

Jan. 25, 1938.

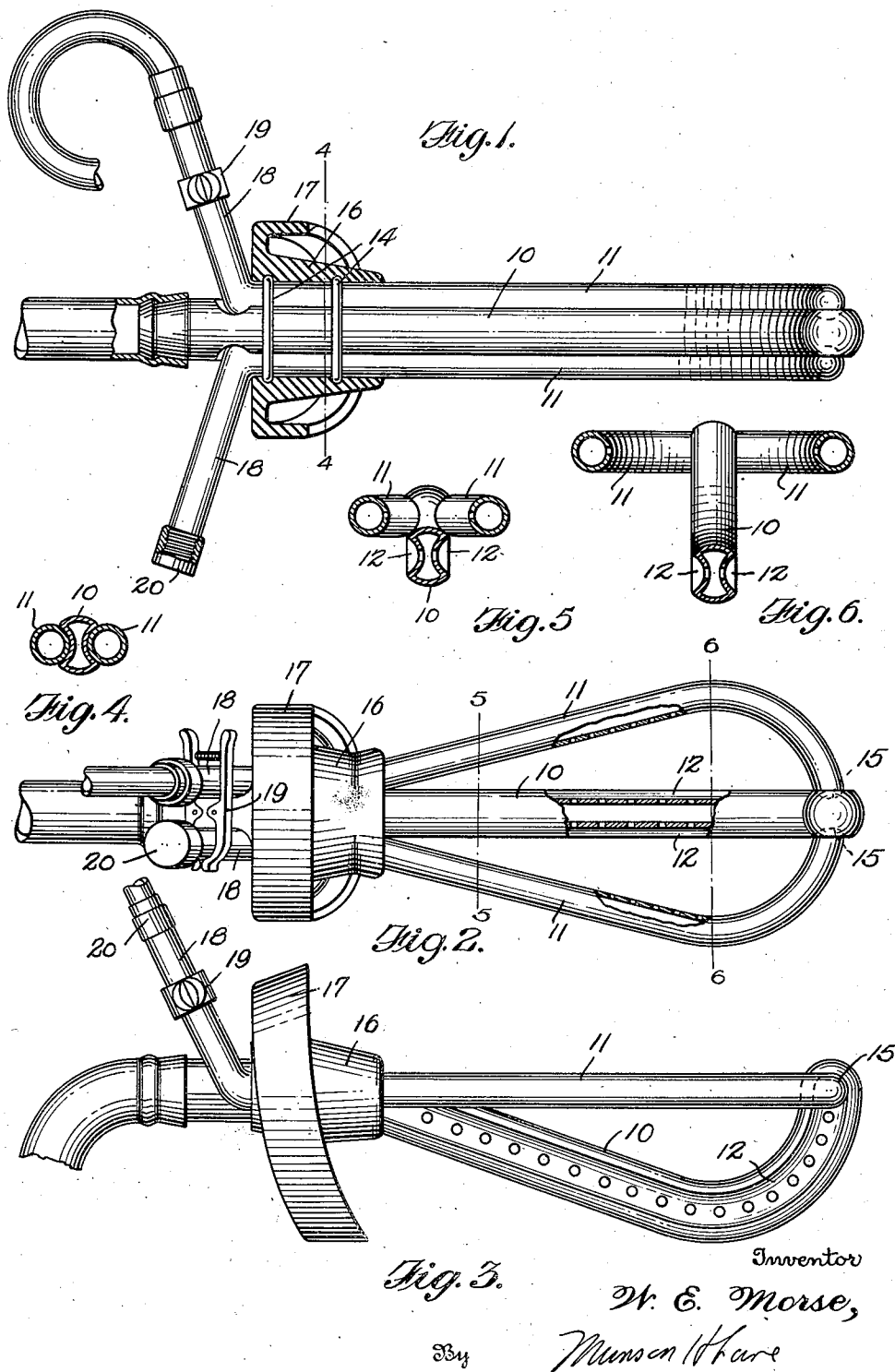
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2,106,433

DISTENSION DOUCHE

Filed Nov. 16, 1936

3 Sheets-Sheet 1



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DISTENSION DOUCHE

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3 Sheets-Sheet 2

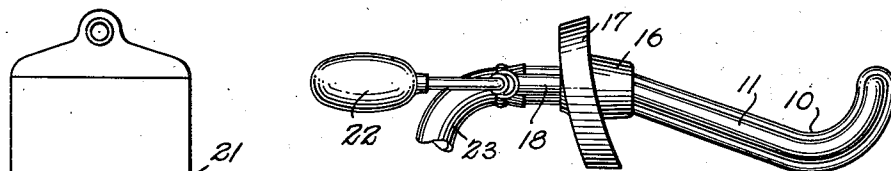


Fig. 7.

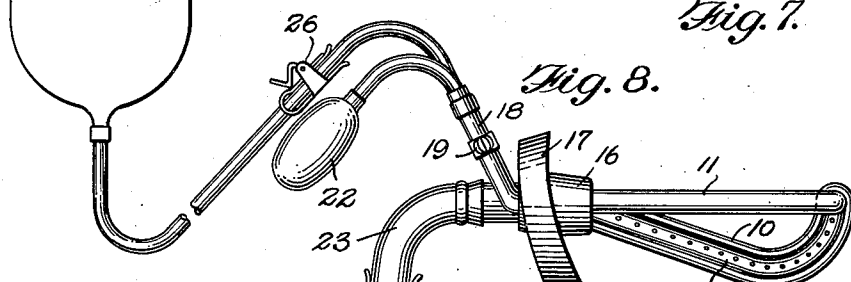


Fig. 8.

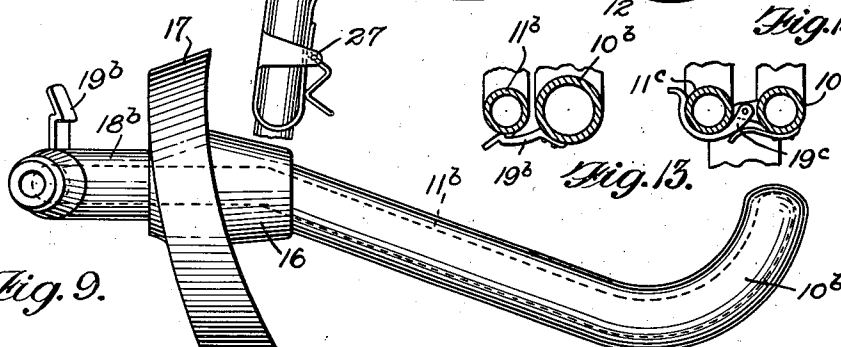


Fig. 9.

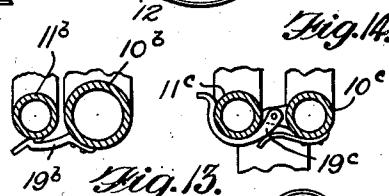


Fig. 14.

Fig. 13.

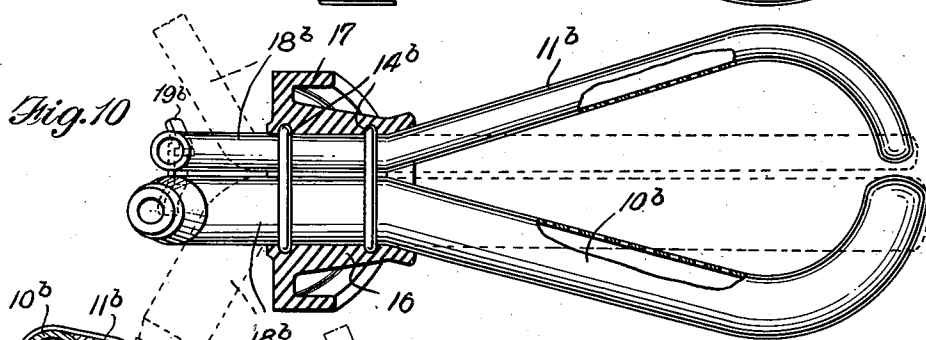


Fig. 10.

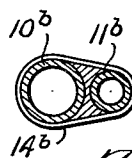


Fig. 12.

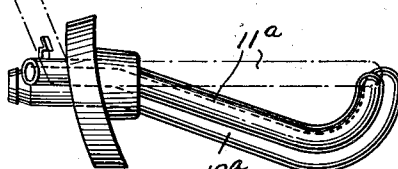


Fig. 11.

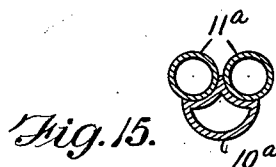


Fig. 15.

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DISTENSION DOUCHE

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3 Sheets-Sheet 3

Fig. 16.

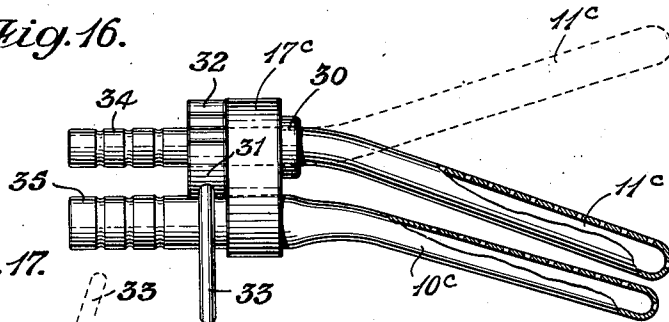


Fig. 17.

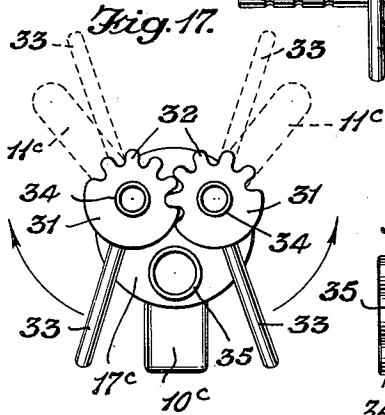


Fig. 18.

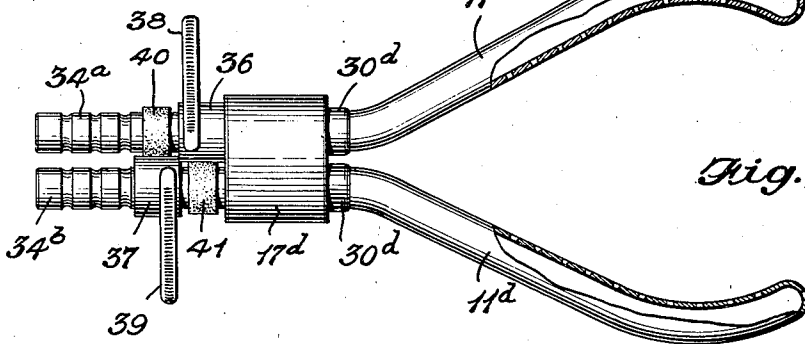
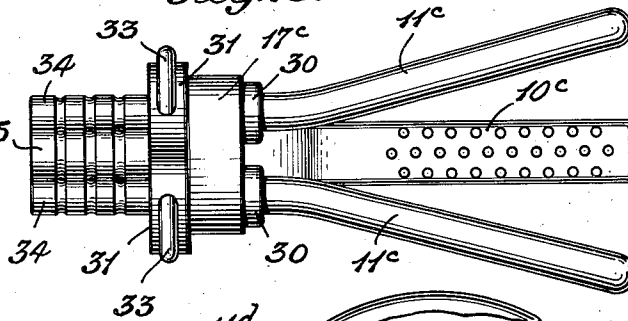


Fig. 19.

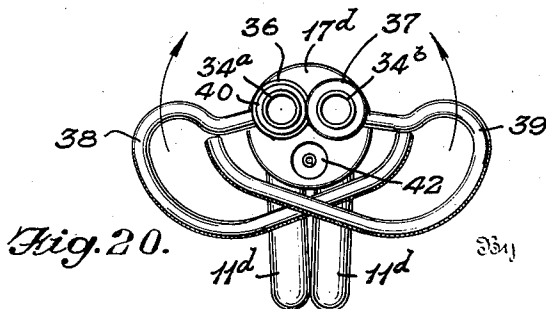


Fig. 20.

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2,106,433

DISTENSION DOUCHE

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11 Claims. (Cl. 128—251)

The invention relates to therapeutic apparatus, and more particularly to apparatus for cleansing, massaging and sterilizing body cavities.

5 The douche has long been used as a cleansing means with very indifferent success. The reasons for its failure are both anatomical and physiological. The vagina is anatomically an elongated cylindrical bag closed externally by a moderately active sphincter. The walls of the vagina in the physiological state of collapse are thrown into innumerable folds of varying size which act as valves retarding the outward progress of secretions, deposits, and discharges both physiological and pathological. The physiological secretions and most of the pathological discharges are viscid and tenacious in type. In an endeavor to eliminate some of the factors retarding cleansing many devices have been designed endeavoring to distend the vagina to its anatomical limits thus converting it from an irregular walled cavity to a smooth-walled cavity. These devices have been of two types, first mechanical distension by mechanical arms; second hydraulic distension by occlusion of the vaginal outlet. To the present time these designs have failed to solve the problem, because they have been cumbersome, complicated or discomforting. Likewise medicinal agents and antiseptic solutions introduced into the vagina have been retarded in their activity by tenacious materials and folded structures.

Massage has long been utilized as an effective agent in reducing the induration of chronically inflamed tissues. In inflammatory conditions of the female genitalia this valuable method of treatment has been but slightly used because manual massage has resulted in detrimental congestion produced by direct or indirect sex stimulation. To date no method has been presented in which the beneficial therapeutic results of massage might be obtained without hazarding the undesirable results. The method herein presented offers a solution of this problem.

According to the preferred embodiment of my invention there is employed a self retaining distension vaginal douche point in which retention and distension is accomplished by the rotation of curved elements sized to measure. Furthermore, the introitus vagina may be occluded by an expanding plug thus completing a closed system which promotes more efficient cleansing, more convenient antiseptic and medicinal application, provides for hydraulic massage and introduces

an improvement upon established methods of thermo therapy.

The device preferably includes two or more tubular blades movable with reference to each other through one of which a cleansing, heating, antiseptic or massaging fluid may be supplied to the body cavity while through the other fluid may be discharged from the cavity. According to my invention these tubes are preferably curved and when moved together or collapsed may be readily inserted into the body cavity and when so inserted may then be expanded by a rotary movement of one of the elements with reference to the other. When so expanded fluids may be supplied to the body cavity through one of the tubes and other fluids withdrawn through the other tube. A suitable plug for closing the mouth of the cavity is preferably employed, the tubular blades passing through said plug.

The invention will be more readily understood by reference to the accompanying drawings and the following detailed description in which are set forth illustrative embodiments of the inventive thought, it being understood that such embodiments are not intended by way of limitation.

In the drawings:

Fig. 1 is a plan view of one form of the device with the blades collapsed, the plug being shown in section.

Fig. 2 is a plan view of the device with the blades expanded.

Fig. 3 is a side view with the blades expanded.

Fig. 4 is a section on line 4—4 of Fig. 1.

Fig. 5 is a section on line 5—5 of Fig. 2.

Fig. 6 is a section on line 6—6 of Fig. 2.

Fig. 7 is a diagrammatic side view of the device on a smaller scale showing the bulb for supplying pulsated pressure.

Fig. 8 is a diagrammatic view with the blades expanded and including the fluid supply means and the discharge pipe.

Fig. 9 is a side elevation showing the modification of the invention wherein two blades are employed, the blades being shown collapsed.

Fig. 10 is a plan view of the same showing the blades expanded in full lines and collapsed or contracted in dotted lines.

Fig. 11 is a diagrammatic side elevation illustrating the contracted and expanded positions of the device in full and dotted lines respectively.

Fig. 12 is a section through the two blades showing the means for holding the same together.

Fig. 13 is a detail view showing the latch for connecting the operating arms or levers.

Fig. 14 is a similar view showing a modified form of latch.

Fig. 15 is a sectional view similar to Fig. 4 but showing a modification of the groove in the discharge member.

Fig. 16 is a side elevation showing a still further modification wherein the lateral blades are actuated by means of handles mounted on segmented collars secured to the blades.

Fig. 17 is an end elevation thereof.

Fig. 18 is a plan view of the same modification.

Fig. 19 is a plan view of a further modification disclosing two blades, and

Fig. 20 is an end elevation of the same.

The instrument comprises two or more blades both of which are preferably curved intermediate their ends and rotatably connected together at one end, one of the blades being adapted to be rotated with reference to the other about a longitudinal axis, whereby the instrument may be expanded or contracted. When but two blades are employed lateral expansion of the body cavity results while when three or more blades are employed the cavity may be expanded in two dimensions. Since the two dimensional expansion is desired the embodiment of the invention employing three blades will first be described.

Referring particularly to the form shown in Figs. 1 to 8 inclusive, the reference numeral 10 denotes a central tubular blade curved intermediate its ends and a pair of side blades 11 similar to the central blade but of smaller diameter are adapted to be folded into grooves 12, 12 on the sides of the central blade as illustrated in the section in Fig. 4 and in plan in Fig. 1. All of the blades may be provided with spaced perforations if desired or the perforations may be omitted from such blades as are intended simply to assist in the expansion of the body cavity.

As shown each of the blades has a straight portion at one end and where the blades are intended for supplying or withdrawing fluid such blades communicate with means for supplying or withdrawing such fluid, withdrawal of the fluid being preferably from the central blade and fluid being supplied through the side blades. The blades may be formed of any suitable material as metal, hard rubber, Bakelite or the like. As shown the blades are held together at their rear ends by means of a pair of bands 14 which permit rotation of the side blades relative to the central blade. The groove in the central blade serves as a bearing for such rotative movement.

As the side blades are rotated from the collapsed position they assume the position indicated in Figs. 2, 3 and 6. It will be noted that the rounded end portions 15, 15 of the side blades fit in the groove 12 in the central blade even when expanded. The blades are further held in position by a rubber plug or the like 16 which may be applied from the remote ends of the blades when the same are in collapsed position and threaded lengthwise so as to cover the rings 14, 14. These rings while desirable may be omitted since the plug serves to hold the blades together. The plug may be provided with a suitable suction ring 17 as is customary in devices of this character.

The side blades are shown as provided with laterally extending branches or arms 18, 18 which are adapted to serve as operating levers for rotating the side blades into expanded or collapsed position. These branches may also serve as

means for supplying a suitable fluid. A latch 19 is employed for holding the operating levers together and thus retaining the arms in expanded position as best indicated in Fig. 2. The latch may be of any suitable character and is readily removable. Other forms of latch which may be employed are indicated in Figs. 13 and 14 in connection with another embodiment of the invention.

The tubular arms 18, 18 may be connected to separate sources of fluid supply or one may be capped as at 20 when only one source of supply is required. In such event the blade connected to the capped arm serves merely as a means for expanding the body cavity.

As shown in Figs. 7 and 8 one arm 18 is connected to an elevated container 21 which may be supplied with any suitable fluid such as soapy water, antiseptic or the like. The temperature of such fluid may be regulated as desired and where accurate control of temperature is necessary the supply means may be equipped with thermostatic devices. The temperature may be maintained at a degree sufficient to destroy toxic bacteria such as gonococci or the like.

While one arm is connected to a source of cleansing or antiseptic fluid, the other arm 18 may be connected to a bulb 22 for supplying intermittent, rhythmical or pulsating pressure. An outlet pipe 23 may be connected to the central blade and discharge into any suitable receptacle. Clasps 26 and 27 may be employed for closing the flexible pipes leading from the supply container 21 and from the central blade respectively. These clasps operate in the usual manner and when the tubes to which they are applied are cut off by means of the clamps it will be apparent that the pressure within the body cavity may be varied as desired by operating the bulb 22, thus obtaining a rhythmical massage action. The initial pressure may be varied as desired by regulating the height of the supply receptacle 21.

In Fig. 15 a modification is shown wherein the central blade is designated as 10a and is provided with a slightly different form of groove for accommodating the side blades 11a, otherwise the construction is the same as set forth in the embodiment just described.

In Figs. 9 to 13 inclusive a two-blade instrument is disclosed similar in most respects to the three-blade device included in the preferred form. The two blades are designated 10b and 11b and are held together by rings 14b. Operating levers 18b provide means for rotating the blades relative to each other for expanding or contracting the instrument and such blades may be latched in the expanded position by means of the member 19b or any other suitable catch.

Fluid may be supplied through the smaller of the blades 11b and withdrawn through the larger blade 10b or if desired only one of the blades may be provided with perforations. It is also possible to supply cleansing or antiseptic fluid through one of the arms and to supply pulsating pressure through the other. Where one blade is to be employed for supplying fluid and the other is to be employed for withdrawing fluid, the larger blade will preferably be employed for the withdrawal. Where both blades are to be employed for supplying fluid, the blades may be of the same diameter, as illustrated in Fig. 4. In this figure a slightly different form of catch is also illustrated which may be used in connection with any of the herein described modifications.

My invention is characterized by three im-

portant features which may be summarized at (1) distension, (2) retention, and (3) occlusion.

Operation

Where three blades are used the operation of expansion is attained by bringing together the ends of the lateral arms 18, 18, thus rotating the two lateral blades 11 away from the central element 10, in their respective directions into approximately a horizontal plane, resulting in a semi-pyramidal distension of the vagina (or other cavity) the large central outflow or drainage element being located at the lowest point of the distended space. The dimensions of the vagina having been previously determined and the size of the device selected relative thereto, the capacity of the vagina is now snugly filled, and the device held firmly in position. Similar distension in one plane may be achieved where two blades are used in place of three.

For simple hygienic or cleansing irrigations one lateral element 18 may be closed by the screw cap 20 or any other method, the remaining lateral element being connected with a fountain, pump or bulb. If the subject reclines in the horizontal the outflow is carried to a receptacle by the tube 23 attached to the central or outflow element 10, and the irrigation is thus accomplished without spill or soiling and without discomfort.

For combined hygienic irrigation with medicinal application, the bulb 22 filled with the medicinal agent is attached to the right lateral, the cleansing irrigation being carried out as above described, then the intake is closed with the pinch clamp 26, the outflow tube closed after emptying with the pinch clamp 27, the bulb 22 is compressed and the medicinal agent introduced into a cleansed distended vaginal tract so that every fold, cranny or crevice is subjected to the medicinal agent. After the prescribed interval the device may be withdrawn or the residual medicinal agent may be removed by irrigation.

For thermal therapeutics the outflow 23 is closed and fluid of prescribed temperature introduced into the distended occluded vaginal tract. Massage is attained by intermittently or rhythmically compressing the bulb 22 attached to the right lateral element with simultaneous closure of the outflow tube. The maximum intravaginal pressure, is determined by the height of the irrigating container 21.

The invention is simple in character and is capable of wide variations in use. The specific embodiments of the invention have been described in detail for illustrative purposes but it will be apparent that many variations and modifications may be resorted to without departing from the spirit of the invention.

For example instead of bending the lateral tubes or blades outwardly to form handles or arms as indicated at 18, 18 in Fig. 1 and at 18b, 18b in Fig. 10, the hollow extension portions of the tubes or blades which serve as inlets or outlets, may be straight and to the extension portions of the lateral blades separate handles may be secured after the parts have been assembled. This arrangement is desirable since it makes it easy to apply an assembling sleeve or the like to hold the blades in the desired position relative to each other. Such a sleeve would be provided with longitudinal passageways through which the straight extensions of the blades pass. Such a sleeve could be secured to one of the blades while the other blade or blades are rotatable therein, but are prevented from longitudinal movement

by the handles attached thereto at the rear end and by stops or flanges or the like at the front end. Also instead of making the blades of different diameters they may also be made of the same diameter if desired. With such a construction the grooving of one of the blades to form a bearing for movement of the other blade or blades may be dispensed with since the sleeve serves as a bearing member. Such arrangements are illustrated by the embodiments set forth in Figs. 16 to 20 inclusive. Referring to the first form shown in Figs. 16, 17 and 18 the lateral blades or tubes are represented by the numerals 11c, 11c such blades being shown as perforated while a central tube or blade is represented at 10c. These blades are provided with straight portions extending through longitudinal passageways in an assembling sleeve 17c. The tubes or blades 11c are shown as provided with collars 30 abutting against one face of the sleeve and collars 31, 31 applied to the tubes abut against the other face of the sleeve. The collars 31, 31 are provided with intermeshing toothed segments 32, 32. Handle portions 33, 33 are secured to the collars 31, 31 opposite the segmented portions and these serve to open or close the blades 11c, 11c. The blade 10c may be secured rigidly to the sleeve 17c.

The portions 34, 34 of the blades 11c, 11c extending rearwardly beyond the collars 31, 31 may be connected to fluid inlets, and the portion 35 extending from the blade 10c may be connected to a fluid outlet or the relative connections may be reversed but usually the tubular portions 34 constitute fluid inlets and portion 35 is connected to a drain. When the blades are employed for supplying or withdrawing fluid they are of course perforated but where they are used exclusively as expanders they may be unperforated. The operation of the device is similar to that described in connection with the previous embodiments of the invention.

Another embodiment is illustrated in Figs. 19 and 20. In this form the lateral blades are represented by the reference numerals 11d, 11d and are provided with collars 30d which abut against a sleeve 17d having suitable longitudinal passageways extending therethrough. A collar 36 on the extension 34a abuts against the rear face of the sleeve 17d while a collar 37 on the extension 34b abuts against the other face of the collar 36. Handle portions 38 and 39 shown attached to the collars 36 and 37 respectively are used to rotate the blades. These handles are shown as curved and provided with roughened portions to prevent slipping of the fingers. Friction elements in the form of rubber sleeves or the like 40 and 41 may be employed to insure rotation of the blades in unison.

In Fig. 20 the sleeve 17d is shown as provided with a third longitudinal passageway 42 in which a third blade may be secured or the passageway may be plugged to prevent the escape of fluid where the blades are in the form of tubes or such passageway may be provided with a suitable drainage tube not shown.

Various embodiments of the invention have been described which differ in detail but each form includes a pair of elongated blades arranged side by side and assembled adjacent one end and angulated beyond the point of assembly. Means are provided for rotating at least one of the blades with reference to the other about a longitudinal axis which is parallel to the axis of the other blade. The number of blades may be two, three

or more, three being the preferred number since the use of three blades permits expansion in more than one plane while more than three blades constitutes undue multiplication and unnecessary expense.

I claim:

1. A surgical instrument for treating body cavities including a pair of elongated blades arranged side by side, means for rotatably assembling said blades adjacent one end with their axes of rotation parallel, said blades including portions angulated beyond the point of assembly and adapted to be inserted in the body cavity, and means for rotating at least one of said blades with reference to the other.

2. An instrument as set forth in claim 1, wherein at least three blades are employed and two of the blades are rotated with reference to the third, whereby the body cavity may be expanded in two planes.

3. A surgical instrument for treating body cavities, including a pair of elongated blades assembled at one end and angulated from the point of assembly, said blades being adapted to be inserted in the body cavity, a retaining member at the assembly end through which the blades pass serving to prevent separation of the blades at this point while permitting rotation thereof, and means for rolling at least one of the blades with reference to the other about a longitudinal axis, whereby the instrument may be expanded or contracted and the walls of the body cavity distended or relaxed.

4. A surgical instrument as set forth in claim 3, wherein at least three similarly angulated blades are employed.

5. A surgical instrument for treating body cavities, including a pair of blades similarly curved throughout the major portion of their length, but including straight portions at one end, an assembling ring surrounding the straight portions of the blades, permitting rotation, and means for rolling at least one of said blades with reference to the other about a longitudinal axis.

6. A surgical instrument for treating body cavities, including a pair of rigid blades adapted to be inserted into the cavity, said blades being permanently curved intermediate their ends, and each including a straight portion, means for rotatably assembling the blades at said straight portions, and means for rolling one of the blades relative to the other about the longitudinal axis of the instrument, whereby the instrument may be expanded or contracted to expand or contract the body cavity.

7. A surgical instrument for treating body cavities including a pair of elongated blades arranged side by side, means for rotatably assembling said blades adjacent one end with their axes of rotation parallel, said blades including portions angulated beyond the point of assembly and adapted to be inserted in the body cavity, and means for rotating at least one of said blades with reference to the other, at least one of said blades being tubular in form, means for supplying fluid therethrough into the interior of the cavity, and a plug fitting about the blades at the point of assembly and adapted to close the mouth of the body cavity.

8. A surgical instrument for treating body cavities, including a pair of blades adapted to be inserted into the cavity, said blades being curved intermediate their ends, and one of the blades being rotatable about a longitudinal axis, whereby the instrument may be expanded or contracted to expand or contract the body cavity, one of the blades being tubular in form, and means for supplying fluid therethrough to the interior of the cavity.

9. A surgical instrument for treating body cavities, including a pair of blades adapted to be inserted into the cavity, said blades being curved intermediate their ends, and one of the blades being rotatable about a longitudinal axis, whereby the instrument may be expanded or contracted to expand or contract the body cavity, one of said blades being tubular in form and serving as a discharge outlet for fluids from the body cavity.

10. A surgical instrument for treating body cavities, including a pair of blades adapted to be inserted into the cavity, said blades being curved intermediate their ends, and one of the blades being rotatable about a longitudinal axis, whereby the instrument may be expanded or contracted to expand or contract the body cavity, the blades being tubular in form, one serving as an inlet for fluid and the other serving as a fluid outlet.

11. A surgical instrument for treating body cavities, including a pair of blades adapted to be inserted into the cavity, said blades being curved intermediate their ends, and one of the blades being rotatable about a longitudinal axis, whereby the instrument may be expanded or contracted to expand or contract the body cavity, one of the blades being provided with a groove which serves as a bearing for the other blade as the latter is rotated.

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