

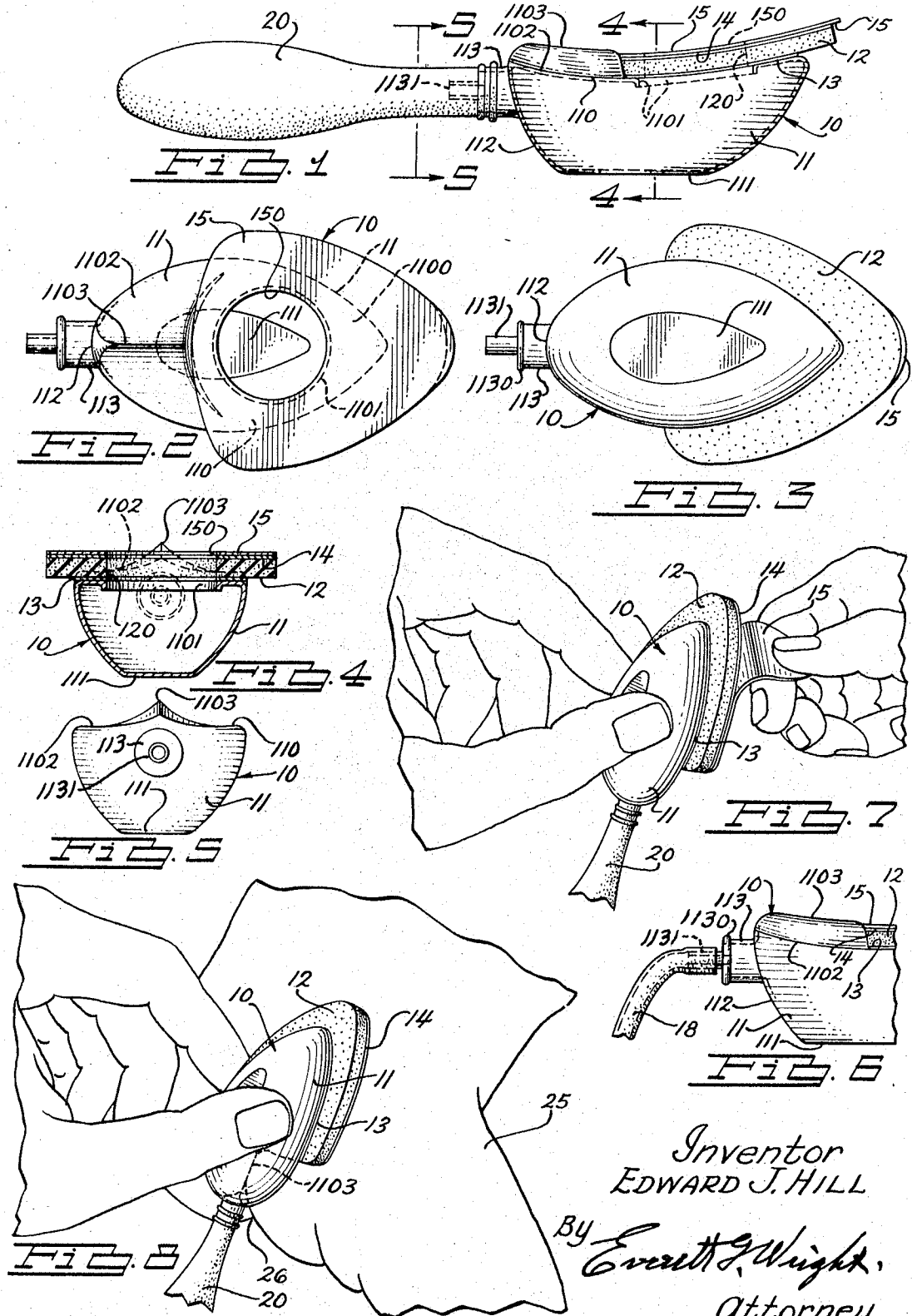
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PEDIATRIC URINE COLLECTOR WITH ADHESIVE COATED ATTACHING PAD

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1

2

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**PEDIATRIC URINE COLLECTOR WITH ADHESIVE COATED ATTACHING PAD**

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This invention relates to pediatric urine collectors particularly desirable for use to obtain urine samples from babies and small children.

The primary object of the invention is to provide a greatly improved and extremely convenient to use pediatric urine collector for collecting urine from babies than may be used advantageously in hospitals shortly after birth. A like or a somewhat larger pediatric urine collector of the same type is likewise conveniently usable later in doctor's offices or in the home for obtaining urine samples from older babies and small children for periodic urine analysis to discover the existence of certain diseases, abnormalities and subnormalities with which children oftentimes are born and which may be identified or anticipated by early diagnosis through early urine analysis and early periodic urine analytical checkups.

Prior art pediatric urine collectors have proven to be inadequate and undesirable for use with extremely small infants and young children in that they have been unsatisfactory and unreliable particularly when used with new born babies and young children in that their normal kicking, squirming and generally difficult to control activities makes the collection of urine samples difficult and oftentimes impossible.

With the foregoing in view, the primary object of the instant invention is to provide a novel bubble type urine specimen collector for infants and small children which is easily and readily placed over the penis of male babies or children or over the vulva of female babies or children in the proper position and attitude to assure baby and child patient comfort during collection of urine samples sufficient for early initial and periodic urine analysis and diagnostics.

A further object of the invention provides a novel bubble type urine specimen collector for infants and small children that not only is easily and readily placed in urine collection position but which is readily and positively securable in such position.

A further object of the invention is to provide a bubble type pediatric urine collector removably securable by adhesive means to the abdomen of a baby or child with a pliable cushion of substantial thickness disposed between the bubble and the abdomen allowing for reasonable movement of the bubble in respect to the patient's abdomen whereby to assure not only the comfort of the patient but the maintenance of proper securement of the urine collector in urine collection relationship over the penis or vulva of the patient.

A further object of the invention is to provide a bubble type pediatric urine collector including means for blocking the external channel between the anus and vulva of a female baby or child to arrest the migration of fecal matter within a diaper on the baby or child from its anus to the opening in the pediatric urine collector which accommodates the vulva.

A further object of the invention is to provide an infant or small children's urine specimen collector that may be readily sealed and easily handled between the taking of a specimen and the removal of the specimen therefrom in the urine analysis laboratory.

Still another object of the invention is to provide an improved bubble type pediatric urine specimen collector

particularly for infants and small children which normally takes short term periodic specimen collectible in a bag means such as a latex balloon removably connected to the bubble element, or takes long term specimens collectible in a bottle or other container removably connected between the bubble element and the container.

Other objects of the invention will become obvious by reference to the following detailed description taken in connection with the accompanying drawings, in which:

FIG. 1 is a side elevational view of an improved pediatric urine specimen collector embodying the invention having connected thereto a suitable latex specimen receiving balloon.

FIG. 2 is a top plan view.

FIG. 3 is a bottom view.

FIG. 4 is a cross sectional view taken on the line 4—4 of FIG. 1.

FIG. 5 is an end elevational view taken on the line 5—5 of FIG. 1 with the specimen balloon removed.

FIG. 6 is a fragmentary elevational view of the left hand end portion of the pediatric urine specimen collector as viewed in FIG. 1 but with a tube attached thereto for long term specimen collection in a bottle or the like located remote from a patient.

FIG. 7 is a view in perspective showing the removal of protective paper from the adhesive coated pliable diaphragm fixed on the bubble element of the improved pediatric urine collector.

FIG. 8 is a view in perspective showing the placement on a new born baby of a pediatric urine collector of the invention in position for urine collection thereby.

Referring now to the drawings wherein like reference numerals refer to like and corresponding parts throughout the several views, the illustrative embodiment of a pediatric urine collector 10 of the invention particularly adapted for use with new born babies and small children consists of a hollow bubble element 11 preferably formed of a low density polyethylene which is relatively soft but of sufficient stiffness to maintain its molded shape under the intended use, a sponge rubber, polyurethane foam or like soft resilient pliable pad 12 of substantial thickness fixed by cement 13 or the like to the forward portion 1100 of the top 110 of the bubble element 11, the said soft resilient pliable pad 12 preferably extends laterally and forwardly outwardly from the said forward portion 1100 of the said bubble element, and is coated on its upper side with an adhesive material 14 harmless to the skin. A protective release paper 15 is adhered to and over the said adhesive 14, and is readily removable just prior to the use of the pediatric urine collector.

The bubble element 11 is preferably formed somewhat boat-shaped with a generally upwardly longitudinally curved top 110 and a relatively small bottom or base 111 with smooth curving ends and sides therebetween. All corners are slightly radiused to provide complete surface smoothness throughout.

The forward portion 1100 of the top 110 of the bubble element 11 is suitably apertured at 1101 to accommodate the penis of a male baby or child or the vulva of a female baby or child. The sponge rubber or like pliable resilient pad 12 and the release paper 15 are apertured at 120 and 150 in alignment with and slightly smaller than the said aperture 1101 through the top 110 of the bubble element 11 so that the sponge rubber or like pad 12 will present a soft pliable surface adjacent or against the penis or vulva of the baby or child.

The rear portion 1102 of the top 110 of the bubble element is preferably provided with a suitable central ridge 1103 which is disposed when the pediatric urine collector 10 is in use in the external channel existing at the lower end of the abdomen between the anus and vulva of a female baby or child to arrest migration of fecal matter

within a diaper on the baby or child from its anus to within the bubble element 11 of the pediatric urine collector 10 in the event the adhesive material 14 holding the pediatric urine collector 10 in place when in use should become ineffective caused by extreme body or leg movement of the baby or child to which a pediatric urine collector is applied.

At the center of the rear wall 112 of the bubble element 11 and near the top 110 thereof as viewed in FIG. 1 is a tubular drainage spout 113 having an outer rolled edge 1130 and a small central hollow protuberance or nib 1131. Urine drains from the bubble element 11 through the drainage spout 113 and the hollow nib 1131 either into a latex balloon 20 or other urine collector bag disposed over the drainage spout 113 or through a drainage tube 18 telescoped at one end over the hollow nib 1131 as indicated in FIGS. 1 and 6 respectively.

The pediatric urine collector 10 is described herein with the curved top 110 of the bubble element 11 disposed in a horizontal position as in FIG. 1 wherein the front portion is the right hand portion as viewed in FIGS. 1, 2 and 3. When in use, the front portion of the bubble element 11 is pointed upwardly toward the navel of the infant and the latex balloon 20 is disposed between the legs of the infant as best shown in FIG. 8.

As viewed in FIG. 7, the protective release paper 15 is disposed over the adhesive 14 on the pliable pad 12 is being removed from the pediatric urine collector 10, and FIG. 8 shows the application thereof over the vulva of a female infant 25 with the central ridge 1103 on the rear portion 1102 of the top 110 of the bubble 11 thereof disposed in the external channel 26 between the anus and vulva of the infant. For male infants, the pediatric urine collector 10 of the invention is applied over the penis, and the rear portion 1102 of the top 110 of the bubble 11 rests over the male infant's scrotum.

Short term urine specimens are preferably collected in a latex balloon 20, while long term urine specimens may be collected in a bottle or other suitable means (not shown) in which the free end of the drainage tube 18 is positioned. When a small urine sample is sufficient, a pediatric urine collector of the invention may be used without a latex balloon 20 by placing a suitable friction cap (not shown) over the nib 1131 of the drainage spout 113. In either event, the specimen containers are properly sealed and labeled by suitable means, and are forwarded to the laboratory for analysis.

Although but a single embodiment of the invention has been disclosed and described in detail herein, it is obvious that many changes may be made in the size, shape, arrangement and detail of the several elements thereof, all without departing from the spirit and scope of the invention as defined by the appended claims.

I claim:

1. A pediatric urine collector comprising  
 a hollow bubble element formed of relatively soft plastic having sufficient stiffness to maintain its shape during use,  
 a soft resilient pliable pad of substantial thickness fixed to the front portion of the top of said hollow bubble, an adhesive coating on said resilient pad non-irritating to the skin for removably securing the pediatric urine collector to the infant,  
 said hollow bubble and said resilient pad having aligned apertures therethrough to accommodate the penis or entire vulva of an infant or small child when positioned thereover,  
 a protective release paper disposed over and removably adhered to said adhesive coating readily strippable therefrom prior to use of the pediatric urine collector, the stripping of said release paper presenting said adhesive coating for removable securement of the said pediatric urine collector to the body of said infant or child adjacent its penis or vulva,  
 a drainage spout on said bubble located and formed to

permit urine specimen receptacle means to be removably connected thereto, and

a central ridge on the rear portion of the top of said bubble which becomes disposed in the external channel at the lower end of the abdomen of a female infant between its anus and vulva when said pediatric urine collector is positioned for use on such infant whereby to prevent migration of fecal matter from the anus of such infant into the aperture provided in the forward portion of said pediatric urine collector to receive its vulva.

2. A pediatric urine collector as claimed in claim 1 wherein the said soft resilient pliable pad, adhesive means thereon and protective release paper on said bubble extend outwardly from the front portion thereof, forming thereby a flexible flange extending laterally and forwardly beyond the dimensions of said bubble element.

3. A pediatric urine collector as claimed in claim 1 wherein the said drainage spout is located at the rear end of the bubble near the top thereof and is provided with an annular outer bulbous edge and an extending hollow nib to receive selectively a urine collector bag for collection of short term urine specimens and tube for the collection of short or long term urine specimens.

4. A pediatric urine collector comprising  
 a hollow bubble element formed of relatively soft plastic having sufficient stiffness to maintain its shape during use,  
 a soft resilient pliable pad of substantial thickness fixed on the front portion of the top of said hollow bubble and extending outwardly therefrom,  
 the rear portion of the top of the said hollow bubble being formed to provide a transverse abutment and a central longitudinal ridge,  
 the said resilient pliable pad, adhesive coating thereon and protective release paper terminating at their rearward end portion at said transverse abutment,  
 said central longitudinal ridge extending from the top of said abutment to the rearward end of said bubble, said central ridge on the rear portion of the top of said bubble becoming disposed in the external channel at the lower end of the abdomen of a female infant when said pediatric urine collector is positioned for use on such infant whereby to prevent migration of fecal matter from the anus of such infant into the aperture provided to receive its vulva,  
 an adhesive coating non-irritating to the skin on said resilient pad for removably securing the pediatric urine collector to the body of the infant,  
 said hollow bubble and said resilient pad having aligned apertures therethrough to accommodate the penis or vulva of an infant or small child when positioned thereover,

a protective release paper disposed over and removably adhered to said adhesive coating readily strippable therefrom prior to the use of the pediatric urine collector,  
 the stripping of said release paper presenting said adhesive coating for removable securement of the said pediatric urine collector to the body of said infant or child adjacent its penis or vulva,  
 a drainage spout at the rear end of said bubble located and formed to permit a urine specimen to pass there-through, and

a latex specimen collector bag removably secured over said drainage spout for receiving said urine specimen.

5. A pediatric urine collector comprising  
 a self-sustaining hollow bubble element formed as a unitary molded soft plastic receptacle having sufficient stiffness to maintain its shape during intended use and adapted to receive a urine sample therein and apertured at the top thereof to accommodate the penis or vulva of an infant or small child,

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a resilient pliable pad fixed to the top of said bubble element having an aperture therein disposed in alignment with and for the same purpose as said aperture in said bubble element,

adhesive means on said pad for removably securing the said pad to the body of the infant, and

a protective element over said adhesive means strip-pable prior to the use of said urine collector, said resilient pad being of such thickness and flexibility as to accommodate it to the contour of the body of the infant and permit substantial movement of the infant without causing release of the urine collector from the body of the infant.

6. A pediatric urine collector as claimed in claim 5 wherein the said bubble includes a drainage spout formed to accommodate selectively one of a cap, a tube, or a pliable bag.

7. A pediatric urine collector comprising a hollow bubble element formed as a unitary molded receptacle of relatively soft plastic having sufficient stiffness to maintain its shape during use, a soft resilient pliable pad of substantial thickness fixed to the top of said hollow bubble,

an adhesive coating non-irritating to the skin on said resilient pad for removably securing the pediatric urine collector to the body of the infant,

said hollow bubble and said resilient pad having an aperture therethrough to accommodate the penis or vulva of an infant or small child when positioned thereover,

a protective release paper disposed over and removably adhered to said adhesive coating and readily strip-pable therefrom prior to use of the pediatric urine collector,

the stripping of said release paper presenting said adhesive coating for removable securement of the said pediatric collector to the body of said infant or child adjacent its penis or vulva, and

a drainage spout on said bubble located and formed to permit urine specimen receptacle means to be removably connected thereto, wherein the rear portion of the top of the bubble is provided with a transverse abutment and a central longitudinal ridge, the said resilient pliable pad, adhesive coating thereon and protective release paper terminating at their rearward end portion at said transverse abutment,

and said central longitudinal ridge extending from said abutment to the rearward end of said bubble.

8. A pediatric urine collector comprising a hollow bubble element formed as a unitary molded receptacle of relatively soft plastic having sufficient stiffness to maintain its shape during use, a soft resilient pliable pad of substantial thickness fixed to the top of said hollow bubble,

an adhesive coating non-irritating to the skin on said resilient pad for removably securing the pediatric urine collector to the body of the infant,

said hollow bubble and said resilient pad having an aperture therethrough to accommodate the penis or vulva of an infant or small child when positioned thereover,

a protective release paper disposed over and removably adhered to said adhesive coating readily strip-pable therefrom prior to use of the pediatric urine collector,

the stripping of said release paper presenting said adhesive coating for removable securement of the said pediatric collector to the body of said infant or child adjacent its penis or vulva, and

a drainage spout on said bubble located and formed to permit urine specimen receptacle means to be removably connected thereto, and wherein the pliable pad with adhesive thereon and strip-pable release paper thereover extends outwardly from the front portion of the top of said hollow bubble element forming thereby a flexible flange extending laterally and forwardly beyond the dimensions of said bubble element.

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