June 30, 1936. F. E. BARDROF 2,046,239

MENSOMETER

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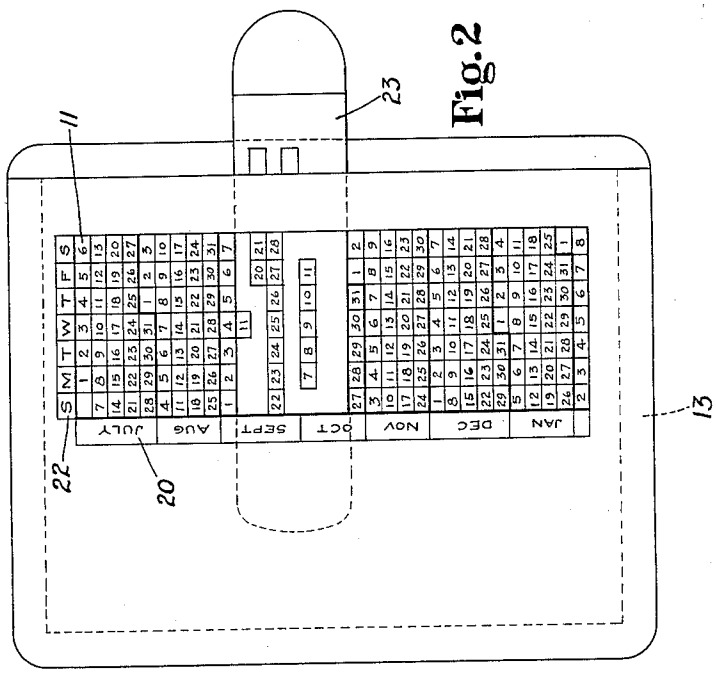



Fig.2

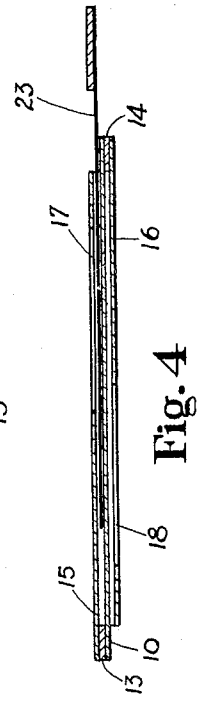



Fig.4

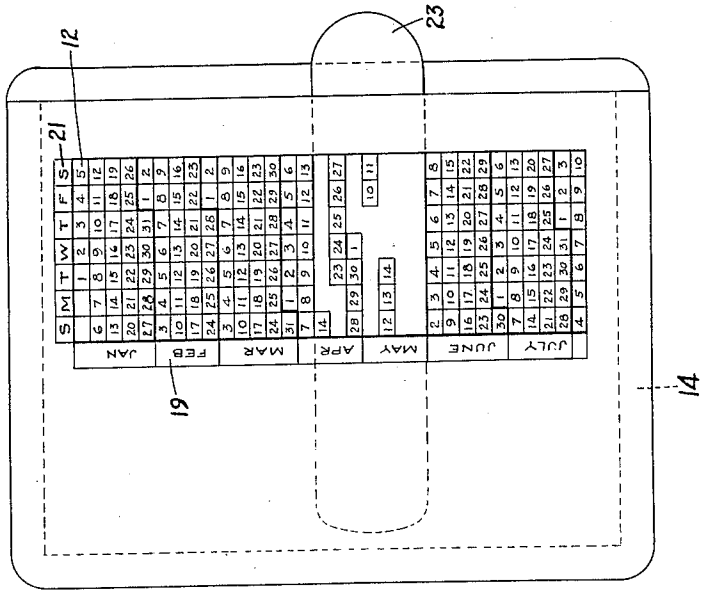



Fig.1

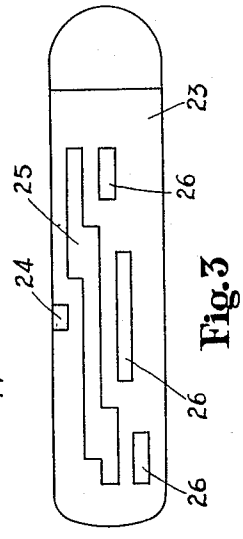



Fig.3

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# UNITED STATES PATENT OFFICE

2,046,239

## MENSOMETER

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Application January 28, 1935, Serial No. 3,745

6 Claims. (Cl. 40—109)

This invention relates to devices for indicating significant portions of a physiological cycle and has particular reference to ready indication of periods of physiological fertility and sterility within a menstrual cycle.

The endocrinology involved in the selection of particular dates to be indicated has been worked out by experimenters in this field and is fully set forth in the literature which is now available to physicians.

The object of this invention is to render the information which can be derived from the literature readily available to laymen and to avoid the necessity for calculations.

With the foregoing and other objects in view, the invention consists in the novel construction and arrangements of parts hereinafter described and illustrated in the accompanying drawing in which Figs. 1 and 2 are views of the two faces respectively of a device embodying my invention and showing the indicating element positioned for an illustrative setting; Fig. 3 is a plan view of the indicating element and Fig. 4 is a sectional view taken transversely of Fig. 2 looking down.

The numeral 10 indicates a sheet of cardboard or the like upon the two faces of which are printed continuous calendars as indicated at 11 and 12, each of which covers a period of seven months, so that by the use of both calendars complete indication can be secured for an entire year. These calendars consist of day spaces of equal size arranged in horizontal rows of seven spaces each and numbered to correspond with the days of the month, progressing from left to right in the horizontal rows and from top to bottom vertically. The first day of a succeeding month occupies the next adjacent space to the last day of the preceding month except in the case where the last day of the month falls on Saturday, in which case the first day of the succeeding month is at the beginning of the next lower horizontal row. As is well known, this arrangement constitutes what is termed a continuous calendar.

Spaced from the element 10 by suitable spacing means 13 and 14 are additional sheets of cardboard 15 and 16 or the like attached one to each side of the card containing the calendar and provided with apertures 17 and 18 each of a size to allow the entire calendar to be seen therethrough. The elements 15 and 16 afford means, one at each side of the device, for receiving and frictionally gripping an indicating element 23, hereinafter described. The groups of horizontal rows and parts thereof corresponding to each month may be indicated by suitable indicia on the cover cards as indicated at 19 and 20. The vertical columns of day spaces on the calendar may be indicated by suitable indicia 21 and 22 indicative of the day of the week.

Adapted for use in connection with the device already described is an indicating element 23 which may consist of a flat sheet of any suitable material provided with indicating means 24 adapted to be set to a day space on the calendar corresponding to the beginning of a menstrual cycle. Additional indicating means 25 and 26 may be provided for indicating groups of succeeding day spaces selected to correspond with significant portions of a menstrual cycle including particularly the dates of possible fertility and dates of sterility. If desired, additional indication may be provided for probable dates of ovulation or any other significant portions of the cycle.

In the drawing, I have indicated the different portions of the indicating element 23 by outlining different parts of such indicating element. The outlined portions may correspond to apertures but preferably correspond to portions differing from the remainder in degree of opacity. By the expression "degree of opacity", it is intended to include also degree of transparency or translucence. This element may for example be composed of material, such as is employed in photographic films, having the indicating portions exposed to light and developed; or all other portions may be exposed and developed. It is preferred, in case this procedure is adopted, that the exposure shall be incomplete so that all portions of the element 23 will be somewhat transparent while the indicating portions will be more transparent than the remainder.

In designing the element 23, the indicating portion thereof is made of an area to correspond to a desired number of horizontal rows of day spaces of the same size as the day spaces of the calendars 11 and 12 and consisting of a plurality of horizontal rows, preferably six, each of which comprises thirteen day spaces. The central day space of the uppermost horizontal row is modified as to opacity for the purpose of being set on the calendar to the date indicating the beginning of the menstrual cycle. From information derived from the literature, it is possible to determine the dates within which occur the significant portions of the cycle and to select on the element 23 a series of day spaces such that when the central day space of the uppermost horizontal row is set to the beginning of the cycle, no matter on what day of the week or month the same may fall, the

indicating day spaces for the said portion of the cycle will correspond with those dates on the calendar corresponding to that period of the cycle. It can be seen that where the area on the element 23 corresponding to a group of day spaces selected to indicate a significant portion of a cycle must be worked out with reference to an area composed of horizontal rows of thirteen day-space sized areas whereas the calendar contains horizontal rows of seven day spaces, the selection of the proper areas on the element 23 presents some difficulty. By analysis of the numerical relations between the days of the week and months as arranged on a continuous calendar, and the day spaces required on the element 23 for complete indication, I have worked out a key by means of which information relating to a physiological cycle can be readily translated into a group of day spaces on the element 23 which will in all settings give the original information on the continuous calendar. The key is as follows:

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
| 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |

The numbered spaces of the key may be of the same size as the day spaces of the calender or some multiple thereof whereby to be reduced photographically or otherwise to the same size, in which case the proper spaces may be covered with a black, detachable element and photographed whereby to produce the element 23. Alternatively, the key may be used merely for determining the spaces to be modified and the modification of the selected spaces on the element 23 accomplished in any desired manner. The use of the key will become obvious from a description of an example of its use. Suppose it is desired to indicate a group of nine days beginning nine days after the date of beginning of a menstrual cycle. It is only necessary to modify the areas occupied by the numbers 10 to 18 inclusive, a total of 17 spaces. By modifying the corresponding spaces on the element 23, this portion of the cycle will be indicated on the calendar, no matter on what day of the week or month the cycle begins, by setting the central day space of the upper row to the date of beginning of the cycle.

From the foregoing, it will be apparent that I have provided a device which is well adapted for the purpose of rendering readily available to laymen information contained in medical literature and available only to experts and that the same is accomplished by the use of a device which is extremely simple and convenient and while I have shown and described the preferred embodiment of my invention, I do not wish to be limited except in accordance with the appended claims and the prior art.

Having thus described my invention, what I claim is:

1. In combination, an element having thereon a continuous calendar consisting of day spaces of uniform size arranged in contiguous relation in horizontal rows of seven day spaces and bearing indicia corresponding to the days of a month, said calendar including spaces corresponding to days of a plurality of months and the space corresponding to the first day of a succeeding month occupying the next succeeding day space to that occupied by the last day of the preceding month, and an indicating element having an indicating area corresponding to at least four contiguous horizontal rows of day spaces of the same size as those of the calendar, each row corresponding to thirteen contiguous day spaces, said indicating element being modified at the point corresponding to the central day space of the uppermost row to form an indicating point and at points corresponding to a group of succeeding day spaces selected to indicate on said calendar a significant portion of a physiological cycle beginning on a day to which said central day space of the upper row is set.

2. In combination, an element having thereon a continuous calendar consisting of day spaces of uniform size arranged in contiguous relation in horizontal rows of seven day spaces and bearing indicia corresponding to the days of a month, said calendar including spaces corresponding to a plurality of months and the space corresponding to the first day of a succeeding month occupying the next succeeding day space to that occupied by the last day of the preceding month, and an indicating element having an indicating area corresponding to six contiguous horizontal rows of day spaces of the same size as those of the calendar, each row corresponding to thirteen contiguous day spaces, said indicating element being modified at the point corresponding to the central day space of the uppermost row to form an indicating point and at points corresponding to a plurality of groups of succeeding day spaces selected to indicate on said calendar a plurality of significant portions of a physiological cycle beginning on a day to which said central day space of the upper row is set.

3. In combination, an element having thereon a continuous calendar consisting of day spaces of uniform size arranged in continguous relation in horizontal rows of seven day spaces and bearing indicia corresponding to the days of a month, said calendar including spaces corresponding to a plurality of months and the space corresponding to the first day of a succeeding month occupying the next succeeding day space to that occupied by the last day of the preceding month, and an indicating element having an indicating area corresponding to at least four contiguous horizontal rows of day spaces of the same size as those of the calendar, each row corresponding to thirteen contiguous day spaces, said indicating element being modified at the point corresponding to the central day space of the uppermost row to form an indicating point and at points corresponding to a group of succeeding day spaces selected to indicate on said calendar a significant portion of a physiological cycle beginning on a day to which said central day space of the upper row is set, said indicating element comprising a flat, imperforate element in which said modified portions differ from the remainder in degree of opacity.

4. The invention according to claim 1, said first element being provided with means for frictionally holding said indicating element in any set position.

5. The invention according to claim 2, said first

element being provided with means for frictionally holding said indicating element in any set position.

6. In combination, an element having thereon a continuous calendar comprising day spaces of uniform sizes arranged in contiguous relation in contiguous rows of uniform numbers of spaces and the spaces bearing indicia corresponding to days of a plurality of months arranged so that the space corresponding to the first day of a succeeding month occupies the next succeeding day space to that occupied by the last day of the preceding month, and an indicating element having an indicating area corresponding to a plurality of continguous rows of day spaces of the same size as those of the calendar, each row corresponding to one less than double the number of spaces in said rows of day spaces on said calendar, said indicating element being modified to indicate the point corresponding to the central day space of one row whereby to form an indicating point and at points corresponding to a group of succeeding day spaces selected to indicate on said calendar a significant portion of a cycle beginning on a day to which said first mentioned modified point is set.

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