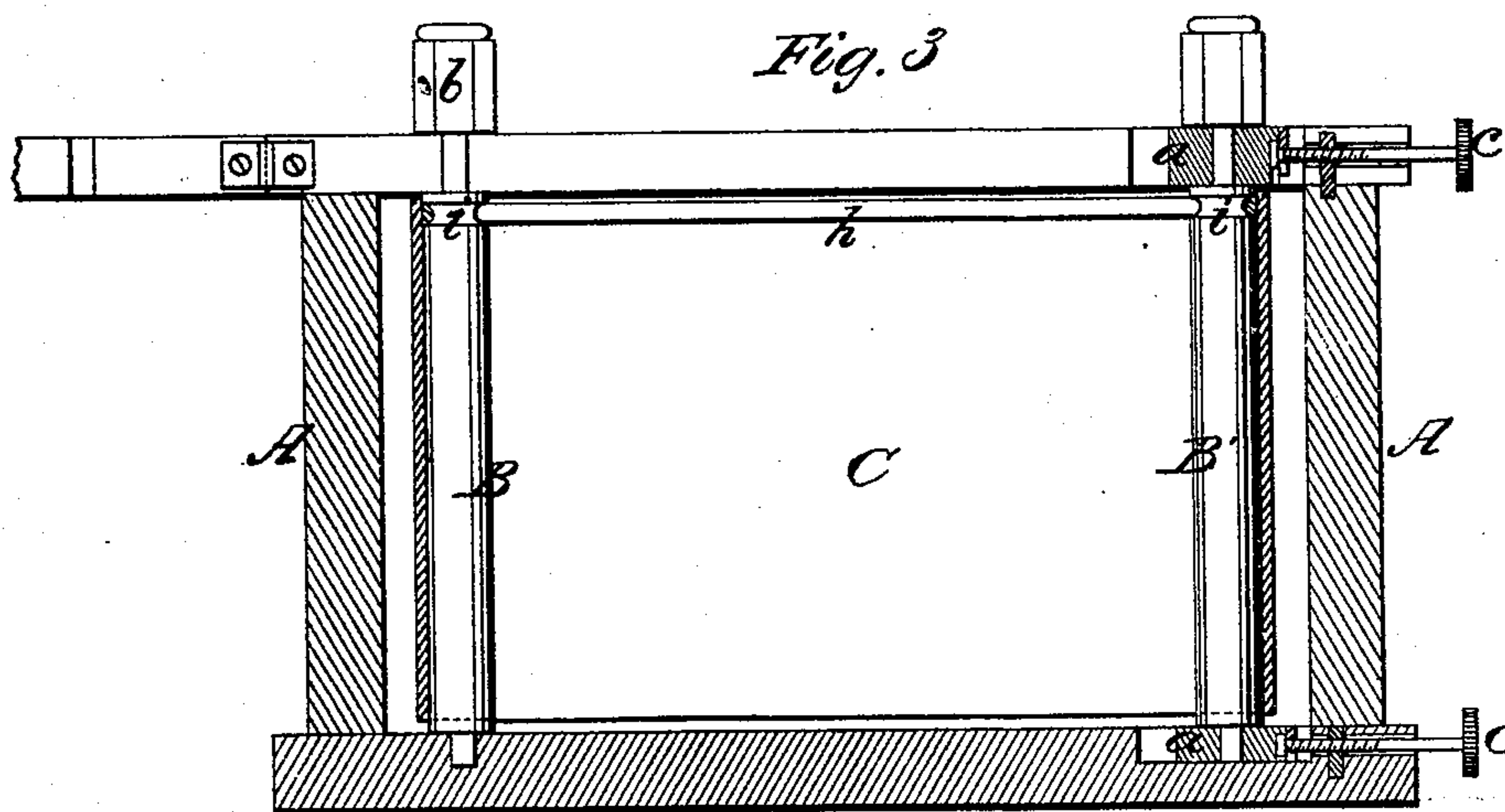
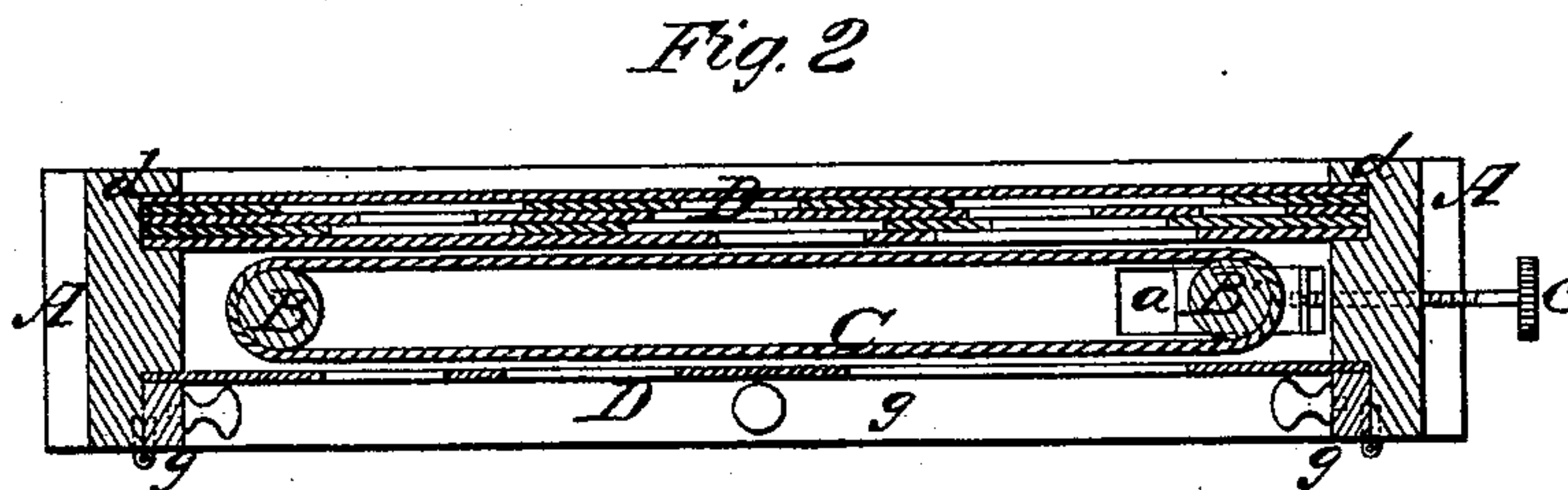
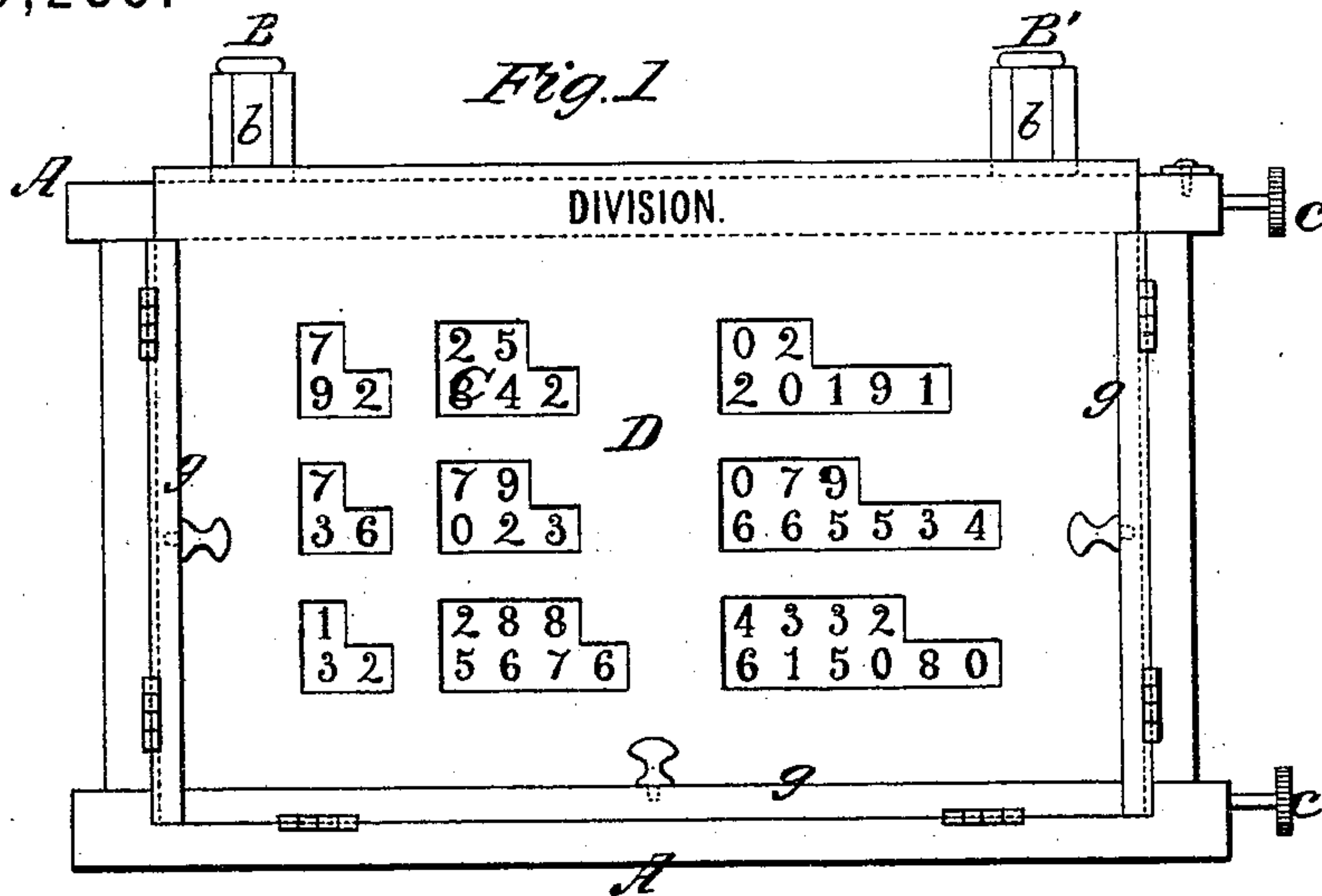


S. G. LOVE.
Apparatus for Teaching Arithmetic.
 No. 149,235. Patented March 31, 1874.



WITNESSES
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By

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ATTORNEYS.

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Fig. 4

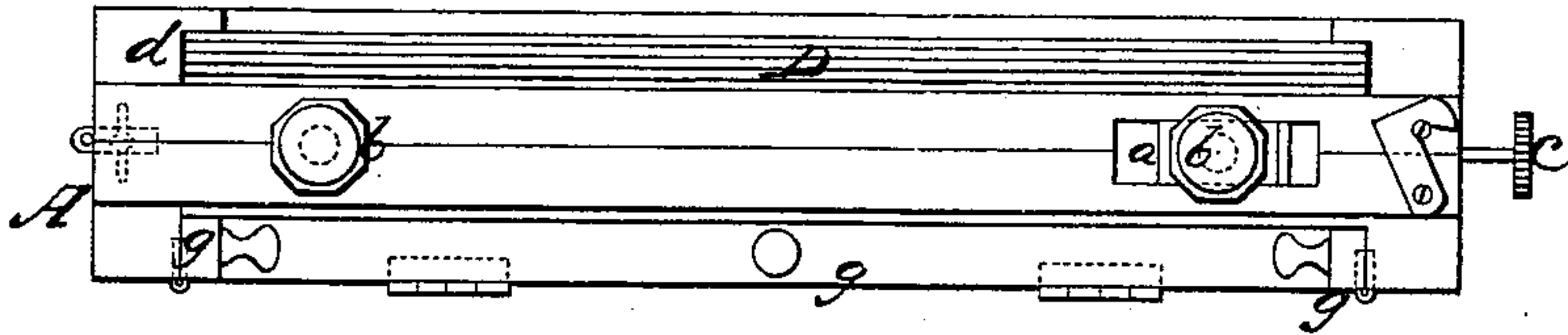


Fig. 5

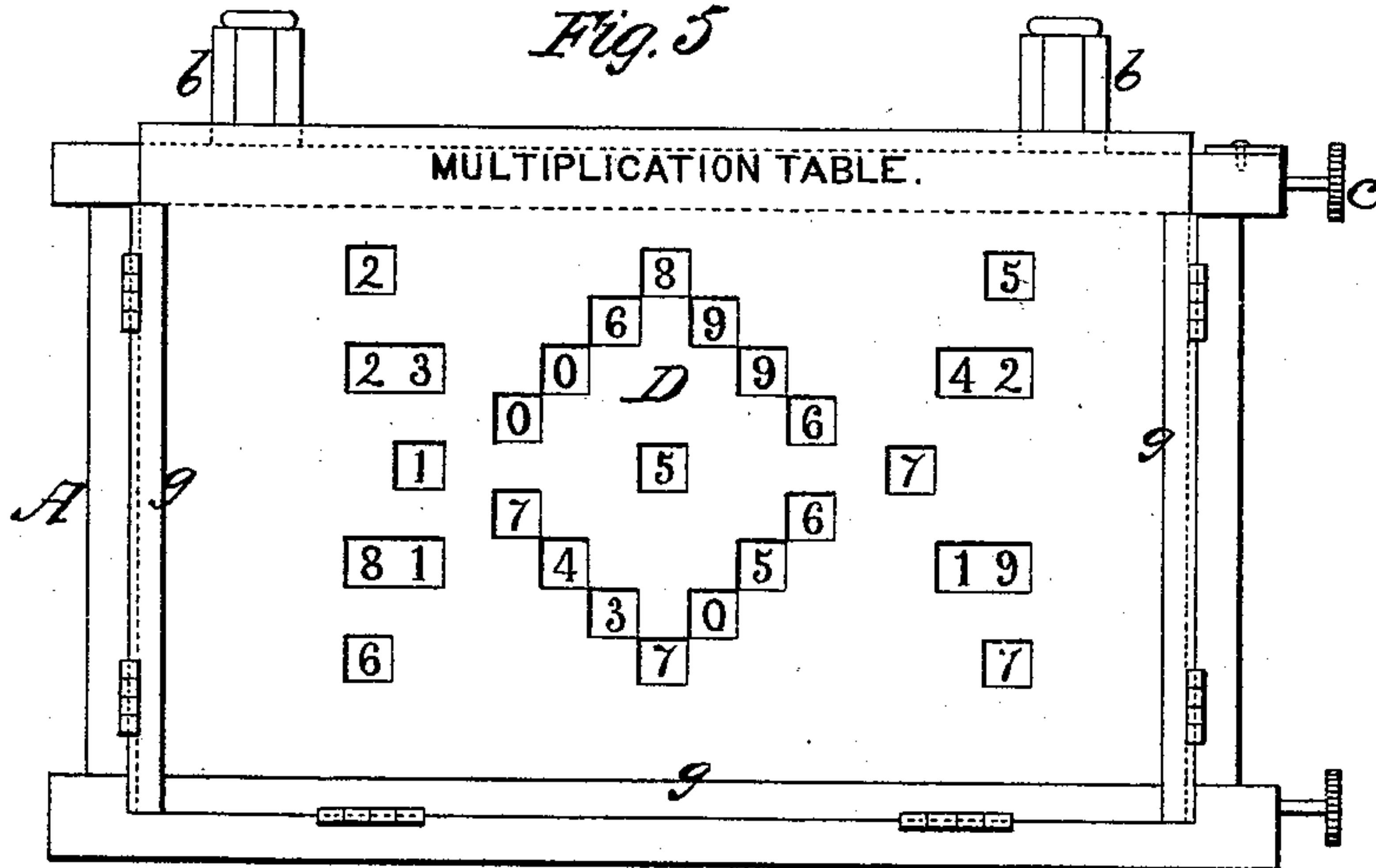
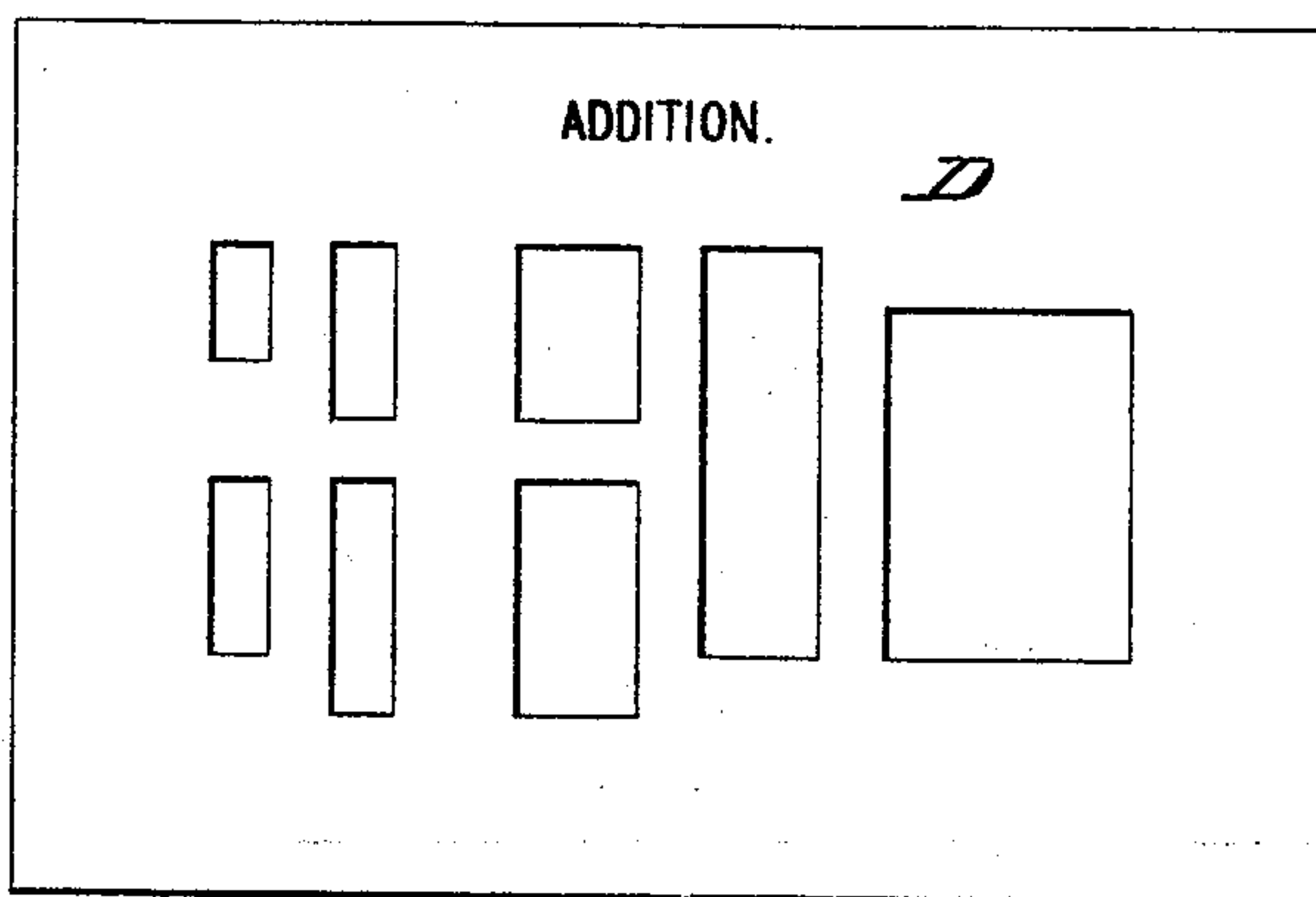


Fig. 6



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SAMUEL G. LOVE, OF JAMESTOWN, NEW YORK.

IMPROVEMENT IN APPARATUS FOR TEACHING ARITHMETIC.

Specification forming part of Letters Patent No. 149,235, dated March 31, 1874; application filed February 28, 1874.

To all whom it may concern:

Be it known that I, SAMUEL G. LOVE, of Jamestown, in the county of Chautauqua and State of New York, have invented a new and valuable Improvement in Arithmetical Machines; 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, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a face, and Fig. 2 of a horizontal, section of my device. Fig. 3 is a vertical longitudinal sectional, and Fig. 4 a top, view of the same. Fig. 5 is a face, and Fig. 6 a detail, view.

This invention has for its object facilitating the exhibition of arithmetical examples in schools, and obviating the labor and loss of time hitherto required of teachers in writing their examples on blackboards.

The nature of my invention consists in an endless belt, on which columns of figures are printed or otherwise applied, which belt is stretched around two rollers arranged vertically in a suitable frame, so that by rotating one of the rollers the figures will be exposed to view in columns and other combinations in the form of arithmetical examples, through openings in adjustable screens placed in front of the figured belt, as will be more fully explained hereinafter.

The following is a description of one practical mode of carrying my invention into effect. Others will readily occur to the mind.

In the annexed drawings, A designates a rectangular upright frame, of suitable length and height, in which two vertical rollers, B B', have their bearings, carrying an endless belt, C, of cloth or other flexible material. The rollers B B' have heads or handles *b b* on their upper ends, by means of which they can be conveniently rotated. The roller B is applied in fixed bearings, and the roller B' is applied in removable blocks *a a*, which are adjustable by means of screws *c c* that are tapped through one of the uprights of frame A. Upon the endless belt C I print columns of figures, arranged arbitrarily over its entire surface, which figures I expose to view through openings of various sizes and forms, which are made through movable card-board screens

D, shown in Figs. 1 and 5, applied to the front of the endless belt. The screens D may be kept for use in grooves *d d* made in the back of the frame A, and when one of these screens is adjusted in front of the screen it is held in place by three hinged strips, *g g g*. The openings through the screens are of such forms and sizes as will disclose the figures on the endless belt in columns and combinations to form examples in various rules of arithmetic.

Separate screens may be used for examples under each rule, or examples under different rules may be combined on a single screen.

The horizontal bar at the top of the frame A is composed of two longitudinal halves, which are hinged together at one end and connected by a screw, or hook and pin fastening at the other end. This construction allows the rollers B B' with their belt C to be removed from the frame A. A V-shaped band, *h*, which is attached to the upper edge of the belt C, and which is received in annular grooves *i* made in the said rollers, will prevent the belt from sagging.

I contemplate operating the machine which I have above described by turning one or the other of the rollers B B', and, as the belt C revolves, placing before the spaces or openings through the screen new combinations of figures, thus presenting, instantaneously, examples for the practical drill of the whole class present in any of the rules of arithmetic.

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

1. The adjustable and removable screens D, having openings through them, in combination with a figured endless belt held in position and movable upon vertical rollers B B', substantially as described.

2. The frame A, carrying rollers B B', and an endless figured belt, C, and constructed to receive and keep in place perforated screens D, both in front and behind the said endless belt, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SAML. G. LOVE.

Witnesses:

H. J. YATES,
A. D. ALLEN.