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PERMANENT HOLDER FOR CATHETERS

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Fig. 1

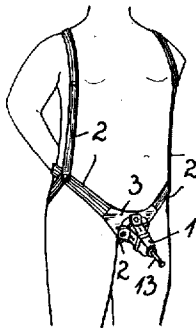


Fig. 2

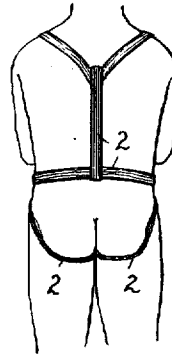


Fig. 3

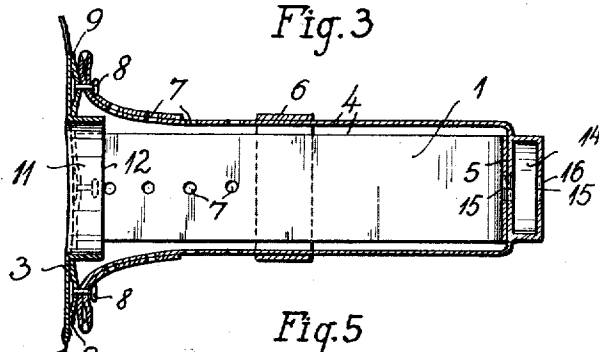


Fig. 5

Fig. 6

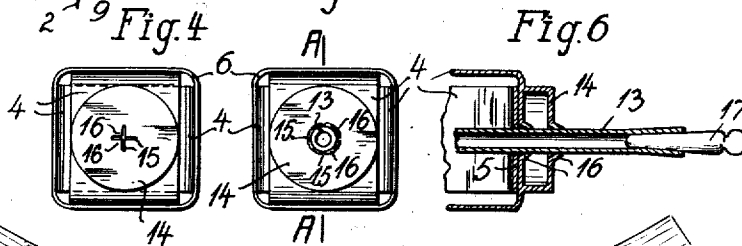
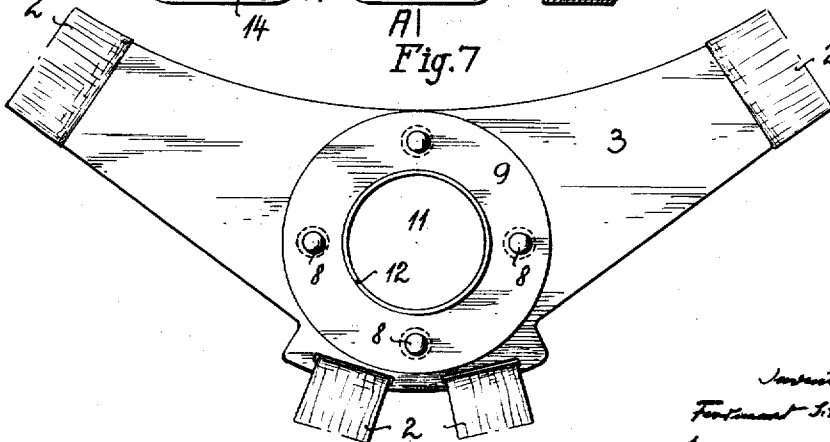


Fig. 7



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PERMANENT HOLDER FOR CATHETERS

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4 Claims. (Cl. 128—349)

In cases of absolute retention of urine (prostatia) the artificial emptying of the urinary bladder is carried out by means of a catheter, which also serves for flushing the bladder and therefore remains permanently in the bladder (permanent catheter).

Holders have already been proposed for securely holding the catheter, constructed after the manner of a supporting frame for the penis and fitted at the front end with a holding device for the catheter. This holding device is of metal and can consequently not withstand the actions of the urine or of the secretions and becomes unfit for use after a short time. Also the clamping device gives no guarantee for the absolutely secure holding of the catheter. The holder frame possesses the inconvenience that it permanently supports the penis so that necrobiosis is unavoidable. The commonly used catheter holders do not allow for the different degrees of swelling of the penis, and consequently do not exclude symptoms of irritation or stoppage.

The catheter is therefore fixed on the penis with the aid of strips of sticking plaster which extend from the catheter to the root of the penis. This plastering method causes symptoms which are very disagreeable for the patient and also for the physician. The bandage of sticking plaster is readily softened by the action of urine or secretion, so that its sticking power is considerably reduced or destroyed. The catheter finally loses its hold and slips out spontaneously under the pressure of the bladder. Frequent changing of the bandage, which is painful for the patient, becomes necessary and the physician loses much time. Another inconvenience is that a bandage of sticking plaster restricts the movability of the penis quite as much as a catheter made of hard material. This bandage is quite as uncomfortable under the clothing as a catheter and exerts such a disturbing effect that the wearer of one of the known catheter holding devices is impeded in his movements.

This invention relates to a flexible catheter holder similar to an openwork stocking, which ensures the reliable seating of the catheter in the bladder and allows a free bending or expanding movement of the penis and which can be worn under the clothing in a comfortable, inconspicuous manner, so that a prostatic can move freely in all positions in spite of the catheter and without any danger of sudden expulsion of the catheter.

According to the invention extensible, crosswise connected bands of soft rubber, which after

their ends have been folded over, are connected by a belly-band of rubber, their side edges being loosely in contact, so that a stocking-like cover for the penis is formed, the front end of this cover comprising a holding device for the catheter formed by a double end wall having an aperture, whereas the rear end of the cover is removably and adjustably attached to a base plate adapted to be fixed on the body.

The invention is illustrated by way of example in the accompanying drawing in which:—

Fig. 1 shows in front elevation how the catheter holder is arranged on the body.

Fig. 2 is a rear elevation of the bandage.

Fig. 3 shows the catheter holder in longitudinal section.

Fig. 4 is a front end view of the catheter holder without the catheter.

Fig. 5 is a similar view to that of Fig. 4 with the catheter.

Fig. 6 is a longitudinal section through the catheter holder on line A—A of Fig. 5.

Fig. 7 is a front view of the base plate.

The catheter consists chiefly of a stocking-like structure 1 and of a base plate 3 adapted to be attached on the body by means of a bandage 2.

The structure 1 is formed by two or a greater number of crosswise laid, extensible bands 4, preferably of soft rubber, which are firmly connected the one with the other by vulcanizing at the point of intersection 5. The band ends are folded over towards the base plate 3 and connected the one with the other by a belly band 6 firmly connected with the individual bands 4 by vulcanizing, the side edges of the bands 4 loosely contacting to form a flexible stocking-like structure. The bands 4 have button holes 7 arranged in a longitudinal row and enabling to be buttoned onto the structure 1 on buttons 8 on the base plate 3 to adjust the length of the structure 1. The buttons 8 are fixed on the base plate 3 of rubber, leather or similar material, by means of a ring 9 of rubber or leather, which, passing over the button plates and is firmly fixed on the base plate, so that the buttons 8 cannot press against the body. For allowing the passage of the penis the base plate 3 and the ring 9 have each a circular aperture 11 of suitable diameter. A short sleeve 12, lined with mull or cotton wool is placed over the aperture 11 to afford a better support for the penis. The base plate 3 has flaps 9 which are outwardly inclined at an acute angle and form with the bandage 2 a whole situated in a plane towards the body and having on the inner side no projections which could exert pressure.

The bandage 2 consists of a hip belt from which shoulder straps similar to braces and adapted to be buttoned, passed over both shoulders and held under slight tension by under-bands which extend between the legs towards the rear up to the hip belt. All bands of the bandage 2 are of rubber. By the fixation of the base plate 3 by means of upper and lower bands secured by the hip belt the firm unshiftable seat of the base plate 3 and the catheter holder in general is ensured. Without this firm seat of the base the catheter 13 which has to be fixed by the structure would not hold firmly. Slipping of the catheter 13 is absolutely prevented by the bandage 2 as described, however, only in combination with the holder 14. This holder 14 is arranged on the front end of the structure 1 directly over the point of intersection 5 of the bands 4 with which the holder is firmly connected by vulcanizing. The holder 14 consists of the same extensible rubber as the bands 4 and is composed of two end walls 5 and 14 spaced at a certain distance which are connected with one another after the manner of a cylindrical casing. Around the central axis of the walls 5 and 14 radial incisions 15 are arranged which form two star-shaped apertures the one behind the other and having the same diameter as the catheter 13 so that the catheter must be forced through the two apertures. The catheter 13 is pushed from the inside through the holder 14 and securely held on the structure 1 by the holding effect of the apertures 15. The holding effect of the apertures is due to the flanks of the flaps 16 tapering to a point towards the middle and exerting a tangential pressure on the inserted catheter 13, whereas the flaps 16 exert a radial pressure on the same. By the pressure uniformly acting on the whole circumference of the catheter its cross section shape, is not deformed, so that the contents of the bladder can flow out unimpeded. After the emptying of the

bladder the front aperture of the catheter is closed by a conical plug 17 of rubber, glass or the like. The prop 17 has preferably an attachment to secure it against being lost.

I claim:—

1. Permanent catheter holding device, comprising in combination a frame composed of two cross-wise interconnected expansible bands of soft material, such as soft rubber, a base plate adapted to be strapped on to the patient, folded over ends on said bands adapted to be detachably buttoned to said base plate and forming a stocking for the penis, and a catheter holding device formed on said bands at their point of intersection and comprising an inner wall and an outer wall at a distance from said inner wall, said walls having star-shaped apertures adapted to receive and hold a catheter.

2. In a device as specified in claim 1, in which the bands of soft rubber forming the holding device have each star-shaped apertures the length of which corresponds to the diameter of the catheter, the flaps formed by said incisions adapted to exert with their inner faces a radial and with their flanks a tangential pressure on the catheter.

3. In a device as specified in claim 1, in combination with the stocking and the base plate having a central aperture, a flange on the outer surface of said plate around said aperture, buttons arranged in a circle on said base plate for buttoning on of the cover, a leather ring on said base plate covering the feet of said buttons.

4. In a device as specified in claim 1, in combination with the base plate having two flaps, a bandage for removably attaching said base plate on the body, consisting of a hip belt placed over said flaps of said base plate, two shoulder straps and two leg straps attached to said hip belt for imparting a slight tension to said bandage.

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