Dec. 14, 1937. L. SCHLEICHER 2,101,875

PESSARY APPLICATOR

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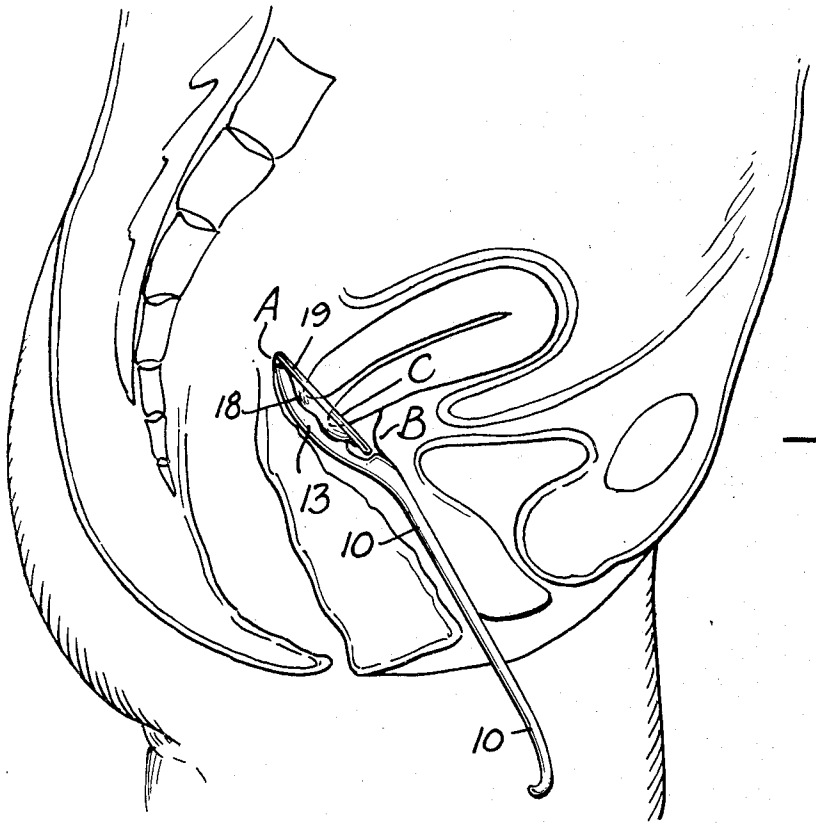


Fig. 1.

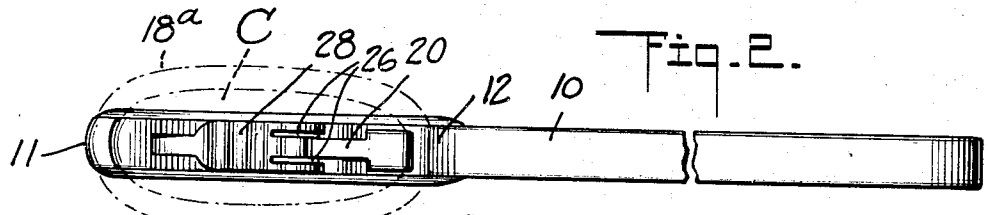


Fig. 2.

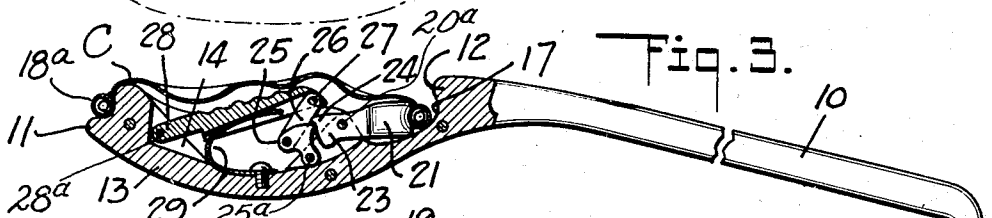


Fig. 3.

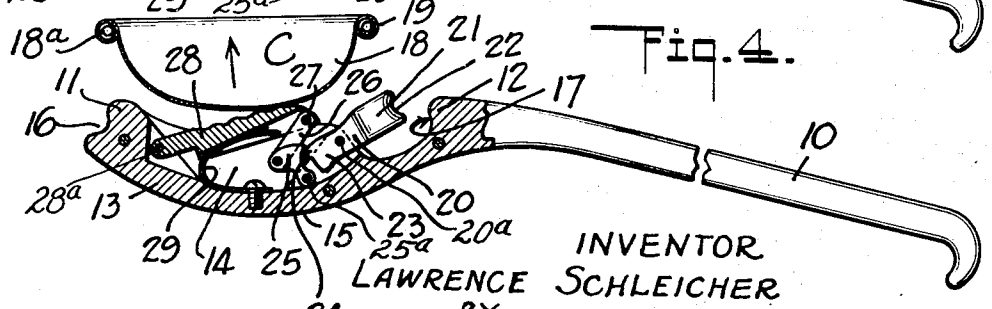


Fig. 4.

INVENTOR
LAWRENCE SCHLEICHER
BY
Munn, Anderson & Liddy
ATTORNEYS

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PESSARY APPLICATOR

Lawrence Schleicher, Los Angeles, Calif.

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10 Claims. (Cl. 128—127)

This invention relates to pessary applicators and has for its broad purpose the form and construction of an applicator for automatically placing the pessary over the cervix to completely cover same.

A further object is to provide an instrument adapted to be readily inserted in the vagina and manipulated so as to follow the posterior vaginal floor to prevent slippage of the pessary into the anterior cul-de-sac in the process of applying the pessary over the cervix.

A further object is to provide a pessary applicator having means for supporting the pessary in a position for application thereof over the cervix and for automatically effecting application of said pessary to the cervix by contact established therewith upon operative insertion of the pessary in the vagina.

Another object is to provide a pessary applicator which, by reason of the form thereof, will enable the instrument to be pressed against the vaginal floor and the diametrically opposite posterior and anterior portions of the resilient rim of the pessary properly correlated with the anterior cul-de-sac and posterior cul-de-sac before the pessary is released from the instrument, thus insuring complete closure of the cervix.

A still further object is to provide an instrument the form of which will permit use of a much smaller pessary than was possible heretofore, the reason being that the instrument accurately effects association of diametrically opposite rim portions of the pessary with said posterior cul-de-sac and the anterior cul-de-sac instead of with the posterior cul-de-sac and the symphysis.

Another object is to provide an instrument in which the resiliency of the pessary along a line drawn through diametrically opposite rim portions thereof will be taxed sufficiently to insure projection of the pessary over the cervix the moment the pessary is operatively related to the cervix but not before, the action just stated being wholly due to the tendency of the pessary to assume its normal contour or condition when the taxing pressure is relieved therefrom.

Another object is to provide an instrument which will permit of more sanitary handling of the pessary when applying same, the instrument itself being formed, constructed and designed to enable it to be sterilized after each use thereof and maintained in a sanitary condition.

In the drawing, wherein has been illustrated a preferred embodiment of the invention,

Figure 1 is a diagrammatic illustration of such parts of the female anatomy as is required to demonstrate the modus operandi when applying the pessary over the cervix, the instrument being shown fully inserted in the vagina and pressed against the floor thereof to operatively correlate diametrically opposite rim portions of the pessary with the anterior cul-de-sac and the posterior cul-de-sac, the open side of the diaphragm of the pessary being directly over the cervix, whereby to completely cover same when the pessary is released from the instrument;

Figure 2 is a view in plan of the instrument showing in dotted lines the stretched condition of the pessary and operative association of the pessary with the instrument preparatory to inserting the instrument in the vagina;

Figure 3 is a view partly in longitudinal section and partly in elevation showing the pessary latched in a stressed condition and illustrating the diaphragm well disposed directly over the trip device of the instrument to enable the diaphragm to be centered relative to the cervix when the diametrically opposite rim portions of the diaphragm are operatively associated with the posterior cul-de-sac and the anterior cul-de-sac for release of same therein as soon as the trip device is made to contact the cervix;

Figure 4 is a view similar to Figure 3 showing the ejected or released position of the pessary from the instrument following lateral contact of the trip device with the cervix.

The term "pessary" employed herein shall be construed to mean any soft elastic diaphragm, cupped or otherwise formed, and adapted to completely close the cervix, the same possessing sufficient inherent resiliency to enable it to be stressed along a line diametrically passing through portions of the resilient rim of the pessary to enable said portions to be applied respectively, to the posterior cul-de-sac and the anterior cul-de-sac.

In carrying the invention into practice, use is made of an instrument characterized by an attenuated handle 10 of sufficient length for insertion of the instrument into the vagina until the rounded smooth end 11 thereof is fully pressed against the wall of the posterior cul-de-sac A and the end 12 disposed at the anterior cul-de-sac B, as shown in Figure 1.

The head 13 of the instrument of which the smooth surfaced ends 11 and 12 are a part is substantially ovate and channeled at one side as at 14 to confront the cervix and provided at its opposite side with a smooth convex surface 15 running longitudinally of the instrument and

adapted to be pressed against the lower wall or floor of the vagina to insure enlarging the vaginal passage sufficiently to enable the ends 11 and 12 to be correlated with or disposed opposite to the posterior cul-de-sac and the anterior cul-de-sac, respectively. The construction is also such that the center of the channeled side 14 of the head of the instrument can be centered relative to the cervix.

At the end 11 of head 13 is an arcuate depression 16 of slight depth. At the end 12 is a similar depression 17. At C is shown a pessary consisting of a highly elastic rubber diaphragm 18 having a bead 18a enclosing the usual form of endless spring ring 19. The distance from channel 16 to channel 17 is slightly greater than the normal interior diameter of the rim 19 at any place in the circle of said bead, whereby when the open side of the pessary is elongated, substantially diametrically opposite portions of the bead will be held temporarily confined in the respective channels 16 and 17, as will be fully appreciated on reference to Figures 2 and 3 of the drawing. When the pessary is applied to the instrument as just stated, it is to be borne in mind that the normal open side of the pessary faces towards the cervix when the instrument is fully inserted in the vagina.

A combined latching and pessary tripping mechanism is employed to hold the pessary operatively supported upon the instrument and same includes a tiltable latch element 20 pivoted at 20a in the channel 14 of head 13, the same having a nose 21, the grooved face 22 of which directly faces the channel 17 to thus press against the inner surface of the bead 18 at one side of the pessary and thereby hold the bead confined in said channel when the latch occupies the position shown in Figure 3. It is in this general manner that the pessary is held elongated along a line running from the channel 16 to channel 17 longitudinally of the head 13.

The tail 23 of latch 20 is provided with a lug 24 adapted to be engaged by a tiltable dog 25 pivoted at 25a in channel 14 of said head 13 when the pessary is fully applied as shown in Figure 3. This dog forms a part of a link 26 having pivotal connection at 27 with one end of a tiltable trip element 28 pivoted at 28a in said channel 14. A U-shaped spring 29 is secured at one end to the head 13 and freely bears at its other end against the underside of the trip element 28 to co-act therewith in normally urging the dog 25 to the position shown in Figure 3.

Contained in channel 14 is the holding means and disposed to contact the cervix and actuate the holding means to release stress from the pessary and enable the pessary to be applied over the cervix in response to inherent springiness of the pessary and tendency of the pessary to assume its normal state.

The pessary is applied to the instrument as shown in Figure 3. The handle 10 is held in the hand and the head 13 thereof inserted in the vagina with the smooth convex surface of the head in slight pressing contact with the floor of the vagina. This is in order that the vaginal passage may be enlarged sufficiently to enable the open side of the pessary to coincide with the cervix and also enable the substantially diametrically opposite gripped ends of the bead 19 to be laterally correlated, respectively with the posterior cul-de-sac and the anterior cul-de-sac. When fully inserted as shown in Figure 1, the cervix will be made to contact the tripping device 28, so as to start the element 21 in a releasing direction. The parts 28 and 25 instantly assume the positions shown in Figure 4, and under the natural resilient action of the pessary the latter automatically moves in the direction of the arrow in Figure 4 and is applied directly over the cervix and diametrically opposite portions of the bead 18a operatively associated with the posterior cul-de-sac and the anterior cul-de-sac, as aforestated. With this accomplished, the instrument can be readily removed from the region without dislodging the pessary from the cervix.

To the best of my knowledge, it is entirely new in the art to provide a pessary applicator formed, constructed and designed to enable automatic adjustment of a pessary over the cervix by contact of a part of the instrument with the cervix and this feature will be broadly claimed herein, it following that various changes in the construction of the device can be made without departing from the spirit of the invention.

What is claimed is:

1. An instrument of the class described having means insertable into the vagina and provided with a grooved surface against which an edge wall of a pessary at the open side of the latter can be received and held; and a latch mechanism including a part disposed opposite the grooved surface to receive and hold a diametrically opposite edge wall of the pessary and co-operable with the grooved surface to maintain the pessary stressed lengthwise of the instrument and a part contactible with the cervix and co-operable with the first mentioned part to enable the pessary to be released from the instrument and thereby move by its own resiliency in a direction to cover the cervix.

2. In an instrument for effecting placement of a soft rubber pessary over the cervix; a relatively rigid, elongated element insertable in the vagina; means including relatively movable members on the element at one end thereof for placing the pessary in an elongated, stressed condition by engagement of the members with diametrically opposite portions of the pessary; and means on the element coacting with said first means by contact of the former with the cervix to actuate said members and release same from the pessary, thereby enabling the pessary to assume a normal unstressed condition and in so doing move toward and in applied relation to the cervix.

3. An instrument for applying a soft rubber pessary to the cervix; comprising an elongated element of rigid material, insertable in the vagina and formed at one end with a head having a longitudinally curved, smooth surface at one side adapted when inserting the element to press the vaginal floor away from the pubic arch and the ceiling of the vaginal channel and provided at its opposite sides with relatively movable members for gripping diametrical portions of the pessary and for stressing the pessary in the plane of the longitudinal axis of the element and for disposing the pessary with one side thereof facing the ceiling of the vaginal channel; and means co-operable with said members for releasing the pessary therefrom by contact of the means with the cervix, thereby enabling the pessary to assume its normal unstressed state and in so doing to move into covering relation to the cervix.

4. An applicator for soft rubber pessaries comprising an elongated rigid element formed at

one end with a hollow head having a longitudinally curved, smooth surface at one side; means at the opposite side of the head with which diametrically opposite portions of the rim of a pessary can be releasably engaged, said means including members movable relatively from a pessary releasing position to a pessary holding and stressing position such that when the stress is relieved, the pessary resiliently tends to assume its normal unstressed state and to separate itself from the element; and mechanism for maintaining said members in pessary stressing positions and including a tiltable element at said opposite side of the head, formed and disposed for actuation by contact with the cervix to release said members from the pessary to assume said normal state and in so doing move laterally relative to said opposite side of the head and over the cervix.

5. A pessary applicator comprising a member insertable in the vagina and having pessary holding portions tiltable relatively from pessary retaining and stressing positions to stress relieving and pessary releasing positions; a latch for retaining said portions in said retaining and stressing positions; and latch tripping means on the instrument, disposed for actuation by contact with the cervix to release said portions from the pessary and relieve the latter of stress, with resulting movement of the pessary in an applied position over the cervix.

6. An instrument for applying a soft rubber pessary to the cervix, comprising an elongated element of rigid material, insertable in the vagina and formed at one end with a head having a longitudinally curved, smooth surface at one side adapted when inserting the element to press the vaginal floor away from the pubic arch and the ceiling of the vaginal channel and provided with means at its opposite side for releasably gripping diametrical portions of the pessary and for stressing the pessary in the plane of the longitudinal axis of the element and for disposing the pessary with one side facing the ceiling of the vaginal channel; and means co-operable with the first means for releasing the pessary therefrom and including a tiltable member contactible with the cervix to effect said release.

7. A pessary applicator comprising an elongated rigid element formed for free insertion into the vagina and formed at one end with a depression adapted to releasably receive a portion of the rim of a soft rubber pessary; a latch mechanism including means disposed in longitudinal alinement with said depression and adapted to releasably receive a diametrically opposite portion of the rim of said pessary and to coact with the depression to stress the pessary in the length of said rigid element; and means movably supported on the element co-operable with said latch mechanism to hold the pessary stressed and being formed and disposed to contact the cervix and thereby actuate said latch mechanism to release the pessary from the depression and from the aforestated means of said latch mechanism and enable same to move by its inherent resiliency onto the cervix.

8. An instrument for applying a pessary to the cervix comprising a support insertable into the vagina and having co-acting pessary engaging portions; means for mounting said portions on the support for movement relatively, to occupy one position wherein the portions co-act to hold the pessary in a stressed condition, and a second position wherein the portions co-act to release the pessary; means for retaining said portions in the first mentioned position; and means disposed for actuation upon contact with the cervix and operatively associated with the retaining means to release said portions from the pessary for unstressing movement of the pessary to an applied position over the cervix.

9. An instrument for applying a pessary to the cervix comprising a support insertable into the vagina; relatively movable portions on the support co-acting to hold a pessary in a stressed condition for insertion into the vagina; and means operatively associated with said portions and actuatable by the cervix in response to insertion of the pessary, to release the pessary for unstressing movement to an applied position over the cervix.

10. An instrument for applying a pessary to the cervix comprising a support insertable into the vagina; co-acting means on the support for holding a pessary in a stressed condition for insertion into the vagina; and means on the support actuatable upon contact with the cervix to release the pessary from the first means for unstressing movement of the pessary to an applied position over the cervix.

LAWRENCE SCHLEICHER.