J. THOMPSON.
Nursing-Bottle.

No. 227,075. **Patented April 27, 1880.**

Fig. 1.

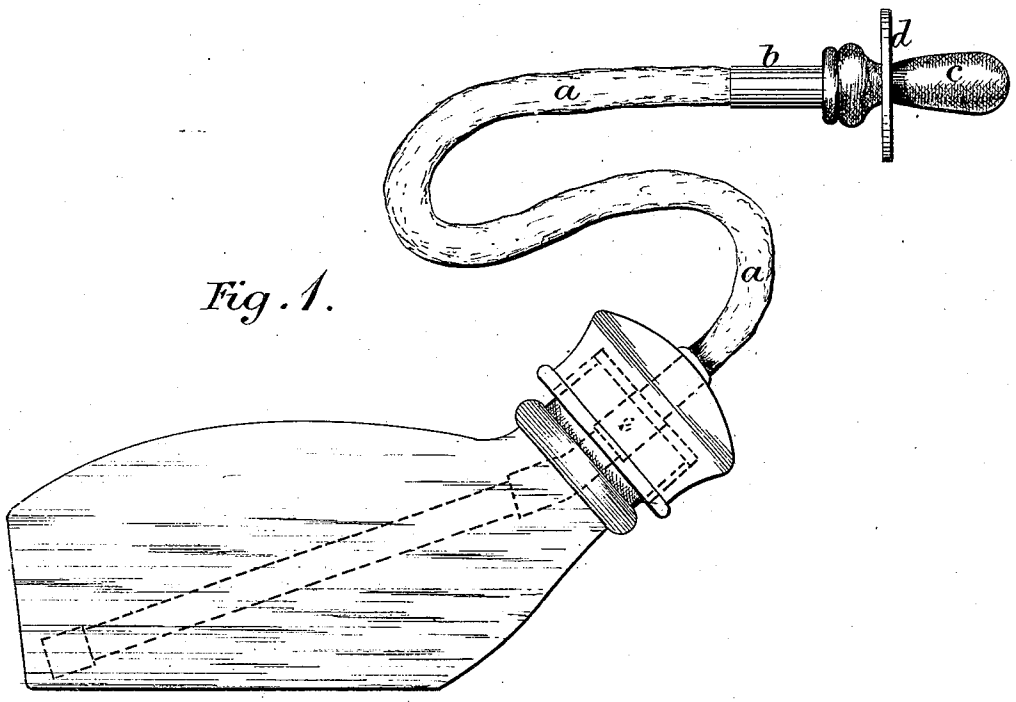

Fig. 2.

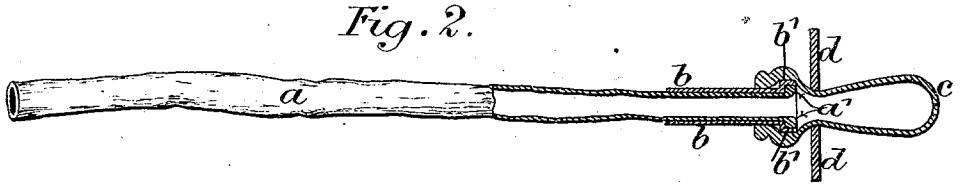

Fig. 3.

Fig. 4.

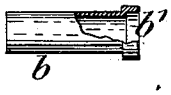

Fig. 5.

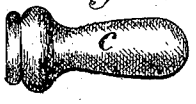

Fig. 6.

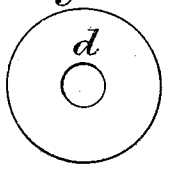

Fig. 7.

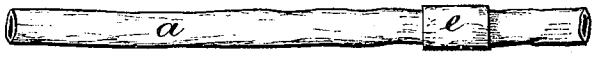

Fig. 8.

WITNESSES:
Wm A Skinkle
Chas. H. Baker

INVENTOR:
John Thompson.

By his Attorneys
Baldwin, Hopkins & Peyton.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN THOMPSON, OF LONDON, ENGLAND.

NURSING-BOTTLE.

SPECIFICATION forming part of Letters Patent No. 227,075, dated April 27, 1880.

Application filed January 20, 1880. Patented in England December 4, 1879.

To all whom it may concern:

Be it known that I, JOHN THOMPSON, of Aldersgate Street, in the city of London, England, have invented new and useful Improvements in Feeding Apparatus for Infants, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

This invention has for its object improvements in feeding apparatus for infants.

In feeding apparatus as at present constructed it is usual to connect the teat with the flexible tube of the bottle by the aid of a tubular coupling-piece or union made of porcelain, wood, or metal.

My improvements relate to the construction and connection of the coupling-piece and flexible tube, and to the combination of the coupling-piece, flexible tube, and teat, whereby injurious contraction of the passage in the flexible tube is avoided, the removal of the teat without disturbing the connection between the coupling-piece and flexible tube admitted of, and the cleansing of the flexible tube, as by passing a brush through it, facilitated.

According to my invention, I form the connection between the flexible tube and the teat by means of a union-piece which passes over the exterior of the flexible tube. It is suitably flanged to receive the teat upon it, and it is stopped, to prevent it slipping off from the end of the flexible tube, by a permanent enlargement or thickening at the end of this tube. This enlargement or thickening is conveniently produced by turning the end of the tube over on itself and fastening the lip so turned over by means of cement. I form the flange of the union or coupling piece hollow, and the thickened end of the flexible tube is received into and housed within the hollow flange of the union-piece.

In order to prevent the flexible tube sliding too far through the cap of the feeding-bottle I place a stop on the exterior of the tube, consisting of a ring of india-rubber sprung upon it.

In order that my said invention may be most fully understood and readily carried into effect, I will proceed to describe the drawings hereunto annexed.

In the accompanying drawings, Figure 1 is a side elevation of a feeding-bottle with its apparatus, and the connection between the flexible tube and the teat is made in the manner which I have described above. Fig. 2 shows a section of the end of the flexible tube, the union-piece, the teat, and the shield. Figs. 3, 4, 5, and 6 show each of these parts separately.

a is the flexible tube, of vulcanized india-rubber, and *a'* is its thickened end, produced, by preference, by lapping over the edge of the tube and cementing it down, as is well understood by india-rubber workers, so as to form a thickened lip.

b is the metal union-piece, of a size to pass freely over the tube *a*, but stopped by the thickened end of the tube.

b' is the hollow flange of the union-piece *b*. It is of a size to receive over it the teat *c*, which passes easily on, but fits sufficiently well to form an air-tight joint. The thickened end *a'* of the tube *a* fits and houses within the hollow flange *b'*, as the drawings indicate.

d is the shield to prevent the teat passing too far down the infant's throat. It is usually made of bone, and it is passed onto the teat beyond the flange of the union-piece. As it fits a little tightly it may be placed upon the teat at any desired distance from the end, and will there remain, allowing a longer or shorter portion of the teat available for the child to suck, as the nurse may please.

Fig. 7 is a side view of the portion of the tube *a* on which the stop is placed to prevent the tube being drawn through the cap of the bottle beyond its proper position. This stop is marked *e*. It consists of a ring formed of india-rubber tube, and it is shown separately at Fig. 8. This ring is drawn over the tube to its place when the tube *a* is sufficiently stretched to permit it to pass on readily.

As compared with a feeding apparatus having a coupling through which the flexible tube end is drawn and then turned back over or outside the coupling and temporarily held by being clamped by the teat stretched or drawn over the turned back end of the tube, so as to press it against a shoulder or into a recess on the outside of the coupling, it will be seen that in my improvements, when the flexible tube needs cleaning the teat is pulled off without disturbing the connection between the tube and coupling-piece, instead of rendering nec-

essary the disconnection, or at least partial separation, of the tube and coupling, and moreover requiring double manipulation in restoring the connections.

The advantages of my improvements over an apparatus of the type in which the connection between the tube and a coupling outside or partially outside thereof is necessarily broken every time the teat is removed will be seen without further statement or more detailed reference to prior inventions.

Having thus described the nature of my said invention and the manner of performing the same, I would have it understood that I claim—

1. The combination of the flexible tube having the enlarged or thickened end, and the outside coupling-piece having the hollow flange or internally-shouldered end enlargement, substantially as and for the purpose described.

2. The combination of the flexible tube having the enlarged end, the outside coupling-piece having the hollow flange or internally-shouldered end enlargement, and the teat, substantially as and for the purpose described.

J. THOMPSON.

Witnesses:
CHAS. BERKLEY HARRIS,
17 *Gracechurch Street, London.*
JOHN DEAN,
17 *Gracechurch Street, London.*