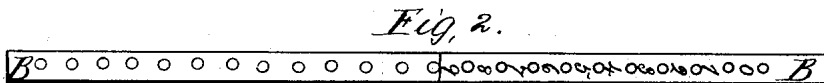
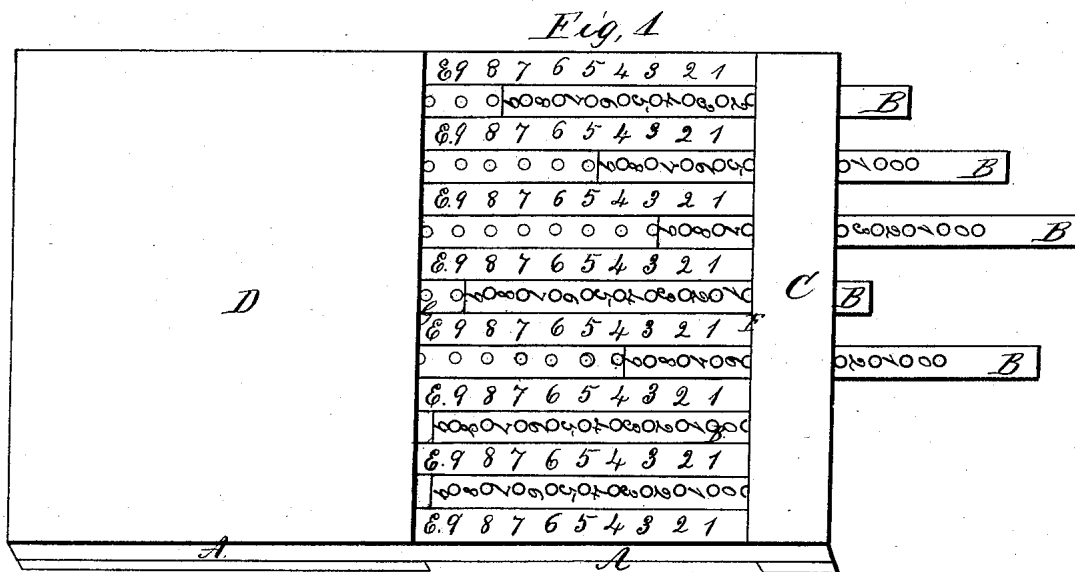


S. S. YOUNG.  
 ADDING FIGURES.

No. 6,602.

Patented July 24, 1849.



# UNITED STATES PATENT OFFICE.

S. S. YOUNG, OF EATON, OHIO.

## CALCULATING-MACHINE.

Specification of Letters Patent No. 6,602, dated July 24, 1849.

*To all whom it may concern:*

Be it known that I, SAMUEL S. YOUNG, of Eaton, in the county of Preble and State of Ohio, have invented a new and useful Machine for the Purpose of Adding, entitled the "Adding Rule"; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view Fig. 2 one of the slides and Fig. 3 a transverse section.

A, is the base board  $\frac{1}{4}$  of an inch in thickness—on the upper side is 7 grooves  $\frac{1}{16}$  of an inch in depth  $\frac{1}{4}$  of an inch wide extending from end to end of the board.

B, B, B, B, B, B are slides that exactly fill the grooves in the base board yet so loosely as to move easily along the grooves. In each slide are holes 19 in number at equal distances space being left at each end double the length of the intervals. Between the holes beginning after the first are placed the numerical characters 0, 1, 2, 3, 4, 5, 6, 7, 8, 9—from 9 backward the slides are colored with some kind of paint or dye that will contrast with the part on which the figures are placed.

C, is a narrow cover  $\frac{1}{2}$  of an inch in thickness glued or otherwise fastened across an end of the base board and slides—the inner edge just touches the outer edge of the first holes in the slides.

D, is a cover of the same thickness as the preceding extending from the back edge of the eleventh hole in the slides to the other end of the instrument.

E E E E E E E E are sides of and spaces between the grooves on which the figures 9 8 7 6 5 4 3 2 1 are placed as an index to the holes in the slides—figure 1 is opposite the second hole when the slides are in their places and figure 9 is opposite the tenth hole and the intermediate numbers in the same order.

The inner edges F G of the two covers

C D are termed bars or stops from the office they perform in operating the machine.

In constructing conform to the above description observing that any scale of dimensions differing in whole or part may be adopted—that a greater number of grooves and slides may be added and that notches may be made in the slides in the places and instead of the holes.

In adding the slides are considered as units, tens, hundreds, thousands, &c., according to the number in the instrument and beginning (for convenience) on the left side—place the left edge of the "rule" at the bottom of the column of figures to be added—put the pointer or pencil in the hole of the slide considered as units opposite the figure of the index corresponding with the first figure in units and push forward till the pencil strikes the bar F—proceed in like manner with the tens hundreds and as many figures as may be in the first sum of the column to be added—then slide the instrument up and proceed in like manner with the second sum observing however that whenever the pencil is placed in a hole in the colored part of the slide to push backward till the pencil strikes the other bar G, and whenever a slide is pushed backward carry 1 to the figure on the left to be added on the next slide—or if there is no figure on the left put the pencil in the hole numbered 1 (by the index) in the next slide and push as directed. (The "rule" will subtract by reversing the mode of operating.) The sum total will be designated by the figures immediately along the forward bar inverted—in the drawings read 61752.

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

The combination of the slides B, B, with the indices E, E, and the bars F, G in the manner and for the purposes set forth.

S. S. YOUNG,

Witnesses:

W. A. BLOOMFIELD,  
A. Z. DE GROAT.