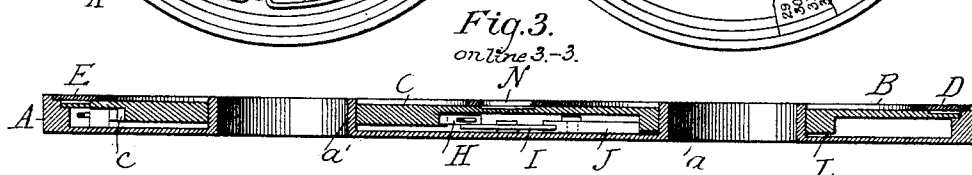
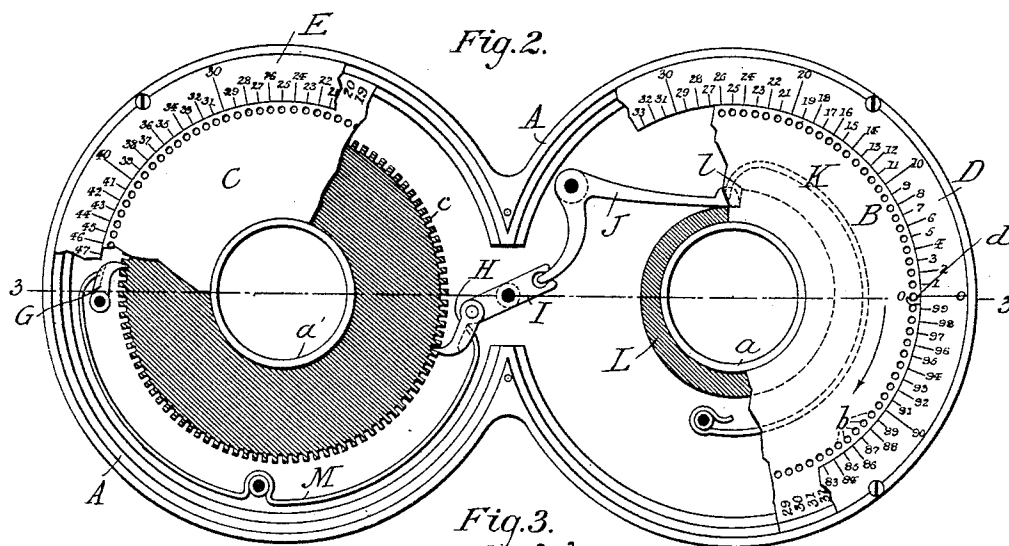
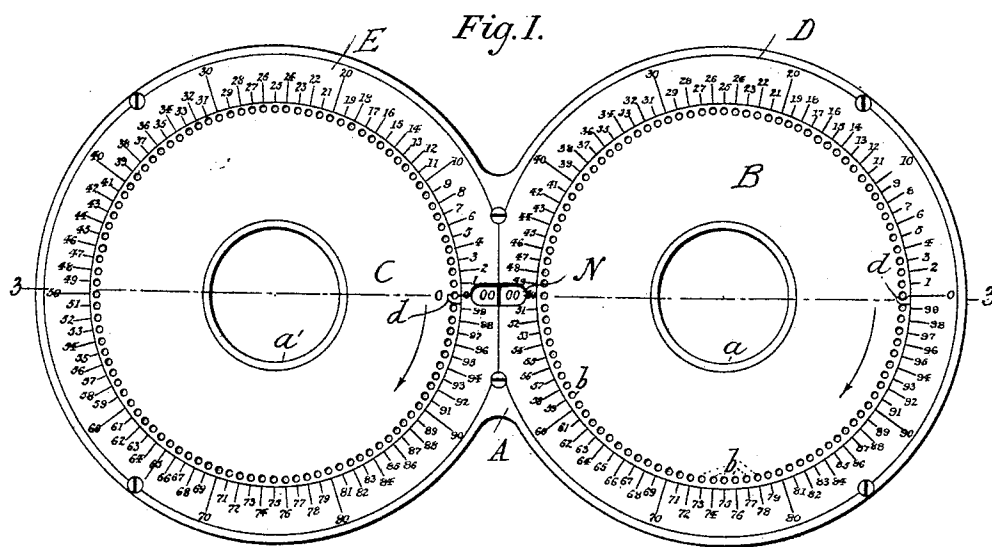


(No Model.)

S. A. POTTER.
ADDING MACHINE.

No. 478,361.

Patented July 5, 1892.



WITNESSES:

Raymond H. Barnes.
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INVENTOR

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UNITED STATES PATENT OFFICE.

SAMUEL ARCHIBALD POTTER, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO D. G. MONFORT, OF SAME PLACE.

ADDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 478,361, dated July 5, 1892.

Application filed September 18, 1891. Serial No. 406,144. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ARCHIBALD POTTER, of Cincinnati, county of Hamilton, and State of Ohio, have invented a new and useful Improvement in Adding-Machines, of which the following is a specification.

My invention relates to a machine in which two graduated wheels, representing, respectively, units and hundreds, are mounted to be independently turned forward by hand distances corresponding to the numbers to be added and are combined with intermediate connections through which the hundreds-wheel is automatically advanced one step whenever the units-wheel completes a revolution, so that the aggregate amount registered may be read on the adjoining edges of the wheels.

The invention consists in a peculiar construction and arrangement of the parts hereinafter pointed out in detail.

In the accompanying drawings, Figure 1 is a face view of my improved machine. Fig. 2 is a similar view of the same with portions broken away to expose the internal construction. Fig. 3 is a cross-section on the line 3 3 of Figs. 1 and 2.

Referring to the drawings, A represents a flat frame or plate, which may be of any marginal form desired, recessed in its upper face to admit two wheels or dials B and C, and the fixed rings or plates D and E, which overlie the outer edges of the wheels to keep them in place. The frame is also provided with two necks *a a'*, projecting through the respective wheels and serving as journals, upon which they are free to turn in a forward direction.

The wheel B, representing units, is provided with one hundred small marginal holes *b* to receive a style or other instrument by which to turn it. The overlying ring is subdivided or graduated into one hundred equal spaces, which are numbered consecutively, commencing at the stationary arm or lip *d*, projecting rigidly therefrom and serving to arrest the instrument by which the wheel is turned.

The wheel C, representing hundreds, is perforated, and the overlying ring E graduated and numbered in precisely the same manner as the parts just described. The hundreds-

wheel C is reduced in diameter on the back and provided with one hundred peripheral teeth *c*, which are engaged on one side by a pawl G to prevent retrograde motion and on the other side by a driving-pawl H, attached to one end of a centrally-pivoted lever I, which has its opposite end notched to receive the end of an elbow-lever J, which is pivoted to the frame and urged at its opposite end by a spring K into contact with a cam-surface L, formed on the back of the units-wheel B. This cam is fashioned like a snail-wheel—that is to say, its surface is carried gradually outward from the center until it finally reaches a shoulder *l*, where it falls radially inward. The parts are so arranged that at each revolution of the units-wheel B the cam, acting through the intermediate parts, causes the pawl H to advance the hundreds-wheel one tooth. The two pawls G and H are acted upon by opposite ends of a single spring M, fastened within the case. The wheels B and C are each provided on the face with one hundred numbers arranged in regular order. These numbers are covered and concealed by the overlying rings D and E, which are, however, cut away at a point between the centers of the two wheels, as shown at N, so as to expose in line with each other a single number on each wheel, these two numbers standing in line being read jointly.

In operating the instrument to add less than one hundred units, the two wheels B and C being set to zero, as shown in Fig. 1, the operator inserts the style or other operating device into that hole of the wheel B which stands opposite the number to be added on the ring D and by means of the style turns the wheel forward in the direction indicated by the arrow until its movement is arrested by contact of the style with the lip *d*. This action is repeated for each number within one hundred to be added. Whenever the wheel B by the repeated operations described completes a revolution, its cam L advances the hundreds-wheel C one tooth, so that the total number of hundreds registered may be read in connection with the total number of units registered through the opening N. Whenever hundreds are to be added, the hundreds-wheel is advanced in the same manner

as the units-wheel by introducing the style into that hole which for the moment stands opposite the corresponding number on the ring E and then turning the wheel until motion is arrested by the lip *d*.

Having thus described my invention, what I claim is—

1. In an adding-machine, the combination of the units-wheel provided with the graduations, perforations, and cam, the hundreds-wheel having the graduations, perforations, and teeth, the lever bearing on the cam, the second lever actuated thereby, the pawl carried by the latter, and the rings covering the marginal portions of the wheels.

2. In an adding-machine, the combination

of the frame having the fixed graduated rings, the independently-revoluble wheels graduated and perforated and provided one with the cam and the other with teeth, the lever upon which the cam acts, the second lever actuated thereby, the pawl carried by the second lever, the pawl to prevent retrograde motion, and the springs acting on the lever and pawl.

In testimony whereof I hereunto set my hand in the presence of two attesting witnesses.

SAMUEL ARCHIBALD POTTER.

Witnesses:

FABIUS S. ELMORE,
RAYMOND F. BARNES.