

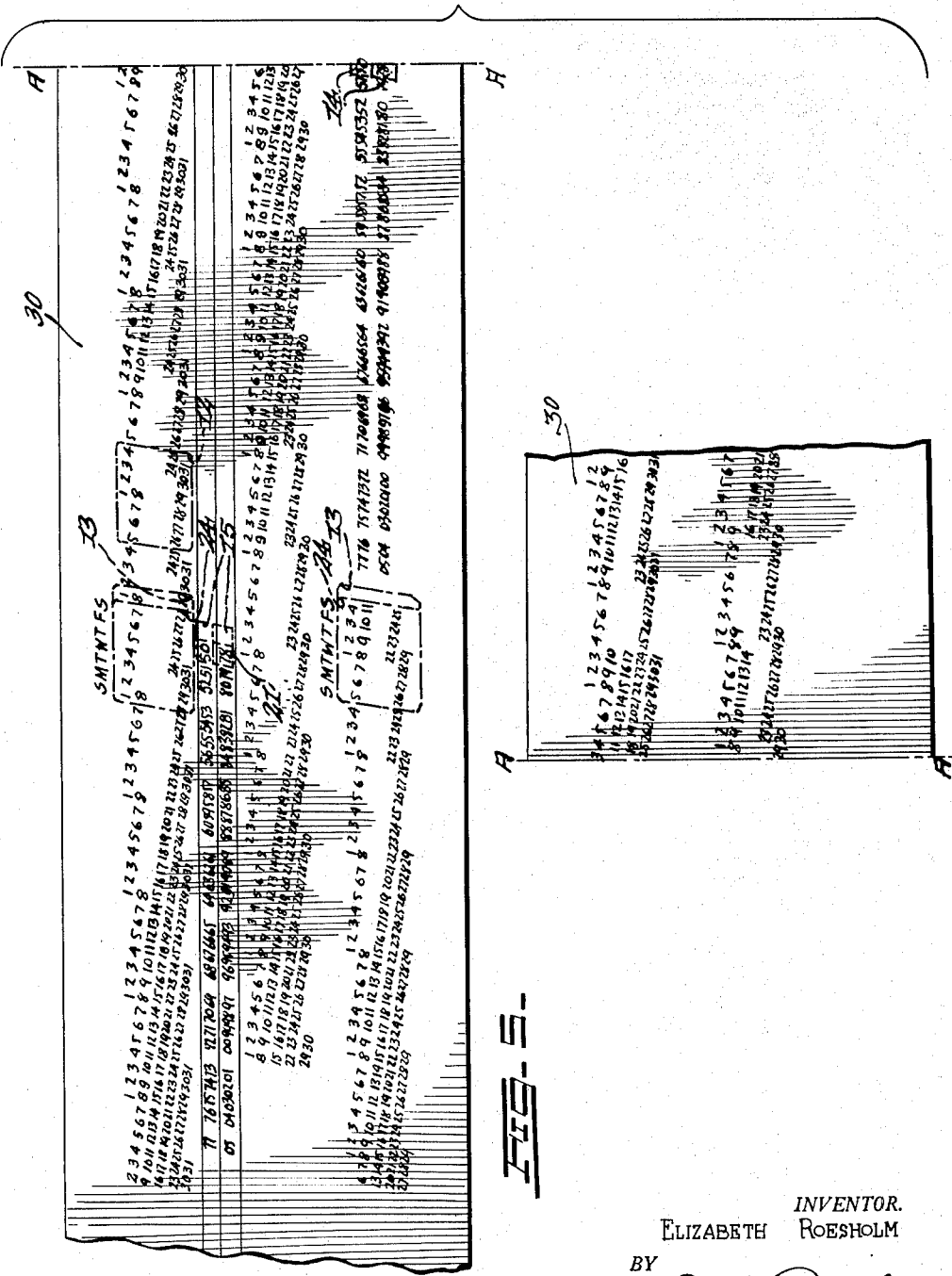
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PERPETUAL CALENDAR

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2 SHEETS—SHEET 2



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PERPETUAL CALENDAR

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5 Claims. (Cl. 40—117)

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This invention relates to new and useful improvements in perpetual calendars.

Calendars are known which by means of key numbers or the like can be manipulated to provide a more or less perpetual time record. It is also known that the Gregorian system of time measurement which is in general use throughout the world provides for twenty-eight year cycles, that is to say, in any given year each date occurs on the same day of the week as in a year removed therefrom by twenty-eight years or any multiple thereof.

One object of the invention is the provision of a calendar arranged to perpetuate itself indefinitely in accordance with said system of twenty-eight year cycles.

Another object is to arrange said calendar so that by setting the same to the correct year, the days of the several months automatically are indicated properly.

Still another object of the invention is the provision of a perpetual calendar which is free of the faults and complexities of prior art calendars.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of an embodiment of the calendar of the invention.

Fig. 2 is a sectional view on line 2—2 of Fig. 1.

Fig. 3 is a sectional view on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary sectional view on line 4—4 of Fig. 1.

Fig. 5 is a partially diagrammatic view of a tape utilized by the device.

The principle of the invention is applicable in a variety of forms of which the preferred one is illustrated in the drawings. Referring to Figs. 1, 2 and 3, the reference numeral 10 indicates a flat box or cabinet of wood or other suitable material adapted to be laid atop a desk or the like or hung on a wall. The frontward or upper wall 11 of the cabinet 10 is provided with ten windows or openings 12, one for each of the months March through December, and with two over-size windows 13 for the months of January and February. The openings 12 and 13 are located mainly in two horizontal rows, openings representing the months of January, March, May, July, August, October and December being in one row, and openings representing the months April, June,

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September and November being in the second row. The opening 13 for February is located directly beneath that for January and below the April, June, etc., row of openings 12. The purpose of this arrangement will become apparent hereinafter.

There also are provided a plurality of small openings 14 which are utilized for indicating the year, such openings being located beneath the September opening 12 in the present instance. Between the January and February windows 13 a pair of lateral year slots 15 are provided for use with the said windows 13, as will become apparent hereinafter.

As shown in Fig. 1, letters indicating the several days of the week are printed or otherwise inscribed on wall 11 above each monthly opening 12 in the appropriate positions. Each of the openings 12 also is provided with the appropriate monthly designation as shown.

Slidably mounted on the front wall 11 of box 10 and covering the windows 13 is a panel 17 having at its upper end an extrusion 18 which extends into a notch 20 in the front upper edge of the box, see also Fig. 3. At about its center said panel is provided with a slot 22 through which projects a double-headed stud 23 secured in the front wall 11. The construction is such that the said panel is slidable horizontally but is detained in set position by the head of stud 23.

The panel 17 is provided with a pair of windows 24 of the same size as the windows 12 described above, each said window being located in vertical alignment with one of the windows 13. Above each window 24 letters indicating the several days of the week are printed or otherwise inscribed on the panel 17. The windows 13 are wider than the windows 24 by one day of the week space (see Fig. 4), and the amount of movement of panel 17 is regulated to cover the rightmost or leftmost space in window 13 by the edges of window 24. The utility of this arrangement will be pointed out hereinafter.

Also provided in panel 17 are a pair of year indicating windows 21 of substantially half the width of the slots 15 with which they are aligned vertically. Thus, the movements of panel 17 uncover the rightward or leftward halves of said slots alternatively.

Within cabinet 10 there is provided in parallel spaced relationship two spindles 25 each journaled at the upper end thereof in a cross member 26, and each having a reduced lower end extended through and journaled in the bottom 27 of said cabinet, see Figs. 1 and 2. Where the spindles

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25 project through the bottom piece 27 each has secured thereon a suitable knob 28 by which the spindle can be turned. Wound on both said spindles 25 is a tape 30 of suitable material, such tape being clearly visible through the windows 12, 24, etc.

The tape 30 has printed thereon in vertical alignment with each row of openings 12 and in alignment with the lowermost opening 13 a block of numbers as shown in Fig. 5. In this figure the leftmost opening 24 for the month of January is shown as encompassing seven vertical columns of numbers on the tape, the seven columns representing the seven days of the week, and the numbers in said columns extending from 1 to 31 in the usual manner. To the left of said seven vertical columns there are provided thirty-four vertical columns of numbers such that no matter which seven columns are encompassed by the January opening 24, the numbers therein extend from 1 to 31; and this same condition exists for the March, May, July, October and December openings 12 which, however, being located rightward of the January opening, have a greater number of columns of numbers to the left thereof. This is accomplished by extending each of the lateral rows of numbers in the seven rightmost vertical columns of the block leftward in inverse progression to 1, and by adding successively lower lateral rows of numbers extending from 31 in inverse progression leftward toward 1 every eight columns following that in which the rightmost number 31 occurs. The lower ones of said added rows extend leftward only to the thirty-fourth column beyond the said January opening, this being the limit of the number block. As shown in Fig. 5, the lateral rows of numbers are inclined upwardly toward the left so that whereas the number 31 is located in the bottom one of the rows visible through a particular window 12, the number 1 of the row is located in the topmost one of the rows of numbers visible through a said window. Thus the windows 12 can be made comparatively narrow from top to bottom.

The day of the week on which the first of March occurs changes by one day from one year to the next, and by two days between a leap year and the preceding year. It will be seen, therefore, that in order for the number 1 to fall in the correct day position in the March opening 12, it is necessary to move the tape 23 rightward one number position between each year and two number positions before each leap year, by means of the appropriate knob 28.

In order to facilitate moving the tape the correct number of positions and also to indicate the year for which the calendar is set, a second block of numbers is provided in vertical alignment with the March-December windows 14, see Fig. 5. The numbers in this block are arranged in lateral rows and each indicates a year, that is, 1950, 1951, 1952, etc. Each lateral row contains twenty-eight year numbers with the lowest number at the right. Between each leap year number and the number for the preceding year a number position is left blank. In the illustrated instance, the rightmost number of each row is aligned with a window 14, said numbers, in the present instance, being 50 and 78. With these numbers visible the number 1 seen through the March opening 12 occurs under the Wednesday designation. If the tape be moved rightward to make visible the numbers 51 and 79, the number 1 would occur in the Thursday

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column; and if the tape be moved two steps rightward to 1952 which is a leap year, then the number 1 would occur under Saturday. Finally, when the tape is moved rightward to its limit to bring the number 1977 into alignment with the upper window 14, the number 1 in the March opening 12 occurs in the Tuesday column. This, it will be seen, is one step removed from the original setting wherein the 1 was located in the Wednesday column. Therefore the tape is moved leftward to the initial position resetting the calendar for another twenty-eight year period beginning with the year 1978.

It is to be mentioned at this point that whereas only two rows of year numbers are illustrated, any number could be provided, and if desired, means can readily be provided for blocking the view of the numbers in those rows not being used at a particular time.

The block of numbers for the lower row of windows 12 is the same as just described except that the numbers extend only from 1 to 30, there being only 30 days in the months represented by said windows; that is, April, June, September and November. A block of numbers similar to that above described is provided for the February window 24 on the same tape 30, this latter block of numbers extending only from 1 to 29, however.

The purpose of having the sliding windows 24 for January and February is to take into account the fact that in leap year the extra day is added at the end of February. Thus the day of the week on which the first of January and February occurs is not affected by leap year until the following year, whereas the other months from March to December are affected in this respect during leap year.

A separate block of year numbers is provided for January and February, the arrangement of said yearly numbers, however, being different from that for March-December. That is, a number space is left blank between each leap year and the following year rather than between each leap year and the preceding year. Here again twenty-eight year numbers are provided in each row to allow the calendar to perpetuate itself indefinitely, that is to say, to begin a new cycle every twenty-eight years.

It will be seen that with the panel 17 in its leftward position, the rightmost column of numbers in each window 13 is obscured, and the leftmost made visible. Further, the year number in the rightward end of each slot 15 is obscured and the year number in the leftward end thereof made visible through window 21. Thus, as shown in Fig. 5, the year numbers 50 and 78 are visible in the windows 21 at the same time that the identical numbers are visible through windows 14.

However, when the tape is moved rightward two spaces from the position in which the year number 51 is visible in the uppermost window 14 to that in which the year number 52 is visible in said hole, a blank space is visible in the uppermost window 21 in panel 17. Therefore, to make visible the number 52 in said window, the panel is moved rightward one space. By referring to Fig. 5 it will be seen that this not only makes visible the correct year number, but also aligns the day of the week indicating letters with the appropriate numerals visible through the January and February windows 24. At the end of the year 1952, or any other leap year, the panel 17 is moved to its leftward position again to

make visible the next following year number rather than the blank space between it and the leap year number. The calendar is then in the initial condition illustrated.

It will be seen, therefore, that all that is required to set the calendar for a given year is to move the tape 30 and, if needed, the panel 17, into positions to bring the number of that year into view through the windows 14 and 21. In doing this the monthly dates are positioned automatically.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A perpetual calendar which comprises a movable tape, blocks of day numbers printed on said tape in rows, one block for February, one for the thirty-one day months and one for the thirty day months, masking means for said tape having therein a plurality of windows, one for each month, said blocks of numbers being so arranged that the correct day numbers of the appropriate month are visible through each said window, means for indicating the positions in each said window of the seven days of the week, blocks of year numbers on said tape arranged in rows, twenty-eight numbers to a row, one for January and February and one for the other months, windows in the masking means for viewing one said year number in each row at a time, the year numbers for January-February being so arranged that a number position is left blank between each leap year number and the number for the following year, and the year numbers of the other block being arranged so that the blank space is left between each leap year number and the number of the preceding year, and means for shifting the January-February day and year windows one space lengthwise of the said rows, the arrangement of the day numbers and the positional relationship between the year numbers and the day numbers being such that the day numbers are located in the correct day of the week positions in said windows when each of the twenty-eight year numbers in a row is visible.

2. A perpetual calendar which comprises a movable tape, blocks of day numbers printed on said tape in rows, one block for February, one for the thirty-one day months, and one for the thirty day months, masking means for said tape having therein a plurality of windows, one for each month, said blocks of numbers being so arranged that the correct day numbers of the appropriate month are visible through each said window, means for indicating the positions in each said window of the seven days of the week, blocks of year numbers on said tape arranged in rows, twenty-eight numbers to a row, one for January and February and one for the other months, windows in the masking means for viewing one said year number in a row at a time, the year numbers for January-February being so arranged that a number position is left blank between each leap year number and the number for the following year, and the year numbers of the other block being arranged so that the blank space is left between each leap year number and

the number of the preceding year, means for shifting the January-February day and year windows one space lengthwise of said rows, the arrangement of the day numbers and the positional relationship between the year numbers and the day numbers being such that the day numbers are located in the correct day of the week positions in said windows when each of the twenty-eight year numbers in a row is visible, and means for moving the tape past said windows.

3. A perpetual calendar which comprises a movable tape, blocks of years numbers on said tape arranged in rows, twenty-eight numbers to a row, one for January and February and one for the other months, the year numbers for January-February being so arranged that a number position is left blank between each leap year number and the number of the following year, and the year numbers of the other block being so arranged that a number position is left blank between each leap year number and the number of the preceding year, means for masking the tape, windows in said masking means for making visible one year number in each row, a plurality of blocks of day numbers on said tape arranged in rows, one block for February, one for the thirty-one day months and one for the thirty day months, a plurality of windows in said masking means, one for each month, said blocks of day numbers being so arranged that the correct day numbers of the appropriate month are visible through each said window, means for indicating the seven day of the week positions in each latter said window, and means for shifting the January-February day and year windows one space lengthwise of said rows, the arrangement of the day numbers and the positional relationship between the year numbers and the day numbers being such that the day numbers are located in the correct day of the week positions in the latter said windows when each of the twenty-eight year numbers in a row is visible.

4. A perpetual calendar which comprises a movable tape, blocks of year numbers on said tape arranged in rows, twenty-eight numbers to a row, one for January and February and one for the other months, the year numbers for January-February being so arranged that a number position is left blank between each leap year number and the number of the following year, and the year numbers of the other block being so arranged that a number position is left blank between each leap year number and the number of the preceding year, means for masking the tapes, windows in said masking means for making visible one year number in each row, a plurality of blocks of day numbers on said tape arranged in rows, one block for January and February, one for the thirty-one day months and one for the thirty day months, a plurality of windows in said masking means, one for each month, said blocks of day numbers being so arranged that the correct day numbers of the appropriate month are visible through each said window, means for indicating the seven days of the week positions in each latter said window, means for shifting the January-February day and year windows one space lengthwise of said rows, the arrangement of the day numbers and the positional relationship between the year numbers and the day numbers being such that the day numbers are located in the correct day of the week positions in the latter said windows when each of the twenty-eight year numbers in a row

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is visible, and means for moving the tape past said windows.

5 A perpetual calendar which comprises a movable tape, blocks of year numbers on said tape arranged in rows, twenty-eight numbers to a row, one for January and February and one for the other months, the year numbers for January-February being so arranged that a number position is left blank between each leap year number and the number of the following year, and the year numbers on the other tapes being so arranged that a number position is left blank between each leap year number and the number of the preceding year, means for masking the tapes, windows in said masking means for making visible one year number in each row, means for moving the tape past said windows, a plurality of blocks of day numbers on said tape arranged in rows, one for February, one for the thirty-one day months, and one for the thirty day months, a plurality of windows in said mask-

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ing means, one for each month, means for indicating the seven day of the week positions in each said latter window, and means for shifting the January-February day and year windows one space lengthwise of said rows, the arrangement of the day numbers and the positional relationship of the year numbers therewith being such that the correct numbers are presented in each day of the week position for each of the twenty-eight year positions indicated in the first said windows.

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