

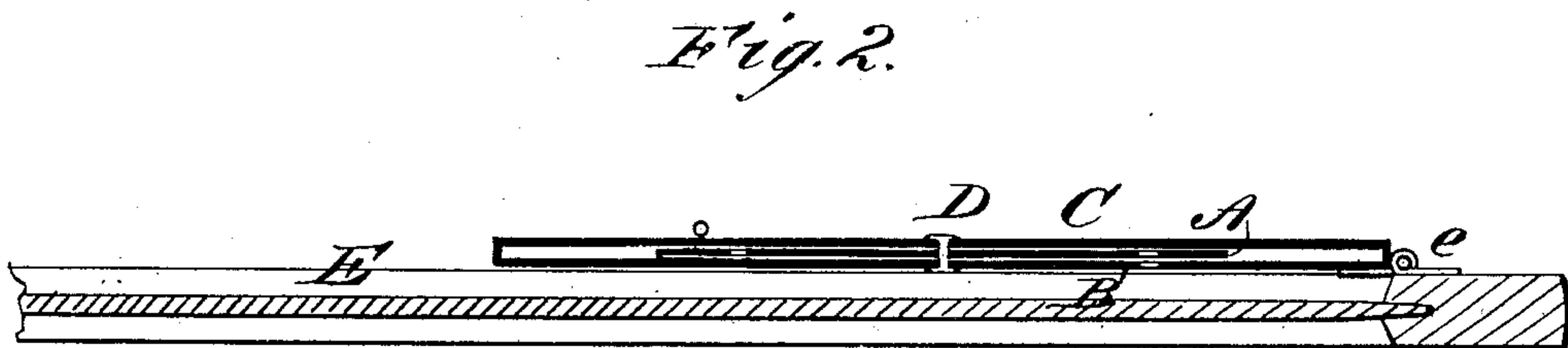
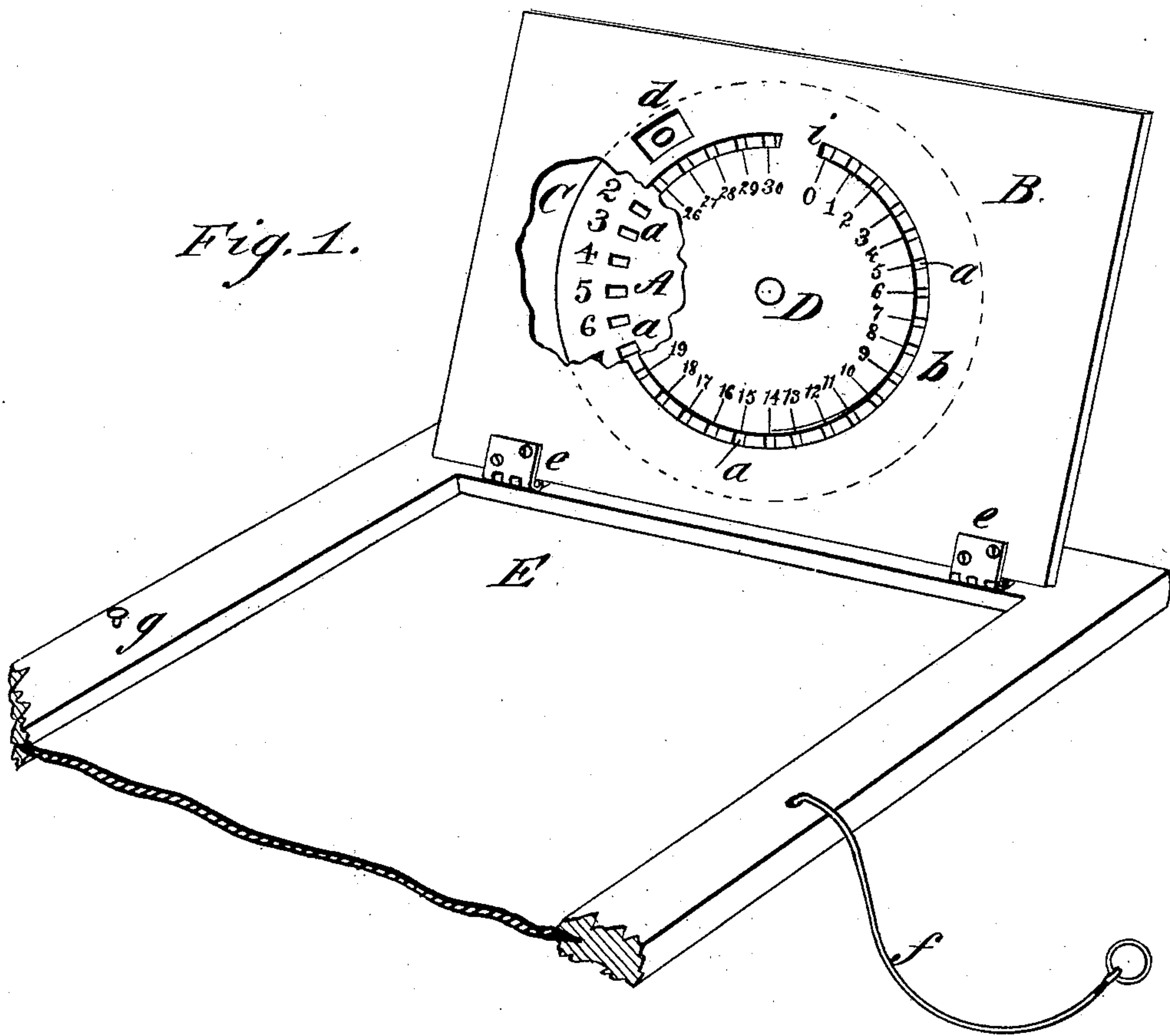
(Model.)

W. B. KENNEDY & W. M. NESBIT.

CALCULATOR.

No. 323,157.

Patented July 28, 1885.



WITNESSES:

Dom Twitchell.
C. Sedgwick

INVENTOR:

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UNITED STATES PATENT OFFICE.

WILLIAM B. KENNEDY AND WATSON M. NESBIT, OF SILVER REEF, UTAH TERRITORY.

CALCULATOR.

SPECIFICATION forming part of Letters Patent No. 323,157, dated July 28, 1885.

Application filed August 8, 1884. (Model.)

To all whom it may concern:

Be it known that we, WILLIAM B. KENNEDY and WATSON M. NESBIT, both of Silver Reef, in the county of Washington and Territory of Utah, have invented a new and Improved Calculator, of which the following is a full, clear, and exact description.

The object of our invention is to provide a mechanical calculator for use in teaching the fundamental rules of arithmetic to children. To that end we combine a rotating disk with a numbered dial, as hereinafter specified, and to make the device more convenient for school use it is attached to a slate.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a perspective view of the calculator as applied to a slate, certain parts being broken away; and Fig. 2 is a sectional view.

A is the rotating disk of the calculator, confined loosely between a front cover or dial, B, and back C by a pivot-pin or eyelet, D, on which the disk rotates. Near the outer edge of the disk are numbers placed equidistant, and running from 0 up to 30, more or less, and the disk is also formed with holes *a*, one for each number, and corresponding with the numbers in their distance apart.

The front B has a slot, *b*, cut in it, which is nearly a circle, its position being over the holes *a*, so that they are exposed. At *d* is a small opening that exposes one number on the disk A, and on the face of the cover there are numbers placed on radial lines corresponding to the numbers on the disk, but in reverse order, right or left.

The disk and covers may be made of metal, card-board, or other suitable material. The edges of the covers are fastened together, and the device is attached by hinges *e* to the frame of a slate, E, so that it can be raised for use and turned down when not in use. In the lat-

ter position it is held by an elastic cord, *f*, which has a ring for catching over a pin, *g*.

Suppose the sum $3+5+9$ be placed on the slate, and it is desired to illustrate the operation of adding those figures, the disk A is first set with the zero-mark at the opening *d* by inserting a pin through slot *b* into one of the holes *a* and turning the disk. Then the pin is placed in the hole *a* that is at the end *i* of slot *b*, and the disk turned until the pin is opposite 3 on the front or dial. Then starting again at point *i* the disk is moved five numbers, and then nine, when the answer will appear at opening *d*.

To subtract, the minuend is first brought to opening *d*, the pin placed in the hole opposite the subtrahend, and the dial moved back until point *i* is reached.

In multiplying the pin is moved from zero to the number representing the multiplicand as many times as there are units in the multiplier.

Division is accomplished by reversing the operation of multiplying.

The calculator can be used independently of the slate, if desired.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

The calculator comprising the disk having a circle of numbers and a concentric circle of apertures coincidently disposed with said numbers, and the dial having the circular slot arranged coincidently with the apertures of said disk, said dial also having a viewing aperture in line with the disposition of the numbers of the disk and a series of numbers arranged reversely in order to the numbers of the disks, substantially as and for the purpose set forth.

WILLIAM B. KENNEDY.

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Witnesses:

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