(No Model.)

J. SUYDAM.

VENT.

No. 362,554. Patented May 10, 1887.

Fig. 1

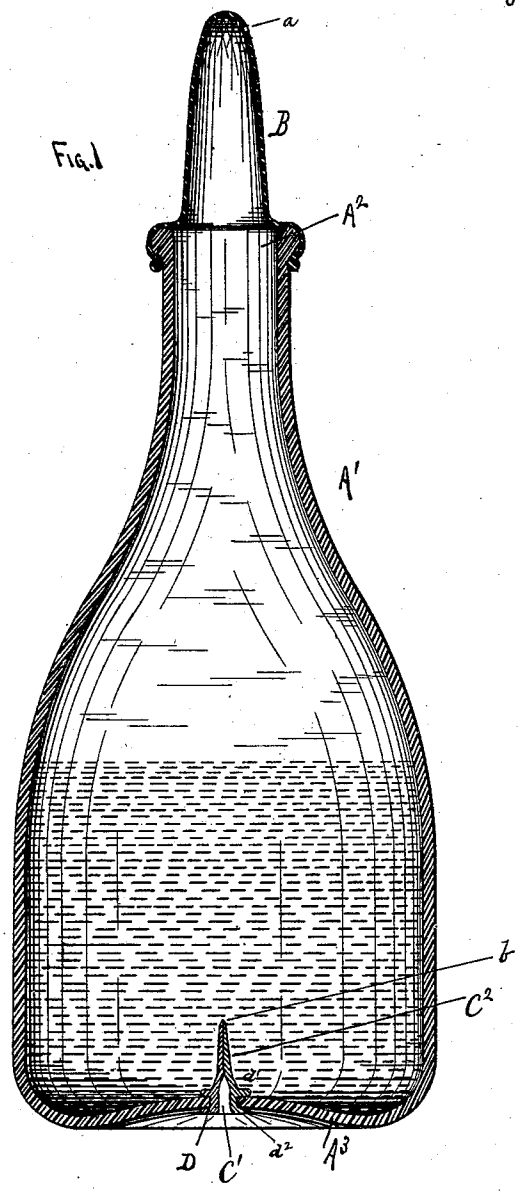


Fig. 2



Fig. 3



Fig. 4



WITNESSES.
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UNITED STATES PATENT OFFICE.

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VENT.

SPECIFICATION forming part of Letters Patent No. 362,554, dated May 10, 1887.

Application filed January 28, 1887. Serial No. 225,816. (No model.)

To all whom it may concern:

Be it known that I, JAMES SUYDAM, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Vents for Liquid-Holding Vessels, of which the following is a specification.

This invention relates, primarily, to feeding-bottles used in nursing infants and invalids, but may be applied to any form of air-tight vessels from which liquids are to be drawn.

The invention consists in an improved construction of removable vent or valve, of rubber or other flexible material, adapted to be inserted into an aperture in the lower part of the liquid-holding vessel, and so constructed as to permit the passage of air into the vessel, while at the same time preventing the escape of the liquid therefrom, whereby the pressure of the air in the vessel is equalized and the formation of a vacuum prevented.

As before stated, the invention may be applied to any form of air-tight liquid-holding vessel; but for the purpose of illustration I have shown it applied to an ordinary feeding-bottle for infants and invalids, to which it is especially adapted.

In the drawings, Figure 1 is a sectional elevation of a feeding-bottle with one form of my improved vent arranged therein. Fig. 2 is a view of the vent removed. Fig. 3 is a top view, and Fig. 4 is a bottom view, of the vent as shown in Figs. 1, 2, and 3, illustrating more fully its construction.

A′ represents the bottle, which will be constructed in the ordinary manner and provided with the usual rubber nipple, B, stretched over the mouth A^2, as shown.

In the center of the bottom A^3 of the bottle, or at any other suitable point, an aperture, D, will be formed, into which the vent is inserted.

The vent is shown constructed of flexible rubber with a tubular portion, C′, contracted at its upper part, C^2, and with lips *b*, adapted to open as the air is drawn in, or be closed by the pressure of the liquid when no air is drawn into the bottle, as hereinafter explained.

d′ d^2 represent two ribs or flanges upon the lower part of the vent, by which the latter will be supported in the aperture D, as shown, the rubber of which the vent is made being sufficiently flexible to permit the upper rib, *d′*, to be forced through the aperture and the vent to fit therein closely enough to prevent the escape of the liquid between the vent and the bottom A^3 of the bottle. The flexibility of the vent also permits the pressure of the liquid in the bottle to keep the small aperture *b* closed, so that the presence of the vent will not cause the bottle to leak at its lower part, while, on the other hand, the flexibility of the vent also permits the entrance of a small amount of air into and through the liquid in the bottle upon the slightest decrease of the pressure caused by drawing upon the nipple B, thus insuring the equilibrium of the air and preventing the formation of a vacuum in the bottle, which causes the air to be drawn into the stomach of the person using the bottle.

In "feeding-bottles" as heretofore constructed with simply the nipple B, from which to draw the liquid, the exhaustion of the liquid causes a vacuum to be formed in the bottle and prevents free flow of the liquid, the air rushing in and being drawn into the stomach of the person using the bottle.

The vent may also be used in barrels and other vessels containing liquids, to supply air to replace that displaced by the removal of the liquids and thus keep up the equilibrium of the pressure to cause the liquid to flow freely from the point of discharge.

Having thus described my invention, what I claim as new is—

As a new article of manufacture, a vent for feeding-bottles and other liquid-holding vessels, consisting of a tubular section, C′, converging section C^2, having lips *b* and ribs *d′* d^2 and adapted to be inserted into the lower part of said feeding-bottle or other vessel, substantially as and for the purpose set forth.

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

JAMES SUYDAM.

Witnesses:

C. N. WOODWARD,

H. S. WEBSTER.