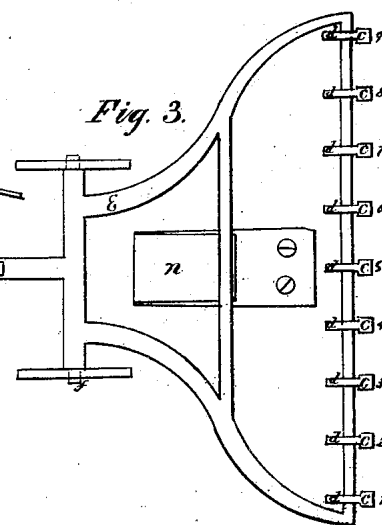
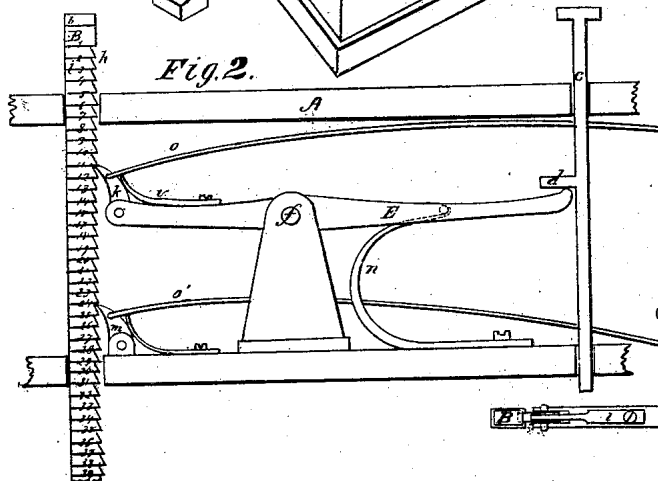
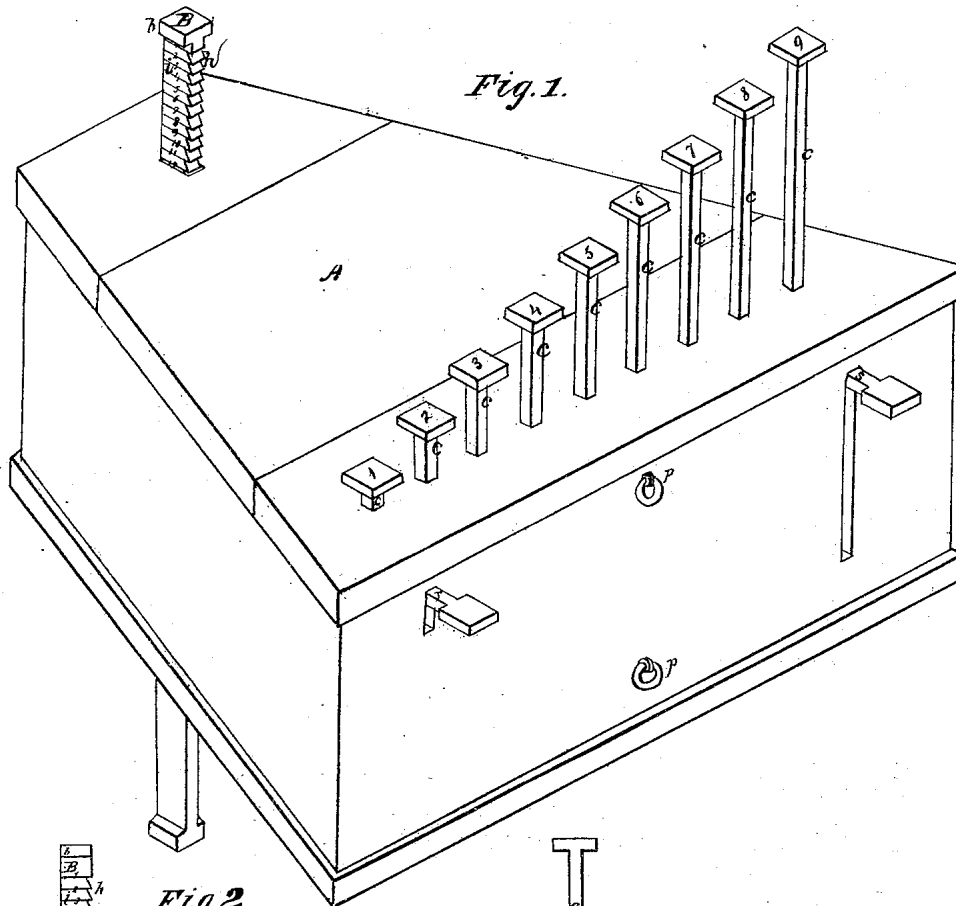


D. D. PARMELEE.
CALCULATOR.

No. 7,074.

Patented Feb. 5, 1850.



UNITED STATES PATENT OFFICE.

D. D. PARMELEE, OF NEW PLATZ, NEW YORK.

CALCULATING-MACHINE.

Specification of Letters Patent No. 7,074, dated February 5, 1850.

To all whom it may concern:

Be it known that I, DU BOIS D. PARMELEE, of New Paltz, in the county of Ulster and State of New York, have invented a new and useful Machine for Making Calculations in Figures; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure I is a perspective view, Fig. II is a section and Fig. III is a section.

Like letters refer to like parts in all the figures.

The nature of my invention consists in an apparatus for making accurate additions of long columns of figures by means of a movable index or register acted upon by the keys of a finger board.

One method of construction is as follows: I make a box as shown in the annexed drawing at A having nine keys (*c*) set on the top, corresponding with the nine digits. These keys pass through the top and bottom of the box for steadiness and each has on it a projection (*d*) Figs. 2, and 3, for the purpose of operating a lever (*E*) which is of the first class having the fulcrum (*f*) near the center of the interior of the box. At the back of the box is a rod B, passing through the top and bottom of the box and extending below it to any convenient length. This rod has notches (*h*) on the front edge, and on the side it is laid off in divisions (*i*) of the same length as the notches and these are numbered from the top downward. The rod has a stop (*b*) at the top to prevent it from falling through the box. The lever (*E*) has a pawl (*k*) working into the notches on the rod B kept in place by a spring (*l*) and there is also a pawl *m* at the bottom of the box working into the rod B, in the same manner. A spring (*n*) is placed under the lever (*E*) to throw it up whenever it has been depressed by the action of a key. The pawls have each a cord attached (*o*, *o'*), by which they may be disengaged from the rod when necessary. These cards pass out at the front of the box where they terminate in rings (*p*) or other suitable devices. The key No. 1 is of such length that when pressed down to its stop it will cause the lever (*E*) to traverse through a space sufficient to raise the rod B by the action of the pawl

one notch and showing on the side the indication "1." The key No. 2, is of such length that when depressed to its stop it will cause the lever to traverse twice as far as will the key No. 1, and consequently will raise the rod twice as much, or two notches, and the other keys are proportioned in the same manner, No. 9 then is capable of being depressed nine times as far as No. 1, and will therefore raise the rod or indicator nine notches.

The operation will be thus. The box is set on the edge of a table or desk and the rod B may extend to the floor. When the operator wishes to make additions he depresses with his finger the key corresponding with the first figure of the column say "1" the rod or indicator is thus raised above the top of the box and exhibits on the side the figure "1" the pawl (*m*) holds the rod at that height, the spring (*n*) throws up the lever into its initial place again and if the next figure of the column be "9" the operator presses the key No. 9 down to its stop causing the lever to traverse through a space necessary to raise the rod nine notches and the sum of the two operations $1+9=10$ will be indicated on the side of the rod. When the operation has thus been continued until the whole length of the rod has been raised the number shown on the side of the rod is to be recorded, the pawls are withdrawn by the rings (*p*) and the rod drops down through the box to its stop ready to be again raised.

It is obvious that there are many methods of obtaining the same results viz the showing of certain fixed numbers on a movable indicator by other mechanical contrivances as for instance there may be nine arms of the lever (*E*) working with a certain play on the fulcrum (*f*) and extending through the front of the box as I have shown in Fig. 1 where the levers Nos. 1 and 9 are represented as terminating in keys (*r* and *s*). These may move through slots in the front, of a length proportioned to the purpose required, that of No. 1 being of a length sufficient to allow the key and lever to be depressed far enough to raise the rod one indication, and that of No. 9 being nine times that length. The indications need not necessarily be given on a straight rod, but may be by a circle, or by a series of circles one indicating "tens" another

"hundreds" and so on, and these may be acted on by a rack and pinion as well as by a lever.

What I claim therefore as of my own
5 invention and for which I desire Letters
Patent of the United States, is—

The making additions of figures by
means of a fingerboard of keys each com-

municating a proper and known motion to
an indicator substantially in the manner 10
and for the purposes herein described.

DU BOIS D. PARMELEE.

Witnesses:

ED. B. UNDERHILL,
S. H. MAYNARD.