V. PARKS.

Calculator.

No. 62,677. Patented March 5, 1867.

Fig. 1

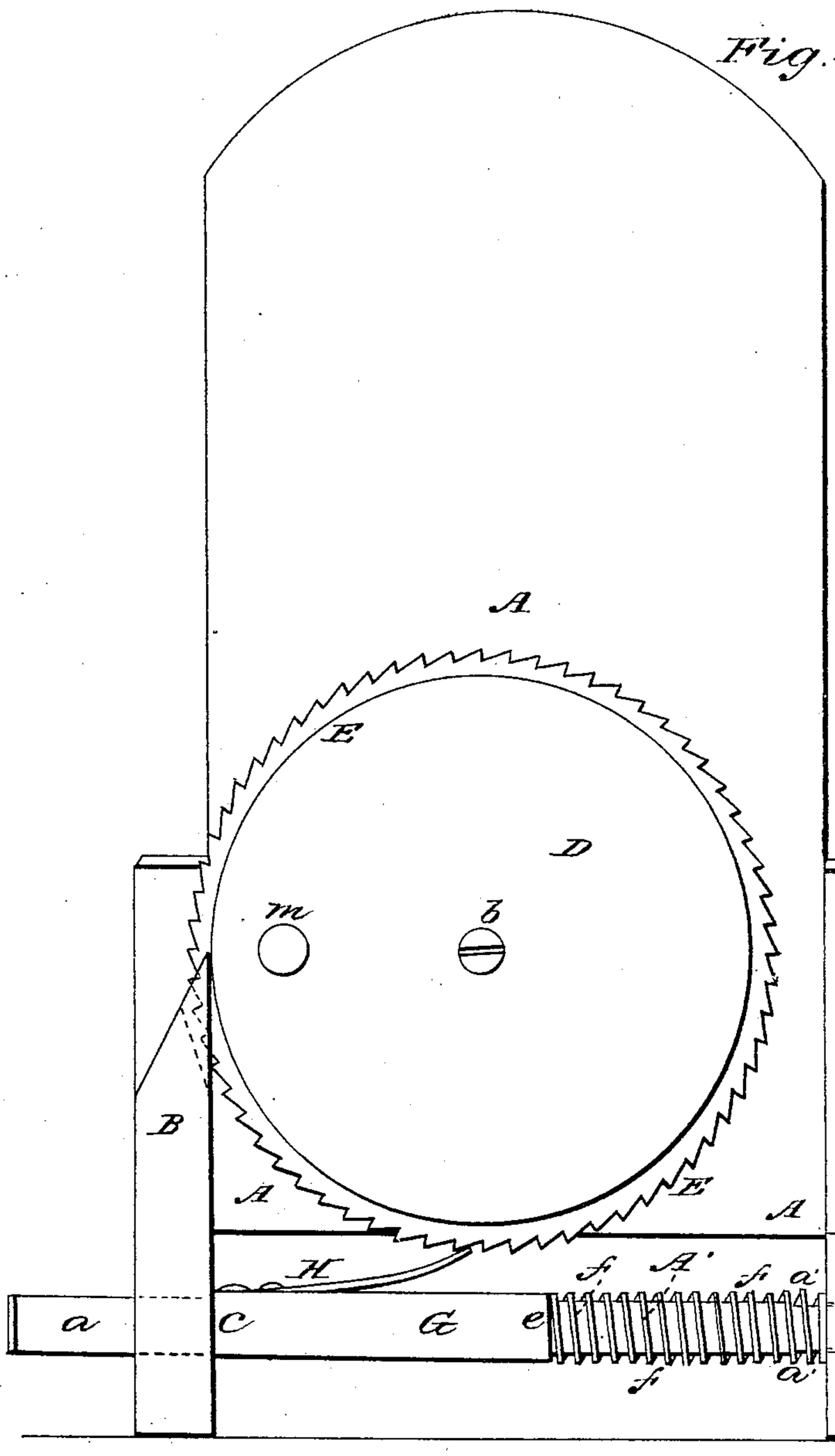
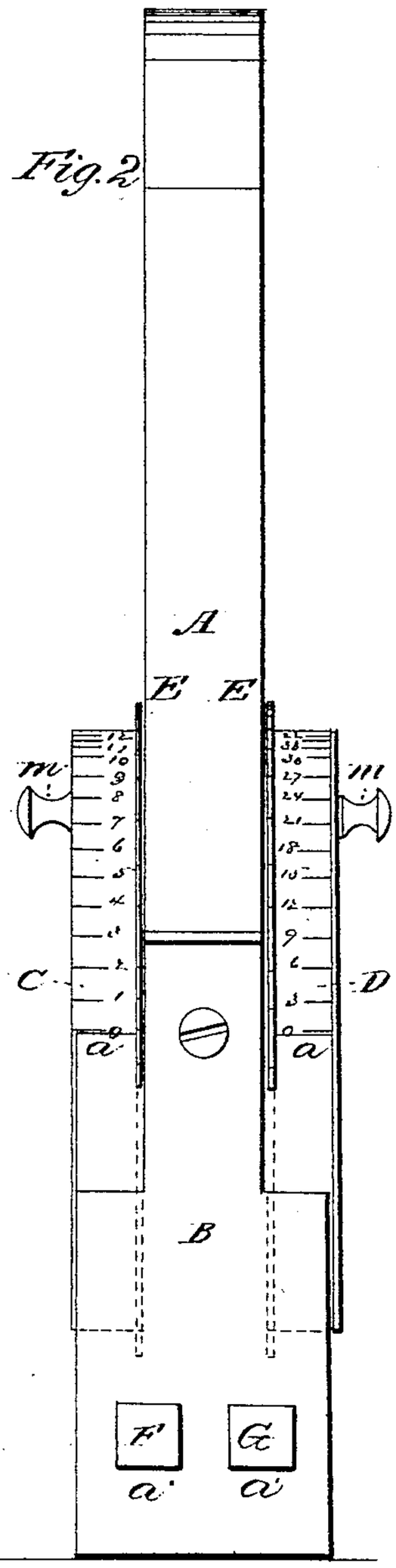


Fig. 2



Witnesses
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United States Patent Office.

VOLNEY PARKS, OF FORT WAYNE, INDIANA.

Letters Patent No. 62,677, *dated March* 5, 1867.

IMPROVEMENT IN ADDING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, VOLNEY PARKS, of Fort Wayne, in the county of Allen, and State of Indiana, have invented a new and improved Machine for Adding Numbers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my invention.

Figure 2 is an end elevation of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in a novel construction of an apparatus whereby the addition of numbers is greatly facilitated, and whereby much greater accuracy is insured in such calculations than when made in the ordinary manner.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

A is a vertical standard, the two sides of which are flat, and which is supported at each end by a broad transverse end piece, B. The upper end of one of these end pieces is brought nearly to an edge, as shown at *a*, thus forming shoulders, which serve as guides for the operator in using the apparatus, as will be hereinafter fully set forth. C and D represent two disks, which are pivoted, one upon each side of the standard A, by means of screws or pivots *b;* and fixed upon the inner side of each of these disks is a ratchet-wheel, E, having any desired number of teeth; and projecting from the outer side of each disk is a small handle, *m*, by means of which it may be turned around, as required in adjusting the apparatus previous to using the same. F and and G represent two horizontal slides, which are situated, one underneath each disk, C and D, and in a direction parallel with the same, and which are supported at each end by having their said ends passed through suitable transverse holes formed in the lower portions of the end pieces B, as shown in dotted lines in fig. 1. The ends of these slides, where they pass through the holes in the end pieces B, as just mentioned, are made smaller than the main length thereof, so that shoulders *c* and *d* are formed upon them, which limit and define their sliding or longitudinal movement; furthermore, one end of each of the said slides is made of cylindrical form, as shown at A′, there being another shoulder, *e*, at the inner end of such cylindrical part. A spiral spring, *f*, is placed upon the cylindrical portion A′ of each of the slides F and G, and between the shoulder *f*′ thereof and the end piece B, in such manner that when the said slides are released from pressure after being pushed inward, they will be forced back to their first position by the action of the said spiral springs *f*, as will be presently further set forth. Fixed upon the upper side of each of the said slides, at that end opposite the spiral springs *f* thereof, is a spring or pawl, H, which acts upon the ratchet-wheel E of the disk above it to partially turn the said ratchet-wheel, and, of course, the disk attached thereto, whenever the slide is pushed back or inward. Marked upon the periphery of each disk, C and D, is a series of numbers; that upon the disk C consisting of the consecutive numbers, from zero upward, as 0, 1, 2, 3, 4, etc., to any desired number, while that upon the disk D consists of every third consecutive number, from zero upward, as 0, 3, 6, 9, 12, etc. The stroke of the slides F G is of such length that each slide, when pushed inward, will turn the disk above it a distance equal to that between any two numbers on the said disk.

In operating the apparatus, the disks C and D are first turned by means of their handles, *m*, until the cipher or zero upon each is brought immediately opposite or above the adjacent shoulder or fixed index *a*. This being done, the forefinger is placed upon the outer end *a*′ of the slide F, and the second finger is placed in like manner upon that of the slide G, so that the said slides may be conveniently pushed inward until their shoulders *d* strike the opposite end piece B, in order to partially turn the disks C D by means of the spring pawls H and ratchet-wheels E, as hereinbefore explained. By once pushing the slide F inward, the figure 1 on the disk C is brought opposite the fixed index or shoulder *a*, while, by pushing it inward twice, the figure 2 will be brought opposite the said index, and so on, to any desired number, each inward movement of the said slide bringing the succeeding number opposite the said shoulder. In like manner each inward movement of the slide G brings the succeeding number on the other disk, D, opposite the other fixed index, *a*. Thus any desired number on either disk may be brought opposite the said index by a simple movement of the fingers. In adding a column

of numbers, such numbers on the two disks are brought opposite the index *a*, that the sum of the said two numbers will equal the sum of the several numbers added together; thus, for instance, in using the machine the disk D is first operated by one movement of the slide G for every 8 contained in the number to be added, and then the disk C, by one movement of the slide F for every unit in the remainder, so that, in recording the number 8, the slide G would be pressed inward twice and the slide F twice. Therefore, if it is desired to add together the numbers 1, 3, 9, 5, 9, the slide F is pushed inward, which brings the figure 1 opposite the index *a*. The slide G is next pushed inward, and brings the figure 3 on the other disk opposite the said index, and is then again pushed inward three times in succession to record the figure 9, which brings the figure 12 (3+9) opposite the index. In recording the figure 5 the slide F is pushed inward twice, so that the figure 3 (1+2) on the disk C will come opposite the index, and at the same time the slide G is pushed inward once, so that the figure 15 (3+9+3) on the disk C will stand opposite the said index. The last-mentioned slide G is then pushed inward again three times in succession to record the figure 9, so that the figure 24 (3+9+3+9) is brought opposite the index. By adding together the two numbers, 3 and 24, thus brought opposite the index, the sum of the aforesaid numbers, 1, 3, 9, 5, 9, is obtained. By this means the addition of numbers may be carried to any extent; and, inasmuch as the amount obtained by the addition of each successive number is indicated by the sum of the numbers brought opposite the index *a*, as just described, there can be but very little liability to error in adding the numbers, and the mental exertion required in such calculations is materially reduced as compared with that required in making them in the usual way.

What I claim as new, and desire to secure by Letters Patent, is—

1. The two intermittently rotating disks C and D, furnished on their peripheries with differing series of numbers, in combination with each other, and with the stationary indices *a*, substantially as herein set forth for the purpose specified.

2. The slides F G, pawls H, and ratchet-wheels E, arranged in relation with each other, and with the disks C D, furnished with the differing series of numbers, substantially as herein set forth for the purpose specified.

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Witnesses:

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