

B. B. BROWN.
ADDING MACHINE.

No. 95,876.

Patented Oct. 19, 1869.

Fig. 2.

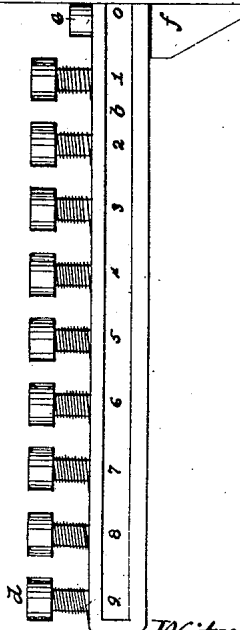
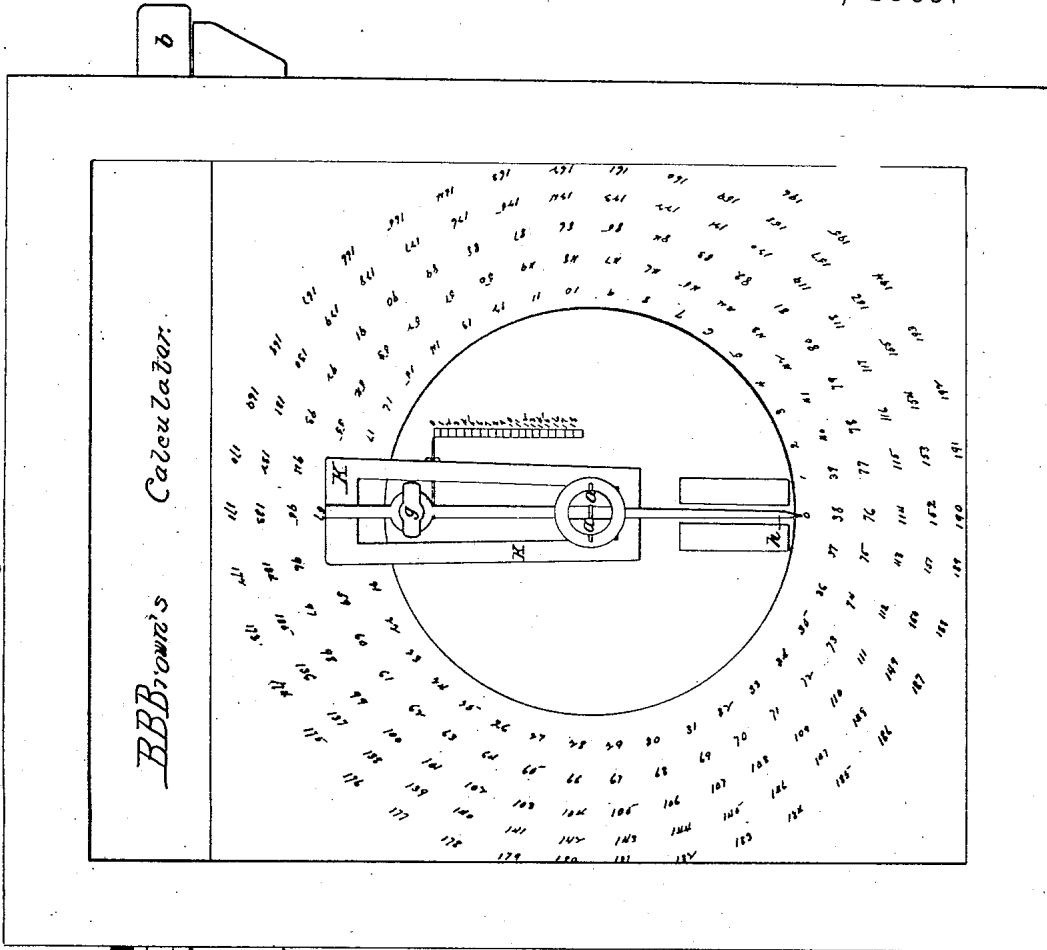
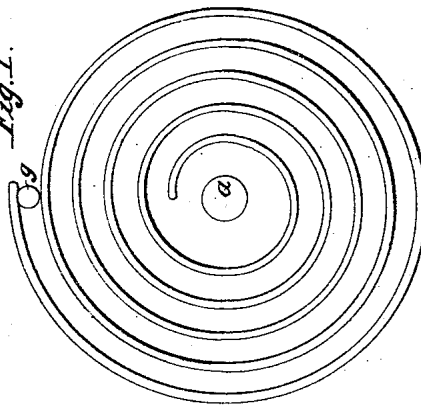


Fig. 1.



Witnesses:

C. H. K. *clerk*
C. O. *Lewis*

Inventor:

Benjamin B. Brown

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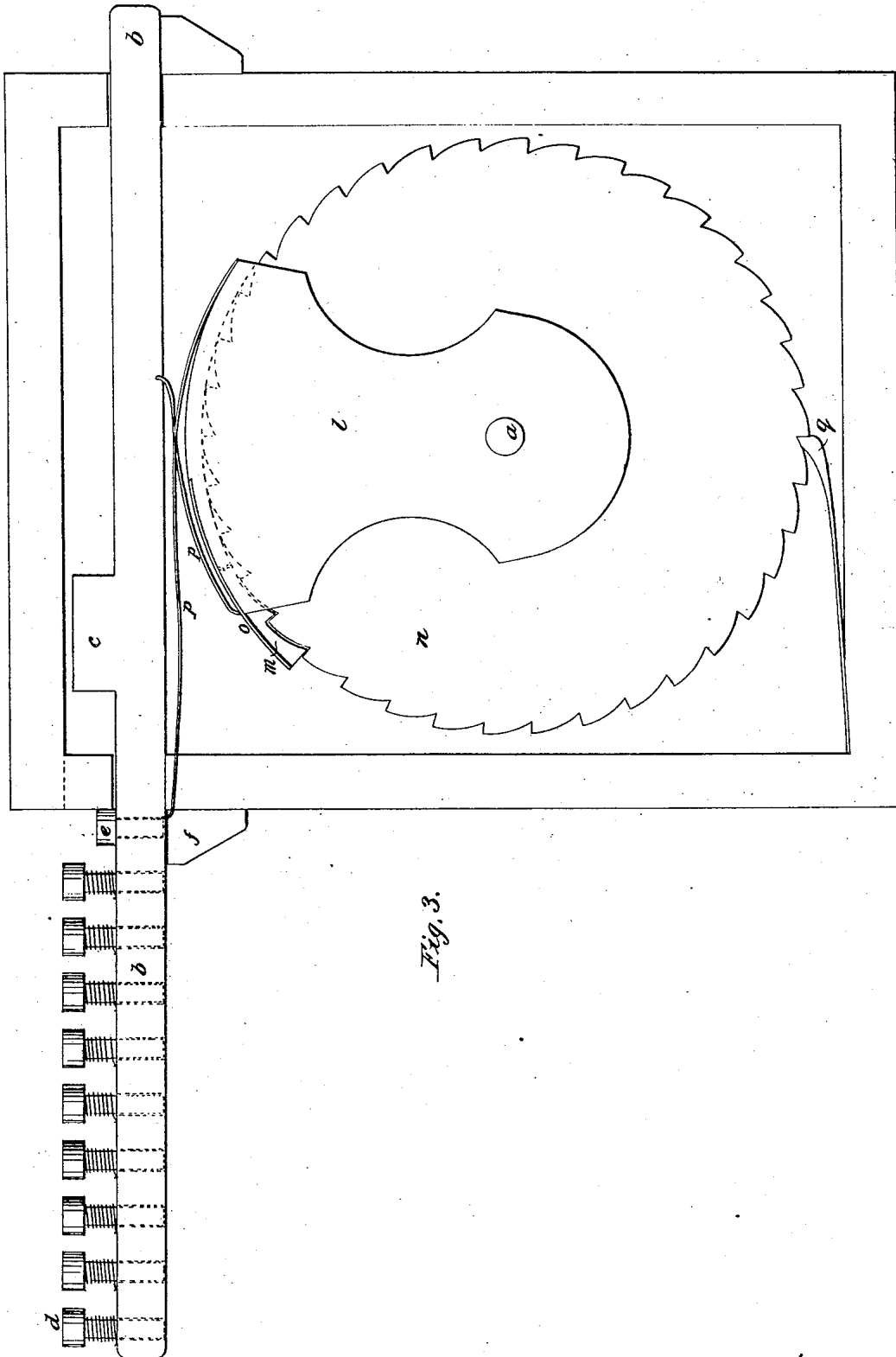


Fig. 3.

Witnesses:

C. H. Kelly
C. O. Davis

Inventor:

Benjamin B. Brown

United States Patent Office.

BENJAMIN B. BROWN, OF DELAWARE, OHIO.

Letters Patent No. 95,876, dated October 19, 1863.

IMPROVEMENT IN ADDING-MACHINES.

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

To all whom it may concern:

Be it known that I, BENJAMIN B. BROWN, of Delaware, in the county of Delaware, in the State of Ohio, have invented a new and useful Machine for Calculating in Figures; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in enabling any person, by means of the instrument, to add figures in any number and to any amount, and also to multiply them.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

It consists of a box of such size as may be desired, say one foot in length, eight or ten inches in width, and three inches in depth, having a back and face to it, leaving about three inches between them. The face of the box should be white. In the centre of the box is a centre arbor or metal post, one end in a socket in the back board, and projecting about an inch through the front board of the box, said metal pin easily turning.

On the front board is a coil or scroll about three inches in diameter, permanently fixed, of wood or metal, may be cut in the board. (See fig. 1.)

Over that scroll is a circular cap, large enough to cover the scroll, made of stiff paper or other material, with a hole in the centre, fitting over the metal pin or post spoken of. The post is marked *a* in Figures 2 and 1.

Upon this cap is a scale of tenths, marked *t*, fig. 2. In the centre of that part of the centre arbor or metal post *a*, fig. 2, projecting in front of the front board of the box, is a groove or slit.

The index or needle, *h*, fig. 2, is on a light wood or metal frame, rectangular, marked *k*, fig. 2. The frame is about two-thirds across the cap or scroll, and about one inch to one-half inch wide. The needle or index *h* is attached to both end pieces of the frame, in the centre of each, and lies in the slit or groove in the centre arbor *a*, fig. 2.

The point of the needle, when set for use, just projects over the edge of the cap over the scroll *a*, fig. 1.

At point *g*, fig. 2, near upper end of the needle, a small wooden or metal key or pin fits in a hole in needle, made for that purpose, and extends down so as the end of the key or pin will be between the coils of the scroll *a*, fig. 1. (See *g*, fig. 1.)

On the side of the needle or index-frame, at *o* on the tenths scale, on cap *d*, fig. 2, a small needle is attached, pointing to the tenths on said scale.

After the needle or index *h*, fig. 2, is put on, a washer is put over it, on the centre arbor or metal post

a, fig. 2, and small pin through over it, to hold index to its place.

On the face of the machine, from the point of the needle when set to begin use, figures are painted from 0 to any desired number, according to the size of the machine, in circles parallel with the edge of the cap, and set down regularly, so that the columns of figures will radiate.

Through the top of the box is the digit-slide *b*, figs. 2 and 3, sliding through grooves in sides of the box, and over little blocks *f*, figs. 2 and 3.

On top of the digit-slide is a small block, *c*, Figure 3, to prevent the slide being pulled out of the box. This slide may be of metal or wood, need not be over one inch in width, half an inch thick, and in length nearly twice the width of the box, or may be less.

The digit-slide *b* extends out from the box, on the left side of the same as you face the box. On that end of the said slide, and on the side of it corresponding with the face of the box, are figures, from 0 to 9, painted one-half to three-quarters of an inch apart.

At each one of the figures, and through the centre of the slide, is a hole bored, into each of which a key or small wooden or metal pin works, marked *d*. These keys or pins are attached to the digit-slide by a coil-spring, and when pressed upon, the small end of the said key or pin projects beyond the digit-slide *b* one-quarter to one-half an inch, and when so pressed through, will prevent the slide being moved through the box further than the key or pin so pressed upon.

When the finger is removed, the key or pin flies back so that the small end of the same is even with the surface of the digit-scale on the lower side.

Inside of the box, and working on the centre arbor or metal post *a*, fig. 2, is a large wheel; may be nearly as large as the box; is a cog-wheel; the cogs or teeth cut in on edge of wheel *n*, fig. 3. Behind the wheel, and also working on metal post *a*, is a plate or disk, *l*, fig. 3, moving separately from the wheel; may be of metal or wood, thin.

On the outer edge are teeth corresponding to the teeth or cogs on the wheel, always working on the upper part of the wheel *n*, fig. 3. Its outer edge or perimeter may be three inches or more, according to size of box; no special proportion necessary.

At bottom of the box is a spring or ratchet, *q*, fig. 3, working in the teeth or cogs of the wheel *n*, to prevent the wheel moving backward.

On the digit-slide, and to the right of the centre of that part of the slide within the box, is attached a piece of spring-steel, or it may be a small chain. The other end is attached to the left corner of the disk or plate *l*. (See *p*, fig. 3.)

To the digit-slide on the left end, near figure 0, is

attached another, the other end of which is attached to the right corner of the plate *l*, fig. 3.

When the digit-slide is pushed through the box, the wire or chain *p* pulls plate *l* from left to right around wheel *n*, and with the teeth of the same. When the digit-scale is pulled back, the other wire or chain *p* pulls back plate *l* from right to left, its teeth catching in those of wheel *n*, and turning it.

The machine should be used as follows:

Before commencing to use it, the needle or index *h*, fig. 2, should point to 0. If you want any figure, say 5, press the finger on key at figure 5 on digit-slide; push the slide through the box. This key being pressed upon, will stop the slide when pushed as far as *f* key; then pull back the slide; the index will point to 5. Should you wish to add 9, press on the key at 9, push through the slide again and pull out, and the index will point to 14, and so on, as desired.

The spring-wire or chain *p*, fig. 3, to plate *l*, will turn the wheel *n* so as to move the index the number of figures at which the digit-slide is stopped by the key on left end of digit-slide, marked *d*. Now at each

revolution of the index *h*, fig. 2, the pin *g*, fig. 2, in upper end of the needle, moves around one coil of the scroll, under the cap, and the index *h* is moved down one row of figures on the face, to set it back. Take out the pin *g*, move back the index *h*, and put pin *g* in place again.

On the drawing are figures, to 196, but any desired number of figures may be used by having the machine large enough. The machine may be made of wood or metal. The scroll or coil under the cap may be cut out on the front board or face of the box.

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

The combination of plate *l*, ratchet *n*, detent-pawl *q*, actuating-pawl *m*, chain *p p*, slide *b*, (having lug *C* and spring-pins *d*, thereon,) scroll-pin *g*, frame *k*, and face-plate, all constructed and arranged as and for the purpose specified.

BENJAMIN B. BROWN.

Witnesses:

C. H. MCELROY,
C. O. LITTLE.