

No. 633,343.

Patented Sept. 19, 1899.

J. A. HEANY.
NIPPLE.

(Application filed Jan. 24, 1899.)

(No Model.)

Fig: 1.

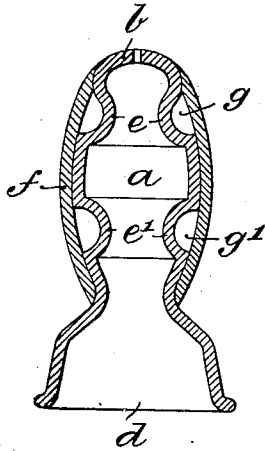


Fig: 2.

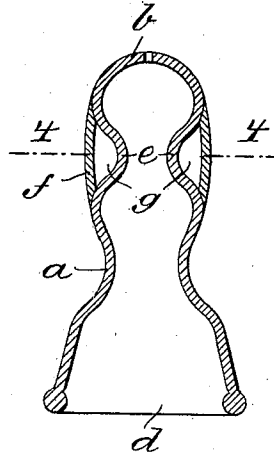


Fig: 3.

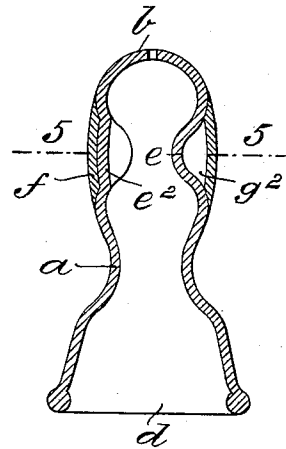


Fig: 4.

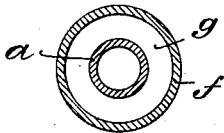


Fig: 5.

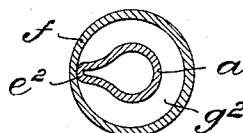


Fig: 6.

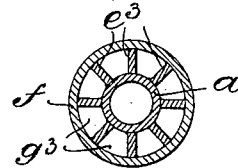


Fig: 7.

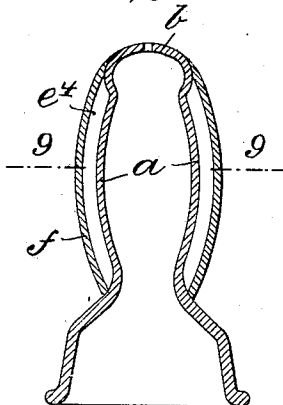


Fig: 8.

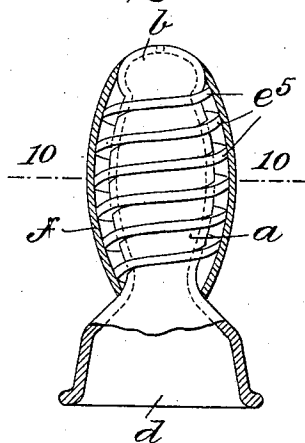


Fig: 9.

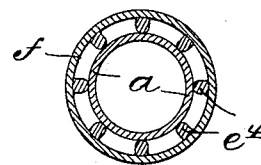
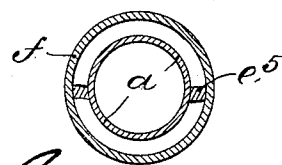


Fig: 10.



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UNITED STATES PATENT OFFICE.

JOHN A. HEANY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO WILLIAM W. R. HANLEY AND GUY W. HANLEY, OF SAME PLACE.

NIPPLE.

SPECIFICATION forming part of Letters Patent No. 633,343, dated September 19, 1899.

Application filed January 24, 1899. Serial No. 703,224. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. HEANY, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Nipples, of which the following is a specification.

My invention has relation to a nursing-nipple of a pneumatic or cushioned and non-collapsible type or kind; and in such connection it relates particularly to the construction and arrangement of such a nipple for the said purposes.

The principal object of my invention is to provide a pneumatic or cushioned nipple of simple construction and especially designed to prevent collapse of the same during removal by the child of the contents of the bottle to which the said nipple is secured.

My invention consists, essentially, of a nipple of india-rubber or similar material so formed that the upper portion is corrugated or otherwise shaped to form an annular or substantially annular channel or channels on the exterior of the nipple, in combination with a sleeve of flexible material, such as india-rubber or the like, adapted to engage or to be slipped over the exterior of the nipple proper and to close the annular channel or channels, whereby one or more air cells or spaces are formed, which assist after the nipple is compressed in restoring the nipple to its proper form or condition for use.

My invention further consists of a nipple constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a vertical central section of a nipple embodying main features of my invention. Figs. 2 and 3 are similar views of slightly-modified forms of said nipple. Fig. 4 is a cross-sectional view on the line 4 4 of Fig. 2. Fig. 5 is a cross-sectional view on the line 5 5 of Fig. 3. Fig. 6 is a cross-sectional view of a still further modified form of nipple. Figs. 7 and 8 are vertical central sec-

tional views of still further modified forms of the invention, wherein the nipple proper is not corrugated, but the air-spaces are suitably formed by ribs or projections arranged between the nipple proper and the outer sleeve. Fig. 9 is a cross-sectional view on the line 9 9 of Fig. 7, and Fig. 10 is a similar view on the line 10 10 of Fig. 8.

Referring to the drawings, it will be seen that, strictly speaking, but two forms of the invention are illustrated—that shown in Figs. 1 to 6, inclusive, wherein the nipple proper is so shaped or formed on its exterior as to form, in connection with a plain sleeve, the air cells or spaces which prevent the collapse of the nipple, and that shown in Figs. 7 to 10, inclusive, wherein ribs or projections are interposed between the nipple proper and the inclosing sleeve and may form part of either in the formation of the air cells or spaces.

Referring now to Figs. 1 to 6, *a* represents the nipple proper, having an upper perforated end *b* and a lower open end *c*, fitting over the neck of the bottle. As illustrated in Fig. 1, this nipple *a* is corrugated or inwardly indented at two portions *e* and *e'*, and over the indented portions is placed a sleeve *f*, which, if desired, may be vulcanized or otherwise secured to the nipple *a*. The result of this construction is to provide between the nipple *a* and the outer sleeve or casing *f* two annular air cells or chambers *g* and *g'*, which after the nipple is compressed in use quickly and readily cause it to expand.

In Figs. 2 and 4 the construction is the same as in Fig. 1, with the exception that but one corrugation *e* is formed in the nipple *a*, and hence but one annular air cell or chamber *g* is formed between the nipple and the sleeve *f*.

In Figs. 3 and 5 the construction is similar to that shown in Figs. 2 and 4, with the exception that the nipple *a* is partly corrugated, as at *e*, and partly pinched, as at *e'*, into a rib extending against the sleeve *f*, the result being that the air-space *g*² thus formed is not completely annular, as is shown by the cross-section in Fig. 5.

In Fig. 6 the nipple *a* instead of being annularly corrugated is provided with a series

of radiating ribs e^3 , over which the sleeve f is slipped, thus forming a series of vertically-arranged air-cells g^3 .

5 In Figs. 7 and 9 is illustrated a somewhat similar construction to that illustrated in Fig. 6, except that the radiating ribs e^4 may either be united to the sleeve f or simply interposed between the sleeve f and the nipple a , the nipple in this instance being plain—
10 that is, without corrugations or ribs.

In Figs. 8 and 10 the construction is similar to that illustrated in Figs. 7 and 9, the only difference being that the ribs e^4 are replaced by a spiral rib e^5 .

15 Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A nipple for nursing-bottles, comprising a nipple proper in open communication with
20 the bottle, in combination with an outer sleeve engaging or slipped over the nipple proper and separated therefrom by ribs or

corrugations to form a closed air space or spaces between the exterior of the nipple and interior of the sleeve, substantially as and for 25 the purposes described.

2. A nipple for nursing-bottles or the like, comprising a nipple proper in open communication with the bottle and provided with one or more annular corrugations, in combination with an outer sleeve engaging or
30 slipped over the corrugated or ribbed nipple to form a closed air space or spaces between the exterior of the nipple and the interior of the sleeve, substantially as and for the pur- 35 poses described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN A. HEANY.

Witnesses:

J. WALTER DOUGLASS,
THOMAS M. SMITH.