J. E. HEATH.

Calendar.

No. 219,156. **Patented Sept. 2, 1879**

Fig. 1.

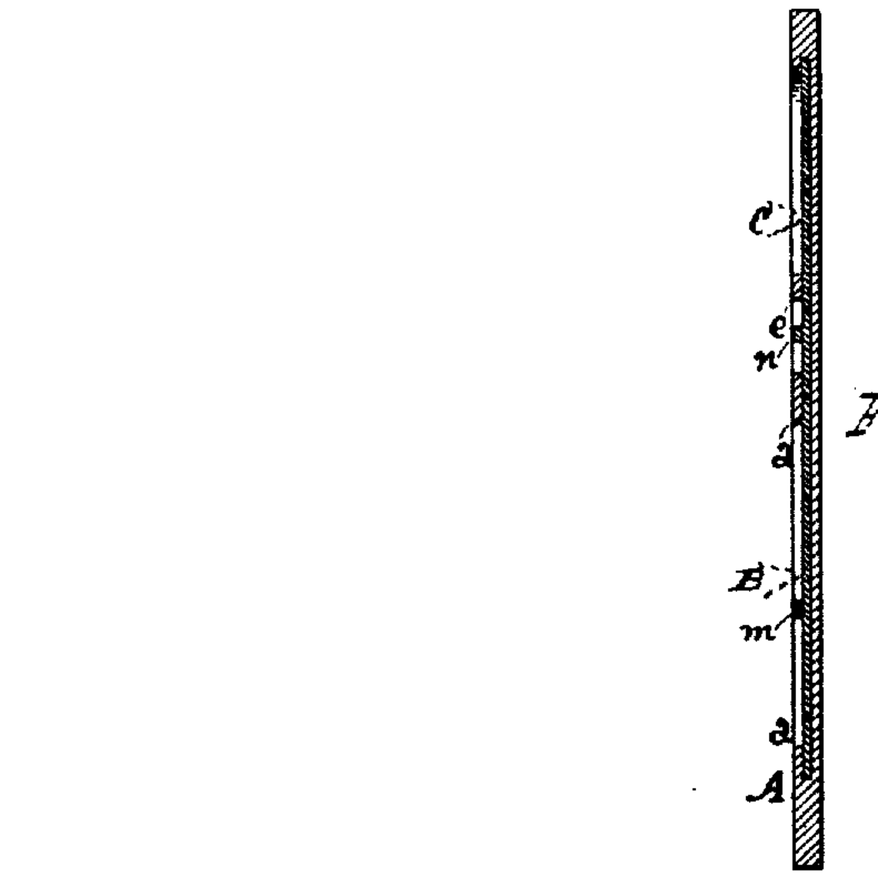

Fig. 2.

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IMPROVEMENT IN CALENDARS.

Specification forming part of Letters Patent No. **219,156**, dated September 2, 1879; application filed July 15, 1879.

To all whom it may concern:

Be it known that I, JOHN E. HEATH, of the city and county of Albany, and State of New York, have invented a new and useful Improvement in Mechanical Calendars, of which the following is a specification.

My invention relates to that class of calendars which employ movable or sliding strips or plates bearing the days of the month, and months of the year, and the years, and fixed or stationary strips or plates bearing the days of the week, and so combined and arranged in relation to each other that by simply moving into view the year the calendar is to refer to, all the months of the year will appear and be arranged over or above the days of the week the months begin with; and by moving the strip or plate bearing the days of the month so as to bring the first day of the month under or below the month to be referred to, the several days of the month will be brought in position in appropriate columns below or under the days of the week they correspond with in the said month referred to.

The invention consists in the combination and arrangement of the movable strips, hereinafter more fully described, with sight-openings and a stationary week slip or strip, in the manner hereinafter more particularly described and set forth.

The object of my invention is to produce a calendar whereby, when the year, month, and day of the month is given, the day of the week corresponding with month-day and year will be found.

Another object of my invention is to produce a calendar which, when set for a particular year, will have its several months also set to correspond with day of the week each month begins with, so that when the first month-number is moved to fall beneath or below the day of the week the month begins with, the calendar will be set for the month, so that an observer will be readily informed which days of the month correspond with the particular days of the week in the same month.

In the accompanying drawings, in which the same letters of reference indicate like parts, Figure 1 represents a plan view of my improved calendar, and Fig. 2 is a sectional view taken at line No. 1 in Fig. 1.

A is a sheet of stiff card-board or a piece of sheet metal, such as tin or brass, made with any length selected which will admit of an opening being made in it at about the middle of its length with a length equal to about one-third of the length of said card or sheet, as the month-number opening *a a a a*. The said sheet of material is made with a width sufficient to include the width of the month-number opening *a a a a*, week-line *c c*, month-opening *e e e e*, and length-of-the-year opening *s s*, as shown. The month-number opening *a a a a* is separated from the month-opening *e e e e* by the week-line strip *c c*. The month-opening *e e* may be separated from the year-opening *s s* by the connecting-strip *z*, if desired, for holding the corners from being bent, though such connecting-strip may be dispensed with. The said sheet A forms the face-piece of the calendar. Placed behind the face-piece A are the movable or sliding pieces B B B B and C C C C.

The sliding piece B B B B is subdivided into equal squares by lines, and is thirteen squares long and five squares wide, as shown in Fig. 1. These squares, excepting eight of them, bear numbers in the following order: The first line of squares, commencing at the left-hand side or end, bears the numbers 30 31, then four blanks, then numbers 1 to 7, inclusive; the second line of squares bears numbers 2 to 14, inclusive; the third line, numbers 9 to 21, inclusive; the fourth line, numbers 16 to 28, inclusive; and the fifth line, numbers 23 to 31, inclusive, with the remaining square blank. This sliding piece B B forms the month-number piece, and its central column of numbers commences with number or figure 1. Fixed to this sliding piece, on said central column of figures or numbers, is the finger-piece *m*, by which the operator will set the same in either direction to bring the figure 1 under the day of the week corresponding with the first of the month to be referred to for setting the said sliding piece for the entire month.

The sliding piece C C C C is divided in its length into thirteen spaces, each of which corresponds in width with the width of the squares in the month-number piece. The lower end portions of the said spaces bear the name or

names of some one or more months, as shown, which names of months are arranged in the order shown by full and dotted letters in Fig. 1, in which arrangement the month of October appears but once, February four times, the month of January appears three times, and the names of the other months appear twice. In this arrangement of the names of the respective months the months of January and October occupy the central space of the whole series, and the order of occupation of the names of the other months in the left-hand spaces are duplicated in the same order in the right-hand spaces, as shown by full and dotted lines. Fixed to the said sliding piece, in the central space occupied by "Jan.," "Oct.," is a finger-piece, *n*, by which finger-piece the said sliding piece may be moved and set in either direction, so as to bring the duplicated right and left hand month-names over the week-day names on strip *c c*, or portions of the duplicated month-names over said week-day names, as may be required, by reason of the year to be referred to.

The upper end portions of the seven middle spaces of the thirteen spaces of the sliding piece C C C C are occupied by figures representing years, each line of figures representing seven different years, which years are arranged in order in the respective spaces, substantially as shown by full and dotted figures in Fig. 1. If elected, the letters L and Y, indicating leap-years, may be introduced at the years in which February has twenty-nine days.

The mouth-name of January in the month-columns of "Jan.," "April," "July," and the month-name of February in the month-column of "Feb.," "Aug.," occurring with the leap-years, may be indicated by figures in gold or color, or by a * or +, or other symbol, or other indication that may be selected.

The manner in which the parts of this calendar are to be operated for placing or setting the respective months of the year to be referred to, with the days of the week the respective months begin, is as follows: At the beginning of the year—say the beginning of the year 1879—the operator will, by means of the finger-piece *n*, move the sliding piece C C C C in either direction, as may be required, so as to bring the figures 1879, or 79, in the year-opening S S, when the several months in that year will be in position in relation to the days of the weeks on which the first of each respective month occurs, and all the months will be set for the entire year, the months standing over the week-days with which the respective months begin. At the beginning of each month the operator will so move the sliding piece B B B B as to bring the figure 1 of the month-numbers directly beneath the month-name, when the day of the month will be in correspondence with the days of the week as they will occur throughout the entire month. In leap-years the operator will set the figure 1 of the month-piece numbers directly beneath the month-names of January and February bearing a symbol or other distinctive mark or sign indicating leap-year.

When year, month, and day of the month are given, and it is desired to find the day of the week corresponding, the operator will move the sliding piece C C C C so as to bring the year into the year-opening, when the month referred to will stand directly over the week-day on which the month begins. The operator will then move the month-piece so as to bring the figure 1 of the said piece directly under the week-day the month begins with, and by following up the column on which the day of the month given occurs to the week-day line, the week-day corresponding with the day of the month will be found. When the year, month, and a certain week-day are given, the day of the month corresponding may be readily known by adjusting the movable parts as before described.

The sliding pieces B B and C C may be guided and held in place by suitable ways or guides.

If selected, all the parts may be made of cast or struck metal, and with any size and capacity of years, from two to one hundred or more, and either plain or ornamental, as fancy might dictate.

I am aware that mechanical calendars with some of their parts movable have been employed heretofore; but in such calendars the movable part or parts carried either the days of the week and names of the months, while the years and days of the months were stationary, or the movable pieces carried the days of the month and years, while the days of the week and names of the month were stationary, or the days of the month and names of the months were made with the movable parts, while the names of the days of the week and years were on stationary parts.

In other calendars the part bearing the days of the month were made movable, while the parts bearing the week-days were stationary, and the parts bearing the names of the months were removable and required to be placed before openings, so as to show but the name of a single month instead of all the months, and the years also had to be singly placed in a receptacle.

None of these old ways embodies the features of my invention, as it is readily seen that by the employment of but one stationary part, the week-day strip *c c*, and a movable part bearing the years in the order of arrangement described, and also the month-names in the order of their arrangement in relation to the years on the same movable part, and also in relation to the week-day names in the stationary condition, I am enabled to produce a calendar which will require but one adjustment for the year to show all the months continuously throughout the year, and each month standing over the week-day on which it commences, while by the employment of another movable part bearing the days of the month, each month will have its days shown continu-

ously throughout the entire month in correspondence with the day of the week, and require only a monthly adjustment.

My invention obviates all necessity of employing detachable or removable parts or pieces heretofore employed in mechanical calendars and liable to be lost or mislaid.

It will be readily seen that my calendars may be made for pocket, desk, or wall use, and be compact and not liable to get out of order.

Having described my invention, what I claim, is—

1. The face-plate A, provided with year-opening *s s*, month-opening *e e e e*, and stationary week-day strip *c c*, in combination with the sliding or movable piece C C C C, arranged back of said face-piece and above said week-day strip, and bearing the years and duplicated names of the months in the order of their relative arrangement described, whereby the setting of said sliding or movable piece to carry a year into the year-opening will also carry the names of all the months in the year into the month-opening, with each month standing directly over the week-days each respective month begins with in the year exhibited, substantially in the manner described.

2. The combination and arrangement, with the face-piece A, provided with openings *s s*, *e e e e*, and *a a a a*, and stationary week-day strip, and the movable or sliding piece C C C C, bearing figures representing years and duplicated names of the months of the year, in the order of their relative arrangement described, of the sliding or movable piece B B B B, bearing figures representing the days of a month, arranged in the relative order described, substantially as and for the purposes set forth.

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