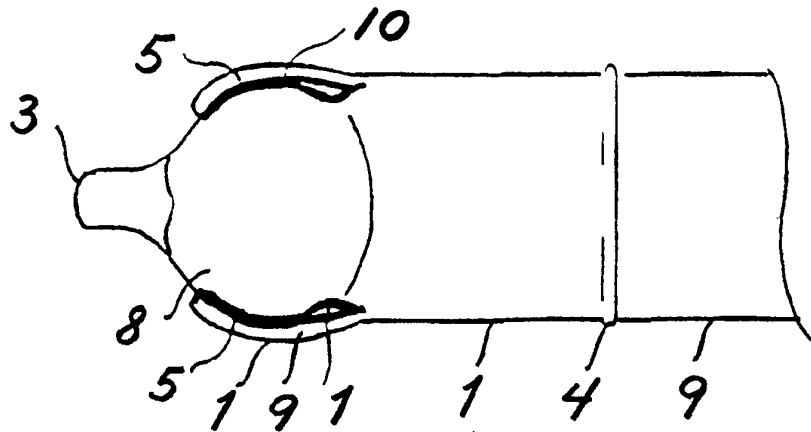




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁵ : A61F 5/455, 5/458, 6/04</p>	<p>A1</p>	<p>(11) International Publication Number: WO 94/17760 (43) International Publication Date: 18 August 1994 (18.08.94)</p>
<p>(21) International Application Number: PCT/NO94/00018 (22) International Filing Date: 21 January 1994 (21.01.94) (30) Priority Data: 930354 2 February 1993 (02.02.93) NO (71)(72) Applicant and Inventor: HEIMREID, Ken [NO/NO]; Jupiter Ring 41 D, N-3942 Skjelsvik (NO). (74) Agent: HELGERUD, Jan, E.; Bryns Patentkontor a/s, P.O. Box 765 Sentrum, Karl Johansgt. 25, N-0106 Oslo (NO).</p>		<p>(81) Designated States: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i> <i>With amended claims.</i></p>

(54) Title: URINE CONDUCTING DEVICE AND CONDOM



(57) Abstract

A urine conducting device and a condom characterized in that it is designed as a device/condom (1), having a length sufficient to cover essentially the entire penis, which at the bottom thereof graduates (7) into a tubular segment (2) for withdrawal of urine, and which is formed so that the thin, elastic material (1), and the skin/foreskin (9) when drawn back toward the penis head (8) and the adhesive surface (5), form a natural drain trap or labyrinth seal (10) with the aid of the foreskin/skin (9) on the penis by means of the device/condom (1) and the penis head (8). The adhesive surface (5) on the outside of the device fixes the foreskin (9) and the device/condom (1) onto the penis head (8).

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URINE CONDUCTING DEVICE AND CONDOM

5 The present invention relates to a urin conducting device
and a condom, which for the sake of simplicity will hereafter
often be referred to simply as a device, intended to cover
essentially the entire penis, and which at the bottom or the
end thereof may graduate into a tubular segment for with-
10 drawal of the urine.

For male patients lacking control of urination, it was
previously necessary for both ambulatory and bedridden
persons to use diapers or pads, an internal catheter or a
15 urine conduction device in the form of a condom connected to
a tube for conducting urine into a container optionally borne
by the patient.

Use of diapers and similar products may have substantial
20 disadvantages; for example, such use is uncomfortable; it
easily results in formation of sores; and diapers and similar
products are restrictive to the movement of ambulatory
patients and are also associated with substantial costs.

25 On the other hand, use of an internal catheter is associated
with considerable discomfort and may also be quite painful;
furthermore, the use of a catheter is a frequent cause of
inflammation and other bodily reactions.

30 A condom with a tube connected thereto is per se a good
solution for a difficult problem, but it has the drawback
that the condom may fall off, often without the patient's
noticing it. Also, a common phenomenon in the case of
bedridden patients is the possibility of urine leakage
35 between the penis and condom wall, and the discomfort caused
thereby.

Known from DE-PS 520.401 is a urine conductor in the form of a condom where the intention is to hold the condom in place by rolling the foreskin over the condom and pressing it thereagainst by means of a retaining band placed around it.

5

There are also known urine conduction devices that provide an adhesive effect against the foreskin by virtue of the condom's attaching itself to the foreskin when being rolled up. An example of this is the commercially available Coloplast.

10

Of other known art we refer to the following:

GB-A1 2,120,102 describes the use of an adhesive tape which is fixed on the side that faces toward the penis during use.

15

GB-A1 2,181,953 describes a urination apparatus where the adhesive strips that are employed are fixed on the inside of the sheath and are intended to rest against the skin.

20

GB-A1 2,206,798 describes a urination apparatus where an adhesive layer constitutes a substantial part of the structure of the sheath itself.

25

US-A1 4,475,909 describes a urination device that is fastened against the penis by first placing on the penis an adhesive strip extending therearound, whereafter the actual device is rolled up onto the penis.

30

US-A1 4,475,910 describes a urination apparatus where the entire penis sleeve consists of, in any case, two layers of which the inner layer extending over the entire penis is an adhesive layer which is in contact with the skin during use.

35

US-A1 4,484,918 describes the use of an adhesive where said adhesive is fixed on the inside of a clamping ring to rest against the penis shaft, thus being in contact with the skin.

Finally, US-A1 4,540,409 describes a device essentially of the same type as that described in GB-A1 2,206,798, but where there is also used, in a manner known per se, an adhesive strip facing inward during use.

5 We also refer to SE 8004355-7 and 8004356-5, where this type of adhesive effect by attachment to the foreskin is utilized and where urine leakage between the penis and the device is prevented.

10 This known technique does not, however, prevent urine from accumulating in the limited sealed-off area and causing substantial portions of the penis to remain in close contact with urine for up to several hours at a time, particularly when the user is bedridden.

15

In the worst case, this may result in formation of bacterial accumulations; another factor is the purely esthetic disadvantage of having skin in intimate contact with fluid over a long period of time.

20

From NO-PS 146-013 there is also known a urine conducting device in the form of a condom which at the bottom thereof graduates into or is connected to a tubular segment for withdrawal of urine, and where the condom is designed to
25 cover only the head of the penis. The characterizing feature of this known urine conducting device is that a sleeve member sealingly connected to the condom or tubular segment extends outward from the bottom part of the condom and, when the condom surrounds the penis head and the foreskin has been
30 drawn over the condom, may be wrapped around or caused to encase the condom and the foreskin.

This latter solution is a very elegant and convenient technical solution, but is nevertheless associated with one
35 essential drawback.

In the case of an often unavoidable erection, uncomfortable and even painful conditions may occur due to the tension accompanying the extension of the penis and the attendant retraction of the foreskin which is, however, prevented from
5 moving freely due to its being locked between the condom part and the sleeve part of the urine conducting device.

The present invention is intended to improve on this known art and to overcome the deficiencies thereof, including the
10 drawbacks with the urine conducting device according to NO-PS 146.013 described above.

The present invention thus relates to a urine conducting device, formed as a condom having a length sufficient to
15 cover essentially the entire penis, which graduates at the bottom into a tubular segment for withdrawal of urine, and the device is characterized in that it is provided, on the side facing outward during use, with adhesive tape or adhesive surface(s) which, when the skin/foreskin is drawn
20 forward toward the penis head, fixes the drain trap or labyrinth seal that is formed.

The invention also relates to a condom which is characterized in that it is provided, on the side facing outward during
25 use, with adhesive tape or adhesive surface(s) which, when the skin/foreskin is drawn forward toward the penis head, fixes the drain trap or labyrinth seal that is formed.

The invention will be explained in more detail with reference
30 to the accompanying drawings, where:

- Figure 1 shows the device according to the invention in unrolled state as a urine conducting device;
- Figure 2 shows the same in rolled-up form as it may be supplied from the manufacturer as a urine conducting
35 device;
- Figure 3 shows the device according to Figure 1, but as a condom rolled onto a penis;

- Figure 4 shows the situation after the foreskin is pulled over the condom and the device is fixed between the foreskin, condom and penis head, with the aid of the adhesive surface.

5

In order to serve its purpose, the device according to the invention should be manufactured of very thin material, preferably a material essentially similar to that of a conventional condom.

10

This applies particularly to the part (1) intended to cover the penis, while the funnel shaped part (7) meant to cover the penis head and the tubular segment (2) for withdrawal of urine may preferably be made of a somewhat thicker material to prevent its being unintentionally folded or squeezed together, depending on whether the device is used as a urine conductor or a condom.

15

In Figures 1, 2, 3 and 4,

20

- reference number (1) is the condom/urine conducting device,
- reference number (2) is the tubular segment for withdrawal of urine,
- reference number (3) is a closed tip for the device when used as a condom,
- reference number (4) is the condom in rolled-up state or the end thereof,
- reference number (5) is the adhesive surface on the device,
- reference number (6) is the opening for elimination of urine,
- reference number (7) is the funnel portion of the device,
- reference number (8) is the penis head,
- reference number (9) is the foreskin/skin,
- reference number (10) is a labyrinth seal.

35

With reference to Figure 1, the device according to the invention, in both the urine conducting device and condom variants, is provided with an adhesive tape or an adhesive surface (5). When the user's skin/foreskin is drawn forward
5 toward the penis head, this adhesive element secures the fixation of the drain trap or labyrinth seal that is formed, as will be described below with reference to Figure 4.

Figure 2 shows the device according to Figure 1 in rolled-up state or, in other words, where the actual sleeve (1) meant
10 to enclose the penis is rolled up as a roll (4).

Figure 3 shows the device rolled onto the penis and the adhesive surface (5) positioned at the front edge of the rim
15 (glans) of the penis head (8). Due to the elasticity of the material in the device, it will tightly enclose the relatively wrinkled and sticky sliding skin (9) and subcutis, and on advancement of the foreskin, the device's sleeve material (1) will be folded and turned forward together with the foreskin
20 to come into contact with the adhesive surface (5) and be fixed there.

For conventional usage this provides a totally adequate protection.

25 Prior to use the adhesive surface (5) is preferably covered with a detachable paper, not shown.

With a device as shown in Figures 3 and 4, one avoids the
30 problem arising with the devices according to the known art.

To function as intended, as mentioned above, the device is manufactured of a very thin material. Therefore, in the event of erection the sleeve material (1) will remain fixed
35 to the adhesive surface (5), and the labyrinth seal formed thereby is maintained.

The subject of the invention is easy to use and provides adequate protection against every form of leakage, including in the case of erection.

5 This leakage protection has become increasingly significant in recent years in the light of the growing risk of HIV/AIDS infection.

10 Therefore, we cannot give enough emphasis to the importance of developing medical aids in this area which are reliable and safe, but are still simple and inexpensive; and the condom variant described in the invention is an important advancement in this area.

15 Furthermore, increasing priority is being given to improving the security and reducing the discomfort of patients who are compelled to use the urine conducting device as described according to the invention.

20 Here, too, the device of the invention ensures the desired sealing effect and thus reduction of unintentional leakage, which both decreases the risk of infection and reduces the sensations of dampness and discomfort for a person compelled to use the device.

25 The device of the invention affords this security and this reduced discomfort both during erection and in absence thereof, and is thereby a substantial advancement in the light of the prior known art.

30

35

P a t e n t C l a i m s

5 1.

A urine conduction device, c h a r a c t e r i z e d i n
that it is designed as a condom (1), having a length suffi-
cient to cover essentially the entire penis, which at the
bottom thereof graduates (7) into a tubular segment (2) for
10 withdrawal of urine, and which is formed in such manner that
the thin, elastic material (1), and the skin/foreskin (9)
when drawn back toward the penis head (8) and the adhesive
surface (5), form a natural drain trap or labyrinth seal
(10) with the aid of the foreskin/skin (9) on the penis by
15 means of the device (1) and the penis head (8). The adhesive
surface (5) on the outside of the device fixes the foreskin
(9) and the device (1) onto the penis head (8).

20 2.

A condom, c h a r a c t e r i z e d and formed in such
manner that the thin, elastic material (1) and the skin/fore-
skin (9) when drawn back toward the penis head (8) form a
natural drain trap or labyrinth seal (10) with the aid of the
foreskin/skin (9) on the penis by means of the condom (1) and
25 penis head (8). The adhesive surface (5) on the outside of
the condom fixes the foreskin (9) and condom (1) onto the
penis head (8).

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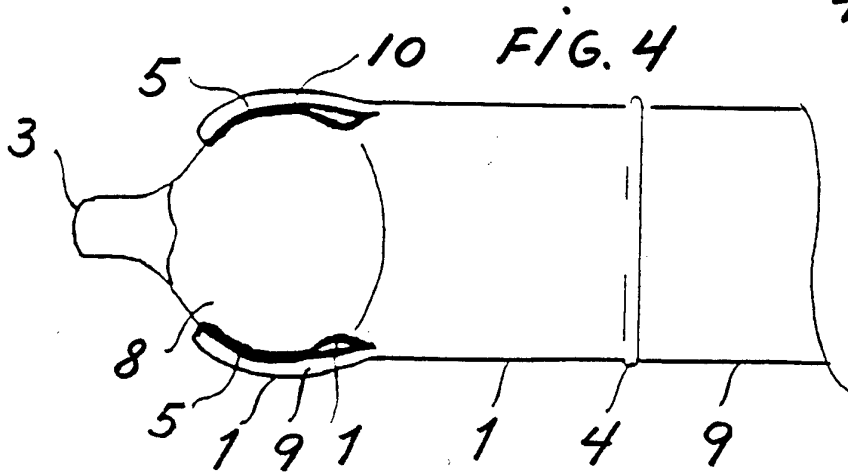
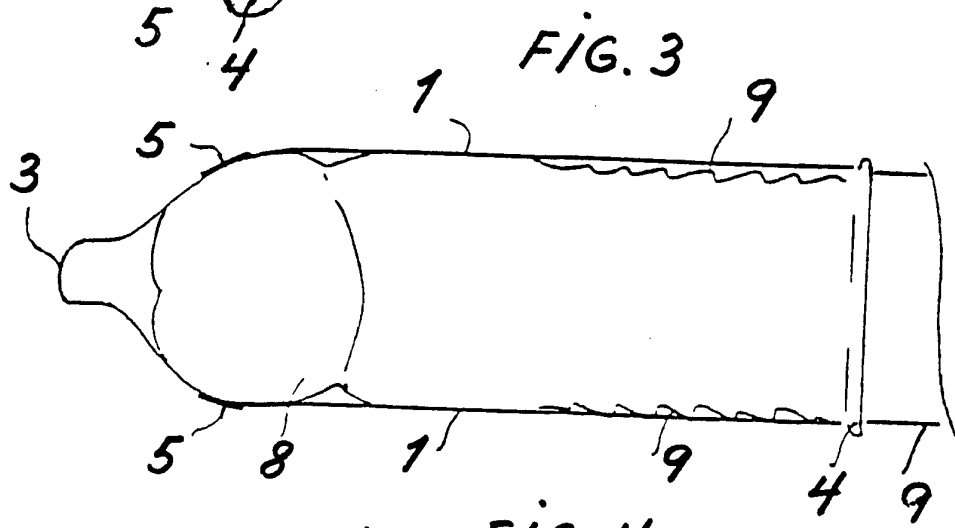
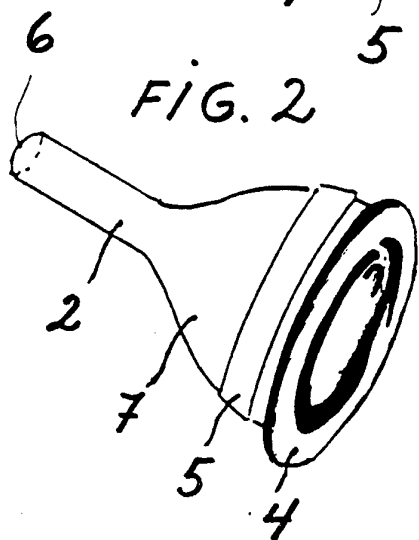
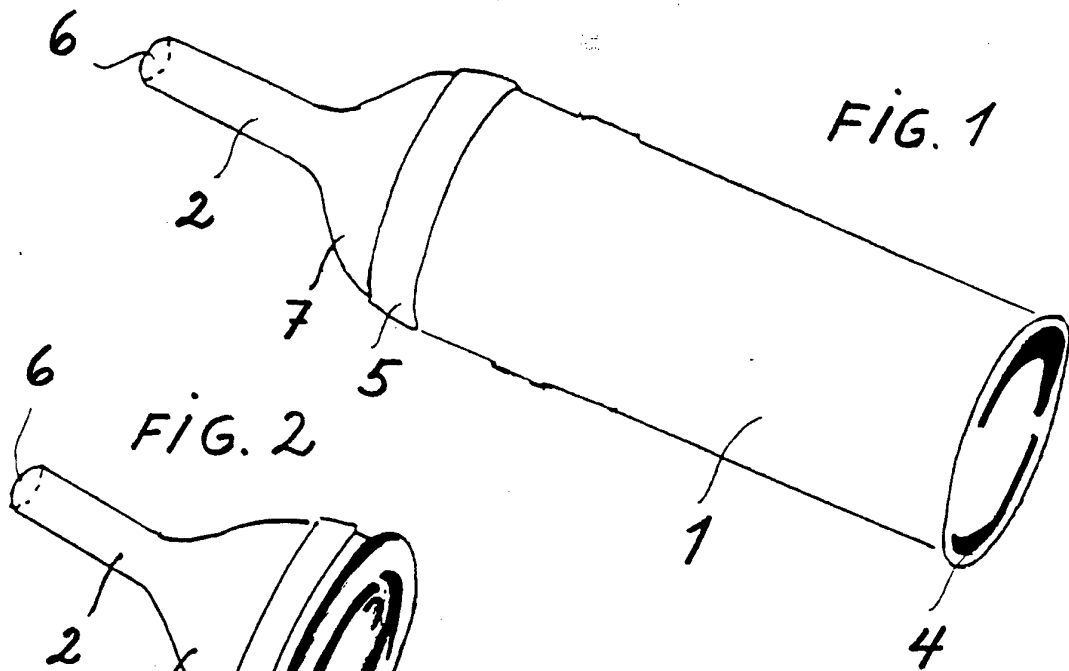
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AMENDED CLAIMS

[received by the International Bureau on 30 June 1994 (30.06.94);
original claims 1,2 replaced by amended claim 1 (1 page)]

Sealing means in a urine leading means or a condom (1) which covers substantially all of penis and, when used as a urine leading means, in a bottom part is associated with a tube piece (2) for leading a way for urine, c h a r a c t e - r i z e d i n that said sealing means on a, when in use, outward side, has an adhesive strip or one or more adhesive areas 5 which when the foreskin/skin (9) is brought back towards the penis head (8), will fixate the formed liquid lock.

1/1



INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 94/00018

A. CLASSIFICATION OF SUBJECT MATTER

⁵
 IPC : A61F 5/455, A61F 5/458, A61F 6/04
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

⁵
 IPC : A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DIALOG

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 4540409 (NYSTROM ET AL), 10 Sept 1985 (10.09.85), column 3, line 60 - column 4, line 6 --	1
A	US, A, 4820290 (YAHR), 11 April 1989 (11.04.89), column 2, line 30 - line 62 --	2
A	NO, B, 167786 (BARD LIMITED ET AL), 2 Sept 1991 (02.09.91), page 6, line 16 - line 25 --	1
A	US, A, 4932948 (KERNES ET AL), 12 June 1990 (12.06.90), column 2, line 66 - column 3, line 4 -- -----	1

 Further documents are listed in the continuation of Box C.

 See patent family annex.

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Date of the actual completion of the international search

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27 -05- 1994

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INTERNATIONAL SEARCH REPORT
Information on patent family members

07/05/94

International application No.
PCT/NO 94/00018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A- 4540409	10/09/85	US-A- 4586974	06/05/86
US-A- 4820290	11/04/89	NONE	
NO-B- 167786	02/09/91	NONE	
US-A- 4932948	12/06/90	CA-A- 1319873	06/07/93
		DE-U- 6890249	24/09/92
		EP-A, B- 0335564	04/10/89