R. S. BRENNAN.

CUMULATIVE ADDITIVE DRILL CARDS.

APPLICATION FILED MAR. 15, 1917.

1,228,356. Patented May 29, 1917.

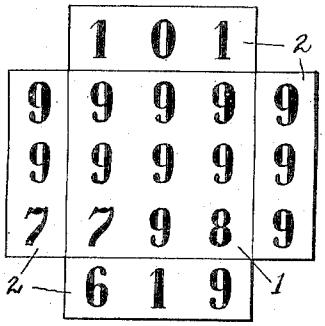



FIG. 1.

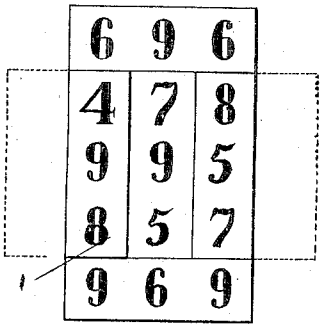



FIG. 4.

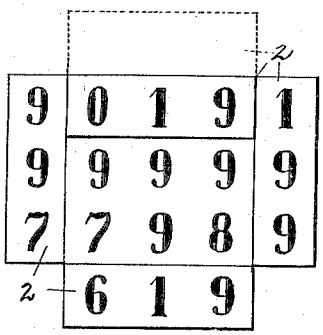



FIG. 2.

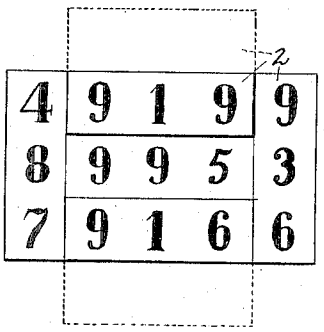



FIG. 5.

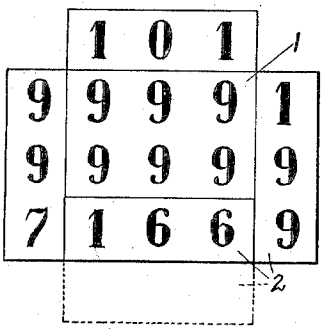



FIG. 3.

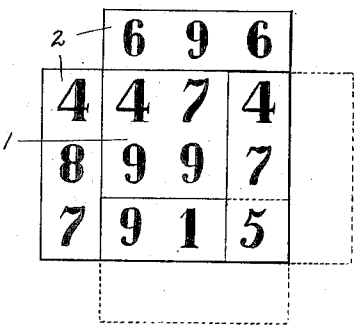



FIG. 6.

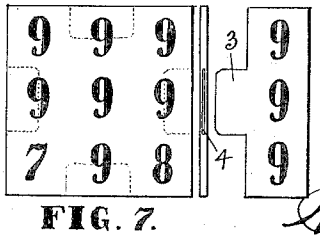



FIG. 7.

WITNESSES:

P. Provenza No.

J. M. Griffin

INVENTOR

Ruby Shearer Brennan

BY

Fitzgerald

ATTORNEY

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

RUBY SHEARER BRENNAN, OF PORTLAND, OREGON.

## CUMULATIVE ADDITIVE DRILL-CARD.

1,228,356. Specification of Letters Patent. Patented May 29, 1917.

Application filed March 15, 1917. Serial No. 155,117.

*To all whom it may concern:*

Be it known that I, RUBY SHEARER BRENNAN, a citizen of the United States, residing in the city of Portland, county of Multnomah, and State of Oregon, have invented certain new and useful Improvements in Cumulative Additive Drill-Cards, of which the following is a specification.

My invention relates to cumulative additive drill cards, and more particularly to drill cards especially designed for teaching and drilling children in all of the forty-five combinations in addition.

The principal object of my invention is to provide a card, which can be prepared in sets, each card of a set having sides, or flaps, at the edges thereof, capable of use in such a way that a large number of different columns of figures can be obtained by the manipulation of the card for the child to add.

Another object of the invention is to provide such cards in graded sets, whereby each pupil can be provided with a card that contains the combinations which have been taught him, and in which he has reached the drill period.

Another object of my invention is to provide a drill card of the character referred to, adapted to stimulate the interest of the child in working out a great number of different combinations, or columns of figures to be added, none of which will contain combinations of figures which the child, using the cards, has not been taught.

Another object of the invention is to provide a profitable means of independent work for each pupil, thus eliminating the practice of copying, and which cards shall be capable of use without blackboard space.

In order to more clearly explain my invention, I have illustrated on the accompanying sheet of drawings some of my improved drill cards, which I will now describe.

Figure 1 shows a face view of a card from the table of nines;

Fig. 2 is a similar view thereof with a top flap turned down over upon the body of the card;

Fig. 3 is a similar view showing the bottom flap turned up upon the body of the card;

Fig. 4 is a face view of a card from a miscellaneous set with the two side flaps turned over on the body of the card;

Fig. 5 is a similar view thereof with the bottom and top flaps turned over the body of the card;

Fig. 6 is a similar view thereof showing one side and the bottom flaps turned over the body of the card.

Fig. 7 shows face and edge views of a card, and a detachable side.

In the drawings, the body of the card is designated 1, and the sides, or flap portions, are designated 2.

Each card is provided with such a combination of numerals, depending upon the table for which the card is intended, so that the highest or last table, which the child has studied will predominate in all combinations which he is able to make up on that particular card.

For example, take the table of nines, a card for which is shown in Figs. 1, 2 and 3 of the drawings. The pupil is furnished with one of these cards during the study period, and from it he will write down and add as many different problems, or combinations, as he can discover on his card, using first one side and then the other, turning the flaps in different ways in order to change the combinations.

Attention is called to the fact that the numerals on the top and bottom flaps are such as can be read in either direction; that is, one, naught, six and nine are used on the top and bottom flaps of the cards for the table of nines. The naught and the one are read the same no matter which way turned, while the nine when reversed becomes a six, and the six when reversed becomes a nine. It is possible by turning the flaps in different ways to group the numerals on each card in such a way that there can be discovered more than fifty different abstract problems in column addition on each card of each group.

In the preferred embodiment of my invention, which I have illustrated on the accompanying drawings, the sides, or flap portions are made as a part of the body of the card, or are attached thereto in such a way as to be read in different positions relative to the body of the card. In Fig. 7 I have

shown a detachable side, or flap, with attaching tongue 3, adapted to be inserted in a socket 4, in the edge of the body of the card.

What I claim and desire to secure by Letters Patent is:

1. A drill card comprising a body portion provided with numerals, and one or more side portions also provided with numerals on their back sides and adapted to be used in connection with the body of said card for changing the combinations of numerals, substantially as described.

2. A drill card of the character referred to comprising a body portion provided with numerals, and with one or more side flaps also provided with numerals on both sides and adapted to be turned upon the body of the card, whereby to change the visible combinations of numerals.

3. A drill card of the character referred to comprising a body portion provided with rows of numerals, and side, top and bottom flaps also provided with numerals on both sides, and adapted to be turned over the body of the card, whereby to cover each a row of numerals on the body of the card and to present in place thereof the row of numerals on said flap, substantially as described.

4. A drill card of the character referred to comprising a body portion provided with rows of numerals, and side, top and bottom flaps also provided with numerals on both sides and adapted to be turned over the body of the card, whereby to cover each a row of numerals on the body of the card and to present in place thereof the row of numerals on said flap, the top and bottom flaps being provided with numerals capable of being read in inverted positions, substantially as described.

5. A drill card of the character referred to comprising a body portion provided with numerals, and one or more side portions provided with numerals on both sides and adapted to be used in connection with the body of said card for changing the combinations of numerals, substantially as described.

Signed at Portland, Multnomah county, Oregon, this 9th day of March, 1917.

RUBY SHEARER BRENNAN.

In presence of—

I. M. GRIFFIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."