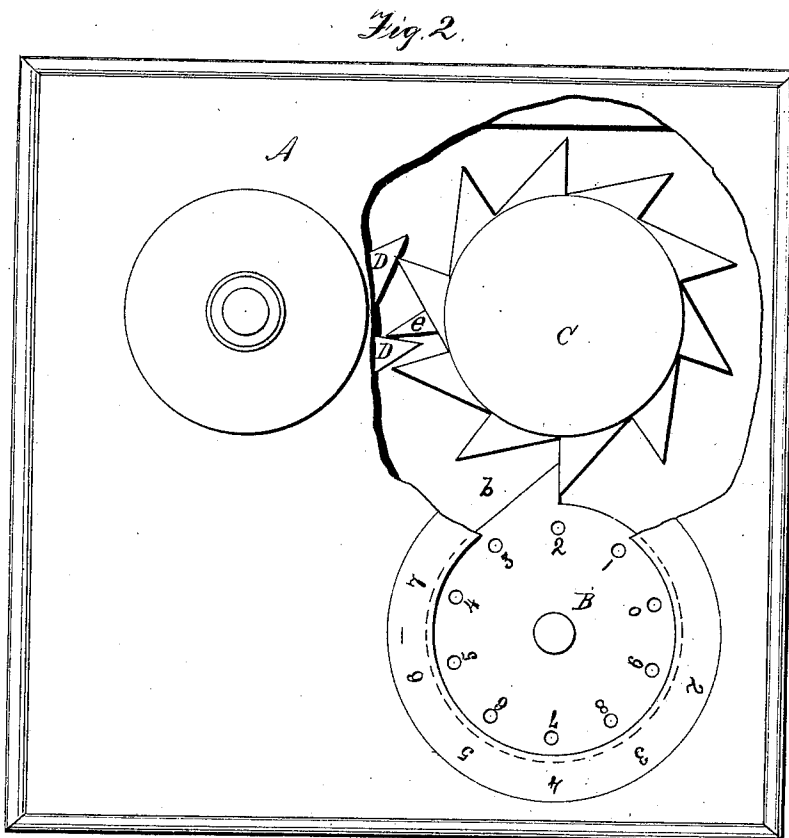
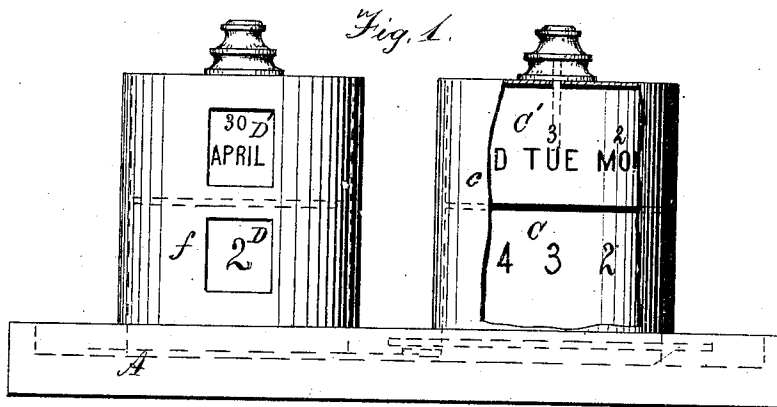


W. BROOMHALL.

CALENDAR AND ADDING MACHINE.

No. 178,505.

Patented June 13, 1876.



Witnesses
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UNITED STATES PATENT OFFICE.

WEBB BROOMHALL, OF HARTFORD, OHIO.

IMPROVEMENT IN CALENDARS AND ADDING-MACHINES.

Specification forming part of Letters Patent No. **178,505**, dated June 13, 1876; application filed May 1, 1876.

To all whom it may concern:

Be it known that I, WEBB BROOMHALL, of Hartford, in the county of Licking, and State of Ohio, have invented a new and useful Improvement in Calendars and Adding-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows a side elevation, and Fig. 2 a plan view, of my machine, the outer casing being broken away in some places, more clearly to show the parts.

My invention relates to adding or calculating machines, and consists more particularly in improvements in the details of construction, and in combining therewith a calendar, as will be more fully set forth hereafter.

Referring to the drawing, A is a base containing the wheels B C D. The wheel B is numbered around its margin from 0 up to 9, at regular spaces; and on the edges of the plate above it, which forms the covering of the case, and is cut away to show the wheel, I place other figures, from 1 to 10, to correspond with the figures on the wheel. This wheel B has small holes near the figures on its face. It has also a tooth, *b*, which strikes the teeth of the wheel C; these are ten in number, and are so arranged that one revolution of the wheel B will move the wheel C one-tenth of its circumference. The wheel C has a tooth similar to that on B, and for the same purpose. It is marked *e*, and is located beneath the line of the other teeth upon C, and strikes and turns the teeth of D in the same manner as the tooth upon B strikes and turns the wheel C. The wheel C is made thick, and rises through the upper covering of the lower case into a circular case, *c*. It is marked on its periphery with numerals from 1 to 10. The cogs or teeth project beyond the circumference of the upper part, as shown in Fig. 1. An opening in the front part of the case *c* discloses the figure moved thereto. Above the wheel C is mounted another wheel, C', on a spindle, supported by a knob fixed upon the spindle and resting on the upper covering of the case *c*. This wheel is also made of sufficient thickness to allow space on its periphery

for the names of the days of the week, and their relative numbers, if desired. These are disclosed suitably through an opening in the front, in the same manner as the numbers on the wheel below. The supporting-knob, into which the spindle of the wheel is fixed, is a milled head, or of suitable size and shape to be grasped by the operator, and by it the upper wheel is turned at will. The disk or wheel D, turned as described, projects upward into an upper casing, *f*, precisely like the case *c*. It is marked with figures from 1 to 10, in the same manner as the wheel C, and the figures show in like manner through openings. Above the wheel D is another, marked D', precisely like C', and suspended in the same way. It is marked in the periphery with the names of the months of the year, and over each name may be placed, if preferred, the number of days in that month.

The form of the bottom case may be varied, as well as that of the cases *c* and *f*, and the proportions of the parts and style of marking may be changed without departing materially from the principle of my construction. For convenience, I have placed a milled head on the spindles of C and D underneath, so that they can be turned by hand.

The operation of my improved apparatus may be readily understood from the description of the structure. A revolution of the disk B registers ten, when the machine, before put in operation, was arranged with the ciphers of the disk and its numbered margin opposite each other. The ciphers on the other wheels should be also exposed. When the disk B has passed the zero-point again the arm on said disk will have struck one of the teeth on C, and by turning it, have exposed the Fig. 1, which registers ten.

In like manner, every revolution of B, counting ten, registers it on C up to 9, when the next revolution of C turns D, which thus registers ten revolutions of the wheel numbering tens, and thus registers one hundred. Thus the numbers proceed up to one thousand.

Those skilled in these machines can thus readily use them in various ways to add numbers.

In addition to this the device may be used as a calendar. The days of the month may

be kept on the two wheels C and D, beginning with one on C up to 9, and then using the figures on C for units, and those on D for tens. The disks above, having the weeks and months, are moved by hand.

Thus, when not in use as a counter, it may be used conveniently as a calendar.

The holes in the disk B are for the purpose of inserting the point of the pencil to turn the wheel.

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

1. The disk B, numbered as described, with margin also numbered, the former arranged

to turn the disks C and D, which bear on their peripheries the numbers, and move in the cases *c* and *f*, projecting above the case, exposing the figures through openings therein, as set forth.

2. In combination with the wheels B, C, and D, marked and operating as described, the disks C' and D', as and for the purposes set forth.

WEBB BROOMHALL.

Witnesses:

ALVAH HATCH,
B. T. BINGHAM.