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INTRAUTERINE DEVICE FOR POSTPARTUM PATIENT

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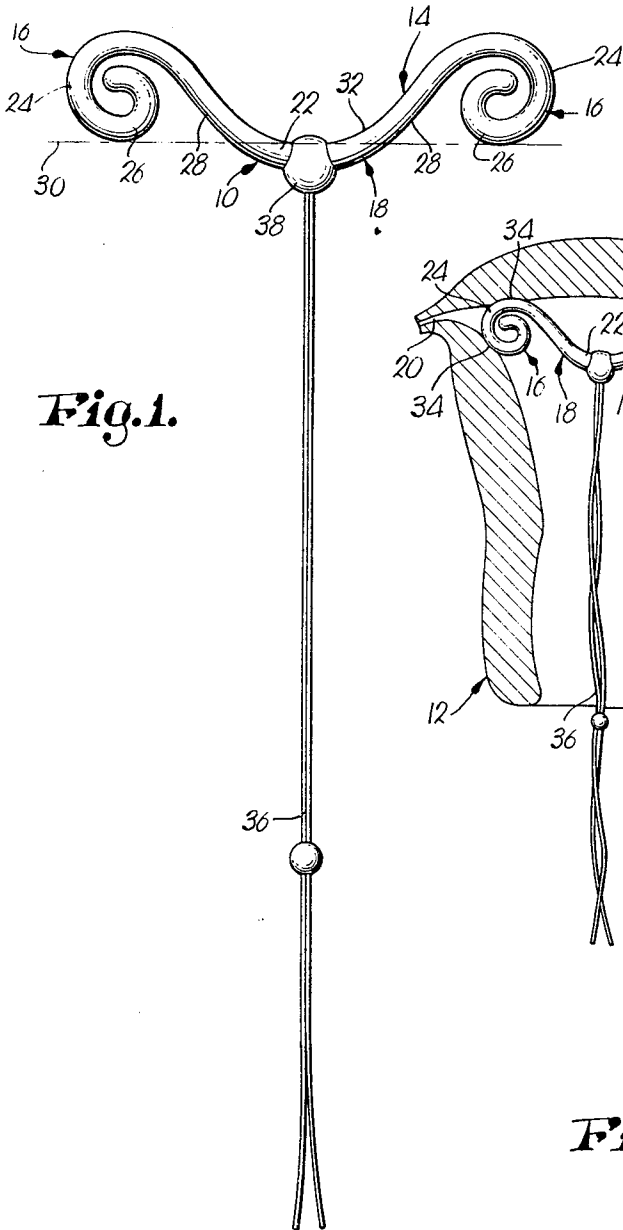


Fig. 1.

Fig. 2.

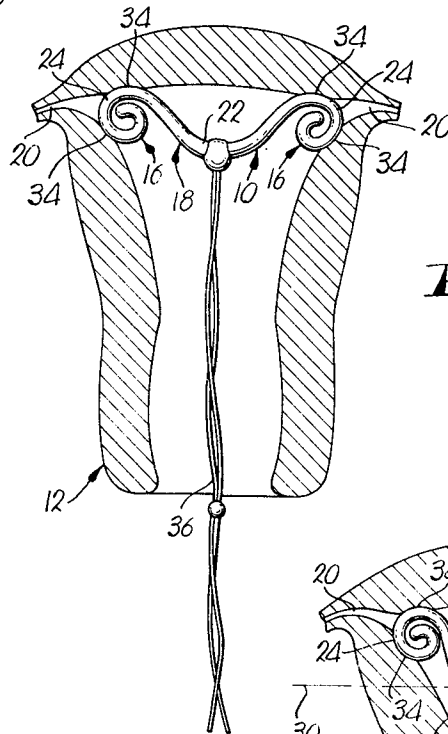
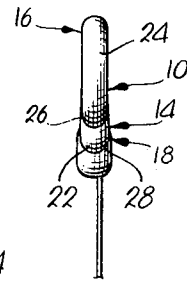


Fig. 4.

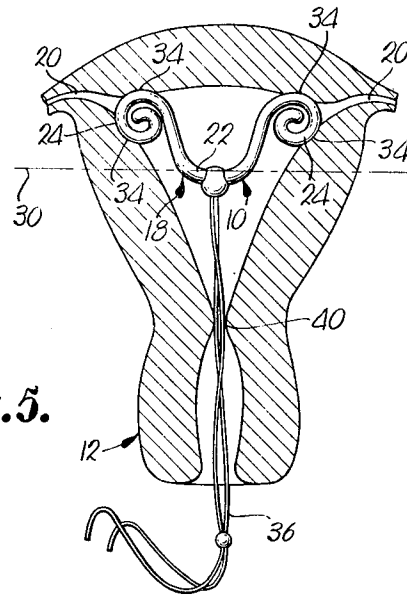


Fig. 5.

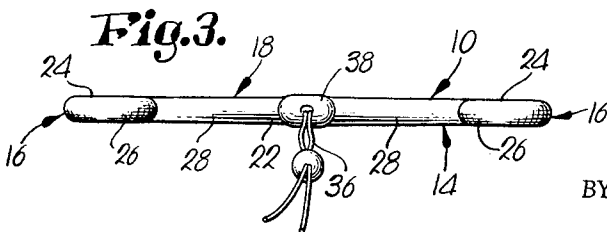


Fig. 3.

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3,511,231 INTRAUTERINE DEVICE FOR POSTPARTUM PATIENT

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3 Claims

ABSTRACT OF THE DISCLOSURE

An intrauterine device for postpartum patients includes an elongated, resilient member having a uterus-engaging coil at each end thereof and a length interconnecting the coils for spanning the distance between the fallopian tubes of a uterus when the latter is in a dilated, postpartum condition. The length initially has a relatively shallow, concavo-convex bow shape and assumes a deep, U-shaped configuration as the uterus contracts during return of the latter to an undilated condition. Thus, the device is inserted shortly after childbirth and remains in place and fully operative during return to normalcy and thereafter.

This invention relates to an intrauterine device for postpartum patients and has for its principal object the provision of such a device which may be inserted into the uterus shortly after childbirth while the mother is convalescing and is still under the physician's care, and which is adapted to remain in place and in a fully operative disposition while the uterus contracts to its normal undilated condition and thereafter.

Another important object of the present invention is the provision of such a device which has an initially shallow, bow-shaped, flexible member for yieldably biasing a pair of spaced coils into operative engagement with the uterus walls in blocking relationship to the fallopian tubes while the uterus is in a postpartum condition, the member being adapted to yield during contraction of the uterus upon return of the same to its normal, undilated condition whereby to present a relatively deep, U-shaped configuration so that the coils are maintained in engagement with the uterus walls and in blocking relationship to the fallopian tubes.

Yet another important object of the invention is the provision of such a device including a pair of spaced, uterus wall-engaging elements and means interconnecting the elements to permit movement of the latter toward one another during contraction of the uterus and yet bias the elements away from one another and into operative engagement with the uterus walls. In this connection, it is an important aim of the invention to provide an intrauterine device which is insertable into the uterus shortly after childbirth and which is adjustable during contraction of the uterus while resisting expulsion and remaining free from irritation and discomfort factors.

In the drawing:

FIG. 1 is a front elevational view of an intrauterine device for postpartum patients which embodies the principles of the present invention;

FIG. 2 is a side elevational view thereof;

FIG. 3 is a bottom plan view thereof;

FIG. 4 is a view similar to FIG. 1 on reduced scale illustrating the device in place in a dilated uterus in a postpartum condition; and

FIG. 5 is a view similar to FIG. 4 illustrating the device after the uterus has contracted to its normal, undilated condition.

An intrauterine device for postpartum patients is broadly designated by the numeral 10 and is designed for

insertion into a uterus 12 while the latter is in a dilated, postpartum condition. In this respect, FIG. 4 illustrates the uterus 12 in its postpartum condition shortly after childbirth, while FIG. 5 illustrates the uterus 12 after the same has returned to its normal, undilated condition. Prior intrauterine devices were adapted for insertion into the uterus only after the same has returned to its normal, undilated condition and as a result, unwanted pregnancies often occurred shortly after childbirth and before the prospective host returned to the physician for her check-up and insertion of the device. As shown in FIG. 4, however, the device 10 is inserted into the uterus 12 while the same is still dilated and generally before the host is discharged from the hospital after childbirth.

To facilitate such postpartum insertion, device 10 comprises a resilient, elongated member broadly designated 14 having a uterus-engaging element 16 at each end thereof. Member 14 includes a length 18 which interconnects elements 16 and which is disposed for spanning the distance between fallopian tubes 20 of uterus 12 when the latter is in its dilated, postpartum condition. Length 18 of member 14 has an initially shallow, concavo-convex bow-shaped configuration at the bight 22 thereof as can best be seen viewing FIGS. 1 and 4.

Each element 16 comprises an outwardly spiraled coil 24 having a convolution 26 disposed adjacent the convex side 28 of the bight 22, and viewing FIG. 1 it can be seen that the convolutions 26 are initially adjacent an imaginary line 30 which passes tangentially to the concave side 32 of bight 22 in spanning relationship to the convolutions 26.

Length 18 is flexed slightly at bight 22 thereof during insertion of device 10 into the uterus 12 when the latter is in its postpartum condition (FIG. 4) so that coils 24 are yieldably biased into engagement with uterus walls 34. Viewing FIG. 5, it can be seen that the initial configuration of length 18 of member 14 permits the coils 24 to move toward one another as the uterus contracts to its normal, undilated condition. Thus, bight 22 assumes a relatively deep U-shaped configuration with the convolutions 26 of coils 24 spaced from line 30. Viewing FIG. 1, it can be seen that the depth of bight 22 is approximately the same as the maximum diameter of coils 24 when the bight is in its initial, relatively shallow, bow-shaped configuration. On the other hand, when bight 22 assumes its relatively deep, U-shaped configuration after contraction of the uterus 12 to its normal, undilated condition (FIG. 5), the depth of bight 22 is approximately 50% greater than the maximum diameter of coils 24.

Device 10 may be provided with a detector tail 36, if desired, and for this purpose, a mounting fitting 38 may be utilized for attaching tail 36 to length 18 at bight 22. Thus, tail 36 extends outwardly of uterus 12 through the cervix 40 thereof and into the vagina (not shown) so that the host can check to determine whether or not the device 10 is properly in place.

Manifestly, device 10 may be inserted into the uterus 10 within a few days after childbirth and while the uterus is still in a dilated, postpartum condition. The length 18 is bowed sufficiently to yieldably urge coils 24 into engagement with uterus walls 34 in blocking relationship to fallopian tubes 20. As the uterus contracts, the configuration of bight 22 of length 18 becomes deeper to permit coils 24 to move toward one another while the latter are maintained in engagement with walls 34 and in blocking relationship with respect to fallopian tubes 20. Thus, the device is inserted before the host leaves the physician's care after childbirth and protection against undesirable pregnancy is insured.

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Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. An intrauterine device for postpartum patients comprising:

an elongated member having uterus-engaging elements at the ends thereof, said member having a length for spanning the distance between the fallopian tubes of a uterus when the latter is dilated and being resilient with an initially, relatively shallow, concavo-convex bow therein at the bight thereof whereby the member yieldably holds the elements in engagement with the uterus at said tubes, yet permits freedom of movement of said elements toward each other in response to uterus contraction to an undilated condition as the shape of said bight changes to a relatively deep, U-shaped configuration, said elements comprising outwardly spiraled coils, each having a convolution disposed adjacent the convex side of the bight of the member and initially tangentially adjacent a line passing tangentially to the concave side of said bight in spanning relationship to the convolutions, said coils being spaced from said line when said bight is U-shaped.

2. The invention of claim 1: the depth of said bight when bow-shaped being substantially the same as the maximum diameter of the coils, and being substantially 50% greater when U-shaped.

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3. An intrauterine device for postpartum patients comprising:

an elongated member adapted to span the distance between the fallopian tubes when inserted into the uterus during dilation of the latter, said member having a shallow, concavo-complex bight and a coil at each end thereof for engaging the walls of the uterus at the mouths of said tubes. said coils being outwardly spiraled at the convex side of said bight and being normally disposed adjacent an imaginary line passing tangentially to the concave side of said bight, said member being resilient for yieldably holding the coils within said mouths and for bowing of said bight to a relatively deep, U-shaped configuration in response to uterus contraction to an undilated condition, said coils being spaced from said line when the bight bows to said U-shaped configuration.

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