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W. A. SCOTT

2,061,809

TEAT CUP LINER

Filed April 24, 1935



FIG. 2.

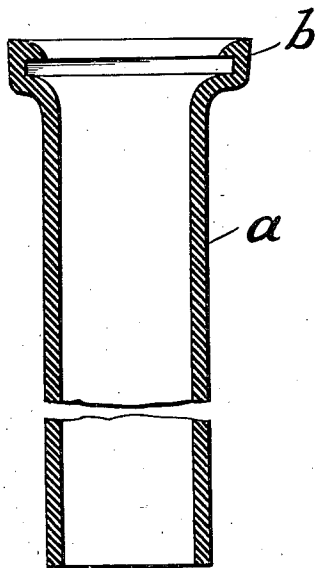


FIG. 1.

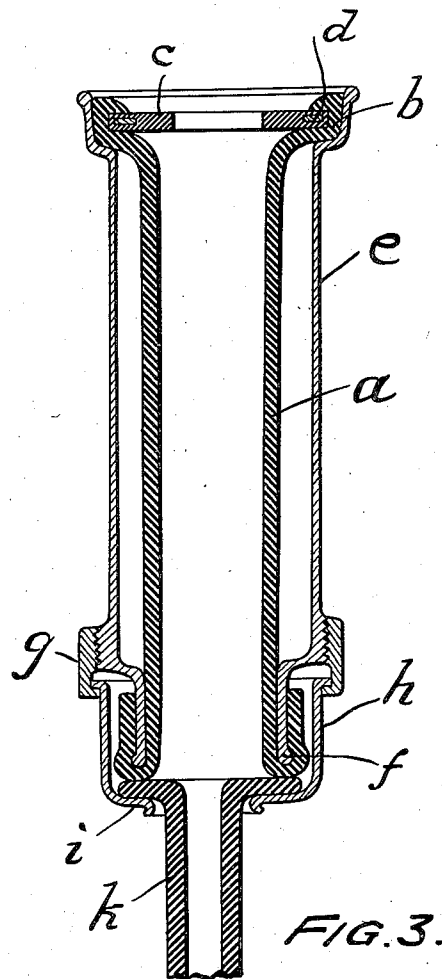


FIG. 3.

WITNESS:

Not a Steel.

INVENTOR

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UNITED STATES PATENT OFFICE

2,061,809

TEAT CUP LINER

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6 Claims. (Cl. 31—84)

My invention is an improvement upon that class of flexible teat cup liners wherein the liner is of cylindrical shape and is expanded near its upper end by the insertion of a rigid metal ring of a diameter substantially greater than the normal diameter of the liner. In this construction the upper extremity of the expanded part of the liner extends radially inward, its inner margin aligning, or nearly aligning, with the inner wall of the unexpanded part of the liner and forming a mouth-piece adapted to embrace and engage the teat when the teat cup is applied thereto.

The described liner is efficient in actual use, but it is open to certain objections which it is the object of the present invention to remove. One objection is that the insertion of the ring requires the use of a special expanding tool, of which examples are disclosed in the Leitch Patent No. 1,363,522, December 8, 1920, and the Snyder Patent No. 1,408,039, February 28, 1922. When the user is required to remove and replace the ring, he finds it difficult to do so without the aid of a special tool, which must be furnished to the user with a set of teat cups.

Another objection to this type of liner is that the rubber is stretched to such an extent that it loses its elasticity in a comparatively short time, which necessitates cutting off the defective end and shortening the length of the liner, or replacing it with a new liner.

In my improved liner the above objections are removed. The mouth-piece can be readily inserted without the aid of a special tool and no part of it becomes excessively stretched in use, thereby prolonging the life of the liner. Thus the user is saved trouble and expense.

In the drawing:

Fig. 1 is a vertical section through the upper part of the liner. Fig. 2 is a cross section through the internal removable and replaceable mouth-piece. Fig. 3 is a vertical sectional view of one preferred complete teat cup assemblage.

The liner *a* has its upper end moulded to the shape that it is desired to have when the liner is assembled in the teat cup. This upper end *b* is circumferentially enlarged, its free extremity extending radially inward for a limited distance sufficient to form an internal groove for the reception of the mouth-piece.

This mouth-piece has a body *c* of rubber and is of disc shape with a central opening preferably of smaller, or not greater, diameter than the internal diameter of the unexpanded body of the liner. It is reinforced, preferably nearer to its outer margin than to its central orifice, by a rigid

core *d*, preferably of pressed steel. The part of the mouth-piece adjacent the central opening is therefore flexible and engages the teat just as, in the old type of liner described, the teat is engaged by the upper extremity of the liner, or, as in another known construction, by a special mouth-piece which is applied to liner and shell after these two parts are assembled.

This special mouth-piece *c* is readily removable and replaceable. If it should wear out before the liner, it may be replaced by a new mouth-piece without replacing the liner.

One of different ways of assembling the complete teat cup is shown in Fig. 3. The upper end of the rigid metal shell *e* is expanded and holds within it the expanded upper end of the liner. The lower end of the shell is provided with a contracted neck *f*. The lower end of the liner is bent around the neck *f*. A ring *g* is threaded on the shell *e* above the shoulder formed by the neck *f*. Depending from ring *g* is a ring *h*, the lower inwardly extending end *i* of which embraces a nozzle *k*, whose upper end, together with the lower end of the liner, is confined between the part *i* and the neck *f*. The described teat cup assemblage is shown in the Hagood Patent 1,959,581, May 22, 1934. Other means for securing the liner in the teat cup shell may be adopted.

What I claim and desire to protect by Letters Patent is:

1. A flexible and elastic teat cup liner comprising a main body having an expanded upper end and a removable and replaceable internal mouth-piece within the expanded upper end of the liner, said mouth-piece comprising a disc of flexible and elastic material having a central orifice the internal diameter of which is less than that of the edge of the overlying upper end of the liner and at most no greater than the internal diameter of the main body of the liner.

2. A flexible and elastic teat cup liner comprising a main body having an expanded upper end and a removable and replaceable mouth-piece confined within the expanded upper end of the liner, said mouth-piece comprising a disc-shaped body of flexible and elastic material having a central orifice whose diameter at most is no greater than the internal diameter of the liner body so that it is adapted to surround and engage the teat when the teat cup is applied thereto.

3. A flexible and elastic teat cup liner comprising a main body having an expanded upper end and a removable and replaceable mouth-

piece confined within the expanded upper end of the liner, said mouth-piece comprising a disc-shaped body of flexible and elastic material having a central orifice adapted to embrace and engage the teat and a reinforcing circular core of comparatively rigid material embedded in the body and spaced from the central orifice a sufficient distance to maintain unimpaired the flexible and elastic character of the part of the mouth-piece that engages the teat.

4. A flexible and elastic teat cup liner comprising a main cylindrical body and an expanded upper end which is moulded to permanently retain its shape, and a removable and replaceable mouth-piece having a body of flexible and elastic material and confined within the expanded upper end of the liner.

5. A flexible and elastic teat cup liner comprising a main cylindrical body and an expanded upper end which is moulded to permanently retain its shape, and a removable and replaceable

mouth-piece confined within the expanded upper end of the liner, said mouth-piece being a flat disc the body of which is of flexible and elastic material and which is provided with a central teat-embracing orifice.

6. A flexible and elastic teat cup liner comprising a main cylindrical body and an expanded upper end which is moulded to permanently retain its shape, and a removable and replaceable mouth-piece confined within the expanded upper end of the liner, said mouth-piece being a flat disc the body of which is of flexible and elastic material and which is provided with a central teat-embracing orifice whose internal diameter is at most not greater than that of the liner body, and a reinforcing circular core of comparatively rigid material embedded in the mouth-piece body and positioned nearer to its periphery than to its central orifice.

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