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URINE COLLECTING DEVICE

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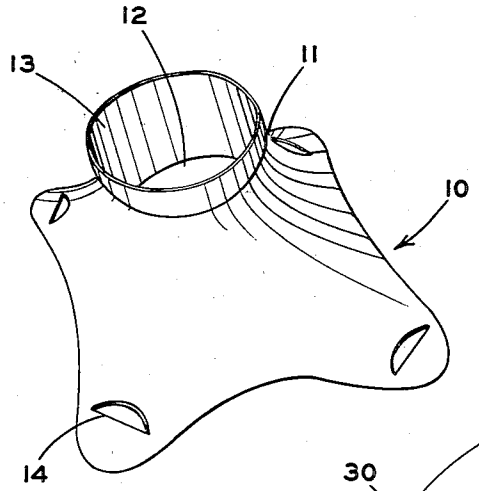


fig. 1

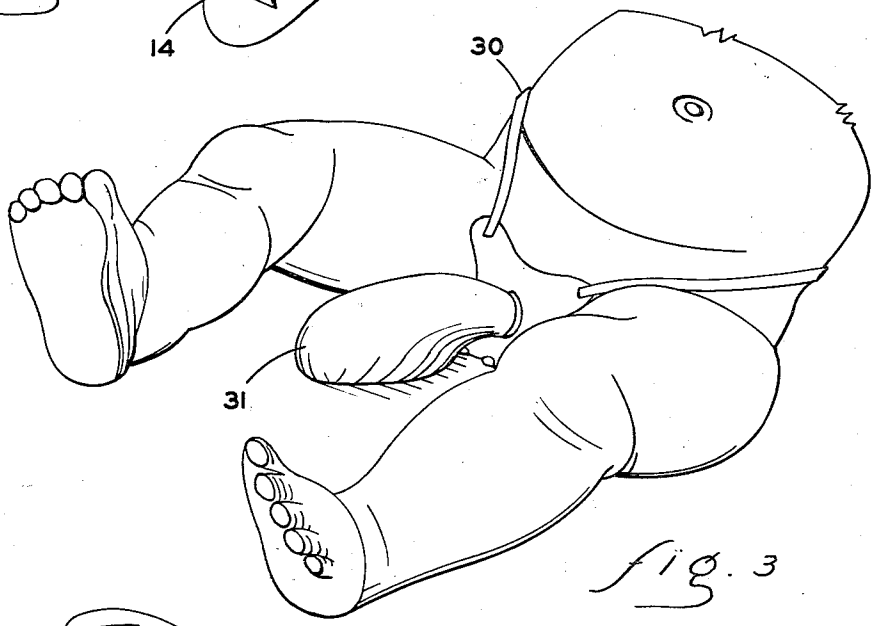


fig. 3

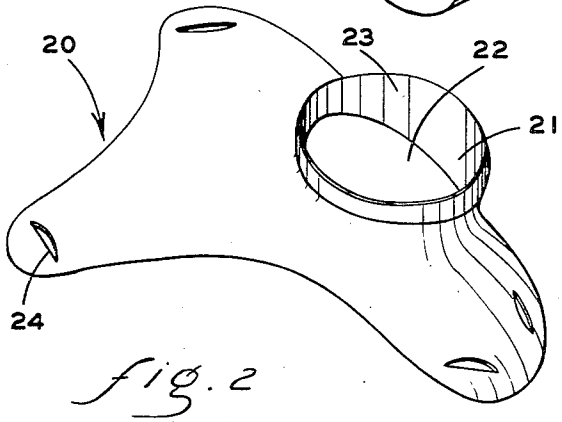


fig. 2

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URINE COLLECTING DEVICE

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3 Claims. (Cl. 128—295)

This invention relates to a urine collecting device and more particularly to a device for collecting infant's urine.

It is frequently desirable, particularly in hospitals, to collect a sample of infant's urine for analysis. Heretofore, no device suitable for this purpose has been devised which does not require the more or less constant attendance of a nurse or other hospital aide to effect the collection. Even with an aide in constant attendance, the infant will often accomplish his urination before a conventional urine collecting device can be placed in operative position. Other known urine collecting devices are so bulky and cumbersome as to cause discomfort to the wearer thereof. Such devices commonly employ complicated harness arrangements and likewise use a collecting receptacle which is expensive to manufacture and uncomfortable to wear. These devices cannot be left on the infant for prolonged periods of time without causing the child to become angry and also causing harm to the infant.

Accordingly, it is an object of this invention to provide a urine collecting device which does not require the attendance of any other person with the infant.

It is further object of this invention to provide a urine collecting device which is quickly attached and convenient to use.

It is a further object of this invention to provide a urine collecting device which can be placed on the infant and left there for prolonged periods of time without causing discomfort or injury to the infant.

Other objects and advantages of this invention will become apparent upon reading the accompanying specification and an inspection of the accompanying drawings, in which:

Figure 1 illustrates a form of the device suitable for use with a male infant.

Figure 2 illustrates a form of the device suitable for use with a female infant.

Figure 3 shows the device in position on a male infant.

In meeting the objects and purposes above set forth as well as others related thereto, there is provided, in general, a sheet-form body member conforming to the shape of the loin portion, and more particularly of the inguinal region, of the infant wearer thereof and having a raised portion with an opening therethrough. A disposable and inexpensive collecting receptacle is fitted over the raised portion of the body member. The body member and the collecting receptacle are made of relatively flexible and yieldable materials so that the infant can wear the device without discomfort.

Referring to the drawings in detail, Figure 1 shows a body member **10** which is suitable for use on male infants. In plan view, the male body member is of a generally trapezoidal shape. The corners of the trapezoid are rounded off and the side walls thereof are concave, so that when snugged against the body of the infant wearer said corners and side walls provide a liquid seal of sorts. The body member is generally concavo-convex in cross section. Thus, the body member **10** is shaped

so that it conforms to the shape of the inguinal region of the infant. The body member **10** is provided with a raised funnel-shaped portion **11**. The raised portion defines an opening **12** through the body member **10**. A cylindrical collar or bead **13** is formed at the outer end of said raised portion and extends from said raised portion **11** in relatively forward direction. A slot **14** is formed in each corner of the body member for receiving a harness member in a manner to be described hereinbelow.

The female body member **20** is somewhat triangular in shape when viewed in plan. The corners thereof are rounded off and the side walls thereof are concave. The body member is generally concavo-convex in cross section. Body member **20** is provided with a raised funnel-shaped portion **21** which terminates in an opening **22** through the body portion. The edge defining said opening **22** is formed as a cylindrical collar or bead **23** which extends from said raised portion **21** in relatively forward direction, similarly to the aforesaid collar **13**. A slot **24** is formed in each corner of the sheet-form body member **20**.

The body members **10** and **20** are of one piece construction and can be made of any material that will not cause discomfort to the infant wearer thereof. The body member, although necessarily form-sustaining to an appreciable degree, should be somewhat resilient and flexible so that it will fit snugly against the infant and yet will yield with the infant's body as he or she moves about. The body member must not have any rough edges or surfaces of any projecting parts which could cause injury or discomfort to the infant. Polyethylene and many of the vinyls have been found to be suitable material from which the sheet-form body member may be made. Other materials having the characteristics set forth above may be used to make the body members.

The shape and configuration of the body members may be varied somewhat from that discussed above. The only requirement of the shape of the body member is that it conform to the shape of the inguinal region of the infant so that it will not cause the infant wearer thereof to become uncomfortable, and its configuration is always such that when the body member is snugged to the infant's body it will tend to seal thereagainst along its edges.

Elasticized straps **30** are threaded through the slots **14** and **24**. The straps may be placed around the body of the infant to support the body portion of the collector in proper position.

A disposable collecting receptacle **31** is placed over the enlargement **13** or **23** of the body portion. The collecting receptacle must be fluid tight and should be flexible and yieldable so that the infant wearing the device can move about freely without discomfort. Receptacle **31** may advantageously be relatively narrow and elongated so that it can be between the infant's legs and allow normal movement thereof. It has been found that inexpensive balloons, such as those commonly used by children, have the necessary characteristics for use as a collecting receptacle.

The receptacle **31** must be provided with means to snugly engage the enlargements **13** or **23** so as to prevent leakage from the receptacle. When a balloon is used, the neck portion thereof must be sufficiently elastic for it to be expanded to fit over the enlargement **13** or **23** and then contracted to firmly engage the enlargement. With other types of receptacles, a draw string or snap fastening or elastic means may be used on the neck portion of the receptacle so that it may be placed over the enlargement **13** or **23** and releasably but snugly held in engagement therewith.

In use, the body member **10** or **20**, with straps **30** in position thereon and the receptacle **31** mounted on the

enlargements 13 or 23, is placed position over the inguinal region of the infant. The straps are adjusted so that the body member is held against the infant's body. When the male-infant device shown in Fig. 1 is so applied, it will be found that the funnel-shaped raised portion 11 provides a rearwardly facing concavity which is ample to accommodate the male organs of the infant and further serves as a funnel which directs the urine through the collar 13 into the receptacle 31. The funnel-shaped portion 21 and collar or bead 23 of the female-infant device shown in Fig. 2 functions in generally equivalent manner. When it is observed that the receptacle contains a supply of urine, the receptacle is removed and the urine poured therefrom. The body portion and straps are then removed. The receptacle may be thrown away.

While the device has been described primarily with respect to its use in hospitals, it will be obvious that the device will also be useful where an infant is being taken on a trip and it is inconvenient to change its diaper during the trip.

Although particular, preferred embodiments of the invention have been disclosed hereinabove for illustrative purposes, it will be understood that variations or modifications thereof which lie within the scope of said invention are fully contemplated herein unless specifically stated to the contrary in the appended claims.

I claim:

1. A device for collecting a speciment of an infant's urine for analysis, including in combination: a sheet-form body member of size and shape enabling it to be applied to the inguinal region of an infant and to be worn for a substantial period of time, said body member having concavo-convex cross-section and a funnel-like formation in its central region which extends relatively forwardly from and emerges smoothly with its convex side, said funnel-shaped portion terminating in an opening, and a cylindrical collar extending about said opening in continuation of said funnel portion, said body member being form-sustaining yet sufficiently flexible that it will yield when worn, the body member having configuration such that when the device is snugged against the body of the infant wearer it tends to seal therewith along its edges; a one-piece collecting receptacle of resilient and flexible material releasably secured to the cylindrical collar; and strap means for securing the body member in place on the inguinal portion of the infant wearer.

2. A device for collecting infant's urine for analysis thereof substantially as set forth in claim 1, wherein the body member has generally trapezoidal shape and the corners of said body member are rounded and its side edges are outwardly concave.

3. A device for collecting infant's urine for analysis thereof substantially as set forth in claim 1, wherein the body member has generally triangular shape and the corners of said body member are rounded and the side edges are outwardly concave.

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