J. F. STIMSON.

PERPETUAL CALENDAR.

APPLICATION FILED FEB. 1, 1908.

916,051. **Patented Mar. 23, 1909.**

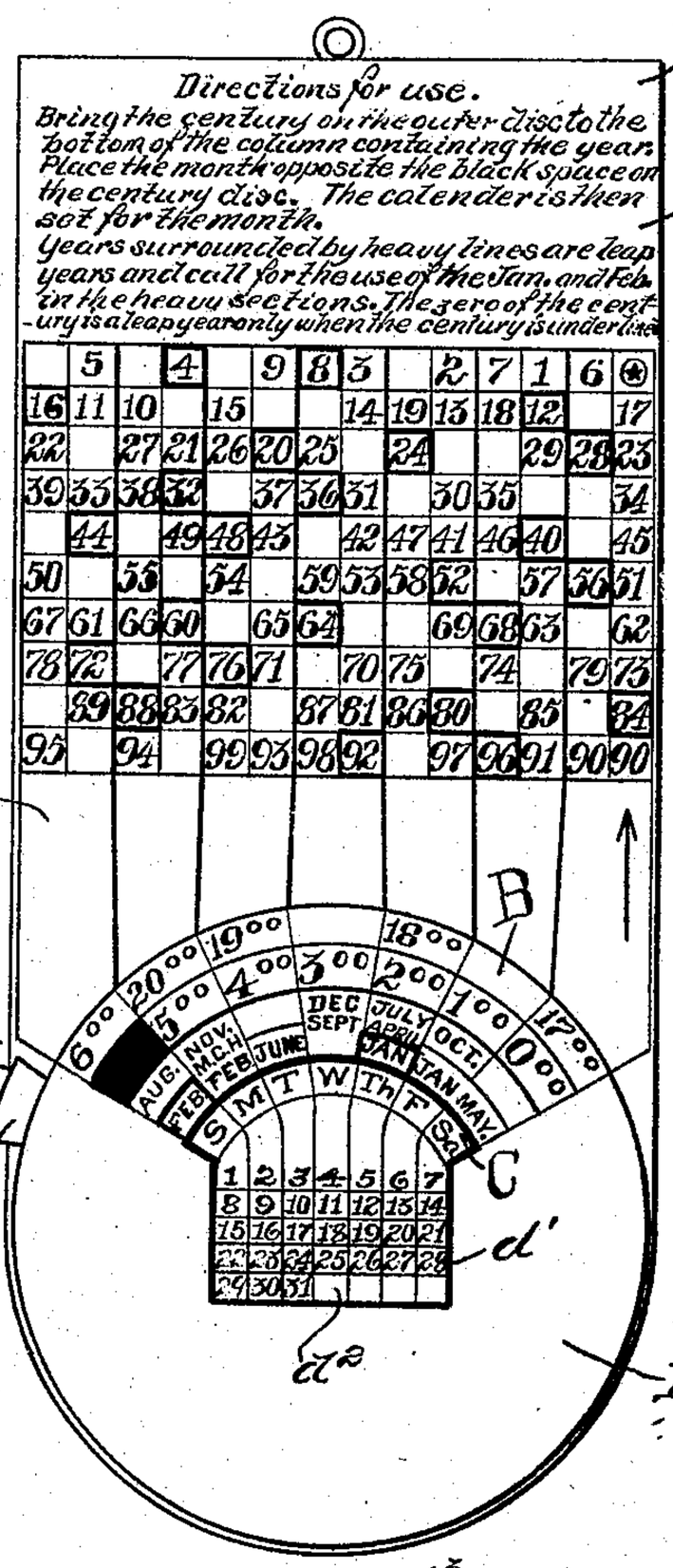

Fig. 1.

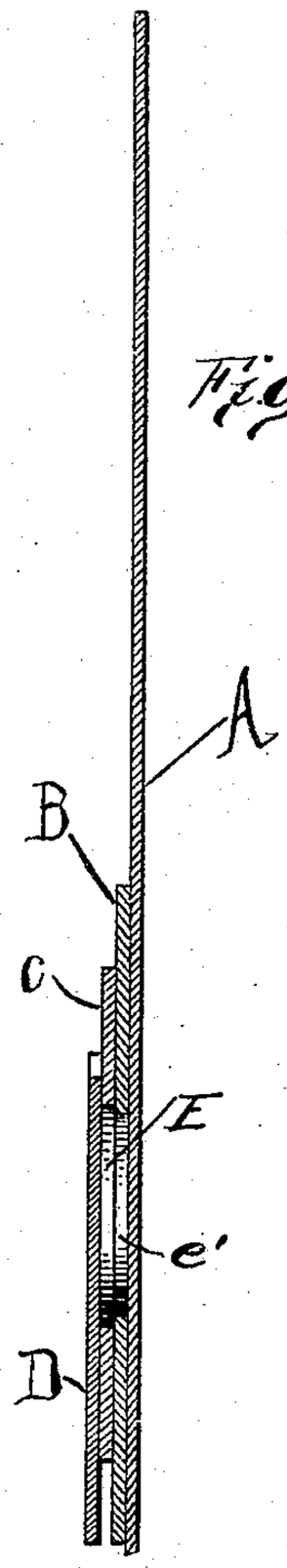

Fig. 2.

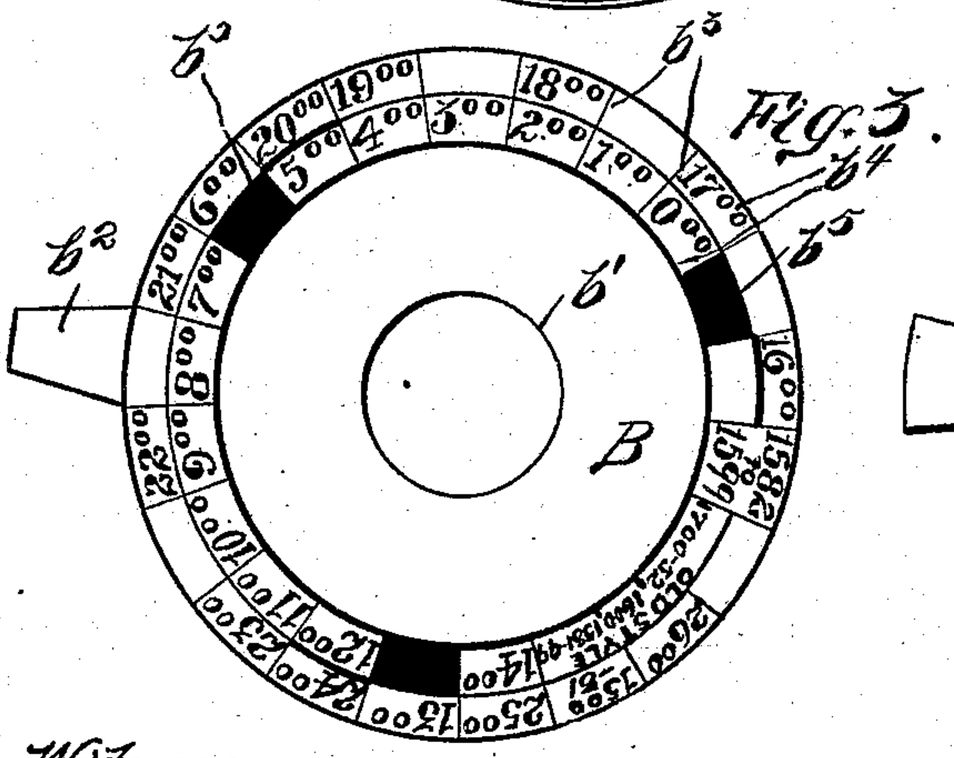

Fig. 3.

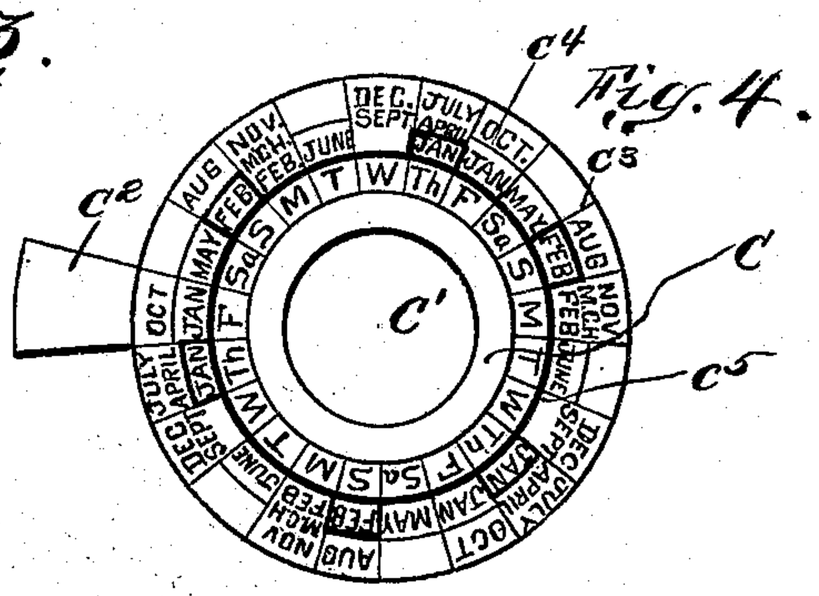

Fig. 4.

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UNITED STATES PATENT OFFICE.

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PERPETUAL CALENDAR.

No. 916,051. Specification of Letters Patent. Patented March 23, 1909.

Application filed February 1, 1908. Serial No. 413,802.

To all whom it may concern:

Be it known that I, JOHN F. STIMSON, a citizen of the United States, residing at 185 Audubon avenue, New York city, New York, have invented certain new and useful Improvements in Perpetual Calendars, of which the following is a clear, full, and exact description.

My invention relates to an improvement in perpetual calendars and to a simplified construction of the same.

My invention will be defined in the claims.

In the preferred embodiment of my invention shown in the drawings, Figure 1 represents a view of the complete calendar; Fig. 2 is a longitudinal section of the same through the center showing a preferred means of mounting the disks; and Figs. 3 and 4 are views of the detached disks.

A represents the main frame of the calendar, at the lower portion of which the two disks B and C of different diameters are concentrically pivoted.

D is a cover card placed on top of the disks B and C and fixedly attached to the main card A to form a stationary portion thereof. This card as shown is circular in form but having a concentric portion cut away to partially expose the disks B and C underneath.

In my preferred manner of mounting the disks B and C and cover card D, I firmly attach to the main card A, by any suitable means such as glue, a bearing post E (see Fig. 2). This post is cylindrical in shape, and as shown is of a slightly less diameter at the lower portion e'. The disk B has a circular aperture b' at its center to fit around the lower end of the post e', and disk C has a similar aperture c' to fit around the upper end of the post. This construction insures a more independent movement of the disks about their pivots and a more secure attachment, but I do not wish to limit myself to such a particular form. The cover card D is firmly attached to the top of the post in any suitable manner, and thus conceals the pivotal attachment of the disks to present a neat appearance. The disks B and C have suitable finger pieces b^2, c^2, respectively, by which they may be manipulated.

At the upper portion of the main card a' a space is set off in which directions or advertising matter may be placed. Below this space I divide said card into seven main longitudinal columns a^2 to form a year table. In these columns numerals are placed indicating the different years of a century, zero to 99, inclusive, and for separating the numerals of each column from each other said columns are divided into squares in any suitable manner, preferably by light black or colored lines. The order of the numerals placed in the year columns is from right to left, beginning with zero for the first column, one for the next column to the left, and so on, returning again to the first column for the year 6, as shown. Numerals indicating leap years are made to skip a column for a reason that will appear hereafter. These leap years are preferably designated in some particular manner, as by inclosing them in heavy black squares, as shown, or printing in color. The cipher is still further designated by an asterisk or the like, to call attention to the fact that this year is a leap year only when the century is a leap year. All the numerals having a common left-hand digit are preferably placed in transverse alinement to facilitate the discovery of any particular year.

The large circular disk B, Fig. 3, I call the century disk. This disk is divided into sectors b^3 in number, preferably a multiple of 7. The outer ends of this sector b^3 are of a width to properly register with the lower ends of the columns a^2. Any suitable number of numerals indicating centuries are placed in said sectors concentrically around the disk in a left-hand consecutive order. For convenience, concentric rings b^4 are placed on said disk to separate numerals falling in the same sector. As all centuries of the new style calendar are not leap years but only those divisible by 400, it is necessary in spacing said century numerals around the disks to have due regard for leap year centuries and non-leap year centuries. Leap year centuries are placed in sectors adjacent to the previous century, while non-leap year centuries are made to skip a sector for a reason that will appear hereafter. Leap year centuries are designated in any preferred manner, as by heavily underlining. The numerals indicating the centuries of the old style calendar in vogue in England up to 1752 have been placed in their proper sectors where they overlap the centuries under the new style calendar instituted by Pope Gregory in 1581. The centuries of the old style calendar which overlap the centuries of the new style calendar may be printed in color

and designated by the words "Old style" printed adjacent thereto. Some easily distinguished guide mark b^5 is also placed at any desired point on the century disk, and other marks for convenience may be placed in every seventh space around said disk. The disk C is also divided into sectors equal in number to the sectors of disk B and adapted to register therewith. The different months of the year are placed in said sectors concentrically around the disk in a right-hand consecutive order. Those months falling by this method of arrangement in the same sector are separated from each other by concentric rings c^4. For convenience in adjustment of the calendar I prefer to overlap the placing of the months so that the entire twelve months will show in any 7 of the sectors, as shown by the drawings. The spacing of any two consecutive months upon this disk is determined by the remainder found after dividing the number of days of the previous month by the number of days in the week. Thus February is placed in the third space to the right from January, determined by the remainder 3 left from the division of 31 by 7. In order to provide for the change of months in leap years, January and February only are duplicated, the month to be used in a leap year being placed one sector to the left of the regular January and February. Thus in a leap year the distance between the February used and the month of March will be one space, the remainder obtained from dividing 29 by 7. The remaining months are used in the same manner both in leap years and non-leap years. These leap year months, January and February, are preferably distinguished in some particular manner either by heavily underlining or printing in color. Also in the sectors of disk C separated from the months by a concentric ring c^5 are placed the days of the week in their regular order. The reason for sub-dividing the disk in divisions of a multiple of 7 is now obvious, as it enables the placing thereon of an equal number of all the days of the week and in their proper order.

The cover disk D is provided with a monthly date table d', as is usual in calendars, in a space opposite its cut-away portion, in order to register the columns d^2 with the outer ends of the sectors of disk C containing the days of the week. The remaining portion of said cover disk surrounding this table may be occupied by advertising matter or other directions as to the use of the calendar.

The principle on which my calendar is constructed will be obvious from the foregoing description in connection with the following brief explanation.

A slight computation will show that the day of the week falling on the same date, for instance January 1st, in two consecutive centuries changes, due to the fact that the number of days in a century is not divisible evenly by the number of days in a week. Thus 36524 ÷ 7 equals 5217, with the remainder 5. Two days are lacking for bringing the week around to its starting point, and it is convenient to speak of this as, that the dates of successive centuries lose two days of the week. In a leap year century, however, dates lose but one day and the centuries are properly spaced on the century wheel, as above described, to provide for this change.

Assuming that the disk C containing the days of the week to be carried by the century disk with the month of January opposite the spot b^5 so that all changes and movements of the century disk will have reference to the month of January, then as the century disk is moved to the right to bring successive centuries opposite the 0 year column, the days of the week will also be moved to the right or backward, bringing the different days opposite any particular date column, as for instance the first, which, in the present instance, will indicate the first of January. January 1st will therefore lose the proper number of days of the week for each successive century, in accordance with the spacing of said centuries as before described.

It is well known that the day of the week falling on any particular date, such as January 1st, will also change for each succeeding year owing to the division 365 ÷ 7 equals 52, with the remainder 1. It is convenient to speak of this as the dates of each successive year gain a day. It should be kept in mind, however, that in the year following the leap year the dates gain two days. Assuming that the days are still carried by the century disk, then as the disk is turned to the left to bring any particular century, for example 1900, opposite successive years, the days of the week will move forward past the first date column, referring to January 1st. Thus January 1st will gain a day of the week for each ordinary year, and two days for each leap year. As the dates in January and February in a leap year should gain only one day, while the remaining months should gain two days, the reason for my duplication of the months January and February on disk C is now apparent. When the century disk is moved ahead two spaces in coming opposite a leap year column, the days carried thereby will be moved two spaces, but the further adjustment of the disk C to bring the leap year January opposite spot b^5 results in merely changing the day of the week one day ahead.

By the above explanation it is clear that if the days of the week were carried by the century disk, the day registering with the first of January would be properly changed by the manipulation of the century disk with

reference to the year table. As the first day of each succeeding month after January changes, the day of the week opposite the first date column must be still further changed for each month. This is accomplished by having the days carried on a separate disk from the century disk, and sliding this second disk C in relation to the century disk different distances each month. My preferred method of adjusting this second disk relative to the century disk is to place the months thereon and space them as previously described. The months may be thus moved past any designated point, as b^5, on the century disk to register the different months therewith which obviously changes the days of the week corresponding to the number of spaces between the different months.

The directions for using my calendar are as follows. Bring the century in the outer disk to the bottom of the column containing the year. Place the month opposite the black space on the century disk. The calendar is then set for the month. To find the year in any century above 2400, divide the century desired by 400, and if there be no remainder, use the century 2000 of my disk. If there be a remainder of 100, use 2100 as the century. If there be a remainder of 200 use 2200. If there be a remainder of 300 use 2300. Thus for any year in the century 2900 ÷ 400 equals 7 with the remainder of 100. Therefore use 2100.

I understand that many changes may be made in the construction shown in the drawings without departing from the spirit of my invention as defined in the claims, and I therefore do not wish my claims to be limited to the particular embodiment here shown.

What I claim is:

1. A perpetual calendar comprising a main card having a year table thereon containing the years zero to 99 inclusive, a card relatively movable thereto and having representations of centuries adjacent said year table, said movable card adapted to register the several centuries with the different years, a stationary portion of said main card having a monthly date table thereon including the numerals 1 to 31 inclusive, a second movable card having thereon the days of the week arranged adjacent said monthly date table of said stationary portion to register therewith, and also having the months of the year thereon arranged adjacent said first movable card.

2. A perpetual calendar comprising a main card having a year table thereon made up of numerals zero to 99 inclusive, arranged in columns, a century card relatively movable to said main card and having representations of centuries arranged in spaces adjacent to said year table, a stationary portion having a monthly date table thereon made up of numerals 1 to 31 inclusive arranged in columns, a second movable card having the days of the week arranged in spaces adapted to register with said monthly date column, said second movable card also having the months of the year arranged in spaces adjacent said century card, and adapted to register said months with any desired point of said century card.

3. A perpetual calendar comprising a main card having a year table thereon containing the years zero to 99 inclusive, a century disk pivotally mounted on said main card and having representations of centuries thereon adjacent said year table, said disk adapted to be rotated to register the several centuries with the different years of the year table, a card portion fixed to said main card having a monthly date table thereon containing the numerals 1 to 31 inclusive, a second disk pivotally mounted on said main card having the days of the week thereon arranged adjacent to said monthly date table and adapted to register therewith, said disk also having thereon the months of the year arranged adjacent to said century disk, and adapted to register said months with any desired point of said century disk.

4. A perpetual calendar comprising a main card having a year table thereon made up of numerals zero to 99 inclusive arranged in columns, a century disk pivotally mounted on said main card and having representations of centuries thereon arranged concentrically around said disk in sectors thereof, a stationary card portion fixed to said main card having a monthly date table thereon made up of numerals 1 to 31 inclusive arranged in columns, a second pivoted disk having the days of the week and also the months of the year arranged concentrically around said disk in sectors thereof.

5. A perpetual calendar comprising a main card having a year table thereon made up of numerals zero to 99 inclusive arranged in columns, a century disk pivoted on said main card and having representations of centuries arranged concentrically around the outer portion of said disk in sectors and adapted to register with said year columns, a second disk smaller in diameter than said century disk pivoted concentrically therewith, said second disk having the months of the year arranged concentrically around the outer portion thereof in sectors adjacent said century disk, a card member fixed to said main card and having a monthly date table thereon made up of numerals 1 to 31 inclusive arranged in columns, said second disk having the days of the week arranged concentrically around the inner portion thereof in sectors and adapted to register with said monthly date columns.

6. A perpetual calendar comprising a main card having a year table thereon containing the years 0 to 99 inclusive, a century card

movable relatively thereto and having representations of centuries thereon and means for registering said centuries with the different years, a card member having a monthly date table thereon containing the numerals 1 to 31 arranged in columns, a separate card member having the days of the week thereon and being relatively adjustable to the card having the monthly date columns thereon, one of said last-named card members having the different months of the year thereon adjacent to said century card and means for adjusting said monthly representations relatively to said century card to bring the proper days of the week in registry with the monthly date columns.

Signed at New York city this 30th day of January 1908.

JOHN F. STIMSON.

Witnesses:
CHESTER T. NEAL,
BEATRICE MIRVIS.