E. C. WATERHOUSE.

ARITHMETICAL CARD GAME.

APPLICATION FILED MAR. 29, 1919.

1,354,707.

Patented Oct. 5, 1920.

Fig. 1.

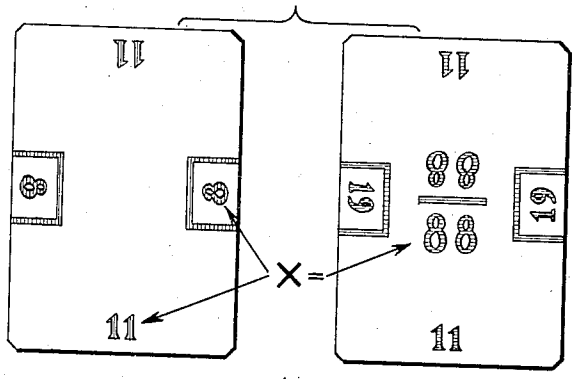


Fig. 2.

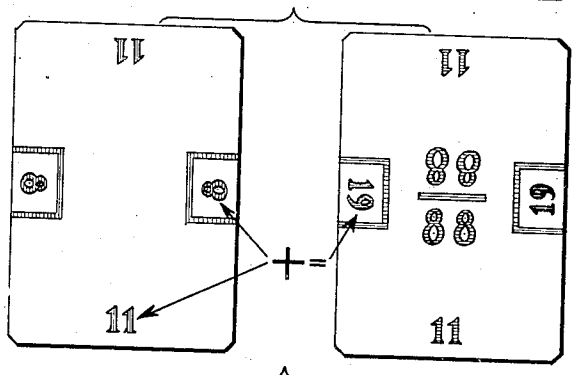


Fig. 3.

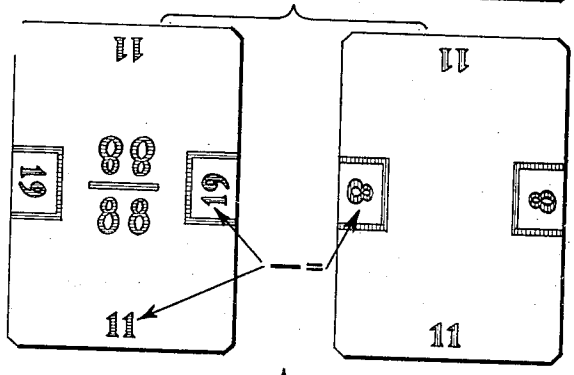
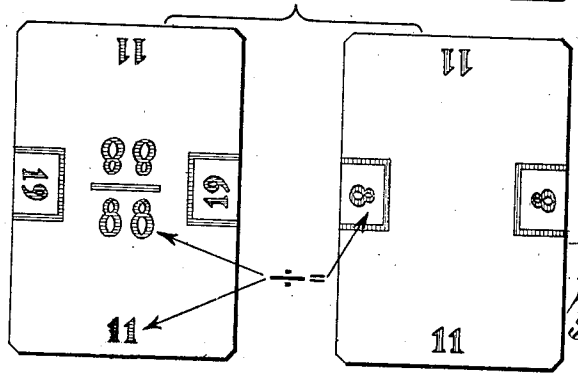


Fig. 4.



Inventor:
Ella C.
Waterhouse
By Cheever & Cox
Attys

UNITED STATES PATENT OFFICE.

ELLA C. WATERHOUSE, OF AURORA, ILLINOIS.

ARITHMETICAL CARD GAME.

1,354,707. Specification of Letters Patent. Patented Oct. 5, 1920.

Application filed March 29, 1919. Serial No. 286,009.

To all whom it may concern:

Be it known that I, ELLA C. WATERHOUSE, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a certain new and useful Arithmetical Card Game, of which the following is a specification.

This invention relates to playing cards arranged in a set, each card having a suitable combination of numbers printed on its opposite sides, so that by following proper accompanying instructions, children can, in playing the game, learn to add, subtract multiply and divide.

The object of the invention is to so construct each card of the set that with an initial two numbers or figures, one to operate on, hereafter called the "operated number;" the other to operate with, hereafter called the "operating number," embodied in a given card, together with suitable other numbers dependent thereon, games involving the four different mentioned,—hereafter referred to as the "standard arithmetical operations" may be played, two from one side of the card and two from the other.

In carrying out the invention, a complete set of cards is provided, about fifty in number, involving operating numbers and the operated numbers, sufficient to practically teach the multiplication tables up to 12×12, leaving out, for convenience, in order to reduce the size of the pack, the obvious 1 on 1 operations, and the almost equally obvious 10 on some other number operations, except the higher ones, 10×11 and 10×12. The cards may, of course, be made to carry any numbers without departing from the invention, but the set described is the one most suitable for children of school age, who are most apt to be interested in a game of this class.

For the purpose of illustrating the construction of each card in the deck, it is only necessary to illustrate in the drawings one card. For this purpose, the card carrying 11 as the operating number and 8 as the operated number has been chosen at random and is illustrated in the drawings.

Figure 1 shows at its left hand half the initial or "primary side" of this card, preferably, though not necessarily, printed in some distinguishing color, as for instance red, as shown in the drawings; and in its right hand half the opposite or "secondary side," preferably, though not necessarily, printed a different color, as blue, as shown in the drawings. Figs. 2, 3, and 4 are similar views of the card, indicating the different operations.

The operating number and the operated number are, preferably printed on the primary side in such a way that they are distinctly different one from the other. In the particular case here illustrated, which is the form in which the cards have been sold commercially, the operated number 8 is inclosed within a square, while the operating number 11 is not. For convenience of players sitting on opposite sides of the card table, each of these numbers is duplicated on each card; viz., the operating number is printed at each end, while the operated number is printed on each side, but obviously, the game could be played just as well if only one imprint of each number was on this side of the card. The particular position of these numbers on the card is not essential to the game.

On the secondary side of the card, shown in the right hand half of Fig. 1, the operating number is again repeated, preferably in the same type and position as on the initial side of the card. The product of the operating and operated numbers is shown at a particular point, and in some particular way on this secondary side of the card. In the particular embodiment of the invention here set forth, the product, 88, is printed in the center of the card, the imprint of this product being duplicated as before for the same reasons. Also, on the secondary side of the card is placed, with a suitable designation either of printing or, in the particular case here illustrated, within a square, the sum of the two numbers on the primary side of the card; viz., 19 within a square. This, again, is duplicated for the same reasons.

The construction and printing of the particular card in question is completely shown in Fig. 1. The remaining figures, 2, 3 and 4, are merely diagrammatic illustrations of the method of playing the game.

Assuming that a game of multiplication is to be played, and that the primary face of the card, shown at the left hand half of Fig. 1, is turned up on the table. The player mentally multiplies 11x8 and turns the card to check his or her result by finding the product 88 in the center of the other side, (Fig. 1.)

Assume that the game of addition is being played. The primary face is again turned up on the table, and the player adds 11 and 8 and turns the card over to, as in Fig. 2, find on the other side the sum 19 within the square and thus check the answer.

Assume that the game of subtraction is to be played. The cards are used with the secondary or blue sides up, as in the left hand half of Fig. 3. When the card here shown is turned up on the table and the player takes the now operated number 19 and subtracts from it the operating number 11, and on turning the card on the face as viewed in the right hand half of Fig. 3, checks the result, 8, in the square on the red side of the card as shown in the right hand half of Fig. 3.

Assume that the game of division is to be played. The operator takes the secondary blue side of the card, as shown in Fig. 4, and divides the operating number, 11, into the product number 88, appearing in the center of the card which is for this purpose an operated number, and on turning the card checks the result with the 8 appearing in the red side of the right hand half of Fig. 4.

In case there is any question about the foregoing making the numbers on other cards than that shown entirely clear, the following table, made from a few cards taken at random from the pack, will do so:

Primary side.		*Secondary side.*		
Operating number.	Operated number (in square).	Sum (in square).	Product (in center).	Operating number.
5	3	8	15	5
12	8	20	96	12
9	7	16	63	9
4	3	7	12	4
3	9	12	27	3
6	5	11	30	6
8	8	16	64	8

It will be seen that by playing with the primary or red side of the cards up, children may play at will the games involving respectively addition and multiplication, and that by playing with the secondary or blue sides of the cards up, the children may similarly play two other games involving, at will thus learning, subtraction and division.

It may be noted that so far as the broad principle of this invention is concerned it is unnecessary that addition be performed on the primary side of the card, and subtraction on the secondary side. For instance, take a card with 2 as the operating number and 12 as the operated number on the primary side. The product of these, is of course, 24 which would be in the center of the secondary side. By putting the numeral 10 in the square on the secondary side the game can be played to multiply and divide as in the preferred form shown in the drawings and then play subtraction on the primary side, viz., take 2 from 12 which is 10, which is shown on the secondary side and play addition on the secondary side, viz., 10 plus 2 equals 12, which is shown on the primary side.

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

In a device of the class described, a card showing on its primary side an operating number and a differently designated operated number, and on its secondary side the same operating number and two differently designated operated numbers, one of the latter being the product of the two numbers on the primary side of the card, the other being their algebraic sum, for the purposes set forth.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

ELLA C. WATERHOUSE.

Witnesses:
DWIGHT B. CHEEVER,
M. S. ROSENZWEIG.