

United States Patent Office.

CHARLES CORLISS, OF HAVERHILL, MASSACHUSETTS.

Letters Patent No. 79,209, dated June 23, 1868.

IMPROVEMENT IN INSTRUMENTS FOR ADDING FIGURES.

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

Be it known that I, CHARLES CORLISS, of Haverhill, in the county of Essex, and State of Massachusetts, have invented a new and useful Improvement in Instruments for Adding Figures, Numbers, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a front or plan view of an instrument embodying my improvement.

Figure 2 is a view of the instrument with the rear plate removed.

Figure 3 is a rear view.

Figure 4 is a detail view of the ratchet-wheel and pawl.

Figure 5 represents the method of holding the instrument when in use.

This invention is designed as an improvement upon a similar device, for which an application for a patent has been made by N. Spofford and myself.

The object of the present invention is to substitute a dial to indicate the figures or numbers to be added in the place of the graduations marked on the sliding rod or bar employed in the above-mentioned device.

A further object is to provide a means for instantaneously resetting the instrument after registering any required amount.

And the invention consists in so arranging and connecting the sliding rod with an indicator moving upon a dial placed at or near the lower end of the rear of the instrument, that each figure or number to be added will be indicated on the said dial, the indicator returning to the point of rest upon each return of the sliding rod to its projected position.

The invention also consists in the employment of a secondary pawl or click, engaging with a ratchet connected with the hand that designates the units, and so arranged in relation to the gearing operating the indicators, which register the amounts added, that by releasing the said pawl, the spring, which is wound up in the process of adding, will also be released, and thus cause the indicators to return to their original position.

Referring to the drawings, A represents the main body of the instrument, containing the working parts, and B is a hollow projecting arm, containing the sliding rod C, which latter is maintained in a projected position by means of a spring, suitably arranged within the said arm. On the inner end of the sliding bar C is a rack, C', which engages with a driving-wheel, b, and to which it imparts a reciprocating rotary motion, as the bar is moved in and out of the casing or arm B. The toothed or driving-wheel is hollowed out, and in the space so formed is fitted a ratchet-wheel, f, which engages with a pawl, h, and is so arranged as to be turned in one direction with the driving-wheel, but is prevented from turning back with the same by means of the pawl k.

a represents an additional pawl, pivoted to the main plate, and engaging with the ratchet-wheel f, so as to retain the same in the position to which it is advanced by the sliding rod. The driving-wheel b, which is operated directly by the sliding bar, is made to gear with a wheel, e, to the spindle of which latter is attached the index-hand on the dial G, fig. 3, so that at each movement of the sliding bar C, the said index-hand will be moved to any desired figure on the dial G, and will return to its original position at each retraction of the said bar, and so the numbers are communicated from the dial designating the units to those denoting tens and hundreds, in any well-known manner.

When the desired amount or number has been registered, and it is desirable to reset the instrument, the thumb-piece or knob g is pressed in, which causes the retaining-pawl to release the ratchet-wheel, and at the same time raises the moving pawl or click f, so as to allow of the free return-movement of the ratchet-wheel. The train of gearing is retracted by means of a coiled spring, g, which is wound up in the process of adding.

The operation is as follows: The instrument being held in the hand, as represented in fig. 5, and the indicators being in the several positions shown in fig. 1, the lower end of the instrument, which may be provided with a projecting point, p, is placed at or near the figure or number in a column to be added. The sliding rod is then pressed in by the finger, until the hand on the dial G points to the number corresponding with that at the end of the instrument in the column to be added. When the pressure is removed from the sliding rod,

latter will return to its projected position, and the indicator on the dial G will also return to its original position, the amounts added being registered on the dials D E F.

When the process is completed, and it is desirable to reset the instrument, by simply pressing upon the knob *g*, the pawl *a* will release the ratchet *f*, and the indicators will return to the position shown in fig. 1.

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

1. Operating the indicator that designates the figure or number to be added, by means of a sliding rod or bar, in such a manner that the said indicator will return to its original position upon each retraction of the rod or bar to its projected position.

2. The simultaneous resetting of the several indicators, substantially as specified.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES CORLISS.

Witnesses:

J. H. ADAMS,

M. S. G. WILDE.