D. W. RANDALL.

CALENDAR.

APPLICATION FILED OCT. 20, 1917.

1,280,837.

Patented Oct. 8, 1918.

2 SHEETS—SHEET 1.

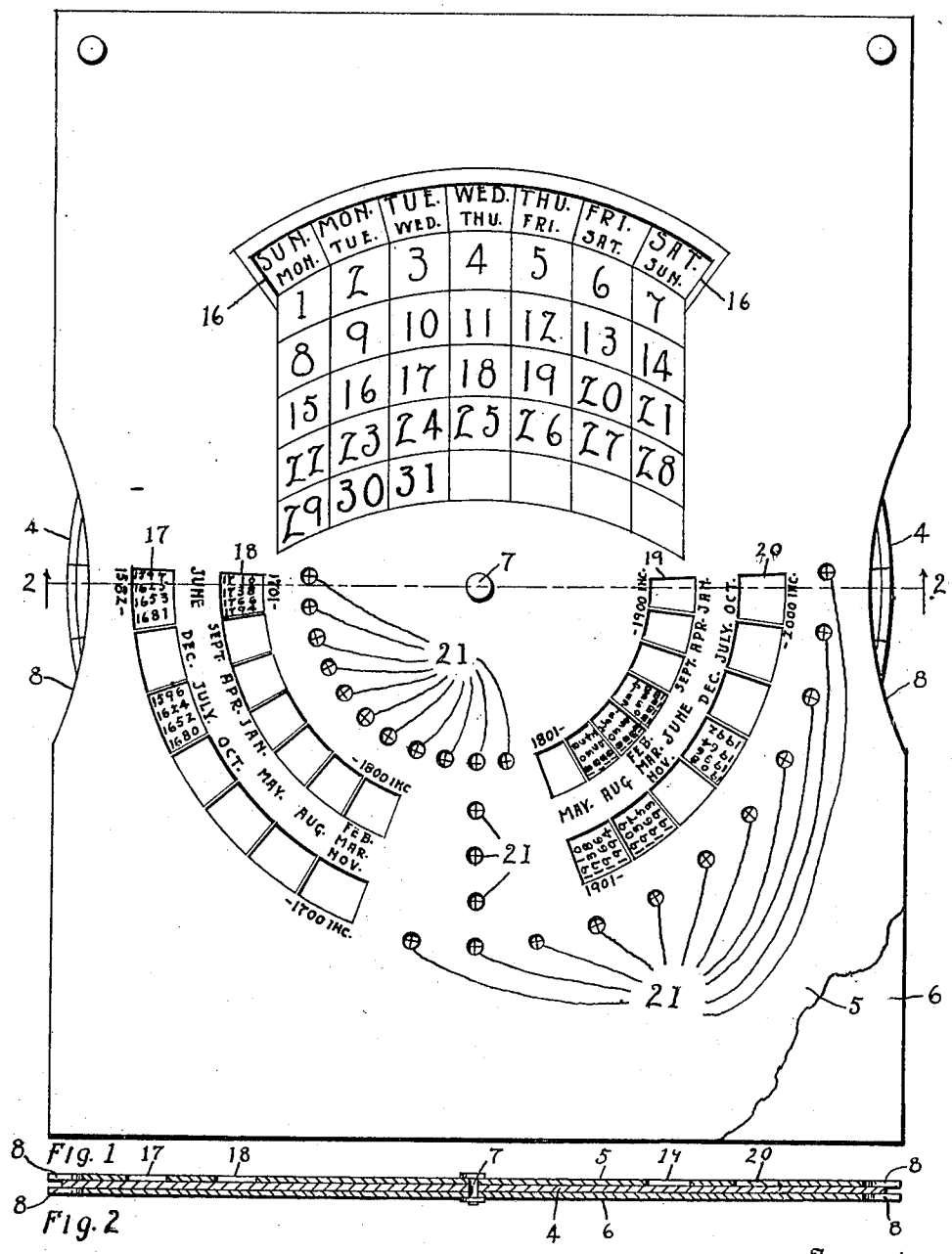


Fig. 1

Fig. 2

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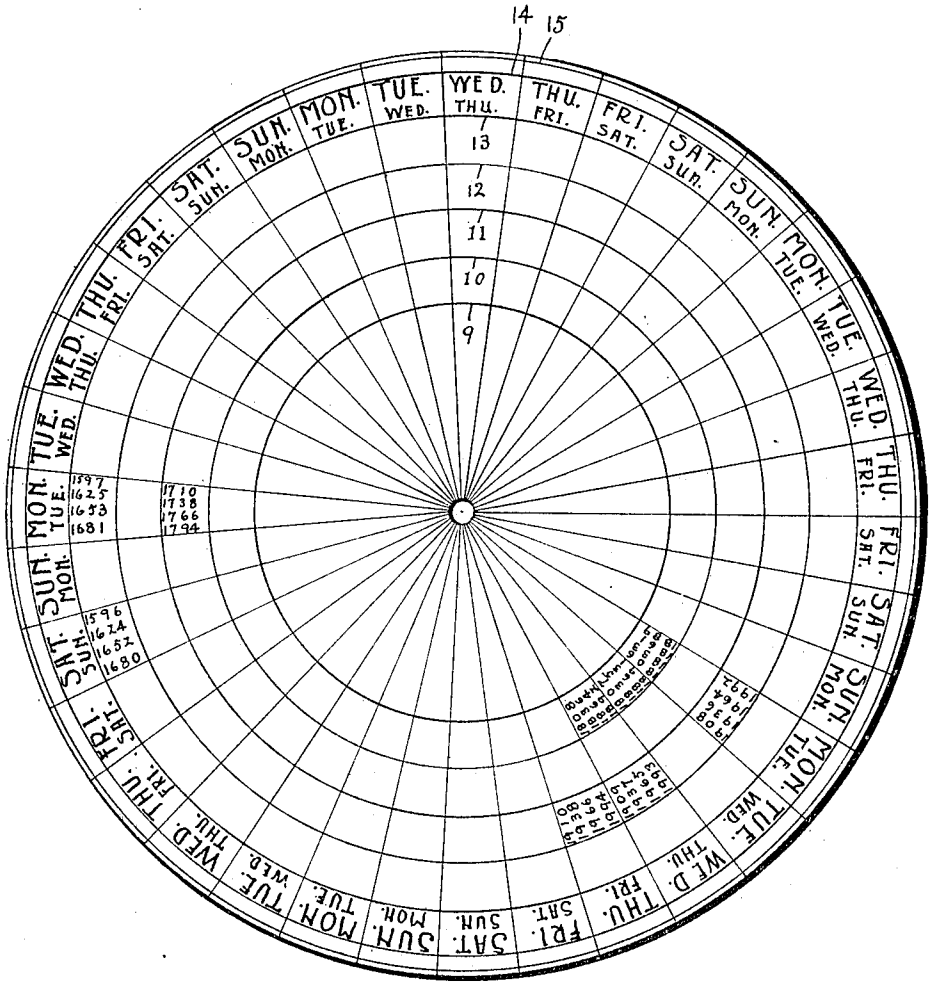


Fig. 3

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UNITED STATES PATENT OFFICE.

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CALENDAR.

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Application filed October 20, 1917. Serial No. 197,961.

To all whom it may concern:

Be it known that I, DELAVAN W. RANDALL, citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a certain new and useful Improvement in Calendars, of which the following is a specification.

My invention relates to improvements in calendars and the object of my invention is to provide a perpetual calendar which shall embody relatively movable parts that are inscribed with groups of numbers and series of words which are so relatively disposed that one of said movable parts readily may be moved to the required position with relation to other parts as shall display the names of the week days, and numerals distinctly representing the respective days of the month upon which said week days fall, for any desired particular month of any particular year of any particular century subsequent to the beginning of the year 1582 A. D., including the present and all future centuries.

I accomplish this object by devices illustrated in the accompanying drawings, wherein—

Figure 1 is a view in front elevation of a calendar embodying my invention;

Fig. 2 is a view of the same in cross-section on broken line 2, 2 of Fig. 1; and

Fig. 3 is a view in front elevation of a movable part of the same.

Referring to the drawings, throughout which like reference numerals indicate like parts, a circular disk 4, shown more clearly in Fig. 3, is made of stiff sheet material, as of card board, celluloid or thin sheet metal, and is symmetrically disposed between two rectangular plates 5 and 6 where it is rotatably mounted on a concentrically disposed pivot rivet 7 which extends through both of the plates 5 and 6 at a point midway between their respective longer side edges, as shown in Figs. 1 and 2.

The plate 6 is preferably made of thicker or stiffer sheet material than that of the plate 5 and disk 4.

The diameter of the disk 4 is less than the width of the plates 5 and 6, and, in order to facilitate a manipulation of the disk 4 in the operation of rotating it, opposite side edge portions of both of the plates 5 and 6 are cut away to form inwardly curved edges 8, whereby the shortest line that can be drawn between said opposite curved edges 8 will intersect the axis of the pivot rivet 7 thereby to cause circular edge portions of the disk 4 to project outwardly from said inwardly curved edges 8 for such distances as will permit one to grasp an edge portion of the disk 4 in an obvious manner as indicated more clearly in Fig. 1.

The front surface of the rotatable disk 4, as shown in Fig. 3, is inscribed with thirty-five equi-distantly spaced radial lines, that extend from the pivot hole of the pivot rivet 7 to the circular edge of the disk 4, and with six concentrically disposed circular lines 9, 10, 11, 12, 13 and 14 whose radial distances from each other are equal, and surrounding the circular line 14 is a circular marginal line 15.

The spaces bounded by the radial lines and the circular lines 13 and 14 are each inscribed with the abbreviations of words representing two successive days of the same week, the letters of the abbreviated word nearer the circular line 14 being of a color that is distinctive from the color of the letters of the abbreviated word nearer the circular line 13, for instance, the former may be black and the latter red, thus the circle of said spaces includes two series of abbreviated words each representing the seven successive days of five successive weeks.

The spaces bounded by said radial lines and the adjacent ones of the circular lines 9, 10, 11, 12 and 13 are each inscribed with a group of numbers representing different years, of which numbers those representing leap years are of a color that is distinctive from the color of the other numbers that represent other than leap years, for instance the former may be red and the latter may be black.

The front plate 5 is provided with a curved slotted opening 16 that is so formed and concentrically disposed at such distance above the pivot rivet 7, that when the disk 4 is in its operative position between the two plates 5 and 6, as shown in Fig. 1, then the abbreviated words within any required successive seven of the adjacent spaces that are bounded by the radial lines and the circular lines 13 and 14 of the disk may be exposed through said opening 16 in response to a rotative movement of said disk 4.

Under and adjacent to the opening 16, on the front surface of the plate 5 are a group of numbers which represent the several days of a month, which numbers rang-

ing from the numeral 1 to the numeral 31, are arranged in seven vertical rows in the manner shown in said Fig. 1.

The plate 5 is provided with a plurality of spaced openings that extend through that portion of it that is lower than the group of numbers which represent the several days of a month, said spaced openings being disposed in four series 17, 18, 19 and 20, each of which series contains seven of said spaced openings, and each of which series extends throughout a segment of a different one of four concentric circles that register respectively with the spaces bounded by the radial lines and the circular lines 13 and 12, 11 and 10, 10 and 9, and 12 and 11, of the disk 4, as shown in Fig. 1, whereby required different groups of the numbers of the disk 4 that represent different years may be exposed through said openings in response to a rotative movement of said disk 4.

The plate 5 is also provided with a plurality of round holes 21 which are so relatively disposed, with relation to the path of the intersecting points of the radial lines and the circular lines 9, 10, 11, 12, 13 and 14 of the disk 5, that said intersecting points may be seen through said holes 21 to aid one in the operation of setting accurately the disk 4 in a required position with relation to different groups of numbers of the disk 4 and different openings of the series 17, 18, 19 and 20.

In Fig. 1, I have shown the series 17 of openings as employed for exposing numbers of the disk 4 which represent years from 1582 A. D. to 1700 A. D., inclusive, the series 18 as employed for exposing the numbers of the disk 4 which represent years from 1701 A. D. to 1800 A. D., inclusive, the series 19 as employed for exposing the numbers of the disk 4 which represent the years 1801 A. D. to 1900 A. D., inclusive, and the series 20 as employed for exposing numbers of the disk 4 which represent years from 1901 A. D. to 2000 A. D., inclusive.

For years 2001 A. D. to 2100 A. D., inclusive the series 17 is used, for years 2101 A. D. to 2200 A. D. inclusive, the series 18 is used, for years 2201 A. D. to 2300 A. D. inclusive, the series 19 is used, and for years 2301 A. D. to 2400 A. D. inclusive, the series 20 is used, and in a like manner the years of each one of every succeeding four centuries will be exposed by a respective one of the series 17, 18, 19 and 20.

Adjacent to each of the openings of the series 17, 18, 19 and 20 is inscribed one or more abbreviated words representing months.

To utilize a calendar embodying my invention in the manner shown and described for displaying a calendar for any one month of any year subsequent to and including the year 1582 A. D. the disk 4 is revolved until the group of numbers thereon, which includes the required year, is exposed through an opening of one of the series 17, 18, 19 or 20, adjacent to which opening is inscribed the name of the required month, whereupon the days of the week on the disk will be exposed through the circular slotted opening 16 in a proper relation with the number thereunder which represents the days of the month, thus to constitute a calendar for the required month and year, for instance, to determine what day of the week was the second of June, 1625 A. D., the disk 4 would be moved to the position shown in Fig. 1 where it would be found that the group of numbers containing the year 1625 A. D. would be in that opening of the series 17 opposite the month of June, and it would be then found that the day Monday, on the disk 4, would register with the vertical column which contains the numeral 2, thus showing that June second 1625 was Monday, and with the disk 4 thus disposed there would be a monthly calendar for the month of June for the years 1597, 1625, 1653, 1681, 1710, 1738, 1766, 1794, 1806, 1833, 1861, 1889, 1908, 1936, 1964 and 1992, also there would be a monthly calendar for each month of the years represented in each group of numbers exposed through all of the series 17, 18, 19 and 20.

In all cases for all months of each leap year, except the months of January and February, the inner circular row of week days printed in red on the disk 4 would be used but for days of years other than leap years the outer circular row of week days printed in black would be used and also said outer row of week days printed in black would be used for the months of January and February of leap years.

Beginning with each succeeding fourth century after the seventeenth century the calendar would constitute a repetition of dates corresponding respectively to the period between the seventeenth and twentieth centuries, inclusive.

Obviously, the rearward plate 6 constitutes no operative part of my calendar and if desired it may be omitted but said plate 6 is preferably embodied in the structure to make it more durable.

What I claim is:

A perpetual calendar of the class described, which embodies a disk of stiff sheet material inscribed with two concentrically disposed circular rows of words each row comprising a plurality of series of words, each of which series contains words representing successively the days of a week and each of said circular rows of words being printed with a different colored ink, said disk being further inscribed with a plurality of concentrically disposed rows of groups of numbers, some of which groups

contain numbers printed in a distinctive color and which represent leap years, and the others of which groups contain numbers printed in a different color and which represent other years than leap years; a plate of sheet material upon which said disk is pivotally mounted to be rotatively movable thereon with its inscribed side in engagement with the rearward side of said plate, said plate being provided with openings therethrough which openings are relatively disposed to expose a different one of the series of said words and different ones of the groups of said numbers in response to a rotative movement of said disk; and said plate being inscribed on its front side with numbers representing the different days of a month, said numbers being arranged in columns corresponding to the different days of a week and disposed adjacent to that opening which is in the path of the words on said disk that represent said days of a week.

In witness whereof, I hereunto subscribe my name this 13th day of October A. D. 1917.

DELAVAN W. RANDALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."