

D. CARROLL.
 ADDING-MACHINE.

No. 176,833.

Patented May 2, 1876.

Fig. 1

Fig. 2

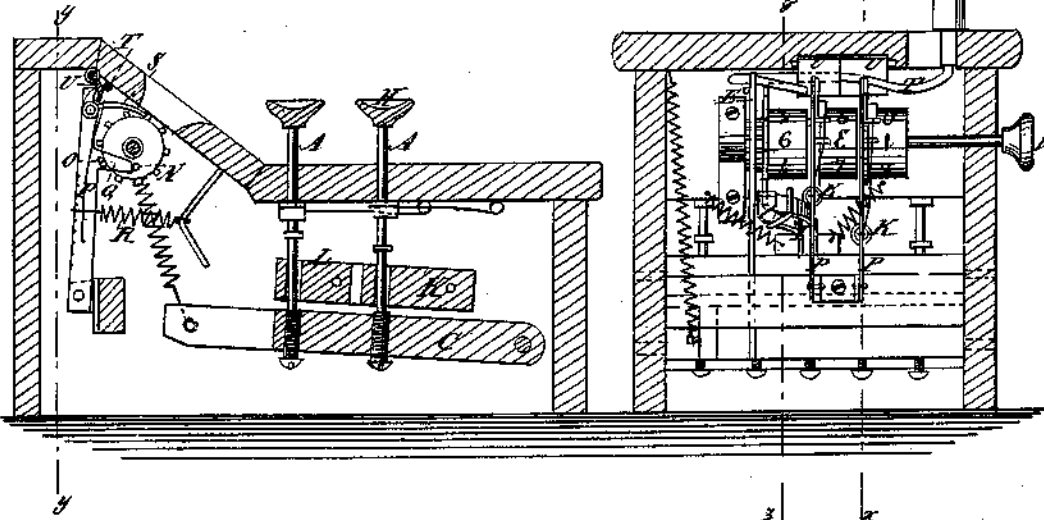
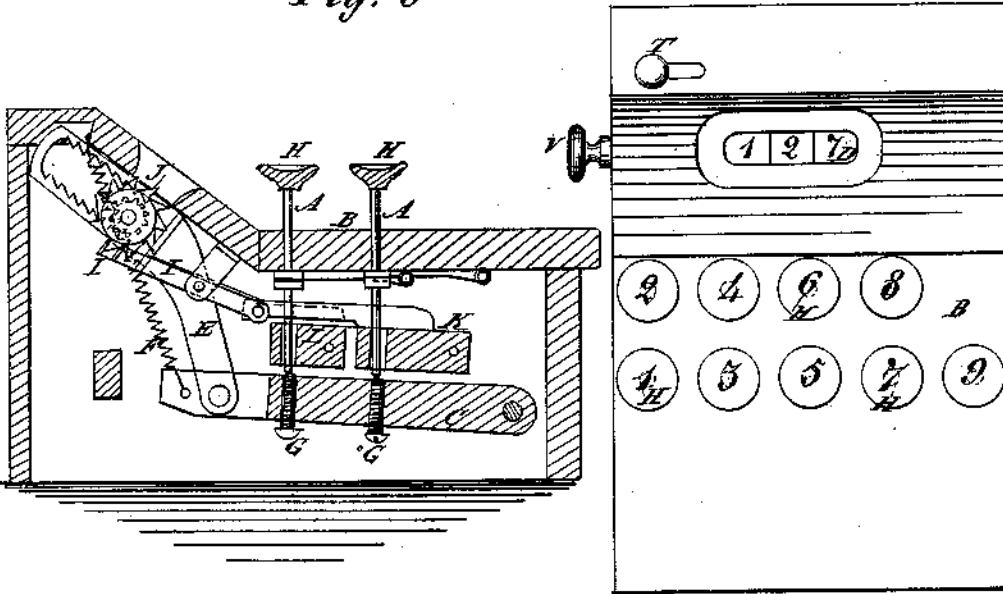


Fig. 4

Fig. 3



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UNITED STATES PATENT OFFICE.

DAVID CARROLL, OF SPRING CREEK, PENNSYLVANIA.

IMPROVEMENT IN ADDING-MACHINES.

Specification forming part of Letters Patent No. **176,833**, dated May 2, 1876; application filed February 28, 1876.

To all whom it may concern:

Be it known that I, DAVID CARROLL, of Spring Creek, in the county of Warren and State of Pennsylvania, have invented a new and Improved Adding-Machine, of which the following is a specification:

The essential feature of the arrangement is a contrivance of a key for each of the figures of the nine digits, arranged for two to be worked by each finger of the left hand, and one by the thumb, and also arranged so that each one turns the unit-wheel the number of figures that it stands for.

Figure 1 is a sectional elevation of my improved machine taken on line *x x* of Fig. 2. Fig. 2 is a sectional elevation taken on line *y y* of Fig. 1. Fig. 3 is a sectional elevation taken on line *z z* of Fig. 2; and Fig. 4 is a top view.

Similar letters of reference indicate corresponding parts.

A represents the keys, which are arranged in two rows across the top of the case B, to pass down the treadle U for working the wheel D by the pawl E, which is so geared with the wheel as to turn it half the movement when pressed down by a key, and the other half when raised up by the spring F. The full stroke of the treadle turns the wheel ten teeth, or once around, and shorter strokes in proportion to their length. The keys are constructed as to length, and connect by adjusting-screws G, so that when the knobs H are pushed down to the top of the case they turn the wheel the number of teeth corresponding to the number of the key.

To prevent the wheel D from turning too

far, there are stop-pawls I, which engage ratchet-wheel J at the moment the pawl E stops in the downward movement, said pawls being worked by the treadles K L, one of which is worked by one row of keys, and one by the other.

To turn the higher wheels by the lower ones, a pin, N, on the lower wheel pushes pin O of pawl P out of the notch of the higher wheel by acting on stud Q of the pawl, and, when pin N passes, the stud spring R pulls the pawl back, and the pawl sets the wheel around one number by the pusher S. The sliding rod T and the pivoted blocks U disconnect the pawls P when the wheels are to be set back to zero, which is done by turning them by the thumb-knob V, the ratchet E allowing wheel D to turn back readily.

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

1. The combination of the double ratchet-bar E, spring F, treadle C, and screws G with the double series of keys A and the number-wheel D, having a spur-wheel on its shaft, as and for the purpose set forth.
2. The combination of the independent treadles K L and the stop-pawls I, with the double series of keys and the ratchet of the number-wheel D, as and for the purpose set forth.
3. The sliding rod T and the pivoted blocks U, in combination with the pawls P, substantially as specified.

DAVID CARROLL.

Witnesses:

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