove 34 is tapered upwardly and outwardly at 36 so that air communication to the bottle may be cut off completely if desired. However, the amount of air bled into or out of the bottle may be manually controlled by the positioning of the taper grooved shank 28 in the grooved opening 24.

The operation of the device is simple and collapse of the nipple is either relieved or prevented by manual manipulation of the bleed member B.

In FIGURES 4 and 5, a detachable spoon feeding device is disclosed. For various reasons it may be desired that the infant be spoon fed. In this case the nipple is detached and a spoon type feeding device S is threadedly connected to the bottle 10 in exactly the same manner as the nipple attachment. The device S has a flanged connecting shoulder 40 and an outwardly projecting tapered spout 42. A spoon 44 is formed with or attached below and about an open end 46 on the spout 42. The means for bleeding air to the spoon 44 if desired is accomplished in the same manner as heretofore described by the bleed member B. For weaning or other reasons, spoon feeding may be desired. The feeding liquid will flow into the spoon 44 until the opening 46 in the spout 42 is closed. No liquid will flow from the bottle 10 until the infant has swallowed the liquid in the spoon to a point where there is air communication through the opening 46. There is no chance of gagging and the infant soon learns to feed itself in spoon fashion. Bleeding of air into or out of the bottle 10 is accomplished by manual adjustment of the bleed member B.

It will be observed that the spoon feeding device may be used either with fluid or semi-solid foods such as strained foods. In such cases where strained or chopped foods are used it may be particularly desirable to use the alternative embodiment shown in FIGURE 6. This will be identical to the embodiment shown in FIGURE 4 except that a channel 49 has been provided through the spout 42 to facilitate cleaning of the spout and flow of material therethrough.

FIGURE 7 illustrates an alternative embodiment of the air bleeding device to be used. In this case the air

bleeding device has been renumbered for clarity and description. The wall of the gooseneck top feeding member 14 has been thickened and the hole in which the air bleeding mechanism has been provided has been equipped with threads 71. The air bleeding device 70 has been provided with threads 72 to engage the threads 71 and the groove 73 has been provided to correspond to the groove 32 in the air bleeding mechanism heretofore described.

An enlarged head 74 is provided with a series of numbers as indicated in FIGURE 8. An arrow or other suitable marker 89 is provided at the appropriate location upon the gooseneck portion so that the proper amount of air to bleed into the bottle may be dialed easily. For example if the zero is at the marker 80 then no air would be bleeding into the bottle. The points 1, 2 and 3 would represent additional or alternate positions in which varying amounts of air would be bled into the bottle by the air groove 73 being more or less exposed from the top of the threaded opening.

If it is desired to use standard bottles and fittings presently used or otherwise detachable nipples and spoons it will be more convenient to utilize the embodiment shown in FIGURE 9 for the actual construction. In this case the collar 90 will be the customary collar used on existing nipples and the nipple or spoon shank as the case may be indicated by the broken portion 91 will be fitted within the collar 90 in customary manner by means of the flange 92. This screws tightly against the bottle or gooseneck device 14 as the case may be utilizing standard threads as presently produced.

The air bleed device illustrated in FIGURE 7 or in FIGURE 3 may also be attached if desired directly into the bottom of the bottle 10 and may extend downwardly therefrom. This has not been specifically illustrated since the air bleed device shown in FIGURE 7 or FIGURE 3 would be identical in either case and would merely be affixed to the center of the bottom of the bottle. The advantage of such an arrangement would be that if the bottle was held in such position that the air bleed in the gooseneck portion would be flooded with liquid by the bottom of the bottle being highly elevated the air bleeding mechanism in the bottom could be used to complement or supplement the air bleed mechanism in the gooseneck portion or could be used independent thereof.

While the embodiment of my invention shown herein is fully capable of performing the objects and advantages desired, it will be apparent to those skilled in the art that numerous modifications may be made without departing from the inventive concept disclosed herein. It is not intended that this invention be limited by the embodiment disclosed but only as necessary in accordance with the appended claims.

I claim:

1. An infant feeding device, comprising: a liquid feeding bottle; a curved tubular section open at both ends, detachably connected to said bottle; a nipple detachably affixed to said curved tubular section; a threaded hole through the wall of the longer segment of said curved tubular section and near its connection to said bottle; a threaded plug having a tapered groove extending its length and having a dial upon its head, said threaded plug being screwed into the threaded hole in said curved tubular section, and a marker on said curved tubular section so that the dial on said threaded plug may be set with relation to said mark to control the amount of air which can be let into said bottle through said tapered groove.

2. An infant feeding device comprising: A container for infant food; a curved tubular section detachably connected to said container on one end and detachably connected to a food discharging element at the other end and having a threaded hole through its wall in the curved portion thereof having the largest curvature at a point nearer the connection to said container so that when in a relatively horizontal position with the food dispensing element pointing generally downward, the said threaded hole will be at the upper direction; and a threaded plug having a tapered groove therein located in said threaded hole so that said plug may be screwed inwardly or outwardly and so that said groove will intercommunicate from the interior to the exterior of said curved tubular section in such manner as to regulate an amount of air which can pass through said groove from the exterior to the interior of said curved tubular section, the said groove and the air passage formed thereby be located at the elevational position described so that liquid or food within the container and flowing through the said tubular section will not flood said groove and interfere with the air passage.

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