

March 27, 1951

W. D. FOWLER
ORTHOPEDIC APPARATUS

2,546,436

Filed Nov. 8, 1948

3 Sheets-Sheet 1

Fig. 1.

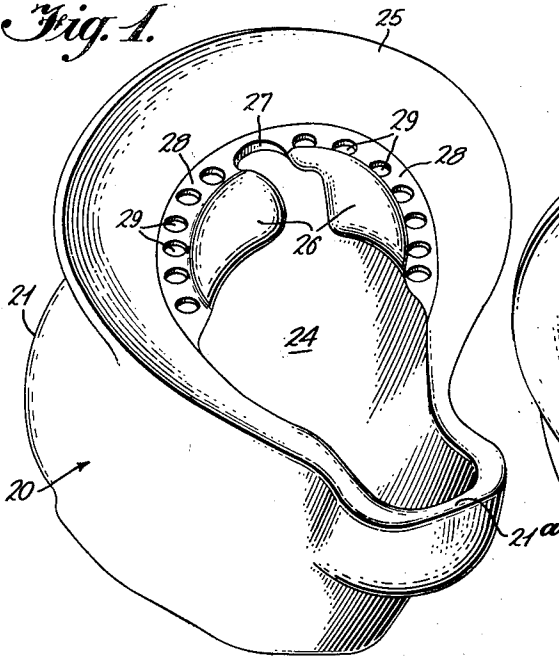


Fig. 3.

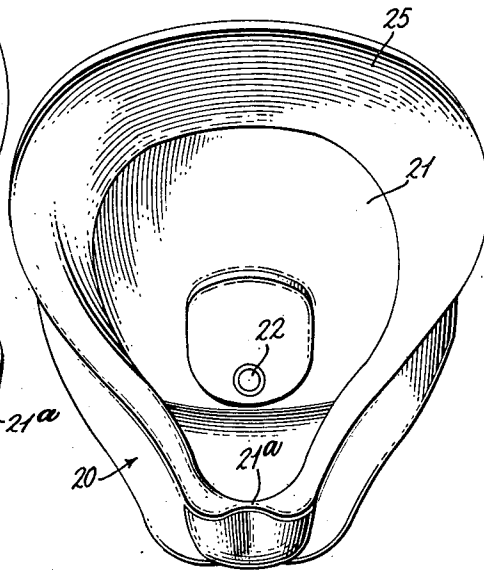


Fig. 2.

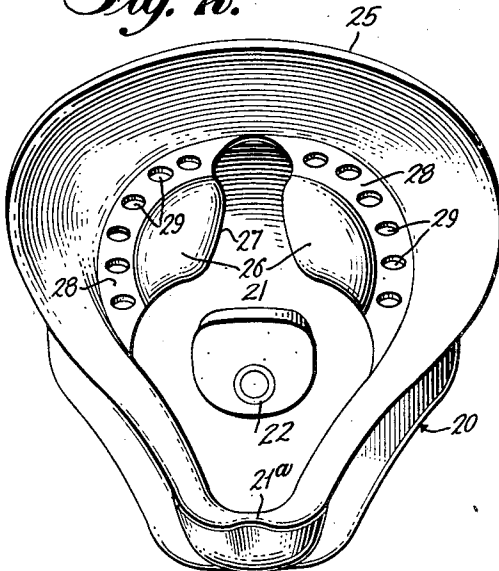
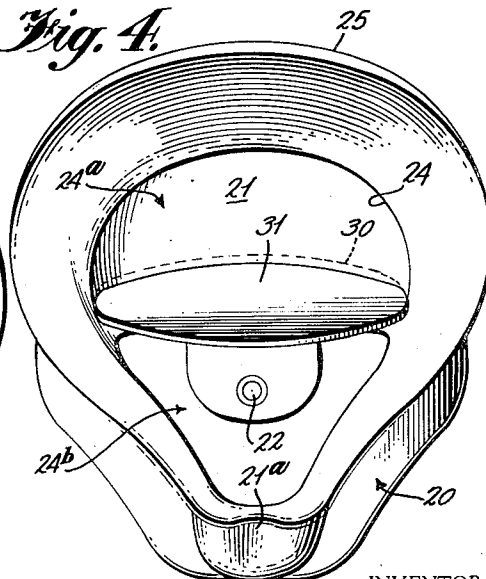


Fig. 4.



INVENTOR

Warren D. Fowler

BY

Howe & Howe

ATTORNEYS.

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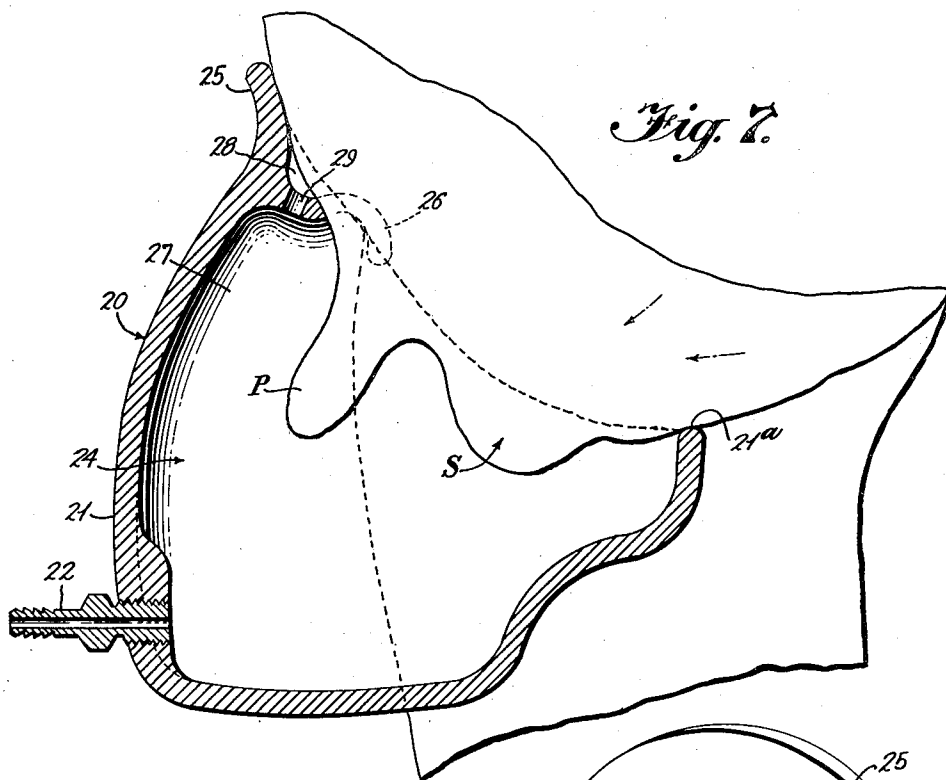


Fig. 5.

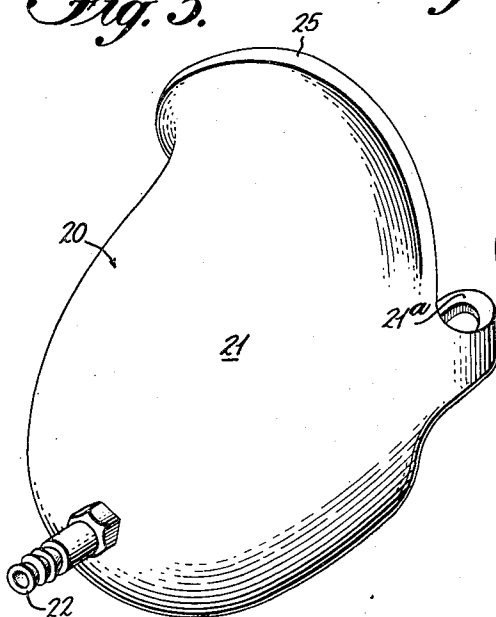
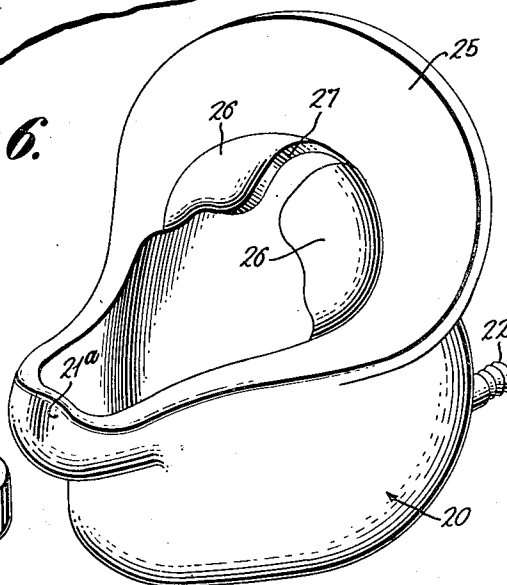


Fig. 6.



INVENTOR
Warren D. Fowler

BY

Howe & How
ATTORNEYS

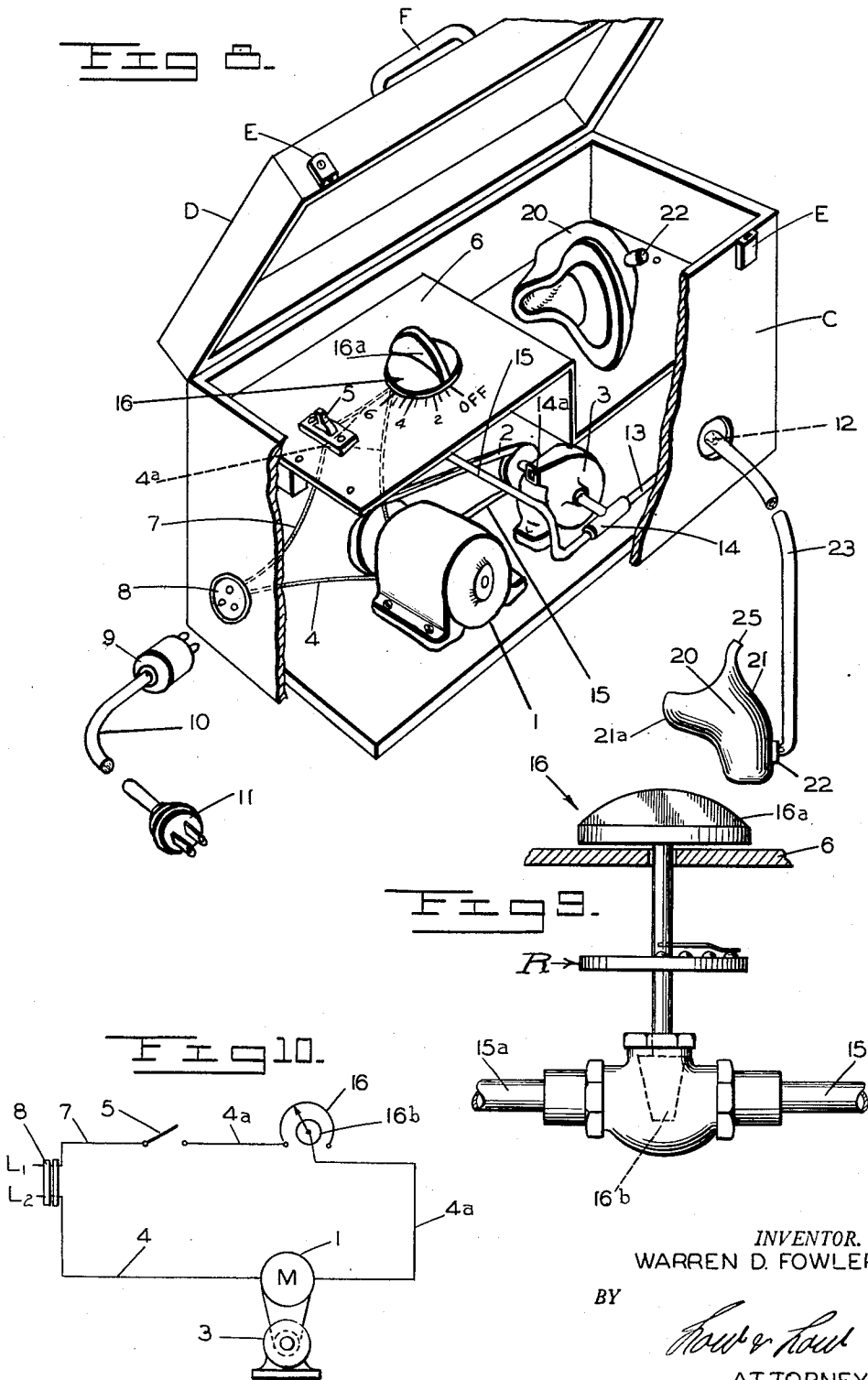
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INVENTOR.
WARREN D. FOWLER

BY

Howe & How
ATTORNEYS

UNITED STATES PATENT OFFICE

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ORTHOPEDIC APPARATUS

Warren D. Fowler, Red Bank, N. J.

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6 Claims. (Cl. 128-79)

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This invention relates to orthopedics and more particularly to a method and apparatus for correcting malformations in the genital portion or parts of the male anatomy.

Under normal and natural development of the male body the testes are originally housed within the abdominal cavity and normally leave this area by passing through the internal abdominal ring, thence through the inguinal canal, and thereafter pass through the external abdominal ring into the scrotum where they perform a very important function in the development of all masculine characteristics and tendencies, including the naturally intended capability of reproduction on the part of the male.

Unless the testicles or testes thus properly descend into the scrotum the desirable male characteristics of the individual fail to develop normally and there results an unnatural functional and physical condition tending toward femininity, sexual sterility, obesity and deranged voice scale.

Under present approved medical practice the correction of such undeveloped testes and genitals is divided into two different types of treatment. One consists of glandular extract injections, and the other of a series of surgical operations, wherein the scrotal tissue is sewed with incisions to the inside of the thigh tissue with the hope that a pull will be generated from the scrotum to the testes and descent will then be accomplished.

It is possible with proper use of "body contact" apparatus to remove and correct such described abnormal development of the testes and scrotum of the male child. This is accomplished by giving a series of treatments wherein a gentle suction of vacuum pull is exerted upon the external genital parts of the male child. This treatment is repeated at regular intervals until the desired results are obtained. Thereafter treatments are made at prolonged intervals until finally stopped when effects are permanent.

The vacuum suction exerted on the "body contact" instrument is obtained by using a suitable electrically energized pump. The suction power is controlled by valve so that at no time is more used than is necessary to draw the testes downward through the abdominal rings into the scrotum where they will thereafter be permanently lodged.

It is the intended purpose of the present invention to provide a method and apparatus for carrying the above described novel and desirable treatment of malformed male genitals without

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surgery or glandular treatment, and without undue discomfort, thereby serving to transform the affected individual into a normal male person with all the usual natural powers and characteristics.

It is further an important object of the invention to provide means for shielding such genital parts or organs of the patient which do not require the application of the treatment.

Said parts are selectively shielded from the externally induced suction power by means of especially designed body contact instruments. For example a normally developed penis may be physically separated and shielded from the treatment given to the scrotum and the testes, or vice versa.

A further object of the invention is to provide in the apparatus, means for performing the method in such manner that the immediate results may be observed by the physician or person administering the treatment to the patient.

A still further object of the invention is to provide as a part of the apparatus for the described purpose, a body contacting instrument or suction cup of novel and peculiar configuration and which is specifically designed to concentrate the applied vacuum or suction pull upon the desired genital region, for example solely upon the scrotum and the abnormally positioned testes. When the penis as well as the testes are not properly developed, the device may be readily transformed to apply the vacuum induced pull upon the entire penis, scrotum and testes, as well as other necessary adjacent tissues directly involved in the successful application and practice of the invention.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

In said drawings:

Fig. 1 is a perspective view of a preferred form of body contact instrument or suction cup constituting a part of the apparatus for carrying out the instant improved method for its specifically described purpose.

Fig. 2 is a similar view but shown partially in substantial top plan and partially from the rear looking towards the forward portion or wall of the instrument illustrated in Fig. 1.

Figs. 3 and 4 are views similar to Fig. 2, but respectively showing slightly modified structural embodiments of the invention.

Fig. 5 is a perspective view of one of the cup members substantially as illustrated in the preceding figures but embodying a further slight structural modification, and looking toward the forward closed wall of the instrument.

Fig. 6 is a similar view looking toward the rear or open portion of the suction cup device.

Fig. 7 is a slightly enlarged view in vertical section through the cup device illustrated in Figures 1 and 2, and showing the manner of its application to the abdominal or genital portion of the human anatomy.

Fig. 8 is a perspective view of a self contained compact and portable apparatus for carrying out the invention.

Fig. 9 is an enlarged detail view in side elevation of a portion of the apparatus shown in Fig. 8, Fig. 10 is a wiring diagram.

Referring to the drawings, Fig. 8 is illustrative of a self-contained portable unit which may be employed to advantage in carrying out or practicing the invention. C indicates a box-like casing having a hinged cover D, suitable releasable latch members E and, if desired, a carrying handle F. An electrical motor 1 is suitably secured to the floor of the casing, the armature shaft thereof being connected by a drive belt 2 to the driven pulley of a rotary suction pump 3, also suitably secured to the inner supporting surface or floor of the casing. The electrical conduit 4 of the motor extends to an outlet connection 8 in a wall of the casing and a connection 7 extends from the outlet to a switch element 5 mounted on a partition wall 6 within the housing or casing. A return wire or conduit 14a leads from the switch to the motor 1. Said casing outlet is designed to removably receive a plug member 9 of a flexible wire or conduit 10 having at its opposite end a second plug member 11 for insertion into a convenient source of electrical energy, such for example as a wall socket (not shown).

A vacuum or suction outlet nipple 12 in a wall of the portable casing is axially connected by a pipe 13 and T-connection 14 to the suction side of the pump 3, the atmospheric vent outlet on the pressure side of the pump being indicated at 14a. A branch pipe 15 extends from said T-connection to a combined electrical rheostat switch and suction control valve generally indicated at 16 on the partition wall 6 within the casing. See also Fig. 9. This rheostat switch is interposed in the electrical connection wire 4a. The described arrangement and connections are such that when the rheostat knob 16a is rotated in one direction to increase ohmic resistance and thus reduce the pump driving speed of the motor 1, the branch pipe 15 is progressively and increasingly vented through the thus opened connected valve 16b to the atmosphere, as indicated by the vent pipe 15a in Fig. 9, thereby correspondingly progressively reducing the degree of suction exerted through the pipe 13 and nipple 12. When the combined valve and rheostat control knob 16a is rotated in the opposite direction, the speed of the motor and pump is gradually increased by cutting out resistance in the electric circuit, and the valve at the same time is progressively closed to atmosphere through vent pipe 15a, thereby shutting off pump induced suction through branch pipe 15 with a corresponding increase or amplification of the suction effect produced at the nipple 12 through pipe connection 13. In this manner the effective degree or amount of suction exerted by the pump inwardly through the casing mounted nipple connection 12 may be

readily controlled at will by the operator in accordance with practical conditions.

Referring now to the remaining figures of the drawings, and with particular reference to Figs. 1 and 2, there is illustrated a body contact instrument or vacuum cup generally indicated at 20. Said cup member is preferably constructed of glass or light die cast metal or transparent plastic materials, or if desired may be suitably hand molded from such or similar materials which are impervious to air and moisture. The cup member is closed at its lower end and open at its upper portion, and the lower otherwise imperforate forward wall 21 thereof is apertured for the reception therein of a knurled or threaded nipple 22 (see also Fig. 7) designed to removably receive one end of a flexible hose or tube 23 of appropriate length. The opposite end of the tube is designed to be removably secured in an air tight connection to the nipple 12 of the portable casing unit C as indicated in Fig. 8.

The said cup-shaped body contact instrument or vacuum chamber 20 is preferably formed of glass or relatively light impervious plastic material of a more or less transparent character to the end that the interior of the cup constitutes, when applied to the body, a vacuum or air exhaust chamber 24. The instrument is appropriately designed for convenient air-tight contact with the genital portion of the male anatomy so as to receive within the air exhaust or vacuum chamber 24, the genital parts of the body including the scrotum S and penis P (Fig. 7). The body contact instrument 20, which constitutes an important part of the invention, is further particularly designed to contact the body in such manner that the application of reasonably light pressure will serve to press against the fatty tissues immediately adjacent the base and side of the penis so as to cause the abnormally concealed testes to extrude and extend downward into and towards the scrotum where they immediately become subject to the vacuum pull exerted in the chamber 24 when the apparatus is placed in operation. To this end the upper open portion of the instrument is flared outwardly around its periphery and particularly at its forward end, as indicated at 25. Oppositely disposed upwardly curved elevations 26 are preferably formed integrally with the material of the instrument and are spaced from each other by a forwardly extending recess 27 designed to accommodate the penis of the patient. Said elevations 26 are thus disposed on opposite sides of the base of the penis and serve to exert the aforesaid pressure against the fatty tissues at such locality for causing the testes to extrude from their abnormally concealed position for the desirable purpose described. Intermediate the said elevated outwardly curved or bulged parts 26 and the outer flared portion 25 there is provided a partially circumferential or annular depression 28 provided with a plurality of spaced apertures 29 which afford communication between the interior and exterior of the cup. The rear portion of the instrument is of reduced size and is formed with a rearwardly projecting portion 21a which is open at its upper end and particularly designed for airtight contact with the patient's body between the upper extremities of the thighs.

When the instrument is applied as described to the genital parts of the body and the vacuum is drawn in the chamber 24, the presence of the apertures 29 within the depressed channel 28

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through which air is exhausted from adjacent the body into the chamber, serves to securely anchor and hermetically seal the device to the body as a result of external atmospheric pressure, and this secure airtight relation of the cup to the body against displacement continues until the suction pull on chamber 24 is discontinued and the instrument vented to atmosphere.

The cup-like contact member or instrument 20 may be constructed of different sizes as will be obvious so as to accommodate the instrument to patients of varying physical size and development, and also of varying configuration in accordance with desirable operating conditions. For example in the embodiment illustrated in Fig. 4, the instrument 20 is cast or otherwise molded to provide a partially circumferential horizontally disposed groove or recess 30 intermediate the exhaust or vacuum chamber 24. Said recess is designed for the removable reception therein of a shelf or partition member 31 so as to divide the inner compartment or exhaust chamber 24 into two separate compartments, only one of which is exposed to the suction or air exhaust induced through one of the disclosed connecting nipples 22, 22a. Such a cup member is designed for the purpose of shielding from the vacuum pull the normally developed penis of the patient when suction is applied to the scrotum for the purpose of causing one of both of the testes to properly descend thereinto. When so employed the penis which depends through the recess 27 of the cup, is contained within the upper segregated chamber of the instrument defined by the removable partition member 31 and the scrotum occupies the lower chamber 24b beneath the partition member, as indicated in Fig. 7.

From the foregoing it will be apparent that the shelf or a plurality of such partition members 31 may be provided in the device in various locations, for the purpose of confining the air exhaust or vacuum treatment to such genital parts as are desired to be thus subjected, while shielding from the exhaust action such other parts as are not desired to be treated. Also it is not essential that the suction apertures 29 be present in all instances, and the cup may be constructed without such perforations, for example as illustrated in Figs. 5 and 6, wherein the remaining desirable structural features of the instrument however are present.

When the contact instrument is closely applied to the body with an airtight fit along its upper open periphery, the suction pull exerted in the chamber 24 is sufficient to obtain a secure attachment of the cup to the body as a result of external atmospheric pressure after the inner chamber has been exhausted of air.

It is believed the manner of operation of the invention will be apparent from the foregoing, but will be briefly summarized.

After the suction cup 20 of desired configuration and with or without the partition member 31, has been applied to the exposed genital portion of the patient's body, the electric motor is energized through the switch 5 and the combined rheostat and valve control knob 16a is adjusted to exert through the pump 3, a greater or less suction through the hose connection 23 to exhaust chamber 24, as determined by the condition of the patient and as to the degree of treatment desirable. The results of the treatment may be viewed through the transparent cup and the suction applied for as long a period as is

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advisable. Obviously the treatment may be continued from time to time until the necessary results and genital development of the patient have been obtained.

In the event it is desired to drive the suction pump 3 at a substantially constant rate of speed by means of the motor 1, the described rheostat control for the motor indicated at R in Fig. 9, would be omitted, and the degree of suction is controlled solely by means of the knob 16a and valve 16b. In such event the electrical connection 4a (Fig. 8) would be directly from switch 5 to the motor, as will be clearly apparent. Conversely in the event it is desired to control the degree of suction solely by means of the motor speed, the rheostat control by knob 16a would be present, and the valve 16b and pipe connection 15 would be omitted from the assembly.

While Fig. 4 shows a partition member 31 removably mounted in a fixed groove or recess 30, the invention also contemplates the elimination of such recess. In such event the partition member 31 would be of a relatively flexible or elastic nature so as to be capable of frictional fitting within the cup member 24 and relative to the suction outlet 22. This arrangement would serve to vary at will the relative sizes of the separate compartments 24a and 24b, with little or no suction exerted in the chamber which is not in communication with the outlet 22. For example in the event it is desired to treat only the penis of the patient, the partition member 31 would be frictionally fitted and firmly tiltable within the cup 20 so as to enlarge the capacity of chamber 24a and also place it in communication with the outlet 22. Chamber 24b containing the scrotum would thus be made smaller and substantially shut off from the suction outlet. Separate and individual suction outlets 22 for each chamber 24a and 24b may of course be present on opposite sides of the partition member 31, instead of the single outlet which has been illustrated.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of parts of the apparatus disclosed herein and in the steps of the method and their order of accomplishment as described herein, without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the apparatus and method hereinbefore described being merely a preferred embodiment thereof.

What is claimed is:

1. Means for treating genital parts of the male anatomy comprising a cup-like member designed for hermetically sealed application to the body to conceal the genital parts, said cup member including a vacuum chamber terminating at its open end in an outwardly flared periphery, means for applying suction to said chamber to exhaust air therefrom to induce the confined genital part to descend into the chamber, means for controlling the degree of suction exerted upon said chamber, and spaced apertures on said outwardly flared cup periphery to facilitate adherence of the cup to the body without external support when the suction is applied.

2. A body contact instrument for application to the genital portion of the male anatomy, comprising a cup member for hermetic application to the body to confine a genital organ, said cup member including an inner vacuum chamber, spaced means extending inwardly from the pe-

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riphery of said cup member for engaging and exerting pressure upon the fatty tissues adjacent the base of the penis to cause the testes to descend into said chamber, and means for applying a source of vacuum to said chamber to facilitate such descension.

3. A body contact instrument for application to the genital portion of the male anatomy, comprising a cup member for hermetic application to the body to confine a genital organ, means for separating the interior of the cup member into a plurality of inner closed chambers, and means for applying a source of vacuum to one of said inner chambers to exhaust air therefrom and cause the adjacent confined genital organ to descend thereinto.

4. A body contact instrument for application to the genital portion of the male anatomy, comprising a cup member for hermetic application to the body to confine a genital organ, means for separating the interior of the cup member into a plurality of closed chambers for respectively confining the penis and scrotum of the patient, means on the interior of said cup member for engaging and exerting pressure upon the fatty tissues adjacent the base of the penis confined in its said chamber to cause the testes to descend into the other of said chambers, and means for applying a source of vacuum to said last mentioned chamber to facilitate such descension, while preventing application of the vacuum to the chamber in which the penis is contained.

5. A body contact instrument for application to the genital portion of the male body, comprising a cup member having a chamber for re-

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ceiving and confining a genital organ of the body, a projecting peripheral ledge adjacent the open end of said cup member, a plurality of apertures in said ledge communicating with said chamber, and means for connecting said cup member to a suction induced vacuum pull exerted on the said chamber of the cup member including through said apertures to cause the cup member to firmly adhere to the genital portion of the body adjacent said ledge.

6. Means for treating genital parts of the male anatomy comprising a cup-like member designed for hermetically sealed application to the body to conceal a genital part, said cup member including a vacuum chamber terminating at its open end in a flared periphery, and means for applying suction to said chamber to exhaust air therefrom to induce the confined genital part to descend into the chamber, said flared cup periphery being cut away at spaced intervals to facilitate adherence of the applied cup to the body without external support when said suction is applied.

WARREN D. FOWLER.

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