C. B. Owen.

Calendar Clock.

No. 54,198. Patented Sept. 24, 1866.

Fig 1.

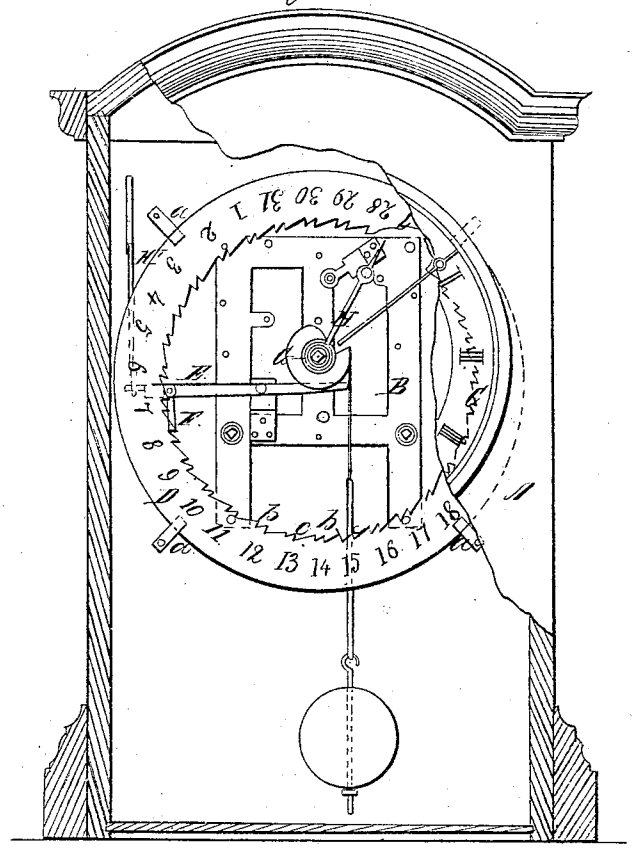
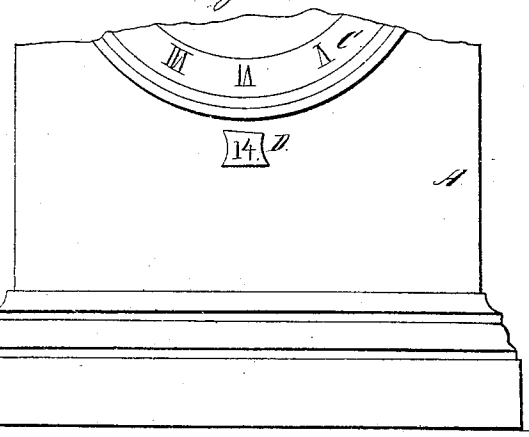


Fig 2.



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GEORGE B. OWEN, OF NEW YORK, N. Y.

IMPROVEMENT IN CALENDAR-CLOCKS.

Specification forming part of Letters Patent No. **54,198**, dated April 24, 1866.

To all whom it may concern:

Be it known that I, GEORGE B. OWEN, of the city, county, and State of New York, have invented a new and Improved Calendar Attachment for Clocks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front sectional view of a clock with my invention applied to it; Fig. 2, a front view of the lower part of the same.

Similar letters of reference indicate like parts.

The object of this invention is to obtain a simple and economical device which may be applied to clocks and operated from the movements thereof, so as to indicate the days of the month.

Various calendar attachments have been devised for clocks, but they have not been generally adopted on account of being expensive and liable to get out of repair, and to render the clocks to which they are applied very inaccurate time-keepers, difficulties which, it is believed, are fully obviated by my invention.

A represents a clock-case, and B the frame received therein, in which the movement is placed. C represents a portion of the dial of the clock. These parts, being of usual construction and well known, require no special description.

D represents an annular plate, which is fitted in bearings *a*, attached to the inner surface of the front of the case. This annular plate is allowed to turn freely between the bearings *a*, and the latter may be provided with friction-rollers, if desired, to insure the free rotation of said plate. The plate D is divided into thirty-one (31) equal parts, being numbered from one (1) to thirty-one, (31,) inclusive, and an opening is made in the front of the close case opposite the lever part of the annular plate, said opening being sufficiently large to expose the numbers on the plate, one number being exposed at a time. (See Fig. 2.)

The inner edge of the plate D is notched or toothed, the teeth being alternately large and small, *b* being the large, and *c* the small, teeth, as shown clearly in Fig. 1.

E represents a lever, the fulcrum-pin *d* of which passes into the frame B. The other end of this lever has a pendent pawl, F, attached to it, which pawl engages with the teeth *b c*, at the inner edge of the plate D, and the opposite end of said lever bears against a cam, G, which is fitted on the sleeve of the hour-hand H.

The cam G, it will be seen, makes one revolution every twelve hours as it moves with the hour-hand, and the cam G is of such a shape that it will move the plate D one tooth at the termination of each revolution every twelve hours. These movements of the plate D are not all alike. They are alternately greater and less, owing to the difference in the length of the teeth *b c*. The object of this is to prevent the plate D being moved sufficiently far to expose a number through the opening in the front of the clock-case at each revolution of the cam G. A new number should be exposed only for every two revolutions of the cam—that is, every twenty-four hours, one day. Hence, it will be seen that if the plate D is set at the first day of each month, so that the number 1 will be in line with the opening in the front of the clock-case, and the plate D turned sufficiently far every twenty-four hours to expose the numbers on said plate consecutively, from 1 upward, the day of the month will be indicated.

In order to set the plate D at the commencement of each month a rod, H′, is connected with the outer end of the lever E, said rod extending back through a slot in the rear side of the clock-case. By actuating this rod H′ the lever E and pawl F will be operated and the plate D turned.

I would remark that instead of having the plate D provided with large and small teeth alternately, they may be of equal size, and the motion of the cam G reduced by means of gears, so as to make one revolution only in twenty-four hours. This, however, would be more complicated and inferior to the plan described.

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

1. The annular plate D, numbered and toothed, and placed between bearings *a*, so as to be capable of rotating freely, in connection with the cam G, lever E, and pawl F, or their equivalents, applied to a clock-movement, to operate substantially in the manner as and for the purpose herein set forth.

2. Providing the plate D with alternate large and small teeth, in connection with the opening in the front of the clock-case, so that the plate D will be moved under two revolutions of cam G to expose a succeeding number through said opening only once in twenty-four hours.

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