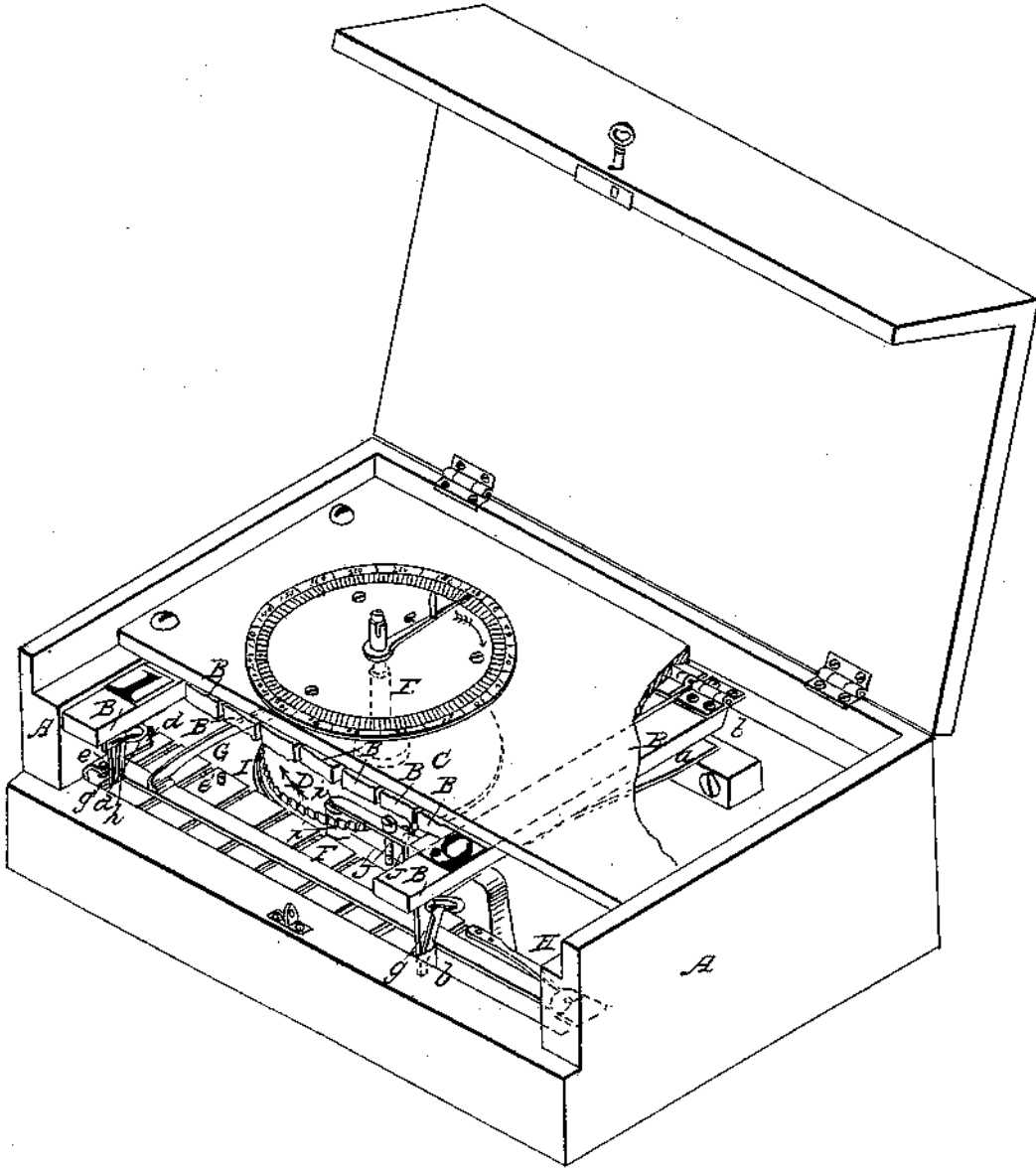


D. R. NELSON.

Calculator.

No. 28,006.

Patented April 24, 1860.



WITNESSES:
Francis Wellward
D. Stern

INVENTOR:
David R. Nelson

UNITED STATES PATENT OFFICE.

DAVID R. NELSON, OF JACKSON, OHIO.

MACHINE FOR ADDING NUMBERS.

Specification of Letters Patent No. 28,006, dated April 24, 1860.

To all whom it may concern:

Be it known that I, DAVID R. NELSON, of Jackson, Jackson county, Ohio, have invented a certain new and useful Improvement in Addometers or Machines for Adding Numbers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

My improvement consists in a provision of finger keys numbered from 1 to 9 inclusive, each when depressed being made through a peculiar arrangement of mechanism to act upon and move forward the finger of a dial the exact number of units carried on the face of the key itself, so that when a column of figures have been added by depression of keys corresponding to the figures of the column, the amount may be read on the face of the dial.

The accompanying drawing represents by perspective view an instrument embodying my improvement, with the front portions of some of the keys and a portion of the stop board removed to exhibit the interior mechanism.

A is the frame or box in which the machine is arranged and operated.

B are the finger keys hinged at *b* to box A. They are nine in number and marked in order with figures from 1 to 9 inclusive. Each is provided with a spring *a* used to return it against the stop board C after depression.

D is a ratchet wheel journaled in the box A and stop board C, and carrying on the upper end of its spindle an index or pointer *e*, adapted to move over the face of the dial E. The teeth on the periphery of the wheel D are equal in number to the divisions or units on the dial E so that a rotation of the wheel to the extent of a given number of teeth carries the finger of the dial over the same number of divisions or units on the dial.

F is a lever hinged at *f* to the box A and provided with a pawl G fitted to work in the ratchet wheel D. The free end *f'* of lever F moves in the slide *d* between the

stops *e e'*. The keys B are provided with downwardly projecting brackets *g* made to present by means of accompanying plates *h*, an inclined face for action on the lever F. The faces of the plates are made adjustable by means of curved slots in plates *h* said plates being hinged to the brackets *g*. By a proper adjustment of plates *h*, the exact requisite movements of the lever F may be obtained. On the depression of each key, its plate *h* by its inclined face moves the lever F, and through the pawl G and ratchet wheel D carries the index *e* around in the direction of the arrow over a number of divisions or units on the dial corresponding to the figure on the face of the key. H is a spring serving to restore the lever F to its forward position when the latter is released by the elevation of the key. I is a check pawl to prevent backward action of the wheel D in the return of pawl G after depression of a key.

J, J, are springs provided with friction pads *i* made to press on the face of the wheel D to prevent its being carried by momentum to a farther extent of rotation than that given it by the lever and pawl F, G. The pressure of the said springs is adjustable by a set screw *j*. The check pawl I may, if preferred be dispensed with, the friction pads *i* serving to prevent the retrograde motion of the wheel D.

The index *e* is constructed with a spring socket so that it may turn with the spindle of the wheel D, yet be free to be set by hand independently of wheel D to any desired position on the dial.

I claim as new and of my invention herein and desire to secure by Letters Patent—

The combination of the keys B, adjustable brackets *g*, *h*, hinged lever F and pawl G operating through the ratchet wheel D on the index *e* substantially in the manner and for the purpose explained.

In testimony of which invention, I hereunto set my hand.

DAVID R. NELSON.

Witnesses:

GEO. H. KNIGHT,
C. STEINER, JR.