July 24, 1956 F. J. PISARRA 2,755,998

DEVICE FOR INDICATING RHYTHMIC CYCLE

Filed Dec. 22, 1954

Fig. 2

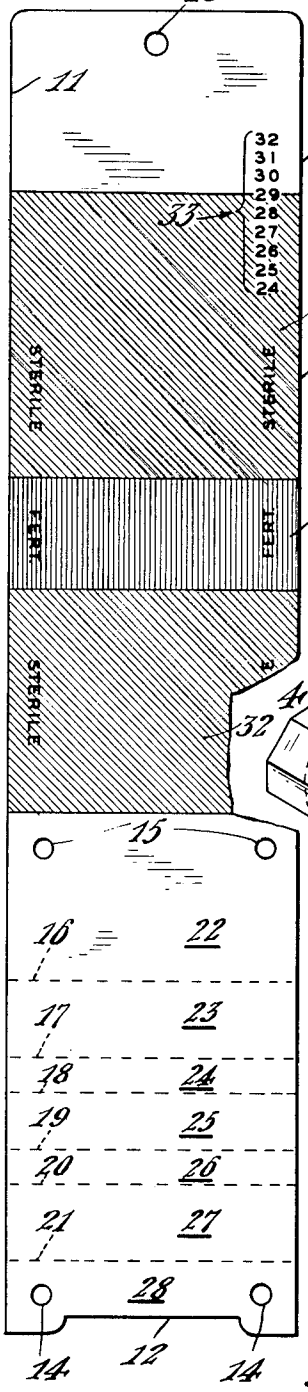



Fig. 3

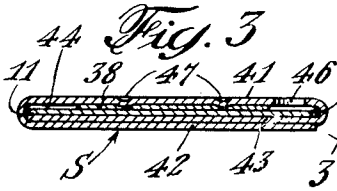



Fig. 1




Fig. 4




Fig. 5




Fig. 6

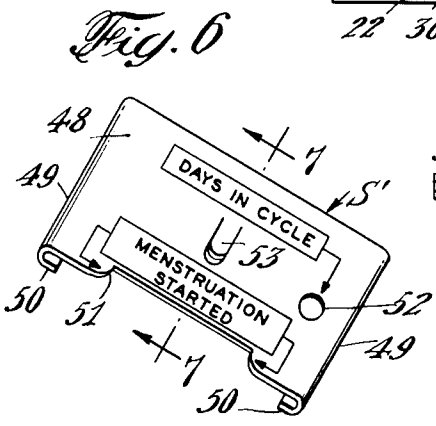
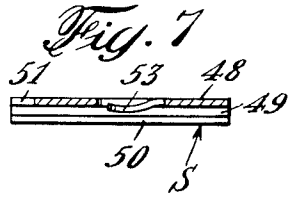



Fig. 7



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2,755,998

# DEVICE FOR INDICATING RHYTHMIC CYCLE

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3 Claims. (Cl. 235—86)

This invention relates to a rhythmic cycle indicating device and more particularly to a device, in the nature of a cyclic calendar for women, which is adapted to be readily set and indicate visually the period of probable fertility and periods of probable sterility during the ensuing menstrual cycle.

Extensive physiological investigations have established that a woman is capable of conceiving only at the time of ovulation which occurs when the ovary has released an ovum into the Fallopian tube. The average normal woman ovulates at a time about fourteen days before the start of her next expected menstruation. The time of ovulation may differ or vary for a particular woman but is usually some time from thirteen to fifteen days prior to menstruation for a woman whose menstrual cycle is within the range of twenty-five to thirty-one days. Thus the ovulation time may vary two or three days in a normal woman.

For conception to take place, it is necessary that an active human sperm unite with and fertilize a live ovum. It has been ascertained that human sperms remain active approximately two days while the ovum is understood to be active an even briefer length of time. Hence there is a rather short interval (five or six days) in her menstrual cycle during which a woman may conceive.

Even those women who have adequate knowledge of the subject often find it difficult to predetermine and then remember with assurance the various pertinent dates and stages in their menstrual cycles due to the calculations involved and the burden of memorizing such dates and corresponding stages. This problem has been recognized for some time and, as a consequence, a number of cyclic indicators have been devised with the view of providing a suitable solution.

The cyclic indicators developed heretofore have not been entirely satisfactory from a practical standpoint because of one or more of the following drawbacks: (*a*) inherently weak design or construction, (*b*) so complex as to require setting by a physician and (*c*) difficult of interpretation by lay people. These drawbacks are effectively eliminated by the device of this invention as will be evident from the detailed description appearing further along herein.

The invention has for a primary object the provision of a rhythmic cycle indicating device that has improved features of design and construction.

Another object of the invention is to provide a device having its parts so constructed and arranged as to permit its being readily set, and, when set, to indicate visually and in an easily understandable manner the dates of probable fertility and the dates of probable sterility in a woman's expected menstrual cycle.

A further object of the invention is to provide a device of the character indicated that is simple, compact and attractive in design; that is durable in construction; that is reasonable in manufacturing cost; and that is capable of performing its intended functions in an entirely satisfactory and trouble-free manner.



With the above and other objects in view, the invention comprises the devices, combinations and arrangements of parts set forth in the following detailed description and illustrated in the annexed drawing of a preferred construction embodying the invention and a modification thereof, from which the several features of the invention, together with the advantages attainable thereby, will be readily understood by persons skilled in the art.

In the drawing:

Fig. 1 is an isometric view of a rhythm cycle indicating device constructed in accordance with the invention, certain parts being broken away for better illustration of other parts;

Fig. 2 is a top plan view, partly broken away, of an apertured, indicia-bearing paperboard blank that is used in obtaining the indicating device shown in Fig. 1;

Fig. 3 is a view in cross-section taken along staggered line 3—3 of Fig. 1;

Fig. 4 is a view in cross-section taken along line 4—4 of Fig. 1;

Fig. 5 is a view, partly in cross-section, taken along staggered line 5—5 of Fig. 1;

Fig. 6 is an isometric view of a slide unit that is a modification of the one shown in Fig. 1; and

Fig. 7 is a view in cross-section taken along line 7—7 of Fig. 6.

Referring to Figs. 1 through 5 of the drawing wherein like reference characters denote corresponding parts in the several views, numeral 10 generally indicates a complete indicating device according to the invention and consisting of three units, namely a carrier unit C, a tape unit T, and a slide unit S. Units C and S are preferably made of suitable weights and grades of paperboard, such as cardboard, laminated paper or the like, while unit T is preferably made of paper. It is to be understood that either or both units C and S may be made of other appropriate resilient sheet materials, including metals or plastics, if desired.

Unit C is formed from a generally rectangular paperboard blank B (Fig. 2) having parallel side edges 11. As illustrated, the blank is cut to obtain a recess or notch 12, at one end, and is punched to provide an opening 13 adjacent its other end and pairs of spaced openings 14 and 15. The blank is scored transversely along spaced parallel lines 16 through 21, to define, with the edges, a series of panels 22 through 28.

The upper surface of the blank is provided with first indicia comprising transverse color bands 30, 31 and 32. Bands 30 and 32 are preferably of one color, such as green, as indicated on the drawing, while band 31 is of a contrasting color, such as red, as also indicated on the drawing. Bands 30 and 32 denote periods of probable sterility and band 31 denotes a period of probable fertility, in a complete rhythmic cycle. To assist the user, bands 30 and 32 are imprinted with the word "Sterile" and band 31 is imprinted with the word "Fertile" or its abbreviation "Fert.," such imprintings being exposed when the device is assembled and in use. The blank is also provided on its upper surface with a plurality of second indicia generally indicated by numeral 33 and consisting of a series of numerals which correspond to the number of days in the usual range of rhythmic cycles.

In forming unit C, the blank is bent along its several score lines, so that the various panels are disposed in the relative position shown in Figs. 1 and 5. With the panels so disposed, panel 28 is positioned over panel 22, which constitutes the base of the carrier unit, and each opening 14 is in alignment with an opening 15. Panels 28 and 22 are joined together by a pair of eyelets 34, which extend through corresponding aligned openings 14 and 15. It should be borne in mind that connector means

other than eyelets may be used advantageously to secure panel 28 to panel 22. Connector means that may be employed in lieu of the eyelets include staples and glue areas provided on the opposing surfaces of panels 28 and 22. As shown, the various panels, including a part of base panel 22, form a housing 35 that is open at each end and that defines a compartment 36.

An additional eyelet 37 extends through opening 13. This eyelet permits the device to be hung on a convenient nail, hook or the like, if desired, and serves as a stop to limit movement of slide unit S relative to base panel 22 in one direction. Eyelet 37 preferably projects above the base panel and is applied thereto after the slide unit is placed thereon.

Unit T is a calendar tape that is made from an elongated paper strip 38 which is substantially narrower than base panel 22 and which has imprinted on one surface the days of at least one full calendar year. Such days are arranged consecutively and equidistantly along the strip. As shown in Fig. 1, successive days are identified on the strip by their month dates and the corresponding days of the week.

A portion of the strip is coiled in the form of a roll 39 which is positioned in compartment 36. A free end portion of the strip is threaded through a passage 40, defined by panels 22 and 28 and eyelets 34. This passage is restricted in height, whereby opposing surfaces of panels 22 and 28 bear against and effect frictional holding engagement with corresponding surfaces of the strip that are positioned intermediate these panels. The opposing surfaces of panels 22 and 28 may, prior to insertion of strip 38, be contiguous but, due to the resilience of the material of the carrier unit, may be flexed to permit introduction and advancement of the strip therebetween and along the upper surface of the base panel.

Eyelets 34 perform the dual functions of joining panels 22 and 28 and serving as guides for normally maintaining the exposed portion of strip 38 in spaced relation to the side edges of the base panel. This will be evident from an examination of Figs. 1 and 4.

Slide unit S is formed from a single piece of paperboard that is bent, as illustrated in Fig. 3, to obtain a top member or part 41, a bottom part 42 and an intermediate part 43. The bottom part underlies the intermediate part and is secured thereto in any desired manner known to the art, preferably by gluing. Unit S defines a passage 44 for the reception of base panel 22 and the free end portion of the tape unit. The slide unit is slidable along the base panel and has its parts so configured and arranged as to frictionally engage the side portions of the base panel and be maintained thereon.

Member 41 has an edge recess or notch 45 and a window 46 for viewing any selected one of indicia 33. This member is provided with a plurality of inwardly projecting teats 47 which bear against the portion of strip 38 directly thereunder and releasably hold both the slide unit and the outer end portion of the strip in selected position on the base panel. Similar teats may, if desired, be provided on the base panel.

For the purpose of outlining the operation of the device, it is first assumed that carrier unit C, tape unit T and slide unit S are assembled, with tape roll 39 positioned in housing compartment 36 and a portion of strip 38 extending through and beyond passage 40. It is also assumed, by way of example, that a particular woman's menstrual cycle is twenty-eight days and that menstruation started on August 17. The slide unit is positioned on base panel 22 so that numeral "28" of indicia 33 appears in window 46. The slide unit is held in this position and strip 38 is advanced along the base panel and under slide top member 41, until the strip date marking, "Aug. 17," is located in recess 45, as shown in Fig. 1, and the parts are maintained in the illustrated position by the elements earlier described. Any tape extending beyond the edge of slide member 41 remote from recess 45 is torn off and discarded. The device now exposes a total of twenty-nine days, consisting of twenty-eight days ("Aug. 17" through "Sept. 13"), which constitute the full menstrual cycle and an additional day ("Sept. 14") which is the date on which the next menstrual cycle is expected to start.

It will be observed that bands 30 and 32, in conjunction with the associated date markings on the strip, indicate visually the days in the woman's cycle during which she is probably sterile, while band 31 and its associated date markings indicate the days during which she is probably fertile. Thus in the cyclic period under consideration, the woman would most likely be unable to conceive from August 17 through August 26 and from September 2 through September 13, but would be likely to conceive during the period August 27 to September 1. If the woman's menstrual cycle is other than twenty-eight days, the slide unit is relocated so that the proper numeral of indicia 33 appears in window 46. Indicia 33 permit adjustment of the device for the usual range of menstrual cycles for normal women.

Figs. 6 and 7 illustrate a slide unit S' that is a modification of the one shown in Figs. 1 and 3. Unit S' is preferably made of a piece of resilient sheet metal that is formed to obtain a top member 48, depending sides 49 and inwardly extending flanges 50. This unit has a recess 51 and a window 52, corresponding respectively to earlier described recess 45 and window 46, and is provided with a curved tongue 53 that is struck from and projects downwardly below member 48. When unit S' is used in place of unit S, tongue 53 bears against strip 38 and serves to releasably hold unit S' and the strip in selected relative position on base panel 22.

From the foregoing, it is believed that the construction, operation and advantages of my present invention will be readily comprehended by persons skilled in the art. It is to be clearly understood, however, that various changes in the device described above may be made without departing from the scope of the invention, it being intended that all matter contained in the description or shown in the drawing shall be interpreted as illustrative only and not in a limiting sense.

I claim:

1. In a rhythmic cycle indicating device, a carrier unit, a tape unit and a slide unit, said carrier unit comprising a base bearing first indicia denoting a period of probable fertility and periods of probable sterility, said first indicia being visible from the upper surface of the base, said base also bearing a plurality of second indicia denoting the number of days in corresponding rhythmic cycles, and a housing formed by an extension of one end of the base which is configured to define a compartment, the free end part of the extension being positioned above the upper surface of the base, and a pair of spaced connectors securing said free end part to the base, said free end part, base and connectors defining a passage, said tape unit comprising a strip of flexible material narrower than the base and having markings corresponding to days of the calendar year, said markings being arranged consecutively and equidistantly along the strip, a portion of the strip being rolled and disposed in the housing compartment and another portion extending through the passage and overlying the upper surface of the base, the parts of the carrier unit that define the passage normally maintaining said other portion of the strip in spaced relation to at least one edge of the base, said slide unit being mounted on and slidable along the base and comprising a member overlying the upper surface of the base and said other portion of the strip, said member including means for identifying any selected one of the second indica, and means carried by one of the units releasably holding the member and strip in selected relative position on the base.

2. In a rhythmic cycle indicating device, a carrier unit, a tape unit and a slide unit, said carrier unit comprising a base bearing first indicia denoting a period of probable

fertility and periods of probable sterility, said first indicia being visible from the upper surface of the base, said base also bearing a plurality of second indicia denoting the number of days in corresponding rhythmic cycles, and a housing formed by an extension of one end of the base which is configured to define a compartment, the free end part of the extension being positioned above the upper surface of the base, and a pair of spaced connectors securing said free end part to the base, said free end part, base and connectors defining a passage, said tape unit comprising a strip of flexible material narrower than the base and having markings corresponding to days of the calendar year, said markings being arranged consecutively and equidistantly along the strip, a portion of the strip being rolled and disposed in the housing compartment and another portion extending through the passage and overlying the upper surface of the base, the parts of the carrier unit that define the passage normally maintaining said other portion of the strip in spaced relation to both edges of the base, said slide unit being mounted on and slidable along the base and comprising a member overlying the upper surface of the base and said other portion of the strip, said member including means for identifying any selected one of the second indicia, and an element carried by the member and bearing against said other portion of the strip for releasably holding the member and the strip in selected relative position on the base.

3. In a rhythmic cycle indicating device, a carrier unit, a tape unit and a slide unit, said carrier unit comprising a base bearing first indicia comprising contrasting markings denoting a period of probable fertility and periods of probable sterility, said first indicia being visible from the upper surface of the base, said base also bearing a plurality of second indicia comprising numerals denoting the number of days in corresponding rhythmic cycles, and a housing formed by an extension of one end of the base which



is configured to define a compartment, the free end part of the extension being positioned above the upper surface of the base, and a pair of spaced connectors securing said free end part to the base, said free end part, base and connectors defining a passage, said tape unit comprising a strip of flexible material narrower than the base and having markings corresponding to days of the calendar year, said markings being arranged consecutively and equidistantly along the strip, a portion of the strip being rolled and disposed in the housing compartment and another portion extending through the passage and overlying the upper surface of the base, the parts of the carrier unit that define the passage normally maintaining said other portion of the strip in spaced relation to both edges of the base, said slide unit being mounted on and slidable along the base and comprising a member overlying the upper surface of the base and said other portion of the strip, said member having a window for viewing any selected one of the second indicia, and an element carried by the member and bearing against said other portion of the strip for releasably holding the member and the strip in selected relative position on the base.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 778,790 | Merrill | Dec. 27, 1904 |
| 798,206 | Paradis | Aug. 29, 1905 |
| 1,609,972 | Sherrer | Dec. 7, 1926 |
| 1,983,062 | Anderson | Dec. 4, 1934 |
| 2,161,345 | Gates | June 6, 1939 |
| 2,389,369 | Kittleson | Nov. 20, 1945 |
| 2,494,291 | Fay | Jan. 10, 1950 |
| 2,520,208 | Green | Aug. 29, 1950 |

FOREIGN PATENTS

| | | |
|---|---|---|
| 604,580 | France | Jan. 29, 1926 |