

[54] **INTRA UTERINE DEVICE**
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which is a continuation-in-part of Ser. No. 654,744,
July 20, 1967, abandoned.
[52] U.S. Cl. **128/130**
[51] Int. Cl. **A61f 5/46**
[58] Field of Search **128/127-131**

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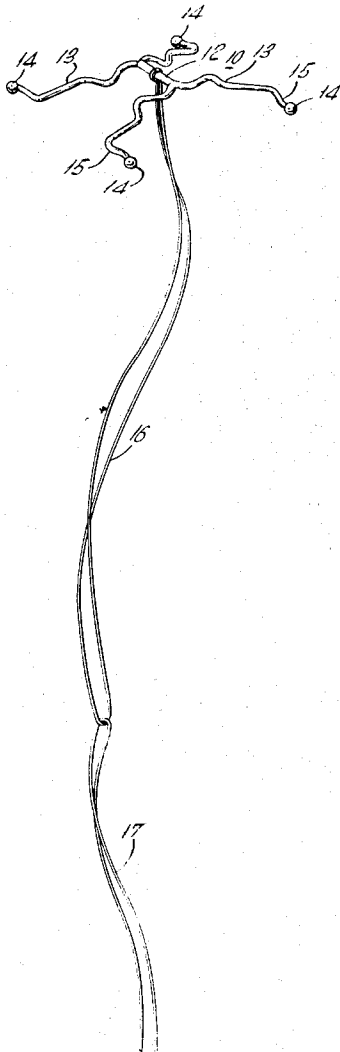
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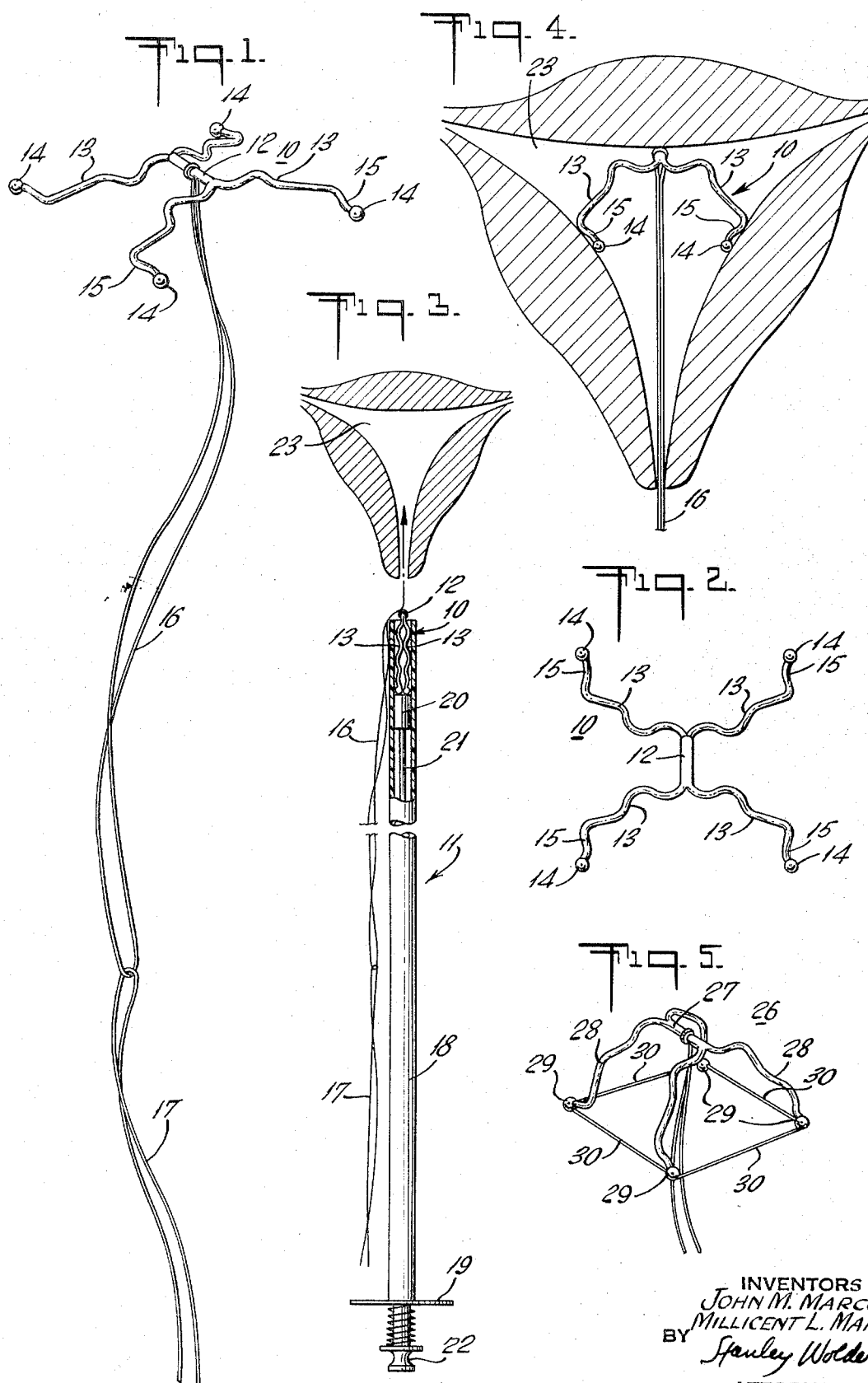
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[57] **ABSTRACT**

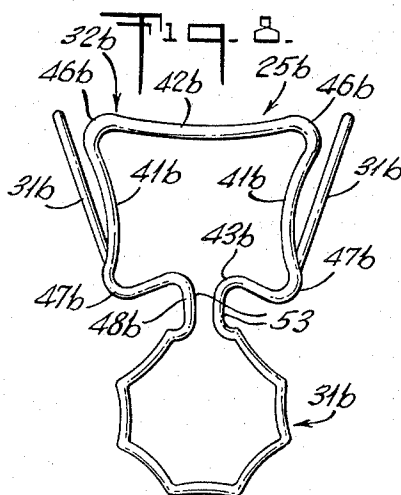
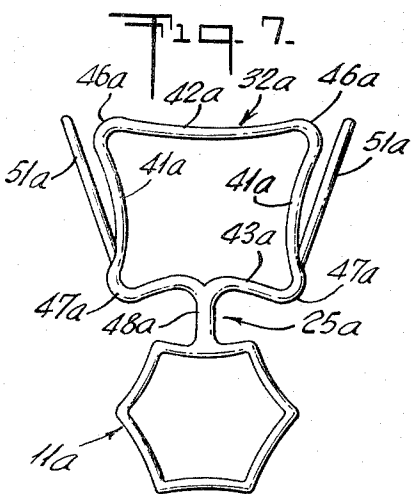
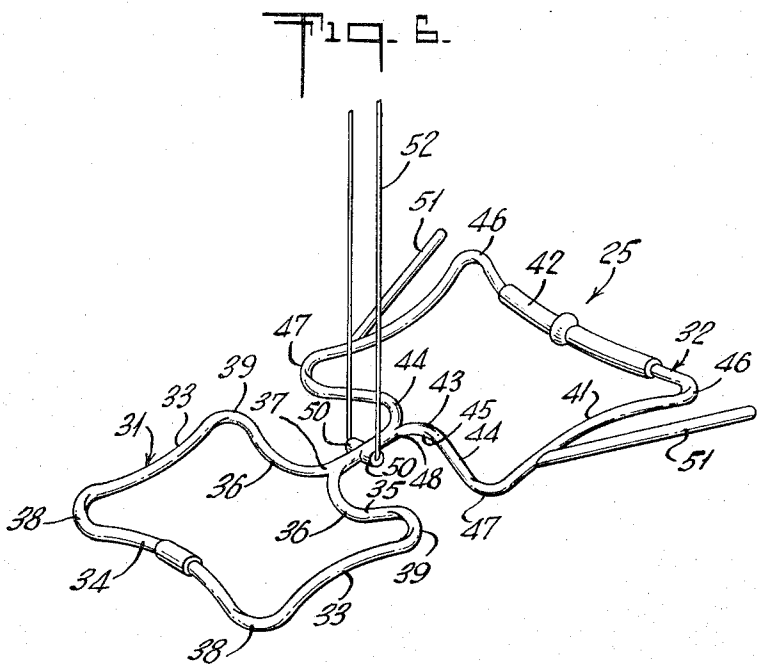
An intra-uterine device comprises a substantially flat body member integrally formed of a resilient, flexible, organic plastic and includes a longitudinally extending bridge section and a pair of independently movable legs outwardly diverging from each end thereof. The legs may be partially contracted by a fluid decomposable string interconnecting the ends thereof. A draw string extends from the bridge section and includes an upper inert section and a lower body fluid decomposable section. An alternative structure includes a flexible bridge member and polygonal loops mounted on opposite ends thereof, one of the loops being provided with laterally longitudinally projecting opposite legs having free outer ends. The intra-uterine device is inserted by contracting the legs into side by side juxtaposition and supporting it with the bended apex section forwardmost in the distal end of a tubular instrument, inserting the instrument into the fundus and ejecting the device by advancing a plunger through the instrument. The instrument body member has a forward leading section with a smaller bore than the rear section which terminates in a funnel shaped mouth.

6 Claims, 11 Drawing Figures





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Fig. 9.

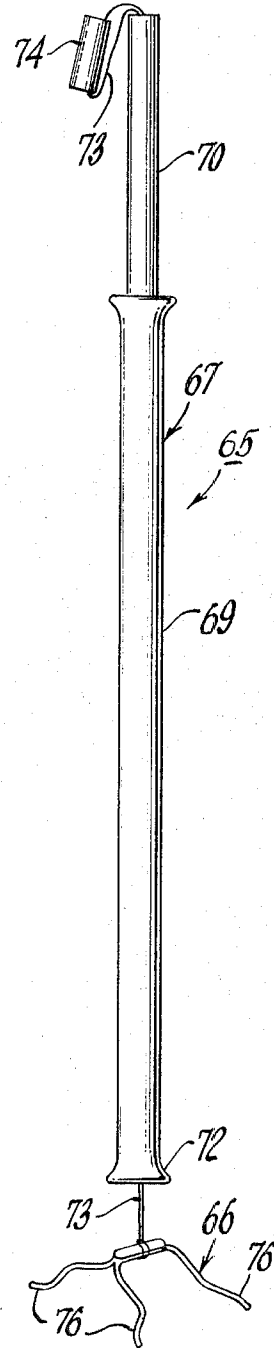


Fig. 10.

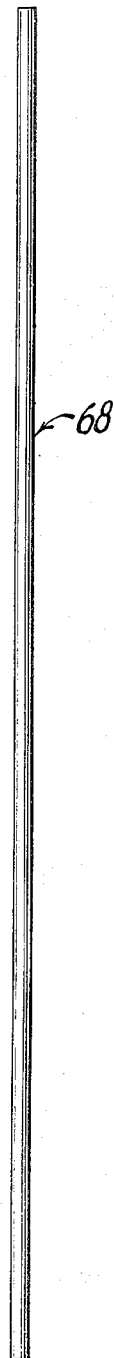
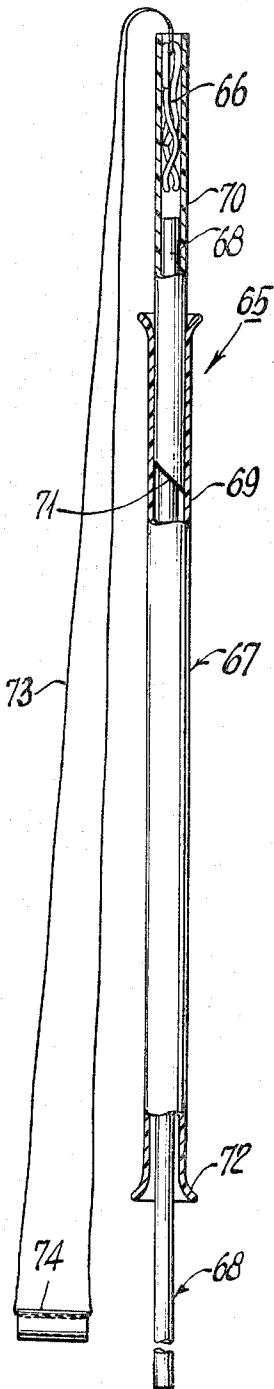


Fig. 11.



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INTRA UTERINE DEVICE

CROSS REFERENCE TO RELATED APPLICATION

The present application is a continuation-in-part of abandoned copending patent application Ser. No. 1,661 filed Jan. 9, 1970 which is a continuation-in-part of abandoned Pat. application Ser. No. 654,744 filed July 20, 1967.

BACKGROUND OF THE INVENTION

The present invention relates generally to improvements in contraception and it relates particularly to an improved intra-uterine contraceptive device and insertion instrument and to an improved contraception method. Although such devices are referred to as contraceptive, their mode of operation in affecting fertility is not known and specifically it is not known whether they prevent conception. Thus the reference to "contraceptive" is a term of convenience.

A conventional contraception technique involves the insertion and lodging of a foreign body in the female uterus. While the devices heretofore employed and proposed are somewhat effective they generally possess numerous drawbacks and disadvantages. With the advent of the use of such synthetic organic polymers as the polyolefins in intra-uterine contraceptive devices, extensive experimentation has resulted, and many devices of different designs and configurations have been produced but these devices usually represent a compromise which is lacking in one or more desirable properties.

A good intra-uterine contraceptive device is characterized by a high degree of reliability in the inhibition of conception and pregnancy, minimal side effects, comfort, a low expulsion rate, and an easy and simple procedure for its removal. Of course, if the device possesses little contraceptive effectiveness, in situ, it is unsatisfactory and of little use and if it is not retained in position by the patient for long periods of time, its value is sharply reduced. Moreover, since the intra-uterine device is a foreign body, it may be accompanied by undesirable side effects such as bleeding, cramps, and the like and its rapid and convenient removal is a highly desirable characteristic.

Although the manner in which the intra-uterine device provides fertility control is not understood, certain facts are known. If the intra-uterine device is retained high in the uterus, a contraceptive effectiveness of up to 99 percent is achieved. The smaller and thinner the components of the intra-uterine device, the less the side effects and need for removal but the greater the expulsion rate. On the other hand, the larger and thicker the device components are, the better the retention but the more numerous the undesirable side effects.

There are three types of patients which employ intra-uterine contraceptive devices, the post-partum patient, the multiparous patient, one who has had children, and the nulliparous patient, one who has never been pregnant. None of the available devices has worked well for all three kinds of patient; especially for the post-partum and nullips. This is essentially true, because the physical shape of these three categories of uteri are radically different in these women. The pregnant uterus is huge, flabby with a gaping cervix. The multip woman has a normal sized uterus, while the nullip has an underdeveloped inner cavity, is small and difficult to handle. The

earlier devices have failed mostly because their designs were made for the multip woman and then were tried for the post-partum patient and nullip patient. In the post-partum patient where the uterus and cervical opening is large, all devices were expelled from 25 percent or more. Even though smaller devices were made for the nullip, they caused much side effects because of the inadequate room for such a device.

Although intra-uterine devices of many different shapes and structures have been available and proposed, their configuration has been such that they were easily expelled, embedded in the tissue or only protected one area, either the anterior or posterior portion of the uterine body. Furthermore, the manner in which these devices are generally positioned in the uterine body is such that with the contraction of the uterus it was relatively easy for the device to be contracted and ejected. Accordingly, the intra-uterine contraceptive devices heretofore proposed and available leave much to be desired.

SUMMARY OF THE INVENTION

It is a principal object of the present invention to provide an improved contraceptive device, method and instrument.

Another object of the present invention is to provide an improved intra-uterine contraceptive device and an improved method and instrument for the application thereof.

Another object of the present invention is to provide an improved intra-uterine contraceptive device which is characterized by a high degree of effectiveness, minimal side effects and excellent retention.

A further object of the present invention is to provide an intra-uterine contraceptive device which is easily inserted and which may be readily and simply removed when desired.

A still further object of this invention is to provide a simple method for loading an inserter for an intra-uterine device.

The above and other objects of the present invention will become apparent from a reading of the following description taken in conjunction with the accompanying drawings which illustrate preferred embodiments thereof.

In a sense the present invention contemplates the provision of an intra-uterine device comprising a resilient flexible bridge section and a plurality of at least three independently movable, resilient, flexible legs diverging from said bridge and terminating in free ends.

The improved intra-uterine device, in its preferred form, includes an elongated resilient longitudinal bridge section foldable about its transverse axis, and a pair of undulated legs diverging from each end thereof, with longitudinal end sections optionally terminating in spherical knobs. The ends of the legs can be interconnected by a fluid decomposable string which limits the expansion of the released device to a pyramidal or prismatic configuration until decomposition of the string. A substantially inert draw string is attached to the bridge section and has a body fluid decomposable string extending from its free end.

In use, the improved intra-uterine device is folded about the bridge section and the legs drawn together into a compact elongated structure and inserted, bridge foremost, through the cervix and isthmus into the uterine cavity where it is permitted to expand and assume

a three dimensional resilient configuration in the uterine cavity, engaging and hugging the walls. The term "uterine cavity" is used here to refer to the cavity of the body of the uterus. It should be noted that the term "fundus" has sometimes been used to refer to this part of the uterus although it usually is restricted to that wall of the uterus which is farthest from its mouth. In post-partum patients, the device is prevented from assuming a flat condition by use of the body fluid decomposable string to retain it in a three dimensional condition until the uterus contracts at which time the string is decomposed, in about 10 to 14 days, to release the device to assume a three dimensional shape restricted by the uterine body.

Another feature of the present invention resides in the improved contraception method which includes the steps of contracting a multileg intra-uterine device by rearwardly folding about the device's bridge section the normally resilient diverging legs of the intra-uterine device into side by side juxtaposition, inserting the contracted device, the apex formed by folding the bridge foremost, into the uterine cavity, and then at last partially releasing the device to permit it to unfold to its normal shape. An improved tubular instrument with a stepped bore is advantageously employed for practicing the subject method.

By reason of the configuration, characteristics and manner of use of the present intra-uterine device, the drawbacks and disadvantages of the earlier devices are overcome. A very high degree of contraception is achieved with a minimum of side effects, a low expulsion rate and great comfort. The device is highly versatile and applicable to all types of patients and is simply applied and may be easily removed when desired.

BRIEF DESCRIPTION OF THE DRAWINGS

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

FIG. 2 is a top plane view thereof;

FIG. 3 is a fragmentary view partially in section showing an instrument loaded with the device illustrated in FIG. 1 and 2 attendant to its insertion into the uterine cavity;

FIG. 4 is an end elevational view illustrating the intra-uterine device in position at the fundus;

FIG. 5 is a perspective view of another embodiment of the present invention;

FIG. 6 is a perspective view of still another embodiment of the present invention;

FIG. 7 is a top plan view of a further embodiment of the present invention;

FIG. 8 is a top plan view of still a further embodiment of the present invention;

FIG. 9 is a front elevational view of the body member of an improved instrument for inserting the intra-uterine device illustrated with the intra-uterine device in a threaded condition;

FIG. 10 is a front elevational view of the plunger section thereof; and

FIG. 11 is a longitudinal sectional view of the assembled instrument with the intra-uterine device in a loaded condition attendant to its insertion.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, and particularly FIGS. 1 to 4 thereof, which illustrate a preferred em-

bodiment of the present invention, the reference numeral 10 generally designates the improved intra-uterine contraceptive device and 11 an instrument which facilitates the insertion of the device in the uterine cavity. The device 10 is advantageously integrally formed of a relatively soft, inert, resilient, flexible material such as many of the thermoplastic organic polymeric materials, such as polyethylene and the like, saran, polyvinyl chloride and similar materials. The device 10 may be injection molded in the known manner.

The contraceptive device 10 includes a longitudinally extending medial bridge section 12 which may be bent about its transverse midpoint line in a short radius to bring the opposite sections thereof into substantive juxtaposition and upon release tends to return to its original extended condition.

Projecting from each end of and integrally formed with bridge section 12 are a pair of diverging longitudinally and transversely extending diagonal similarly shaped resilient legs 13 which are symmetrical relative to bridge section 12. The legs 13 are of undulate configuration, either zig-zag, sinuous or otherwise, and they each advantageously terminate in an enlarged preferably spherical knob 14. Each leg 13 preferably includes an end section 15 approximately parallel to bridge section 12.

Secured to and extending from the midpoint of the bridge section 12 is a looped first draw string 16 formed of a body fluid inert material, such as a cotton, nylon or the like. A second looped draw string 17 engages the outer end of draw string 16 and is formed of a material which dissolves in or is decomposed or disintegrated by the body fluids, in time, such as suture materials of known composition.

The instrument 11, which forms no part of the present invention, includes an elongated open ended hollow tube 18 provided at its outer end with an annular flange 19. A plunger or piston 20 is slidably positioned in the upper section of tube 18 and a push rod 21, coaxial with tube 18 is secured to and projects from the inner end of piston 20 through the lower end of tube 18. A knob 22 is affixed to the outer end of rod 11 and a compression spring is entrapped between flange 19 and knob 22 to urge piston 20 to an inner retracted position by way of rod 21. By pressing on knob 22 the piston 20 may be releasably advanced to a position at the level of the end opening of tube 18.

In employing the instrument 11 for positioning the contraceptive device 10 in the fundus 23, the device 10 is collapsed into a compact linear condition by bending bridge section 12 about its midpoint and bringing legs 13 into extended parallel juxtaposition, the collapsed device 10 being then inserted into the upper end of tube 18 with bridge section 12 being outermost, as illustrated in FIG. 3. The draw strings extend from bridge section 12 along the outside of tube 18 and the device loaded instrument 11 is inserted into the uterine cavity 23 through the cervix and isthmus. Thereafter knob 22 is depressed to advance plunger 20 and eject device 10 from tube 18 and instrument 11 withdrawn.

When the device 10 is released in the uterine cavity 23, it expands to a three dimensional condition with bridge section 12 and the outer end sections 15 of legs 13 engaging and softly bearing against corresponding faces of the uterine cavity 23. By reason of the resiliency and nature of the material forming the device 10 and the structure thereof, the device 10 assumes a

three dimensional configuration, determined by the shape of the particular uterine cavity and does not exert excessive pressure on any part thereof. Moreover, the device engages many spaced areas of the uterine body and by reason of the orientation thereof greatly inhibits the unintentional expulsion of the device from the uterus. A particular advantage in the present construction derives from the provision of legs 13 which may be shortened in individual cases to provide appropriate fitting. Thus while the full length of the legs may be employed in post-partum patients, in the case of the normal nulliparous patient, the legs may be cut or reduced to a smaller size. That is, the length of the bridge would be about the same in all cases but the length of the legs would be related to the dimensions of the uterus. A bridge length of about 10 mm. is particularly useful since it permits the device to be folded at the midpoint of the bridge. The length of the legs can vary from about 15 mm. to about 40 mm. For a post-partum patient, a device having legs about 32 mm. long when extended fully is particularly suitable. It should be noted, however, that these legs preferably contain undulations so that the direct distance from the end of the undulated legs to their point of connection with the bridge is only about 27 mm. For the multiparous patient and for the nulliparous patient, devices with legs 27 mm. and 16 mm. long, respectively, are useful. In these two instances, the undulations in the legs are preferably much less than in the device for the post-partum patient so that the actual length of the extended leg more closely approximates the distance from the end of the leg to its point of connection with the bridge. In addition, although specific sizes are suggested for the various patients, the actual length can vary within the entire range suggested earlier. It should finally be noted that, in the above illustrations, each of the legs is substantially longer than the bridge section, that is, more than 50 percent longer than the bridge section.

The device 10 possesses a very high degree of effectiveness and is accompanied by minimal side effects. In the event that it is desired to remove the contraceptive device 10 from the uterine cavity 23 within the initial several days, this may be easily accomplished by pulling on draw string 17. Following the decomposition of string 17 extraction of the device 10 is facilitated by the draw string 16.

It should be noted that while the application of the device 10 is facilitated by the instrument 11, it may be applied in any suitable manner without the use of instrument 11. However, the device 10 should be inserted with the bridge or apex section 12 foremost so that the expanded device assumes the approximate orientation illustrated in FIG. 4. If the device is inserted with the legs foremost, there is a much greater tendency for expulsion of the device to occur.

In FIG. 5 of the drawings there is illustrated another embodiment of the present invention which is particularly applicable to post-partum patients, where the device 10, in place, may return to a substantially flat position by reason of the available space, in which position it may be more easily expelled. The modified device 26 differs from the device 10 first described in that means are provided for preventing the full expansion of the device for an extended period after insertion and retains in a three dimensional condition.

Specifically the device 26 includes a bridge or apex section 27 and outwardly projecting arms 28 corre-

sponding to bridge section and arms 12 and 13 respectively, the arms 28 terminating in spherical knobs 29 having apertures formed therein. A string formed of a body fluid decomposable or soluble material, such as a suture of known composition, extends through the knobs and is secured thereto to form legs 30 which are of lesser lengths than the distances between respective knobs 29 when the device 26 is in a fully expanded flat condition. The legs 30 are of such dimension that the expanded device 26 is restricted hereby to assume a three dimensional pyramidal configuration, as shown in FIG. 5.

The device 26 is inserted and applied in the manner of device 10 as described above and when released in the uterine cavity, it expands to the three dimensional condition shown in FIG. 5 as restricted by legs 30. After residing in the uterine cavity for a predetermined period, for example about 10 to 14 days, the legs 30 are absorbed or decomposed by the body fluids to release the legs 28 which may assume a further expanded three dimensional shape as restricted by the walls of the contracted uterine body.

Referring now to FIG. 6 of the drawings which illustrates another embodiment of the present invention, the improved intra-uterine device is generally designated 25, and includes a pair of closed loops 31 and 32 disposed in side-by-side spaced relation in their undeflected condition. The loops 31 and 32 are generally polygonal, and specifically substantially rectangular, the former loop including a pair of inwardly curved, generally parallel, spaced sides 33, an outer, inwardly curved side 34 extending between the outer ends of the sides 33, and an inner side 35 extending between the inner ends of the sides 33. The outer side 34 is also inwardly curved, while the inner side 35 is formed with a pair of inwardly curved portions 36 meeting at a juncture 37. Thus, the intersections or corners of the generally polygonal loop 11 project outwardly beyond the medial regions of the sides. That is, the outer corners 38 at intersections of respective sides 33 and outer side 34 are of somewhat less than 90° angles, and are smoothly outwardly curved. Similarly, the inner corners 39, at the intersections of inner side 35 and respective sides 33 are of less than 90° and smoothly outwardly curved.

The loop 32 is of generally similar formation, being generally rectangular and including inwardly curved laterally spaced sides 41, an outer, inwardly curved side 42 extending between the outer ends of the sides 41, and an inner side 43 extending between the inner ends of the sides 41. The inner side 43 is formed with a pair of inwardly curved portions 44 meeting at an outwardly extending juncture 45. The outer corners 46 at the junctures of respective sides 41 and outer side 42 are each less than 90° and smoothly outwardly curved, while the inner corners 47 at the junctures of respective sides 41 and inner side 43 are also of something less than 90° and smoothly outwardly curved.

Extending between the medial junctures 37 and 45 of the adjacent, inner side walls 35 and 43, is a connection portion 48. The connection or portion 48 is elongate, and generally coplanar with the loops 31 and 32, and may be provided medially of its ends with a pair of oppositely outstanding projections or lugs 50.

Carried on the opposite sides 41 of one of the loops 32 may be a pair of free legs or arms 51. Each leg 51 may extend from an inner region of its respective side

41 obliquely outward therefrom away from the other loop 31.

The structure thus far described, including the loops 31 and 32, connections 48, projections 50 and legs 51, may all be integrally formed of a resiliently flexible material, such as polyethylene or other suitable material, say by conventional molding procedures. Thus, the loops 31 and 32 are individually resiliently distortable under pressure, and further, are swingable relative to each other upon resiliently yieldable flexure of the connection 28.

The connection 48 is preferably provided with elongate filamentary extensions, such as a pair of suture yarns 52 extending freely from opposite ends of respective projections 50.

In practice, the device 25 is folded by flexure of the connection 48 to swing the loops 31 and 32 into generally facing relation, and the loops distended by squeezing for engagement in a suitable insertion tube. In this condition, the device is inserted into the uterus, with the threads 52 extending from the uterus, and the device expands in the uterus. It will be apparent that the loops 31 and 32 open up to their generally polygonal or rectangular configuration, and swing into angular relation with respect to each other a limited by engagement of the loops with opposite internal surfaces or walls of the uterus. In this condition, the loops, at several surface locations thereof, resiliently, yieldably engage the internal uterus walls for effective self retention of the device within the uterus while achieving the desired birth-control action. The rounded corners 38, 39, 46 and 47 effectively prevent embedding of the material of the device in the uterus walls, while the legs 31 aid in the desired action and enhance proper location in the uterus, being relatively freely flexible, so as not to effect undesired irritation.

Of course, extension of the threads 52 from the uterus greatly facilitates removal of the device 25, as desired.

In the embodiment of FIG. 7, an intra-uterine device is generally designated 25a, and includes a pair of closed loops 31a and 32a having their adjacent sides connected together by a connection 43a. The loops 31a and 32a, and connection 48a may all be integrally formed of suitably resiliently flexible material, as described hereinbefore. In the embodiment of FIG. 7, the walls 41a, 42a, 43a of the loop 32a are specifically configured so that their inwardly curved medial side regions are of reduced cross section relative to the corner regions 46a and 47a. By this construction, pressure exerted against the loop 32a tends to effect flexure of the medial or inwardly curved side portions rather than the corners, to insure effective holding action by the corners while reducing any tendency of the loop to exert uncomfortable pressure.

The closed loop of 11a of FIG. 7 is shown of a polygonal configuration other than rectangular, being specifically hexagonal, with the sides thereof inwardly curved and intersecting at relatively sharp corners. The desired action may be obtained by the configuration of loop 31a, or the corners may be rounded, if desired.

A further embodiment is shown in FIG. 8, the device there being generally designated 25b, and including a pair of side-by-side loops 31b and 32b. The loops 31b and 32b may be substantially identical to the loops 31a and 32a, except that the former pair of loops have their adjacent sides medially open, while the latter pair of

loops are each completely closed. That is, the inner side 43b of loop 32b has its medial portion open or discontinuous, while the inner side 35b of loop 31b is similarly open or discontinuous. The connection 48b of the device 25b extends between the adjacent inner sides 43b and 35b of the loops 32b and 31b, and may be defined by a pair of generally parallel, spaced, elongate portions 53. More specifically, each elongate connection portion 53 defines a continuous integral extension between an adjacent pair of portions of inner loop walls 43b and 35b.

In use, the connections 48a and 48b may be provided with lugs similar to lugs 50 of the embodiment 25, for securement of flexible filaments, or the flexible filaments may be otherwise secured, if desired. Also, the devices 10a and 10b may also be integrally molded of suitable resiliently flexible material, such as polyethylene, or the like.

Referring now to FIGS. 9 to 11 of the drawings which illustrate an improved intra-uterine device insertion instrument 65 and improved method of loading the instrument which may be used to advantage in practicing the improved method for inserting the present intra-uterine device, for example an intra-uterine device 66 similar to the device described earlier, and other expandable intra-uterine devices as well. The insertion instrument 65 comprises an outer elongated tubular body member 67 and an elongated plunger member 68 which may be a rod or tube of approximately the length of or slightly greater than of body member 67. The members 67 and 68 are advantageously formed of a synthetic organic polymer, for example polyethylene or the like and the instrument 65 may be reusable or disposable.

The body member 67 includes a proximate tubular section 69 of relatively large transverse cross-section and a distal tubular section 70 of relatively small transverse cross section the rear part of tubular section 70 telescoping the forward part of tubular section 69 and being securely affixed therein. The trailing end of tubular member 70 is advantageously obliquely cut, as at 71. The tubular section 69 terminates at its proximate or rear end in an outwardly rearwardly flared funnel defining section 72 and the distal or forward end of tubular section 69 may likewise be flared. It should be noted that while body member 67 is illustrated as being formed of end to end telescoped tubular sections 69 and 70 it may be integrally formed as a unitary member, preferably provided with an outwardly flared proximate end, the internal bore decreasing from the proximate to the distal end either along the full length thereof or along a shorter length or abruptly. The length of tubular section 70 advantageously exceeds the length of the collapsed intra-uterine device 66. The plunger member 68 has an outside diameter approximately equal to or slightly less than the inside diameter of tubular section 70.

A draw string 73 corresponding to draw string 16 or combined draw strings 16 and 17 earlier described has one end secured to the apex section of intrauterine device 66 which is positioned adjacent the flared proximate end 72 of instrument 67 and extends through the bore of instrument 67 beyond the distal end thereof where it is advantageously engaged by a pull element 74. The element 74 may be a longitudinally split resilient tube permitting its application to the closed loop

end of draw string 73 or may be any other suitable device.

In loading the instrument 67 with intra-uterine device 66 preparatory to its insertion at the fundus, the string 73 is pulled by means of pull element 74 to draw the apex section of intra-uterine device 66 into the proximate end of instrument 67, further pulling of the string causing the expanded legs 76 of intra-uterine device 66 to bear in funnel section 72 to rearwardly contract legs 76 and permit the free passage of the collapsed intra-uterine device 66 through tubular section 69. The draw string 73 is further pulled to draw the collapsed intra-uterine device 66 through tubular section 70 which effects the further contraction of intra-uterine device and until the apex section thereof reaches proximate the instrument distal end, at which position draw string 73 is external of instrument 67 as shown in FIG. 11. The plunger element 68 is then inserted through the proximate end of instrument 67 until its distal end bears on or is proximate the rear of the contracted intra-uterine device 66 and the instrument 67 loaded with the contracted intra-uterine device 66 is in a condition for the insertion and positioning of the intra-uterine device 66 in the uterine cavity in the manner earlier described. This method of loading the instrument avoids the problem of having to touch the intra-uterine device and of having to attach the device to the plunger.

From the foregoing, it is seen that the present invention provides an intra-uterine device and insertion instrument which fully accomplish their intended objects and are well adapted to meet practical conditions of manufacture and use and it provides as well an improved contraception method.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. An intra-uterine device comprising a resilient bridge section and a plurality of at least three indepen-

dently movable resilient flexible legs diverging from the extremities of said bridge section and terminating in free end sections, the length of each of said legs being substantially greater than that of the bridge section and each of said legs being of undulate shape when in its normal unstressed condition.

2. A intra-uterine device comprising a resilient bridge section and a plurality of at least three independently movable resilient flexible legs diverging from the extremities of said bridge section and terminating in free end sections which are substantially parallel to said bridge section, the length of each of said legs being substantially greater than that of said bridge section.

3. An intra-uterine device comprising a resilient bridge section, a plurality of at least three independently movable resilient flexible legs diverging from the extremities of said bridge section and terminating in free end sections, the length of each of said legs being substantially greater than that of the bridge section, and a body fluid decomposable string interconnecting the end of, and partially contracting said plurality of legs.

4. The intra-uterine device of claim 3 including a draw string attached at about the midpoint of the bridge section.

5. The intra-uterine device of claim 4, wherein said draw string includes an upper inert section and a lower body fluid decomposable section.

6. The method of applying an intra-uterine device including a resilient bridge section and a plurality of at least three independently movable flexible legs diverging from the extremities of said bridge section and terminating in free end sections, comprising the steps of contracting said legs by folding said bridge section at a point between its ends to bring said legs at opposite ends of said bridge section to extend from said bridge section in a common direction, inserting said contracted device with said folded bridge section foremost into the uterine cavity, and thereafter at least partially releasing said legs and bridge section.

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