

(No Model.)

J. D. WATTERS.  
CALENDAR.

No. 447,171.

Patented Feb. 24, 1891.

Fig. 1.

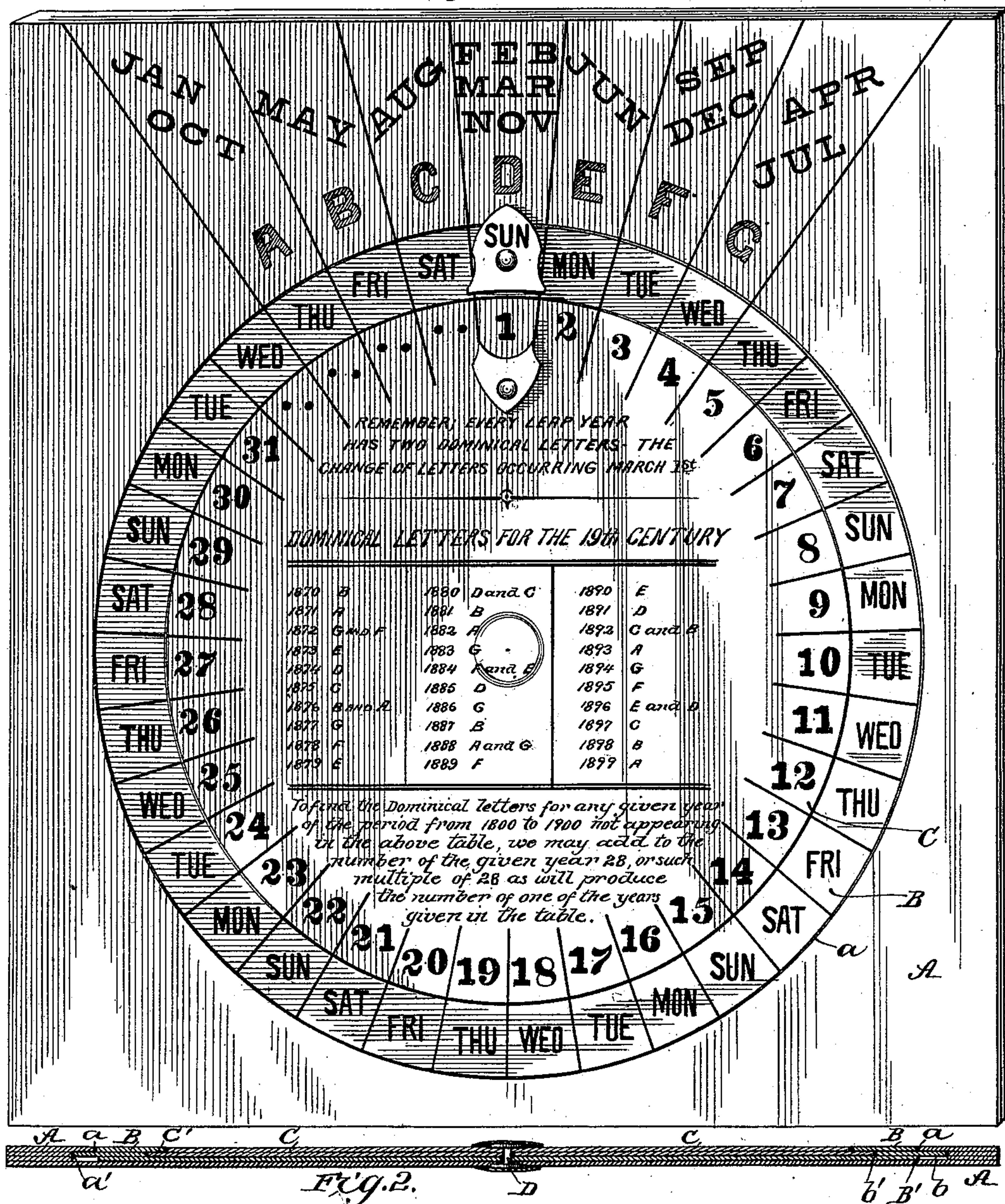


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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JAMES D. WATTERS, OF BELAIR, MARYLAND.

## CALENDAR.

SPECIFICATION forming part of Letters Patent No. 447,171, dated February 24, 1891.

Application filed November 29, 1890. Serial No. 373,041. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES D. WATTERS, of Belair, in the county of Harford and State of Maryland, have invented a new and useful  
5 Improvement in Calendars, of which the following is a specification.

My invention is an improved universal calendar; and it consists in certain novel constructions and combinations of parts, as will  
10 be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a front or face view of a calendar constructed according to my invention. Fig. 2 is a cross-section  
15 thereof on about line 2 2 of Fig. 1, and Figs. 3, 4, and 5 are detached sectional views of the edges of the several sections, all of which will be described.

In the construction shown the calendar comprises three sections A, B, and C, A being the main section, B the intermediate section, and C the inner section. The section B is supported to turn within the section A and the section C to turn within the section B, such  
20 sections B and C being movable independently of each other. As shown in the drawings, the section A is a flat plate or board, and the sections B and C are concentric disks supported to turn, and this construction is preferred.  
30

In describing the details of section A it may be defined as having a circular recess *a*, the edge of which is undercut or provided with a groove *a'*. The section B is a plate fitting  
35 in the recess *a* and having at its outer edge a bead or flange *b* to fit in the groove *a'*, and is provided near such outer edge with a ring or annulus *B'*, the outer edge of which fits snugly to the walls of the recess *b*, and at the  
40 inner edge of which is provided a groove *b'* to receive the flange *C'* at the outer edge of the section C. The sections B and C turn on a common center shaft D.

By preference the sections A, B, and C are  
45 composed of layers of card-board properly cut to provide the recesses and grooves before described; but manifestly they might be otherwise constructed without departing from some of the broad principles of my invention.

50 Upon the main section A, I provide the dominical letters A, B, C, D, E, F, and G, arranged in the order named. It is preferred

to use these letters because their relation to the years is now well recognized, clearly defined, and generally understood by those  
55 versed in chronology. It is manifest, however, that instead of such letters I might use the numerals 1 to 7, or I might use other characters if such numerals or characters be used to designate the years in similar manner  
60 to the dominical letters. Such numerals or characters might to a certain extent be regarded as equivalents of the dominical letters; but as their use would probably lead to confusion and inaccuracy it is much preferred to  
65 employ the dominical letters. The section A is also provided with the names of the months arranged in the order shown, January and October being adjacent to A, May adjacent to B, August to C, February, March, and November to D, June to E, September and December to F, and April and July to G. This arrangement is by no means arbitrary, but the reasons for it will be understood from the following explanation: Starting, for instance,  
70 with the first of January at A and counting the days of January along the series of dominical letters, it will be found that the 29th of January will be at A, the 30th at B, 31st at C, and that the first of February will be found  
80 at D. Now counting the days of February in similar manner to those of January it will be found that the 28th of February will come at C and the 1st of March at D, and so on from month to month. With this description of  
85 the mechanical structure and arrangement of section A it must be apparent to all familiar with the well known and recognized properties and uses of the dominical letters that section A is in its most essential parts a scale or  
90 scheme designed to exhibit to the eye the true relation of the first days of the several calendar months to each other in reference to the days of the week, and also to exhibit to the eye the true relation of the first days of the  
95 several months of any year to Sunday of that year.

The section B is provided with the days of the week, Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday, such  
100 names of days being arranged in a number of series around the section B and arranged to register with the dominical letters. In this connection it will be noticed that if the first,



second, third, or any other day in January be Sunday the correspondingly-numbered day in May will be Monday; in August Tuesday; February, March, and November, Wednesday; 5 June, Thursday; September and December Friday, and April and July Saturday. This rule is invariable, except in the case of leap-year, which will be hereinafter explained.

The section C is provided with numerals or 10 subdivisions up to 31, which register with the days of the week and may be turned to bring one to register with any day of the week.

In connection with my improved devices, before described, I employ tables giving the 15 dominical letters for the periods in which it is desired to find the days of the week.

At present I prefer to print the dominical letters for the nineteenth century upon the face of the section C, while upon the back of 20 the main section A, I print tables of the dominical letters running from the year 1 in the first period to the year 1752; in the second period from 1752 to 1800, and in the fourth period from 1900 to 2100, and also a 25 general rule to find the dominical letter for any given year of the Christian era.

It will be understood that these tables do not contain all the years and corresponding dominical letters of the several periods, but 30 contain a number of such years and a rule by which to ascertain those of the other years from the years and letters given.

Manifestly these tables need not be printed on the calendar, but may be on separate slips 35 or in a pamphlet, the calendar being intended, when the dominical letter of any year is given, to enable the user to quickly ascertain the day of the week of any given day of any month in the said year.

40 It should be remembered that leap-year has two dominical letters, the change of dominical letters occurring March 1.

While the flat plate and disk construction is preferred, it will be understood that instead 45 of such construction the dominical letters, names of days, and numbers of days may be provided on separate independently and longitudinally movable strips, or such parts may be provided on cylinders revoluble one within 50 the other without departing from some of the broad principles of my invention.

In using the calendar I will suppose that it is desired to know the day of the week upon which the first day of February, 1891, will occur. On reference to the table for the nine- 55 teenth century it is found that D is the dominical letter for that year, and the section B is turned to bring Sunday in register with the dominical letter D on section A, and the section C is turned to bring the numeral 1 to 60 register with the month February, when it will appear that February 1 is Sunday and the remaining days in February will appear in relation to the days of the week, as shown in Fig. 1. For January the section C should 65 be turned to bring the numeral 1 in register with the month January, which will show

that the first day of January, 1891, will occur on Thursday.

Having thus described my invention, what I claim as new is— 70

1. A calendar having a section, as A, provided with the characters, substantially as described and shown, designed and adapted to exhibit to the eye the true relation of the 75 first days of the several calendar months to each other with reference to the ordinary days of the week, and also to exhibit to the eye the relation of the first day of the several calendar months of every year to Sunday, sub- 80 stantially as described, and for the purposes set forth.

2. The improved calendar, substantially as described, comprising a section provided with the characters or symbols adapted and de- 85 signed to exhibit to the eye the true relation of the first days of the several calendar months to each other, and also the true relation of the first days of the several calendar months of every year to Sunday, a second 90 section provided with the days of the week arranged to register with the characters or symbols on the first section, and a third section provided with the days of the month ar- 95 ranged to register with the said days of the week and with the said characters or symbols on the first-named section, the said sections being movable relatively, substantially as shown and described, and for the purposes 100 specified.

3. A calendar, substantially as described, comprising a section provided with the do- 105 minical letters or their equivalents, a section provided with the days of the week arranged to register with the said dominical letters, and a section provided with the days of the month arranged to register with the days of the week, the said sections being movable rela- 110 tively, substantially as described, and for the purposes specified.

4. The improved calendar herein described, comprising a section provided with the do- 115 minical letters or their equivalents, a section provided with the days of the week arranged to register with the dominical letters, and a section having thirty-one numbers or subdivisions and arranged to register with the days of the week, the said sections being movable relatively to each other, all substan- 120 tially as and for the purposes set forth.

5. A calendar, substantially as described, consisting of a main section provided with the dominical letters, a disk-section turning in said main section and provided with the days of the week arranged in a number of 125 series following each other, and a disk-section concentric with the first-named disk and provided with numbers from one to thirty-one, such disk-sections being movable inde- 130 pendently of each other and of the main section, all substantially as and for the purpose set forth.

6. A calendar, substantially as described, provided with the dominical letters and hav-



ing the names of the months arranged adjacent to the said dominical letters and in the fixed relation to said letters substantially as described and shown.

5 7. In a calendar, the combination of the main section having the dominical letters and provided with the names of the months arranged adjacent to and in the relation to said letters substantially as described, and the  
10 movable sections, one section having the days of the week arranged to register with the dominical letters and the other section having numbers arranged to register with the days of the week, all constructed and adapted for  
15 use substantially as and for the purposes set forth.

8. The calendar herein described, consisting of the main section having the dominical letters and provided adjacent thereto with

the names of the months arranged in relation 20 to the said letters, substantially as shown, the movable disk B, having the names of the days of the week arranged to register with the dominical letters and the movable disk C, having the numbers of the days of the month arranged to register with the days of the week, 25 all substantially as and for the purposes set forth.

9. The calendar consisting of the main section A, having a recess  $a$  and groove  $a'$ , the 30 disk B, having a flange  $b$ , fitted to said groove  $a'$  and a groove  $b'$ , and the disk C, having a flange  $C'$  to fit the groove  $b'$ , all substantially as and for the purpose set forth.

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