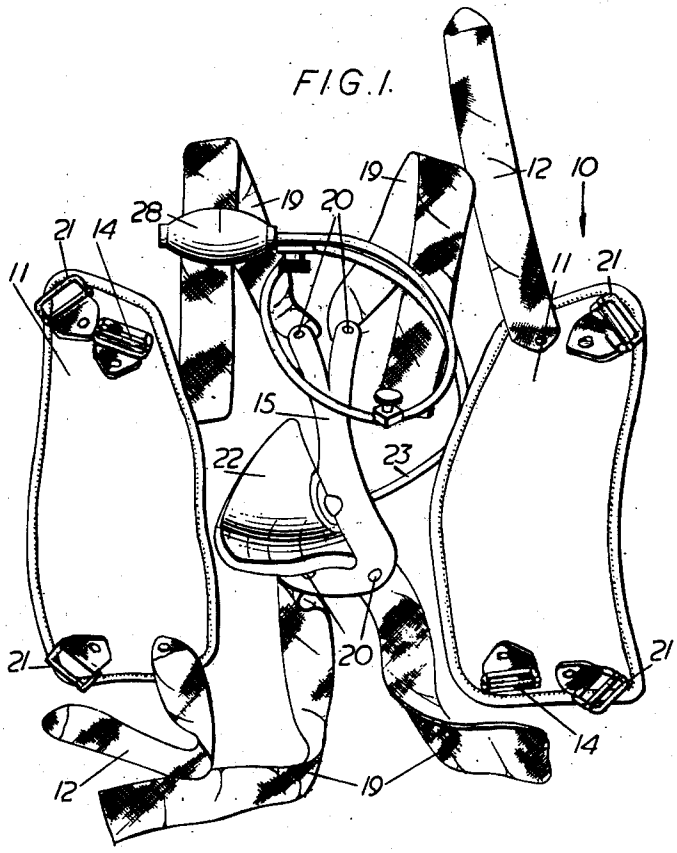
March 12, 1963 S. A. VINCENT 3,080,865

DEVICE FOR OBVIATING OR MITIGATING THE MEDICAL CONDITION KNOWN AS INCONTINENCE OF URINE

Filed June 17, 1960 5 Sheets-Sheet 1

FIG. 1.



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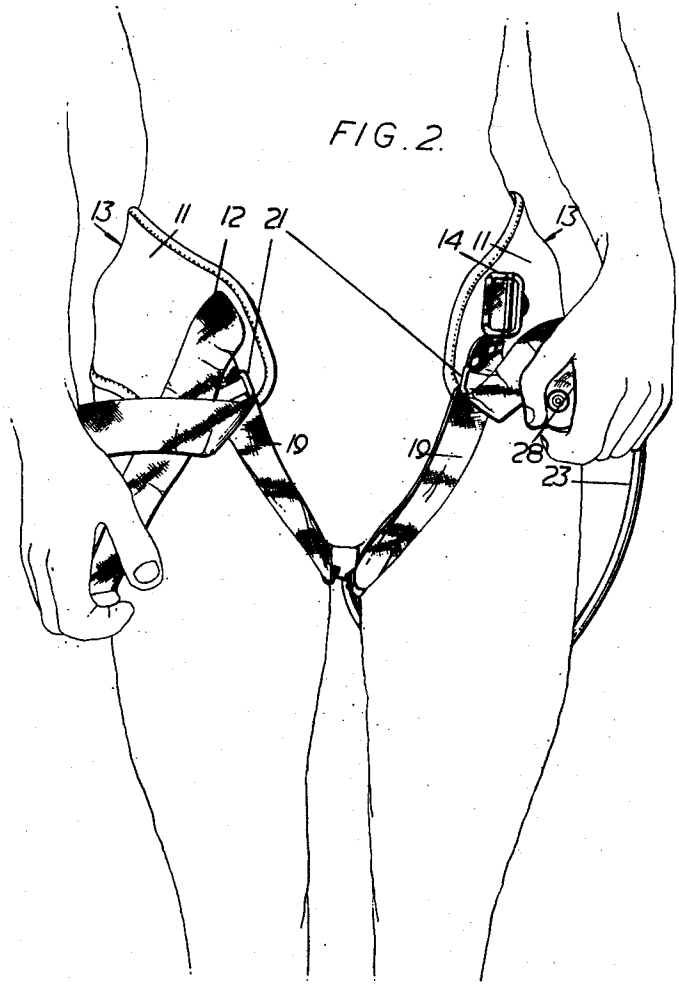
DEVICE FOR OBVIATING OR MITIGATING THE MEDICAL CONDITION KNOWN AS INCONTINENCE OF URINE

Filed June 17, 1960 5 Sheets-Sheet 2

FIG. 2.



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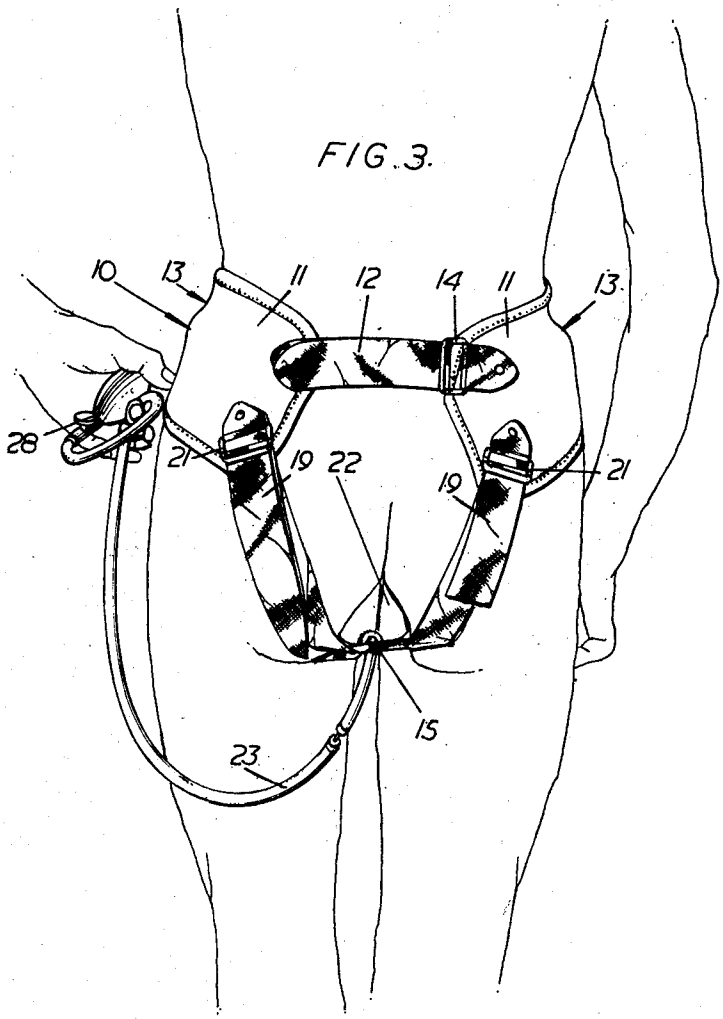
DEVICE FOR OBVIATING OR MITIGATING THE MEDICAL CONDITION KNOWN AS INCONTINENCE OF URINE

Filed June 17, 1960 5 Sheets-Sheet 3

FIG. 3.



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March 12, 1963 S. A. VINCENT 3,080,865

DEVICE FOR OBVIATING OR MITIGATING THE MEDICAL CONDITION KNOWN AS INCONTINENCE OF URINE

Filed June 17, 1960 5 Sheets-Sheet 4

FIG. 4.

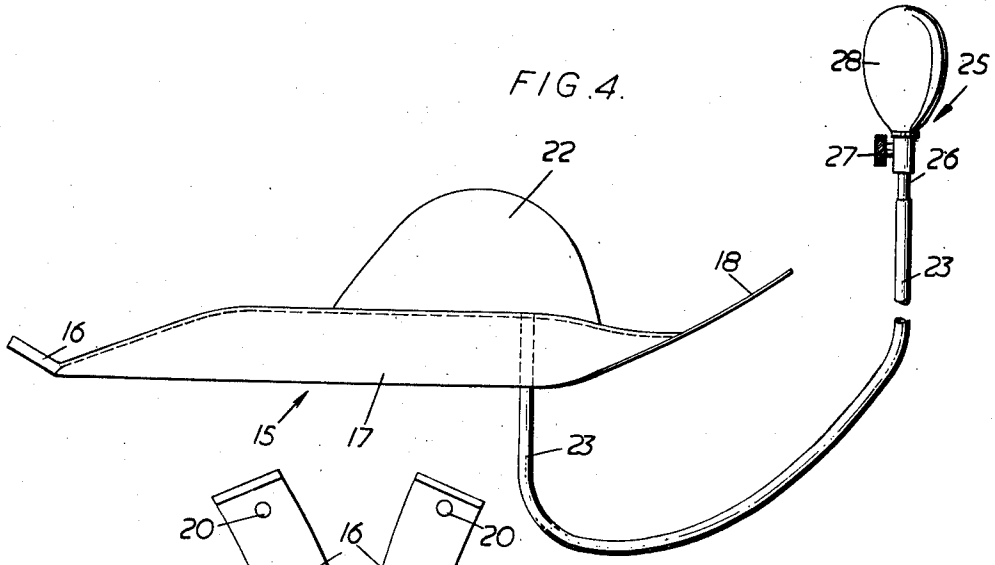
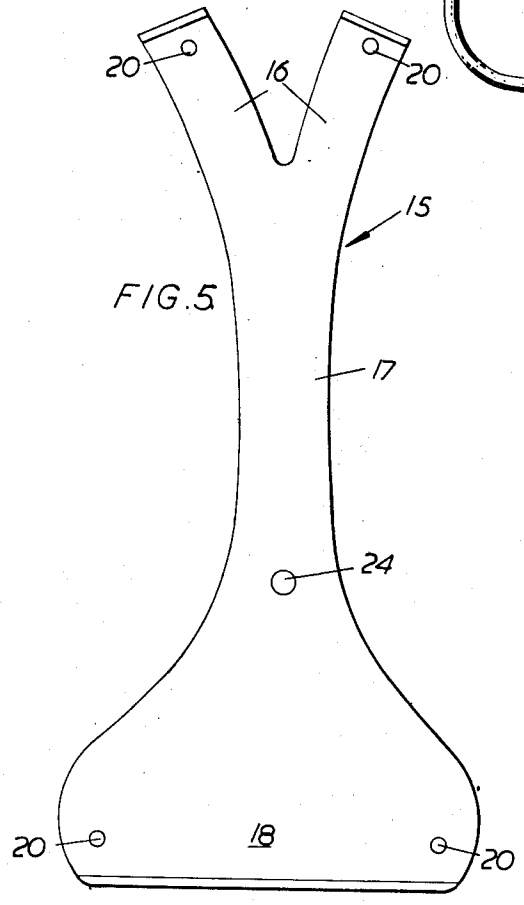


FIG. 5.



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March 12, 1963 S. A. VINCENT 3,080,865

DEVICE FOR OBVIATING OR MITIGATING THE MEDICAL CONDITION KNOWN AS INCONTINENCE OF URINE

Filed June 17, 1960 5 Sheets-Sheet 5

FIG. 6.

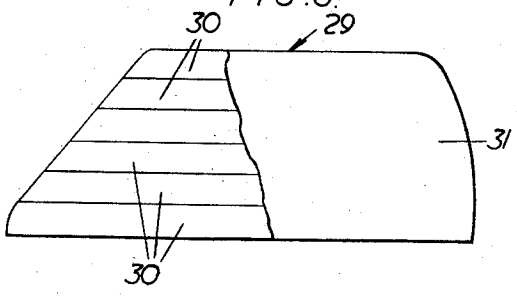


FIG. 7.

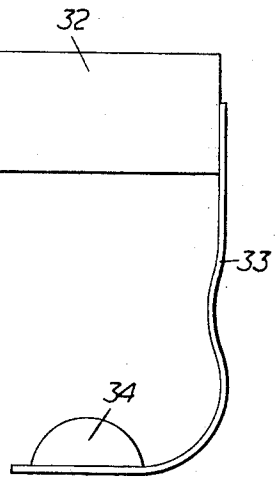
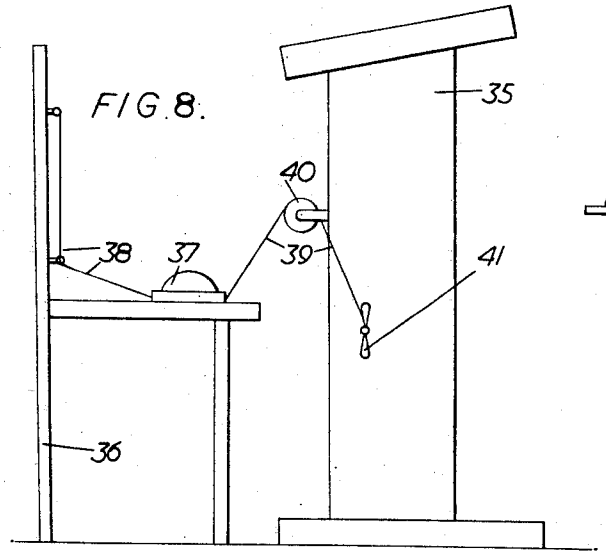


FIG. 8.



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United States Patent Office 3,080,865
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3,080,865

DEVICE FOR OBVIATING OR MITIGATING THE MEDICAL CONDITION KNOWN AS INCONTINENCE OF URINE

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Filed June 17, 1960, Ser. No. 36,844
Claims priority, application Great Britain June 29, 1959
4 Claims. (Cl. 128—98)

This invention relates to a device for obviating or mitigating the medical condition known as incontinence of urine (hereinafter and in the claims referred to simply as "a device for the purpose aforesaid").

The present invention is a device for the purpose aforesaid comprising a pad adapted to be located at the patient's perineum and ischio-rectal area, and means for applying pressure to the pad and consequently to the patient's perineum and ischio-rectal area.

The pad may be formed of any suitable material for example, sponge rubber or other resilient material, and it may be solid, pneumatic or in the form of an inflatable balloon, or a combination of both.

The pressure-applying means may also be formed of any suitable material, and may be of any suitable form, for example it may be in the form of a springy, substantially rigid strip of metal or synthetic plastic material.

Preferably, however, the pad is an inflatable balloon and the pressure-applying means is a manually-actuatable pump connected to the balloon by a suitable conduit.

The pad and pressure-applying means are, preferably, attached means of a rigid mounting carried by a suitable harness to permit them to be secured on the patient's body in such a way that pressure is transmitted from a wide area at, and below, the patient's waist directly to the perineum and ischio-rectal area without exerting pressure elsewhere.

Embodiments of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:

FIG. 1 is a view of the device;

FIGS. 2 and 3 are respectively front and back views of the device in operative position on a patient;

FIG. 4 is a side elevation of the device with the harness omitted;

FIG. 5 is a plan view of the pad mounting;

FIG. 6 is a side elevation of an alternative form of pad;

FIG. 7 is another form of device; and

FIG. 8 is a side elevation of yet another form of device.

Referring to FIGS. 1 to 5 of the drawings, the device comprises a body harness **10** consisting of two non-stretchable side portions **11** interconnected at the front and back by a strap or belt portion **12**, the front belt portion **12** (FIG. 2) is in the loosened position. The side portions **11** are shaped as indicated at **13** snugly to fit the patient's iliac crests. The belt portions **12** are adjustably fastened by buckles or slides **14**. The harness **10** is formed of any suitable non-stretchable material, for example fabric, leather, synthetic plastic or combinations thereof.

The device also comprises a mounting **15** adapted for location between the patient's legs as shown in FIGS. 2 and 3. The mounting **15** is formed, in the present instance, of a synthetic plastic material, for example polyvinylchloride, which is stiff and rigid. Alternatively, the mounting **15** is formed of metal, for example, aluminium. The mounting **15** is of arched construction to give rigidity to it and comprises a front forked portion **16**, a central portion **17**, and a rear buttock portion **18** which is upwardly inclined and has a tendency to move. This tendency is useful in fitting the device on a patient. The mounting **15** is attached to the body harness **10** by straps

19 rivetted to the mounting **15** at locations **20** and adjustably secured to the side portions **11** of the harness **10** by buckles or slides **21**.

It is to be noted that the buckles or slides **14** and **21** are pivotally secured on the side portions **11** of the harness **10** to permit adjustment of the device while on the patient's body without putting any strain either on the device or the patient.

The device further comprises a pad in the form of an inflatable balloon **22** formed of any suitable material and disposed on top of the central portion **17** towards the rear buttock portion **18** of the mounting **15**. The balloon **22** has attached thereto at its bottom a rubber conduit **23** which passes through a through-aperture **24** in the mounting **15** and which has attached at its other end a simple pump **25**. The pump **25** comprises a metal conduit **26** attached to the rubber conduit **23** and mounting a manually-operable air release valve **27**, and a manually compressible pumping bulb **28** attached to the metal conduit **26**.

The device is mounted on a patient by a skilled person as shown with the balloon **22** disposed at the patient's perineum and isicho-rectal area. It will be appreciated that by compressing the bulb **28** the balloon **22** will be inflated thus applying pressure to the patient's perineum and ischio-rectal area to elevate the perineum and ischio-rectal area relative to the remainder of the pelvis.

In fitting the device on the patient the forked portion **16** of the mounting **15** should project slightly in front of the patient otherwise the patient's large tendons would be put under strain due to the fact that the straps **19** would be disposed under the patient's body whereas in the present instance the rigid forked portion **16** is below the tendons.

With the above described device on a patient it is possible to introduce into the pump pneumatic system a manometer, which can be used as a diagnostic instrument, so that various readings could be taken at different pressures and under different physical circumstances, for example with the patient coughing, standing, sitting or tilting.

It will also be appreciated that the bulb **28** can be located at the patient's waist thus permitting him easily and readily to apply or decrease the pressure exerted by the balloon, for example when it is desired to pass urine.

The pad may instead of being inflatable be pneumatic or it may be solid but resilient as shown in FIG. 6. The pad **29** in this case is formed of a series of rubber or other elastomer laminations **30** suitably interconnected and covered with a coating of latex rubber **31**.

The pad whether solid, resilient or inflatable may be of different shapes depending on the condition and the incapacitance of the patient concerned.

It is considered that two or three sizes of harness will permit the device to be fitted to all sizes of patients.

Referring to FIG. 7, the device comprises an adjustable and releasable body harness **32** adapted to be attached around a patient's waist. A springy, substantially rigid metal or synthetic plastic strip **33** is attached to the body harness **32** and following closely the contour of the patient's body, extends downwardly and inwardly terminating at a location adjacent the patient's perineum.

The strip **33** mounts at its lower end a solid pad **34** which is arranged at the patient's perineum, the strip **33** subjecting the pad and consequently the patient's perineum to a predetermined pressure. The pad **34** may also, if necessary, extend to the patient's anus.

In a modification of the device shown in FIG. 7 the pad is not solid but is in the form of an inflatable balloon having attached to it a simple pump as shown in FIG. 4 and comprising a conduit, a release valve and a bulb reservoir, the latter being arranged at the patient's waist. With this arrangement it is possible to permit de-

flation of the balloon in certain circumstances, for example the passage of urine, and the balloon can then be pumped up to the required pressure. The deflation and pumping must, however, be done by a skilled person in the majority of cases, in the first instance in order to train the patient in the correct use of the device.

Referring now to FIG. 8 there is shown a device especially suitable for use with elderly patients who are capable of sitting. It comprises a lectern or table 35, a chair 36, and a solid pad 37 disposed on the chair 36 at a location whereat a sitting patient's perineum and possibly anus would be disposed. A cord or the like 38 is attached to the back of the chair 36 and to one end of the pad 37. The pad 37 has attached to its other end a cord or the like 39 which passes over a pulley wheel 40 mounted on the lectern 35 and which is releasably attached to a bracket 41 on the lectern 35.

It will be appreciated that if a patient is sitting on the chair and the cord 39 is pulled, pressure will be exerted by the pad 37 on the patient's perineum and ischio-rectal area.

In a modification of the device shown in FIG. 8, the seat of the chair 36 is shaped to conform with the patient's buttocks, that is it is shaped similarly to a tractor seat.

In another modification, the seat conforms to the shape of a tractor seat and the cords, lectern and pulley are omitted, the pressure on the patient's perineum being exerted by the pad due to the shape of the seat and the patient's weight.

It should be appreciated that the above-described devices require skilled fitting and cannot be fitted by a layman, in the first instance.

It should also be appreciated that the pressure to be applied to the perineum of each patient is not always the same and varies from case to case so that here again it is essential that the devices be fitted by a skilled person, in the first instance.

Various modifications may be made without departing from the scope of the present invention as defined in the accompanying claims.

I claim:

1. A device for treating incontinence of urine comprising a rigid mounting for location between a patient's legs adjacent the patient's perineum and ischio-rectal area, a pad carried by the rigid mounting for contiguous disposition with the patient's perineum and ischio-rectal area, and harness means for supporting the rigid mounting in position on the patient, the harness means comprising a pair of side portions shaped to fit snugly the patient's iliac crests to prevent pressure being applied to the patient's abdomen, and adjustable suspension means interconnecting the side portions and rigid mounting for applying an elevating pressure to the pad and thereby to the patient's perineum and ischio-rectal area to close the patient's bladder outlet and prevent egress of urine therefrom into the patient's urethra, the shaped side portions serving to provide a pressure counter to said elevating pressure over the patient's iliac crests.

2. A device for treating incontinence of urine comprising a rigid mounting for location between a patient's legs adjacent the patient's perineum and ischio-rectal area, an inflatable pad carried by the rigid mounting for contiguous disposition with the patient's perineum and ischio-rectal area, means connected with the rigid mounting for inflating the pad and applying an elevating pressure to the patient's perineum and ischio-rectal area to close the patient's bladder outlet and prevent egress of urine therefrom into the patient's urethra, and harness means for supporting the rigid mounting in position on the patient, the harness means comprising a pair of side portions shaped to fit snugly the patient's iliac crests to prevent pressure being applied to the patient's abdomen and to provide a pressure counter to said elevating pressure over the patient's iliac crests, and suspension means interconnecting the side portions and rigid mounting.

3. A device for treating incontinence of urine comprising a rigid mounting of arched construction for location between a patient's legs adjacent the patient's perineum and ischio-rectal area, an inflatable pad carried by the rigid mounting for contiguous disposition with the patient's perineum and ischio-rectal area, means connected with the rigid mounting for inflating the pad and applying an elevating pressure to the patient's perineum and ischio-rectal area to close the patient's bladder outlet and prevent egress of urine therefrom into the patient's urethra, and harness means for supporting the rigid mounting in position on the patient, the harness means comprising a pair of non-stretchable side portions shaped to fit snugly the patient's iliac crests to prevent pressure being applied to the patient's abdomen and to provide a pressure counter to said elevating pressure over the patient's iliac crests, and suspension means pivotally connected to the side portions and interconnecting the latter and the rigid mounting.

4. A device for treating incontinence of urine comprising a rigid mounting of arched construction for location between a patient's legs adjacent the patient's perineum and ischio-rectal area, an inflatable pad carried by the rigid mounting for contiguous disposition with the patient's perineum and ischio-rectal area, means connected with the rigid mounting for inflating the pad and applying an elevating pressure to the patient's perineum and ischio-rectal area to close the patient's bladder outlet and prevent egress of urine therefrom into the patient's urethra, and harness means for supporting the rigid mounting in position on the patient, the harness means comprising a pair of non-stretchable side portions shaped to fit snugly the patient's iliac crests to prevent pressure being applied to the patient's abdomen and to provide a pressure counter to said elevating pressure over the patient's iliac crests, and suspension means pivotally connected to the side portions and interconnecting the latter and the rigid mounting, the inflating means comprising a conduit connected at one end with the pad, a manually-operable air pump connected with the other end of the conduit, and a manually-operable air release valve associated with the conduit.

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