

Sept. 24, 1968

R. W. BARTON ET AL

3,402,850

TABLET DISPENSER

Original Filed Sept. 1, 1966

2 Sheets-Sheet 1

FIG. 1

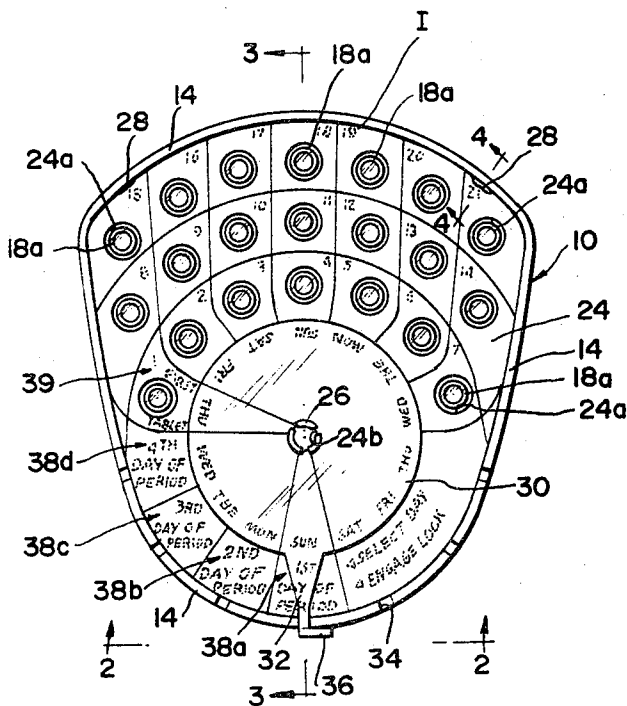


FIG. 2

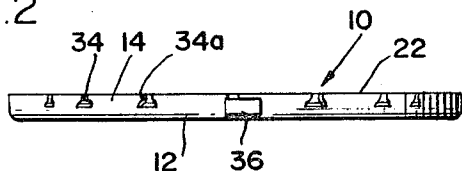


FIG. 4

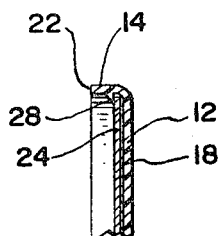
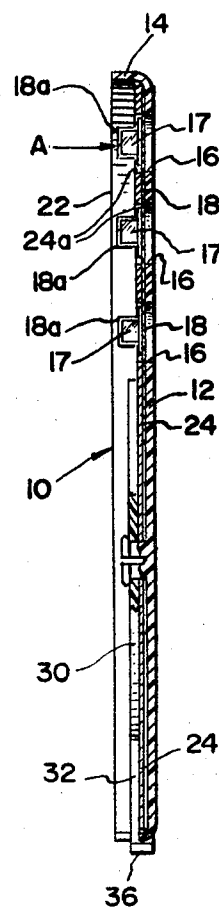


FIG. 3



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FIG.5

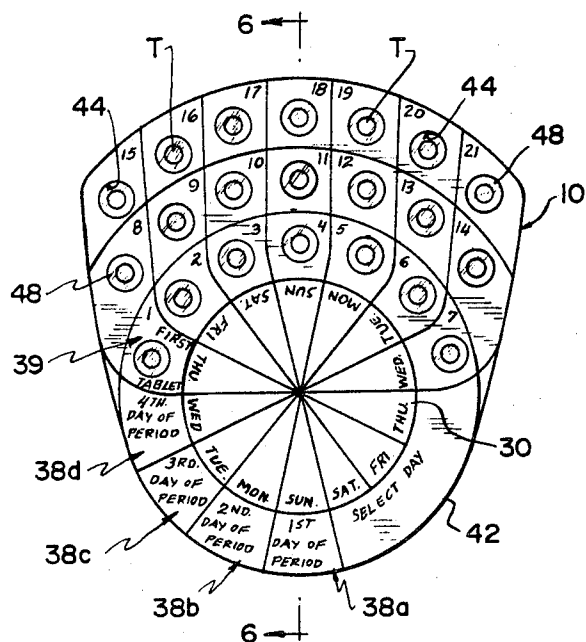


FIG. 6

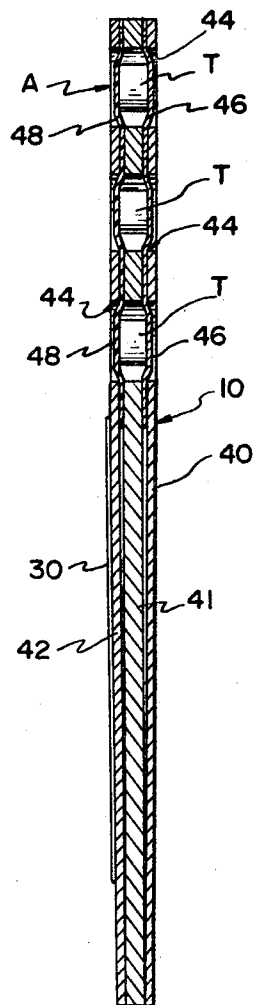
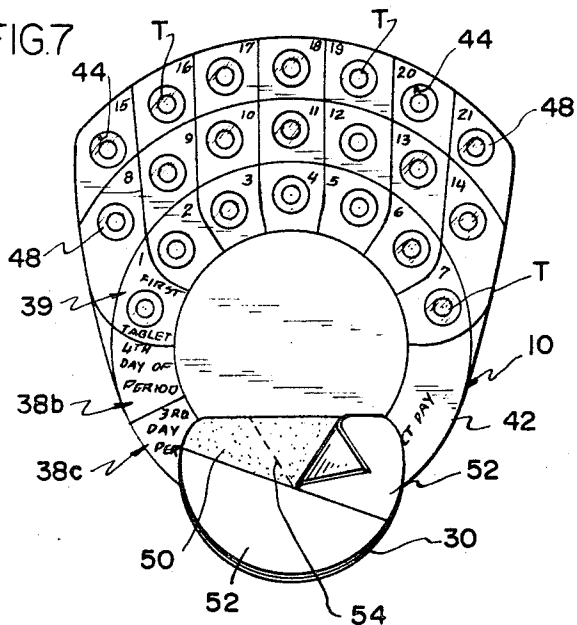


FIG.7



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TABLET DISPENSER

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Continuation of application Ser. No. 576,637, Sept. 1, 1966. This application Nov. 1, 1967, Ser. No. 691,081
17 Claims. (Cl. 221-8)

ABSTRACT OF THE DISCLOSURE

A tablet dispensing device for dispensing tablets on a schedule which must be synchronized with the personal schedule of the user. The dispenser has a "fan" shape with the tablets arcuately arranged in seven columns on one side of a rotatable calendar disc. Day-of-week designations on the disc can be aligned with the columns in a desired sequence. The tablets and the calendar disc are disposed on a substantially flat base member with the tablets being contained in blister pack means, the pack being deformable to dispense tablets selectively through holes corresponding to the arcuately arranged seven columns. In a preferred form, the flat base member has a marginal flange with seven notches for receiving an arm extending outwardly from the disc to hold the disc in any one of the positions. In another form, the disc is removably, adhesively attached to the base member for circular adjustment.

Background of the invention

This application is a continuation of our copending application Ser. No. 576,637, filed Sept. 1, 1966, now abandoned.

The dispenser is primarily adapted for aiding the dispensing and taking of contraceptive medication by women on an irregular schedule which must be properly synchronized with the physiological menstrual cycle of the individual. The description herein of the invention and its use is directed primarily to dispensing such medication. However, some features of the invention are useful for dispensing other products in tablet form, particularly where the product must be dispensed on a schedule.

As seen in the patent to Wagner, 3,143,207, one type of adjustable medication dispensing means has a tablet holder with a time reference indicator and a rotatable calendar disc, the tablet holder and calendar disc being relatively adjustable to move the time reference indicator into alignment with any one of a plurality of day-of-week identifications on the calendar disc. The day-of-week identifications extend over a plurality of successive weeks. The tablet receiving positions on the tablet holder have a positional relationship to each other and the time reference indicator which corresponds with reference to the pattern of day-of-week identifications on the calendar disc to a predetermined daily schedule for dispensing tablets. Such a rotatable adjustment between the tablet holder and calendar disc has proven very effective, but the circular arrangement of the tablet receiving positions completely surrounding the tablet disc has proven to be somewhat complicated to the user. In addition, such a dispensing device is expensive to manufacture.

Summary of the invention

A principal object of this invention is to provide a new and improved dispenser particularly adapted for dispensing tablets on a schedule.

Another object of this invention is to provide a dispenser which serves as a simple and helpful aid to an individual taking medication on an irregular schedule.

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A further object of this invention is to provide a dispenser of the character described wherein the tablet holder and calendar element are rotatably adjustable and which are simple and easily understood by the user.

Still another object of this invention is to provide a dispenser as set forth in the preceding paragraph which has a "fan" shape with the tablets arcuately arranged in seven columns on one side of the rotatable calendar element, and day-of-week designations on the calendar element for alignment with the columns in a desired sequence.

Yet a further object of this invention is to provide a tablet dispenser of the character described which has simple cooperating parts and is inexpensive and easy to manufacture and assemble.

Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings.

Description of the drawings

FIG. 1 is a plan view of one form of a tablet dispensing device embodying the invention;

FIG. 2 is an elevation view of the dispenser taken generally in the direction of line 2-2 of FIG. 1;

FIG. 3 is a central sectional view taken generally along the line 3-3 of FIG. 1;

FIG. 4 is a fragmentary sectional view taken generally along the line 4-4 of FIG. 1;

FIG. 5 is a plan view of a second form of a tablet dispensing device embodying the invention;

FIG. 6 is a central sectional view taken generally along the line 6-6 of FIG. 5; and

FIG. 7 is a fragmentary plan view of the device of FIG. 5, illustrating the means for adjusting the calendar disc.

Detailed description of the invention

Referring to the drawings, the invention illustrated herein is embodied in a tablet dispenser having a generally "fan" shape with the tablets disposed in columns on one side of a rotatable calendar disc and the indicia which marks the positions for the calendar disc being disposed substantially diametrically opposite one or more of the columns of tablets to facilitate a simple and easily understood method of dispensing tablets on a schedule.

Referring to the form of the invention shown in FIGS. 1-4, a tablet holder, generally designated 10, has a substantially flat base 12 with a marginal flange 14 extending upwardly therefrom forming a recess for receiving the various other components of the dispenser (as hereinafter described). The base member 12 has a plurality of tablet dispensing holes 16 (FIG. 3) arranged in seven columns, as seen in FIG. 1, corresponding to the seven days of a week and defining a pattern of weekly tablet receiving positions in arcuate rows extending over a plurality of successive weeks.

A blister pack is disposed in the recessed base member 10 and contains a plurality of tablets 17 (FIG. 3). The blister pack is comprised of a flat sheet of frangible material 18 such as aluminum having a plurality of flexible blisters 18a which hold the tablets. The blisters protrude away from the frangible sheet 18 a distance slightly below the marginal edge 22 (FIG. 3) of the base member flange 14 so that the flange protects the tablets in a recessed position to prevent accidentally dispensing of the tablets through the dispensing holes 16 in the base member. The tablet containing blisters are arranged in a pattern corresponding with the pattern of holes in the base member 12 for dispensing tablets through the holes by selectively pressing the tablets in the direction of arrow A (FIG. 3), breaking the frangible sheet 18 and discharg-

ing the tablets through the aligned dispensing holes 16 in the base member.

A thin backing member 24 surmounts the blister pack and has a plurality of holes 24a in alignment with the holes 16 in the base member and through which the blisters and their tablets protrude upwardly away from the base. The backing member has a "fan" shape corresponding to the shape of the base member 12 and lies within the recess formed by the flange 14 of the base member. The backing member is sufficiently thin so that the tablet containing blisters 18a protrude upwardly therefrom and can be dispensed therethrough, through the holes in the base member. The backing member has a hole 24b (FIG. 1) to permit the backing member to snap over a resilient boss 26 which is formed integrally with the base member 12. Tabs 28 formed on the inside of flange 14 (FIGS. 1 and 4) cooperate with the resilient boss 26 to retain the backing member in its recessed position within the base member 12.

A rotatable calendar disc 30 is snapped over the resilient boss 26 such that the calendar element is rotatable in relation to the backing member and tablets. The disc has an arm 32 which may be engaged with one of seven notches 34 (FIGS. 1 and 2) in the base member flange 14, substantially diametrically opposite the tablet receiving positions defined by the seven columns of tablets, referred to above. The notches 34 define a plurality of positions for the calendar element. A finger piece 36 is disposed on the outer extremity of the calendar disc arm 32 to facilitate grasping the arm and rotating it to any of the desired seven calendar positions defined by notches 34.

The indicia and markings embodied in the dispenser shown in the drawings are employed to adapt the holder of this invention for use by women in the taking of contraceptive medication where dosage starts several days following the first day of the menstrual period. Obviously, different indicia may be used and be much simpler for the systematic dispensing of tablets where the delayed starting of the medication is not involved.

In the embodiment illustrated, a plurality of numerical indicia, generally designated I (FIG. 1) are marked on the backing member 24 adjacent each tablet in the seven columns of tablet receiving positions as described above. The indicia shown include the members 1 through 21 inclusive intended to indicate the corresponding number of pills to be taken in the menstrual cycle. The first tablet is to be taken on the fifth day of the menstrual cycle, thus, the first four days of the menstrual cycle are indicated on the backing member 24 by the reference numerals 38a through 38d. These four days are arranged around the periphery of the backing member adjacent a portion of the calendar positions and lead up to the first tablet position, generally designated 39.

To eliminate the necessity of keeping an independent record of the particular day when one's menstrual cycle started and what day of the week corresponds to the tablet numbers 1 through 21 described above, a plurality of positions for the calendar discs 30 are provided by notches 34 and are disposed substantially diametrically opposite the seven columns of tablet receiving positions described above. The notches 34 receive the index arm 32 of the calendar element 30 to hold the disc in its desired position. Notches 34 have a dovetail configuration with a wide lower portion to receive the calendar index arm 32, and overhanging lips 34a which lock the arm in place and prevent it being accidentally dislodged.

In using the dispenser of this invention (and assuming the first day of one's menstrual cycle lands on a Sunday) FIG. 1 illustrates the rotatable calendar disc 30 as adjusted so that the Sunday day-of-week identification is in alignment with the "first day of the period" (position 38a) and the arm 32 (extending away from the calendar disc) is inserted into the corresponding aligned notch 34 to lock the calendar element in its adjusted position. On

the second, third and fourth day of the menstrual period (which would be Monday, Tuesday and Wednesday on the calendar element 30), no tablet is to be taken and these days of the period are indicated by the positions 38b through 38d. On the fifth day of the menstrual period, or Thursday, the first tablet (indicated at position 39) is in alignment with the Thursday day-of-week identification on the calendar element 30 and the user dispenses the first tablet by forcing the tablet from the frangible blister pack through the aligned dispensing opening 16 in the flat backing member 12. The numerical "days-of-the-period" positions on the backing member in essence comprise a time reference indicator for setting calendar disc 30. An individual may then successively take tablets 2 through 21 arranged in the seven columns of tablet positions described above. With the calendar element fixed by its arm 32, the successive day-of-week identifications on the calendar element 30 are fixed in alignment with the seven columns of tablet positions thus synchronizing the dispenser with the personal schedule of the user for use in successive days extending over a plurality of successive weeks.

The form of the invention shown in FIGS. 5-7 has the same "fan" shape as the form shown in FIGS. 1-4, with the tablets arcuately arranged in seven columns on one side of a rotatable calendar disc 30. The calendar disc has a plurality of day-of-week identifications extending over two weeks and adjustably positioned on a tablet holder, generally designated 10, adjacent the column termination pattern to identify each column with a day of the week. Like numerals will be applied to the same structural elements as in FIGS. 1-4.

The flat base member is laminated of stiff paperboard material and includes a bottom layer 40, a middle layer 41, and a facing layer 42. The layers are all "fan" shaped, of the same size, and are adhesively secured together to form the composite base member. The facing layer 42 has the days of the menstrual cycle (which define the positions for the calendar disc) and the tablet numbers printed on the face thereof. The composite laminated base member has a plurality of holes, generally indicated 44, arcuately arranged in seven columns corresponding to the seven days of the week and defining a pattern of tablet receiving positions, similar to the embodiment of FIG. 1-4.

The blister pack means for holding the tablets T within holes 44 is built into the composite, laminated base member 10 and comprises an easily-tearable sheet of foil 46 (FIG. 6) adhesively held between the bottom layer 40 and the middle layer 41 of the base member 10. Foil 46 is preferably made of sheet aluminum material. A sheet of non-rigid tear-resistant foil 48, such as transparent cellophane, is adhesively held between the facing layer 42 and middle layer 41 of the laminated base member. The tablets T are positioned within holes 44 between the two layers of foil 46 and 48. To dispense a selected tablet, pressure is applied in the direction of arrow A (FIG. 6) to press the selected tablet T through the easily-tearable aluminum foil 46.

The calendar disc 30 is made of a thin flexible material, as paper, the back of which is coated with an adhesive material 50 (FIG. 7). To permit easy adjustment of the calendar disc 30, the major portion of the back of the disc is covered with two sections of thin sheet material 52 which sticks to the adhesive 50, but which is easily removed from the back of the disc without interfering with the stickiness of the adhesive. When the dispenser comes from the manufacturer, only a pie-shaped section of the adhesive, as indicated by dotted line 54 in FIG. 7, is exposed on the back of the calendar disc. This small pie-shape section permits the calendar disc to be removably positioned initially adjacent the column termination pattern of tablets on the base member 10. In order to adjust the calendar disc, the disc is removed from the base member and the sheets of material 52 are removed

from the back of the disc, exposing the entire surface of adhesive 50 thereon. The disc is then rotatably positioned on the facing layer 42 of the base member with the first day of one's menstrual cycle in alignment with the "first day of the period" (position 38a) and pressed against the base member with the adhesive 50 holding it in its proper adjusted position. As discussed above, the fifth day of the menstrual period will automatically be in alignment with the first tablet position, indicated at 39.

The foregoing detailed description has been given for clearness of understanding only and no unnecessary limitations should be understood therefrom as some modifications will be obvious to those skilled in the art.

We claim:

1. In a device for dispensing tablets on a nonuniform daily schedule which must be synchronized with the personal physiological cycle of the user and wherein such a device includes a calendar element having a plurality of readable day-of-week identifications of successive days extending over a plurality of successive weeks, a tablet holder disposed adjacent the calendar element defining a pattern of tablet receiving positions, and a time reference indicator on the tablet holder, the tablet holder and calendar element being adjustable to move the time reference indicator into alignment with any one of the day-of-week identifications, and the tablet receiving positions having a positional relationship to each other and the time reference indicator which corresponds with reference to the pattern of day-of-week identifications on the calendar element to a predetermined daily schedule for dispensing tablets, the improvement which comprises: a base member; a calendar disc rotatably mounted on the base member and having said readable day-of-week identifications thereon in a circular row circumferentially about the disc; means associated with the base member defining said tablet holder with a pattern of tablet receiving positions adjacent to and at one side of the calendar disc, and including said time reference indicator; means on said base member substantially diametrically opposite said tablet receiving positions defining a plurality of positions for said calendar element; and means for holding said calendar element in any one of said calendar positions.

2. The tablet dispensing device of claim 1 wherein said base is comprised of a substantially flat member having a marginal flange extending upwardly therefrom and having a plurality of notches in said flange defining a plurality of positions for said calendar disc substantially diametrically opposite said tablet receiving positions, and wherein said calendar disc has an arm extending outwardly therefrom for engagement with said notches to hold the calendar disc in any one of said calendar positions.

3. The tablet dispensing device of claim 1 wherein said tablet receiving positions are arcuately arranged in seven columns extending away from one side of said rotatable calendar disc in alignment with the day-of-week identifications on the disc, the columns corresponding to the seven days of a week thereby providing a plurality of weekly rows of tablets adjacent to and at one side of said calendar disc.

4. The tablet dispensing means of claim 3 including means defining seven positions for the calendar disc, each of said seven positions being disposed diametrically opposite one of said columns of tablet receiving positions.

5. The tablet dispensing device of claim 4 wherein said base is a substantially flat member having a marginal flange extending upwardly therefrom and having seven notches in said flange defining seven positions for the calendar disc, one substantially diametrically opposite each of said seven columns of tablet receiving positions, and wherein said disc has an arm extending outwardly therefrom for engagement with said notches to hold said calendar disc in any one of said calendar positions.

6. A tablet dispensing device, comprising: a substantially flat base member having a plurality of dispensing

holes arcuately arranged in seven columns corresponding to the seven days of a week and defining a pattern of tablet receiving positions; a blister pack containing a plurality of tablets protruding therefrom and arranged in a pattern corresponding with the pattern of holes in said base member for selectively dispensing tablets from said blister pack through the holes in said base member; a backing member over said blister pack and having a pattern of holes corresponding to the pattern of dispensing holes in said base member, the tablets in said blister pack protruding through the holes in said backing member; means to hold the backing member on said base member with the holes therein in alignment with the dispensing holes in said base member to maintain the tablets in said blister pack in alignment with the dispensing holes; a time reference indicator on said backing member; and an adjustable calendar disc rotatably mounted concentric with said arcuately arranged tablet receiving positions adjacent said tablet receiving positions and over said backing member, the calendar element having a plurality of readable day-of-week identifications of successive days extending over a plurality of successive weeks in a row circumferentially about the disc, the backing member and calendar element being relatively adjustable to move the time reference indicator into alignment with one of the day-of-week identifications on the calendar element, and the tablet receiving positions having a positional relationship to each other and to the time reference indicator which corresponds, with reference to the pattern of day-of-week identifications on the calendar element, to a predetermined daily schedule for dispensing tablets.

7. The tablet dispensing device of claim 6 wherein said seven columns of tablet receiving positions extend away from one side of said rotatable calendar disc in alignment with the day-of-week identifications on the disc, the columns of tablet receiving positions corresponding to the seven days of a week thereby providing a plurality of weekly rows of tablets adjacent to and at one side of said calendar disc.

8. The tablet dispensing device of claim 7 including means diametrically opposite said seven columns of tablet receiving positions defining seven positions for the rotatable calendar disc.

9. The tablet dispensing device of claim 8 wherein said flat base member has a marginal flange extending upwardly therefrom with seven notches in said flange defining seven positions for said rotatable calendar disc substantially diametrically opposite the seven columns of tablet receiving positions, and wherein said disc has an arm extending outwardly therefrom for engagement with said notches to hold said rotatable calendar disc in any one of said calendar positions.

10. In a blister pack type tablet dispensing device for tablets taken on a nonuniform daily schedule synchronized with the physiological cycle of the user, including a flat base member with a plurality of tablet dispensing holes therein, blister pack means on said base with tablets in a pattern corresponding with the dispensing holes in said base member, said pack being deformable to dispense tablets selectively through said holes, and an adjustable calendar element, the improvement comprising: an arrangement of the holes in the base member and the tablets of the blister pack means in seven columns, the columns terminating in a semicircular arcuate pattern, and a generally circular calendar element having a plurality of day-of-week identifications and adjustably positioned on said device adjacent the column termination pattern, to identify each column with a day of the week.

11. The tablet dispensing device of claim 10 including a time reference indicator with which a day-of-week identification of said calendar element is aligned to establish a desired relationship between days of the week and tablets in said columns.

12. The tablet dispensing device of claim 11 wherein said time reference indicator is on the opposite side of the

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calendar element from the arcuate column termination pattern.

13. The tablet dispensing device of claim 10 wherein the tablets in the columns are arranged in generally arcuate weekly rows.

14. The tablet dispensing device of claim 10 wherein said base member is laminated, said blister pack means being held between the laminations of the base member with the tablets aligned with said dispensing holes.

15. The tablet dispensing device of claim 14 wherein said base member has two outer layers and a middle layer sandwiched therebetween, said blister pack means including a sheet of easily-tearable foil held between one of said outer layers and said middle layer covering said dispensing holes and a nonrigid sheet of tear-resistant foil held between the other of said outer layers and said middle layer with the tablets being encapsulated between the sheets of foil in said dispensing holes.

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16. The tablet dispensing device of claim 15 wherein said calendar element is positioned on the other of said outer layers adjacent the column termination pattern.

17. The tablet dispensing device of claim 16 wherein said outer and middle layers are adhesively secured together, said calendar element being removably adhesively secured to the other of said outer layers.

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