

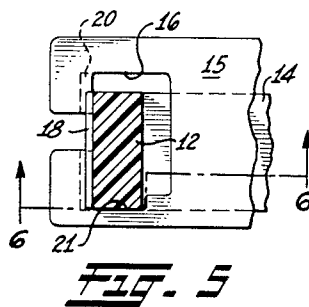
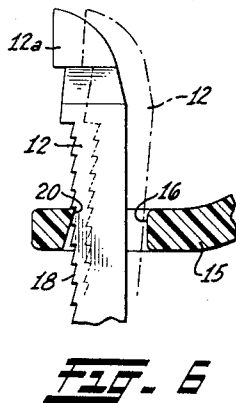
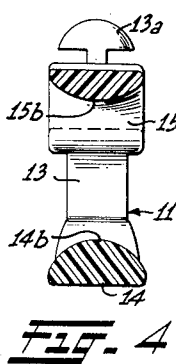
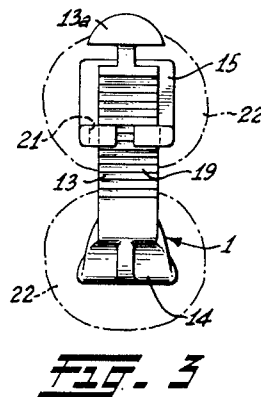
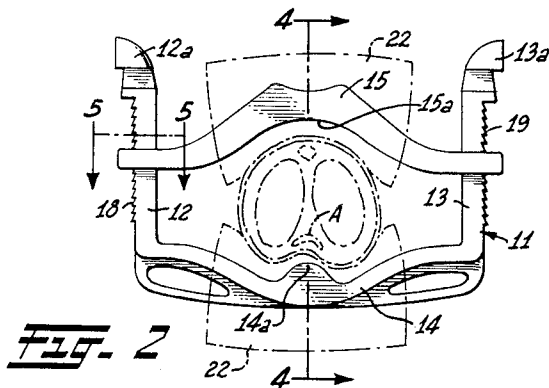
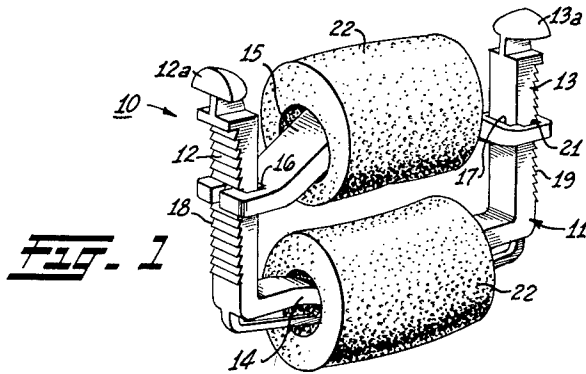
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3,147,754

DEVICE FOR CONTROLLING INCONTINENCE

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3,147,754

DEVICE FOR CONTROLLING INCONTINENCE

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2 Claims. (Cl. 128—346)

This invention relates to apparatus for controlling incontinence, i.e., apparatus which prevents the involuntary flow of urine through the urethra of a penis. The invention more especially pertains to a type of device that may be expeditiously and adjustably clamped onto a penis without involving an uncomfortable twisting thereof.

While there are previously known devices for controlling incontinence, such as the kind taught in United States Patent No. 2,756,753, it is believed that the present invention provides a new and improved construction that is more easily applied and incorporates features which will provide greater comfort in its use.

In brief, this invention involves a form of clamping device comprising a substantially U-shaped frame having upright arms interconnected by a cross member. A second cross member is adapted to be adjustably positioned along the arms, interconnecting said arms and applying a clamping pressure to a penis disposed between said cross members. More especially, the cross members are particularly formed so that a radially directed and localized pressure is applied to the urethra of a penis. It will be further understood that the invention contemplates a form of clamping device that utilizes a unique structure for securing and locking the movable cross member in various positions of adjustment, and the use of a padding protection serves to position as well as cushion the applied pressure of the device.

Therefore, a primary object of this invention is to provide a device for controlling incontinence, and especially one which is easily applied and is relatively comfortable to use.

A second object is to provide a device for controlling incontinence comprising a substantially U-shaped frame having spaced upright arms interconnected by a cross member, means interconnecting said arms with a second cross member, said means being adjustable along each arm for positioning said second cross member in various clamping positions relative to said first mentioned cross member, a raised center portion provided on one of said cross members projecting toward the other cross member and a center curvature formed in the other cross member, whereby said second cross member may be adjustably positioned on said arms for clamping said device onto a penis, said center portion applying a radially directed pressure to the urethra without twisting.

Another object of this invention is to provide a device of the kind described having cross members, one of said cross members having a raised center portion directed toward the center curvature of the other, said cross members being moved into clamping positions by directed movement toward each other.

A further object is to provide a device of the kind described and including a pair of foam tubes mounted upon said cross members for retaining the device in its properly adjusted clamping position.

It is another object of the invention to provide a device of the kind described including a frame having resilient and upright arms provided with opposed serrated surfaces for engaging the knife edges of a cross member.

Another object is to provide a device of the kind described including a cross member having lateral locking recesses for engaging the upright arms and preventing inadvertent release of the device from its adjusted position.

A still further object is to provide a device of the kind

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described wherein said device is formed of nylon material, said material having been found to be especially desirable for yielding qualities of resiliency, strength, rigidity and lightness.

Other objects of this invention will, of course, become readily apparent in view of the following detailed description taken in conjunction with the drawings.

In the drawings forming a part of this disclosure and in which like parts are identified by like reference numerals throughout the same,

FIG. 1 is a perspective view of a preferred embodiment of this invention;

FIG. 2 is a side elevational view of the device shown in FIG. 1;

FIG. 3 is an end elevation of the device;

FIG. 4 is a section taken on lines 4—4 of FIG. 2;

FIG. 5 is a detail section taken on lines 5—5 of FIG. 2 but showing the arm in a locking recess; and

FIG. 6 is a detail section taken on lines 6—6 of FIG. 5.

Referring to FIG. 1, particularly, there is illustrated a preferred form of this invention in devices for controlling the condition known as incontinence. As shown, the device 10 comprises a substantially U-shaped frame 11 having upright and spaced arms 12 and 13 which are resiliently interconnected by a lower cross member 14 having a raised center portion 14a. Arms 12 and 13 are formed with outward facing finger tabs 12a and 13a, respectively, said finger tabs being adapted for engagement between the thumb and forefinger of one hand. Device 10 also includes an upper cross member 15 having a center curvature 15a and slotted end openings 16 and 17, said openings being provided proximate each end of member 15 for engaging the outward sides 18 and 19 of the arms while said arms are under resilient straining. Cross member 15 is adjustably positioned by urging the arms inwardly to effectuate a release, then moving said cross member along said arms.

The cross member curvature 15a will insure a distribution of applied pressure circumferentially across the top of a penis as demonstrated in FIG. 2, but the center portion 14a is more abruptly rounded so as to direct a radial pressure toward the urethra A, which is indicated. Both curvature 15a and raised portion 14a are, however, formed with rounded cross sections, best shown in FIG. 4, and this construction provides central high points 15b and 14b, respectively for localizing and directing pressure toward the urethra.

Frame 11 may be integrally formed with the polychemical substance known as nylon which provides a distinctive combination of qualities, including rigidity, resiliency, strength and lightness. It is important to note that arms 12 and 13 are resiliently connected to cross member 14, and although the arms are substantially parallel they occupy positions of slight divergence if allowed to flex into unrestrained condition. As an example, frame 11 may be formed such that arms 12 and 13, and more particularly the outward sides 18 and 19 respectively, are inclined to the cross member at angles of 94°. Thus, in this example, the arms 12 and 13 extend divergently from the cross member 14 at an angle of divergence of 8°. However, by flexing the arms inwardly toward each other, sides 18 and 19 may be brought into positions of slight convergence allowing cross member 15 to be adjustably moved along arms 12 and 13.

Sides 18 and 19 are formed with serrated surfaces and each serration or lateral tooth is angularly directed downwardly as shown. Openings 16 and 17 are sufficiently large to allow lateral movement of arms 12 and 13 to positions of convergence such as indicated by the broken lines of FIG. 6; and a surface of each opening is relieved at an angle substantially equal to the angle of serrations

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formed on sides 18 and 19 to provide restraining knife edges 20. Furthermore, since the distance between the opposed restraining edges 20 is less than any distance between serrated surfaces of sides 18 and 19 (in the unrestrained condition of arms 12 and 13) it will be apparent that the resiliency of the arms will maintain the cross member 15 in any position to which it may be adjusted.

But it is to be further noted that openings 16 and 17 are each formed with a lateral locking recess 21 of substantially the same width as the thickness of arms 12 and 13. By moving the arms 12 and 13 into these recesses, sides 18 and 19 of the arms are effectively held against their respective knife edges 20, thereby preventing inward movements of the arms. Accordingly, cross member 15 can be moved along the arms only so long as said arms are disposed fully within the openings 16 and 17, and after cross member 15 has been properly adjusted along each arm, said cross member is locked in that position by a relative lateral movement, placing each arm into its locking recess 21.

The invention also contemplates the use of a pair of foam tubular members 22 for cushioning and retaining the clamping device in an adjusted position. Each member 22 is mounted on and circumvallates one of said cross members. Inasmuch as these tubular members are continuous, there are no exposed rough edges which might otherwise contact and abrade the skin of the engaged penis.

The operation of the specific form of the invention shown and described will be best understood in view of the drawings. Assuming arms 12 and 13 are located fully within openings 16 and 17 respectively, and do not occupy recesses 21, finger tabs 12a and 13a are engaged between the thumb and forefinger of one hand and the arms are urged into slightly convergent positions, thereby disengaging serrated surfaces 18 and 19 from knife edges 20. Cross member 15 can then be moved up or down relative to cross member 14 with the other hand, fitting the device about the penis A. Obviously, the penis should be placed between the cross members, making sure that the raised center portion 14a is located directly beneath the urethra. The device is then secured in a locked position by allowing surfaces 18 and 19 to move into engagement with knife edges 20 and moving the arms into recesses 21.

It has been found that with very little pressure the device shown and described will effectively close off the urethra but will not stop blood circulation through the other penis members.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example thereof and that various changes may be made in the shape, size and arrangement of certain parts without departing from the spirit of the invention or the scope of the attached claims, and each of such changes is contemplated.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A device for controlling incontinence, comprising: a substantially U-shaped frame having spaced upright arms interconnected by a cross member, said arms being resiliently movable toward and away from each other,

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said upright arms being substantially parallel but extending divergently from each other at relatively small angles in their unstrained positions; a second cross member having an opening proximate each of its ends adjustably receiving an upright arm of said U-shaped frame therethrough, said openings being spaced apart and having restraining edges for engaging said arms in various positions of adjustment, said restraining edges being spaced apart a shorter distance than the distance between engagement surfaces of said arms if allowed to assume unstrained positions, the engagement surfaces of said arms and the restraining edges of said second cross member being further formed with complementary serrations, and each opening of said second cross member being formed with a lateral locking recess having substantially the same width as said arms and into which said arms can be moved to provide a safety lock, whereby said second cross member cannot be inadvertently slid up or down relative to said arms, a raised center portion provided on one of said cross members projecting toward the other cross member, and a center curvature formed on the other cross member, whereby said second cross member may be adjustably positioned on said arms for clamping said device onto a penis and applying a radially directed pressure to its urethra without twisting.

2. A device for controlling incontinence, comprising: a substantially U-shaped frame having spaced, upright arms interconnected by a cross member, said arms being resiliently movable toward and away from each other and having serrated surfaces facing in opposite directions, said arms being substantially parallel but extending divergently from said cross member at relatively small angles in their respective unstrained positions, said cross member having a raised center portion projecting upward between said arms; and a second cross member having an opening proximate each of its ends adjustably receiving an upright arm of said U-shaped frame therethrough, said openings being spaced apart and having restraining knife edges for engaging respective serrated surfaces on said arms in various positions of adjustment, and further wherein each opening of said second cross member is formed with a lateral locking recess having substantially the same width as said arms and into which said arms can be moved to provide a safety lock, whereby said second cross member cannot be inadvertently slid up or down relative to said arms.

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