J. N. KLINE.

VACUUM NURSING BOTTLE AND NIPPLE THEREFOR.

APPLICATION FILED MAY 15, 1915.

1,221,335. Patented Apr. 3, 1917.

Fig. 1.

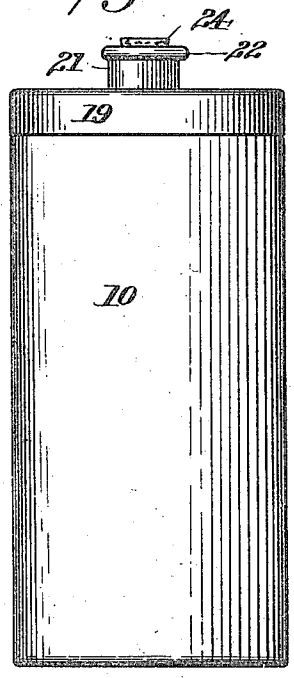


Fig. 2.

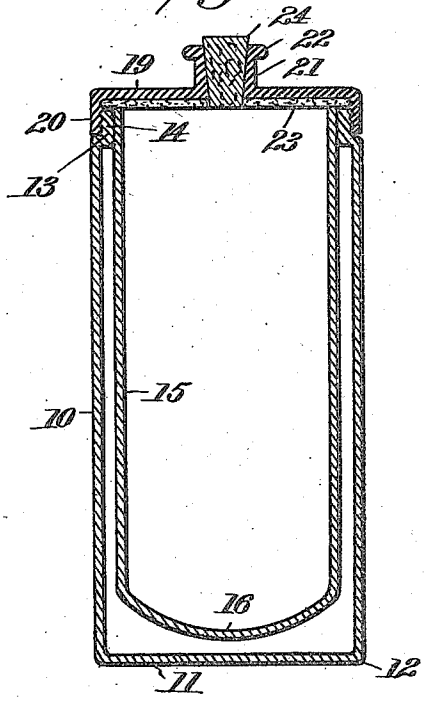


Fig. 4.

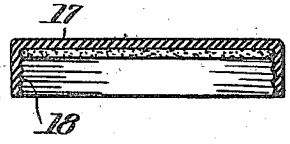


Fig. 6.

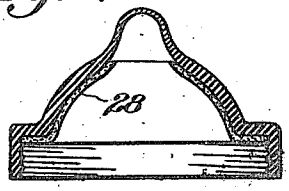


Fig. 5.

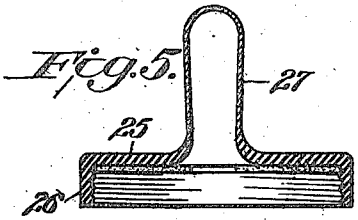
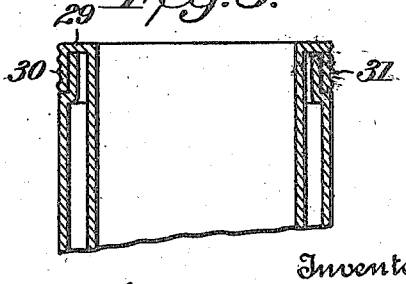


Fig. 3.



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UNITED STATES PATENT OFFICE.

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VACUUM NURSING-BOTTLE AND NIPPLE THEREFOR.

1,221,335. Specification of Letters Patent. Patented Apr. 3, 1917.

Application filed May 15, 1915. Serial No. 28,286.

To all whom it may concern:

Be it known that I, JAMES N. KLINE, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Vacuum Nursing-Bottles and Nipples Therefor; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to improvements in nursing bottles, and a cover, or a combined cover and nipple, therefor.

The primary object of the invention is to provide a bottle of this character, and one of a peculiar design and construction adapting it for the use specified, the same embodying a double or spaced wall construction for the provision of a heat insulating dead air space or vacuum chamber between the inner and outer walls thereof, whereby the heated milk may be prepared for a period, in advance of the time of the feeding of babies, and maintained at the proper temperature throughout a relatively long period thereafter.

Another object of the invention is to provide a bottle for such purpose, which is of a construction to eliminate all sharp edges which might otherwise injure the delicate skin of a baby, and, also, to eliminate all corners, grooves, or recesses in which there is a likelihood for the collection of dirt or other matter, injurious to the health of babies, so that the entire inner and outer surface is readily accessible for proper and thorough cleaning thereof.

Another object of the invention is to provide a cover for the bottle, and one which may, or may not, be combined with a nipple, or provided with means for the reception of a nipple of the ordinary type.

With these and other objects in view, the invention resides in the certain new and novel construction to be hereinafter more fully described, set forth in the appended claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a view of the nursing bottle, with the cover and nipple applied thereto, in elevation,

Fig. 2 is a vertical section,

Fig. 3 is a fragmentary section of the modified bottle construction,

Fig. 4 is a vertical section of a plain or ordinary cover for the same,

Fig. 5 is a vertical section of a modified cover and nipple construction,

Fig. 6 is a vertical section of a second modified cover and nipple construction.

Reference being had to the accompanying drawing, in which similar characters of reference designate corresponding parts in the several views thereof, the numeral —10— designates an outer receptacle, preferably cylindrical in shape, having a flat bottom wall —11— formed integral therewith and rounded, as at —12—, at its juncture thereto, the upper or open end of the former being spun, or otherwise formed, to provide an inwardly extending flange or shoulder —13—, and the upwardly projecting flange —14—, the outer periphery of the latter being threaded, as shown. An inner receptacle —15—, of even diameter throughout its length, and having its bottom wall —16— rounded to permit easy access thereto, is fitted into the receptacle —10— and secured in position therein, at its upper or open end, to the flange —14— in any suitable manner to provide an airtight joint therebetween. This construction and arrangement provides for a dead-air space between the inner and outer receptacles sufficient for the retention of heat during the desired period of time between the feeding periods of babies, while the formation of the inner receptacle admits of the keeping of the heated milk in a wholesome and sanitary manner, being free from all recesses or angles to eliminate the secretion of any matter which would tend to taint the milk, and, therefore, an unobstructed surface to be easily cleaned.

A cover —17—, of any desired material but preferably constructed of hard rubber, is provided for the receptacle, and is formed with screw-threads —18— by means of which it is to be secured thereto. To prevent the milk contacting the rubber cover, the inner wall of the latter is inclosed by a disk of cork, or the like, the disk also acting as a packing between the cover and the edge of the connected walls of the receptacle.

It is desirable, however, in some instances, that the cover be provided with a suitable means for the reception of a nipple of the ordinary type, and the same, as shown, (Figs. 1 and 2), comprises a cover element —19— having a threaded securing flange —20— and formed with a centrally disposed tubular projection —21— which is provided with a bead —22—, at its outer end, over

which a nipple, of ordinary construction, may be snapped. A cork disk —23— is provided to prevent the contents of the receptacle contacting the inner surface of the cover, which is preferably made of hard rubber, and a cork stopper —24— is to be inserted in the opening of the tubular projection —21—, when the bottle is not in use.

It is also desirable, in other instances, that the cover be formed with a nipple integral therewith, as shown in Figs. 5 and 6, such a construction comprising the cover element —25— having a threaded securing flange —26—, of hardened rubber, and a centrally disposed nipple —27—, of soft and pliable rubber. This nipple —27— may be of a shape similar to that of the present well known nipple, or it may be shaped to a contour characteristic of the human breast nipple, and, when of the latter shape, a cork lining —28—, of a shape conforming to that of the inner wall of the breast portion of the nipple, is applied thereto in the manner shown.

In Fig. 3, there is shown a modified form of the receptacle, and the same comprises the inner and outer receptacles, as in the first instance; the former, however, is provided, at its open end, with a circular flange —29— and a securing flange —30—, depending from the circular flange. This securing flange —30— is adapted for engagement with an annular channel formed at the upper end of the outer receptacle and is provided with screw-threads —31— for the reception of either of the several or desired covers, hereinbefore mentioned. This construction provides for the formation of an air-space or vacuum channel, continuous with the space or channel between the inner and outer walls of the receptacle, immediately adjacent the cover, and the nipple carried thereby, and prevents the heating up of this portion of the receptacle sufficiently to prevent annoyance to the baby, during its period of nursing or drawing the heated milk therefrom.

Having thus fully described my invention, what I claim is:—

1. A vacuum nursing bottle comprising an outer member having a spun-in portion adjacent its open end and a flat bottom wall, a flange rising from said spun-in portion of said outer wall, an inner wall of uniform diameter throughout its length spaced from said outer wall and connecting with said flange and having a rounded bottom wall, a cover for said bottle.

2. A vacuum nursing bottle comprising an outer member having a spun-in portion adjacent its open end and a flat bottom wall, an exteriorly threaded flange rising from said spun-in portion of said outer wall, an inner wall of uniform diameter throughout its length spaced from said outer wall and connecting with said flange and having a rounded bottom wall, and a cover threaded on said flange.

3. In combination, a vacuum nursing bottle comprising spaced members connected only at the open end-portions thereof, the outer of said members having a flat bottom wall, the inner of said members being of a uniform diameter throughout its length and having a rounded bottom wall, a rigid cover for closing said bottle and having threaded connection therewith, and a flexible nipple formed with said cover.

4. In combination, a vacuum nursing bottle comprising spaced members connected only at the open end-portions thereof, the outer of said members having a flat bottom wall, the inner of said members being of a uniform diameter throughout its length and having a rounded bottom wall, a rigid cover for closing said bottle and having threaded connection therewith, a nipple integrally formed with said cover, and a protecting lining interiorly of said cover.

5. A vacuum nursing bottle comprising an outer member having a flat bottom wall, an inner member spaced from the outer member and connected with the latter at its open end, said member being of uniform width throughout its length, and having a rounded bottom wall spaced from the flat bottom wall of said outer member, and a cover for said bottle.

6. A vacuum nursing bottle comprising a cylindrical outer member having a flat bottom wall, a cylindrical inner member spaced from said outer member and connected with the latter at its open end, said inner member being of uniform diameter throughout its length, and having a rounded bottom wall spaced from the flat bottom wall of said outer member, and a cover for said bottle.

In testimony whereof I affix my signature.

JAMES N. KLINE.