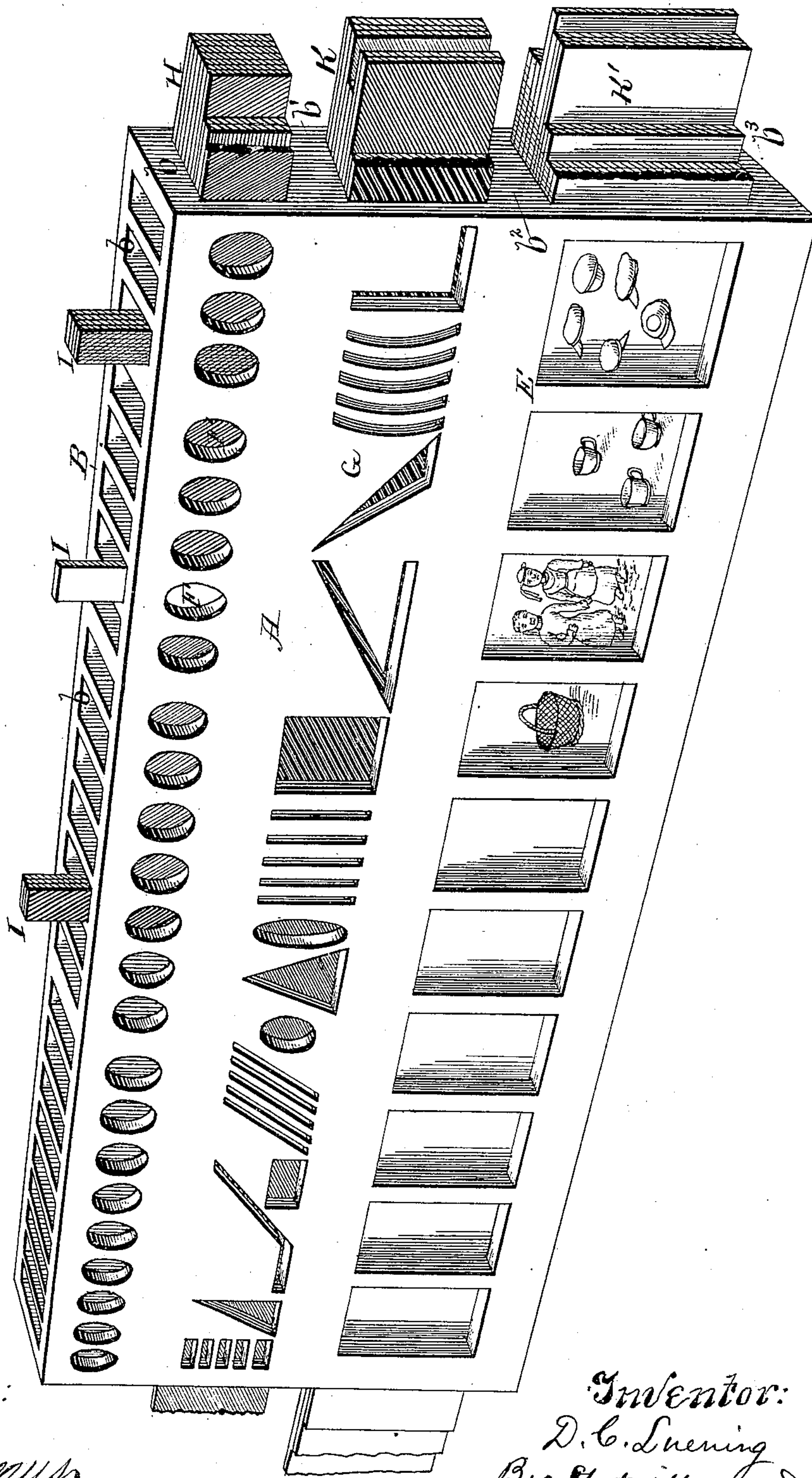


(No Model.)

D. C. LUENING.  
OBJECT TEACHING FRAME.

No. 248,659.

Patented Oct. 25, 1881.



Witnesses:

E. G. Asmus  
Henry Harrison

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# UNITED STATES PATENT OFFICE.

DIEDRICH C. LUENING, OF MILWAUKEE, WISCONSIN.

## OBJECT-TEACHING FRAME.

SPECIFICATION forming part of Letters Patent No. 248,659, dated October 25, 1881.

Application filed July 8, 1881. (No model.)

*To all whom it may concern :*

Be it known that I, DIEDRICH C. LUENING, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Numeral-Frames for Objective Teaching; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to devices for teaching children objectively, and will be fully described hereinafter.

The figure in the drawing is a perspective view of my invention.

A B is the frame of my device, composed of heavy pasteboard, preferably. The back B of the frame is solid, and is separated from the front A by partitions  $b$   $b'$   $b^2$   $b^3$ . The spaces between the partitions  $b$  are for the purpose of admitting vertical strips I, of various colors, and the spaces between partitions  $b'$ ,  $b^2$ , and  $b^3$  are for the purpose of admitting horizontal strips H, of various colors and bearing various devices. The front A of the frame has a series of perforations, F F, near its top, and just below this is a row of geometrical figures cut out of the front A, so as to expose the back B, and below this is a row of approximately square openings cut out of the front A. The back and front of the frame are of the same color, so that there will be no contrast normally between the two.

For use in connection with the frame A B, I prepare slips H I K K', of pasteboard, variously colored. The narrow strips H are for insertion between the front and back A B and just behind the perforations F, and are adapted to slide horizontally. The strips I are also variously colored and adapted to be inserted between the partitions  $b$  from the top. Strips K are to be inserted just back of the geometrical figures, and strips K' just back of the squares. Now, suppose I desire to teach a child to count, I insert a colored (red) strip, H, far enough to close the first perforation F, and ask "How many red spots do you see?" "One!" Insert it still farther. "How many now?" "Two!" And so on until the strip has been exposed behind all the holes. I may now insert a green strip covering three holes. "How

many green spots?" "Three!" Insert it till four holes are closed, and make the pupil add the 3 to 1 and show him that  $3+1=4$ . I may then insert a black strip from above to cover one green spot, and in that way teach subtraction, and by permutations and combinations of strips of different color keep the child so interested that every lesson will be stamped indelibly on his memory.

It is obvious that by the insertion of strips K in their places the figures in row G may be brought out and explained.

For use in the third row, E, I have strips prepared with pictures of familiar articles, such as caps, cups, bells, &c.

As shown in the drawing, I have inserted a strip bearing the pictures of three cups, exposing them on one of the squares, and have inserted another strip bearing the pictures of five caps. The child is asked "How many cups do you see?" "Three!" "How many caps?" "Five!" "How many caps and cups?" "Five caps and three cups. Eight things," each operation being illustrated on the black-board. The multiplication-table may also be taught on this row by strips containing pictures of articles in groups from one up. Take a strip having ten horses on it in a line; insert it until the first square exhibits one horse, then when it has passed in till the second square shows a horse, there are two times one, and successively as the slip passes in, three times one, and then four times one, and so on until all of the squares have been closed. The spaces for the strips are sufficiently large to admit several at the time, so that while the first aperture may be closed by the blue strip, or the strip on which caps are displayed, the next may be closed by the cup-strip passed in behind the first strip, but projecting farther.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A frame for teaching children objectively, composed of a front and back separated from each other by vertical and horizontal strips or partitions, and the front cut out to exhibit the outlines of figures and objects, in combination with variously-colored strips adapted to be

thrust between the front and back and bring out the figures by contrast, as set forth.

2. In a frame for teaching children objectively, the front having the elementary geometrical figures cut out from it, in combination with variously-colored strips adapted to be thrust between the front and back of the frame and exhibit the figures by contrast, as set forth.

10 3. In a frame for teaching objectively, the

front having square openings, in combination with strips having pictures of familiar objects grouped thereon, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

DIEDRICH C. LUENING.

Witnesses:

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