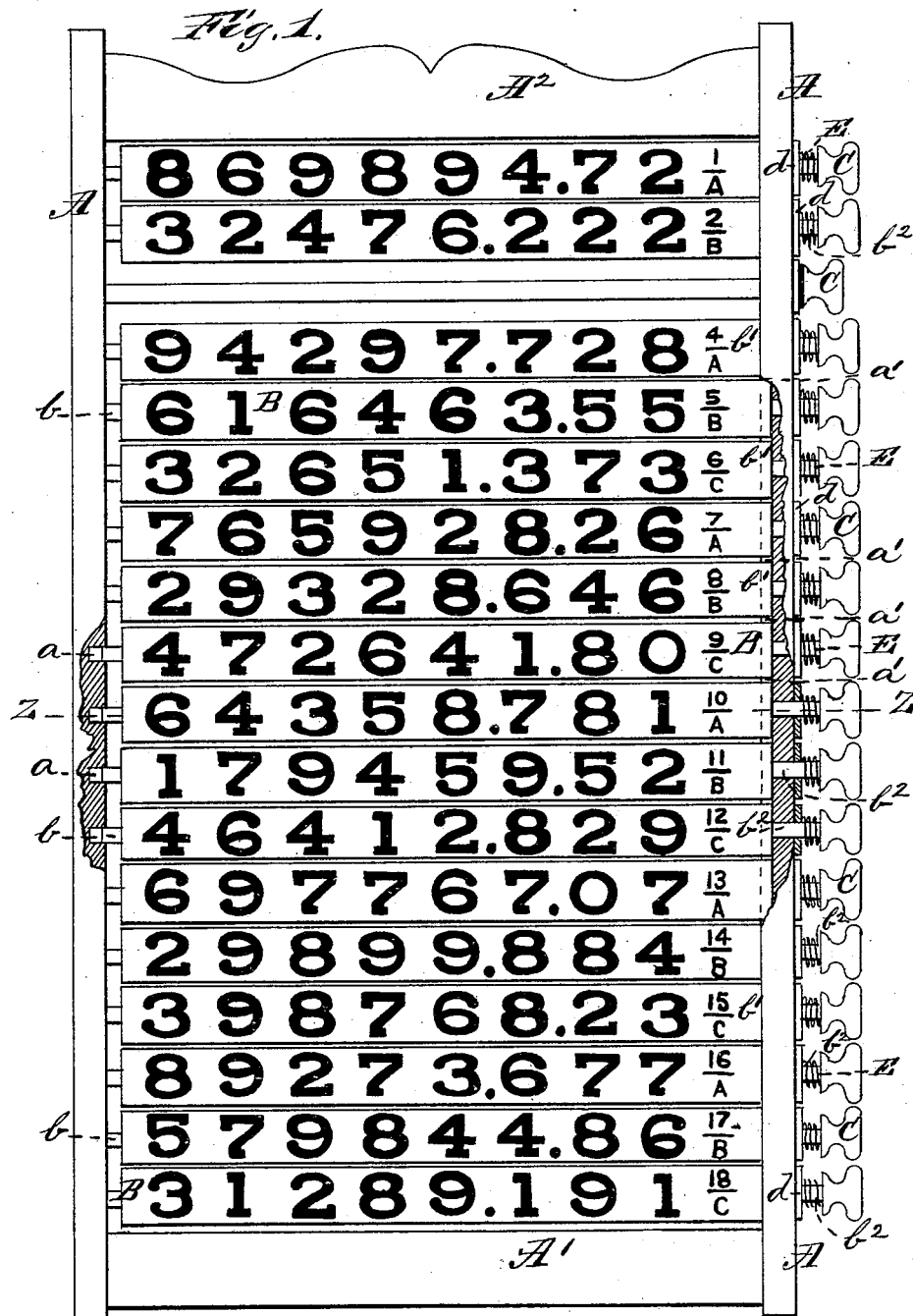


J. GOULD.

ARITHMETICAL FRAME.

No. 262,221.

Patented Aug. 8, 1882.



WITNESSES:

W. L. Penner.
Wm. Kellmer

INVENTOR

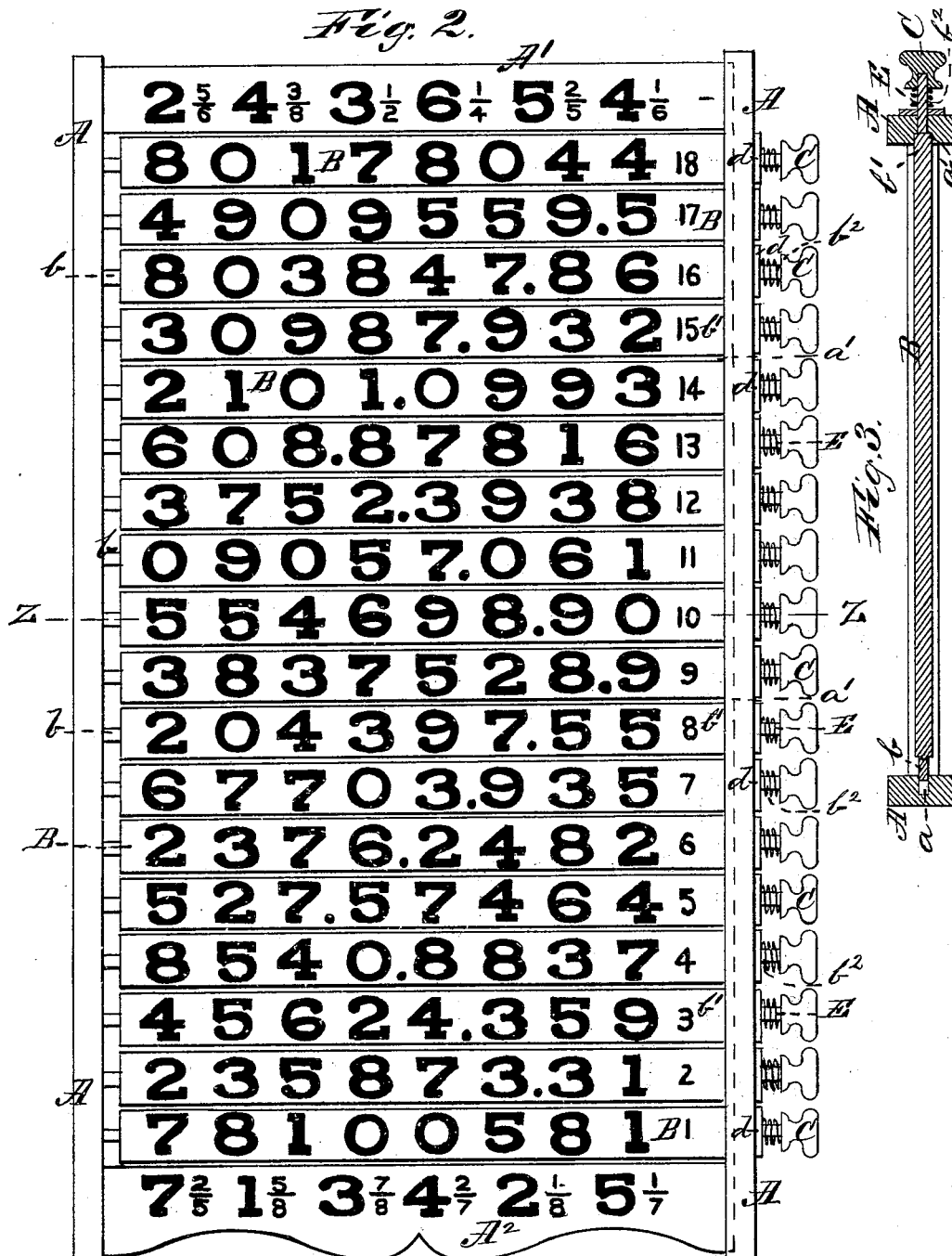
John Gould

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Fig. 2.



WITNESSES:

W. L. Bennett.
Wm. Kellmer

INVENTOR

John Gould

UNITED STATES PATENT OFFICE.

JOHN GOULD, OF CHATHAM, NEW JERSEY.

ARITHMETICAL FRAME.

SPECIFICATION forming part of Letters Patent No. 262,221, dated August 8, 1882.

Application filed January 14, 1882. (Model.)

To all whom it may concern:

Be it known that I, JOHN GOULD, a citizen of the United States, residing at Chatham, in the county of Morris and State of New Jersey, have invented new and useful Improvements in Arithmetical Frames, of which the following is a specification.

My invention relates to improvements in arithmetical frames designed to aid teachers in leading their pupils to obtain correct conceptions of numbers and the processes of using them in the various operations of calculation; and it especially relates to improvements on devices or frames such as described in the specification and drawings annexed to Letters Patent of the United States granted to Henry K. Bugbee, dated on or about the 7th day of July, 1864, and No. 43,545.

The accompanying drawings form part of this specification, and show what I consider the best means of carrying out the invention.

Similar letters of reference are employed to indicate like parts in all the figures.

Figure 1 is face view of my device, partly in section, with one of the slats turned edgewise. Fig. 2 is a view showing the device turned side for side and end for end. Fig. 3 is a sectional view on the line $z z$, Figs. 1 and 2.

According to my improvement I employ a rectangular frame, A, provided with a series of slats, B, mounted, with capability of being revolved when required, so as to expose either side of such slats at will or of exposing simply one edge thereof. The slats B, at one end, are provided with pivots b , which turn freely in bearings a in one side of the frame A. At the opposite side the frame A is provided with a vertical groove, a' , for the reception of the ends b' of each of the slats B when the same are in a vertical position, thereby preventing the same from turning accidentally. Each of the slats B is provided with a shaft, b^2 , extending through the framing A, and provided with knobs or handles C C, by means of which the slats B may be turned in the frame A when desired.

$d d$ are washers arranged around the axis b^2 and bearing against the outside of the frame A. Between these washers $d d$ and the handles C C, I apply to each of the shafts b^2 a coiled spring, E, the tendency of which is to make the ends of the slats bear constantly against the one side of the frame A to which they are applied, and when the slats are in a vertical position constantly in the slot or groove a' , thereby preventing the same from being accidentally turned.

According to my present invention the cross-bars $A' A^2$ of the frame A are provided with complex fractions or numbers and fractions, the frame supplying the multipliers or divisors. These figures are arranged by preference over and under the different columns of figures on the slats B.

I am aware that prior to my invention arithmetical frames have been made with rollers, aprons, &c., as represented in the patent granted to A. W. Price April 23, 1872, and No. 126,123. I therefore do not claim such a combination, broadly; but

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

1. An arithmetical device having a frame, A, provided with a series of slats, B, which have their ends journaled and are capable of being revolved at will, and are controlled in an upright position by a continuous vertical slot or groove, a' , substantially as shown and described.

2. An arithmetical device having a frame, A, provided with a series of slats, B, capable of being revolved at will and controlled in position by a vertical slot or groove, a' , of the projecting axis b^2 , washers $d d$, springs E, and handles C C, substantially as shown and described.

In witness whereof I have hereunto set my hand this 21st day of December, 1881.

JOHN GOULD.

Witnesses:

W. L. BENNEM,
WM. KELLMER.