March 17, 1925.

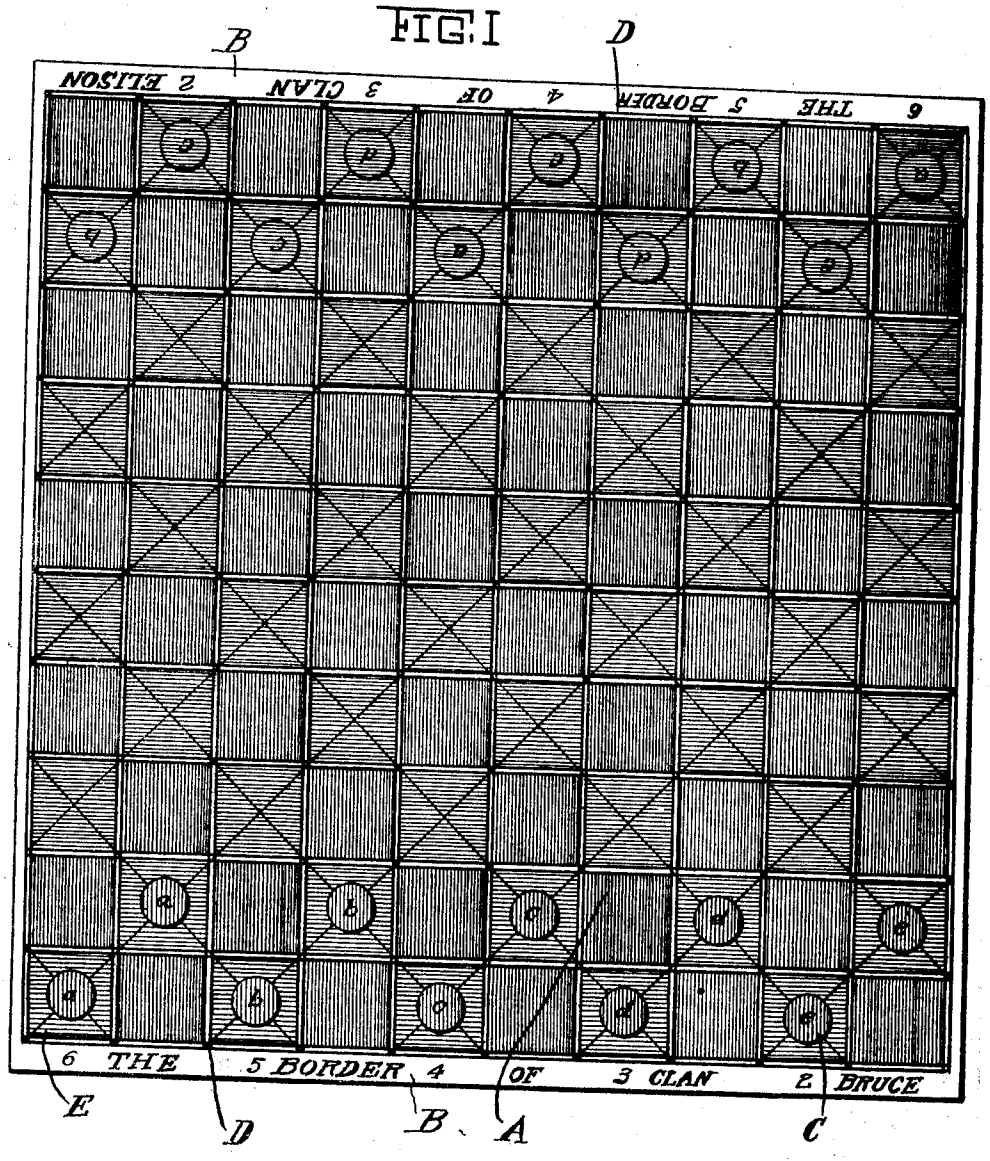
W. R. BUKER ET AL

1,529,987

GAME

Original Filed April 24, 1920 2 Sheets-Sheet 1

FIG. I



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FIG. II

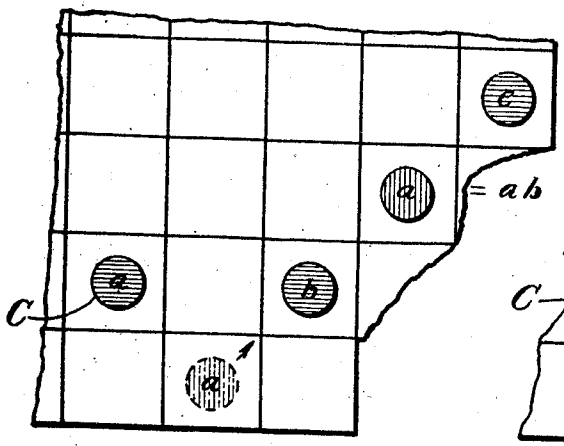


FIG. III

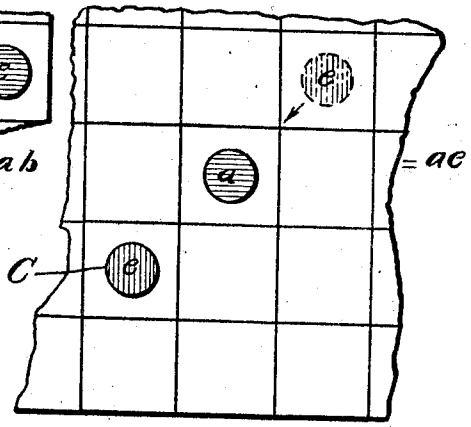


FIG. IV

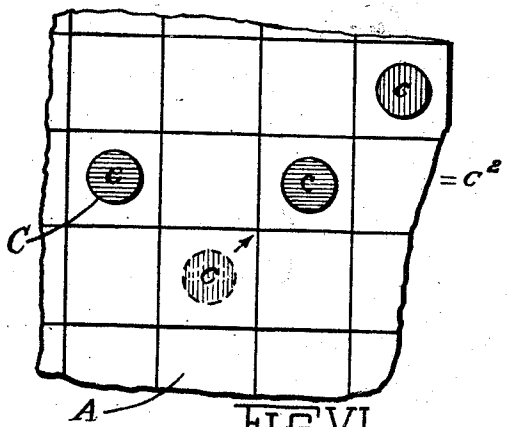


FIG. V

Red		Blue	
ab	6	$2ae$	232
$2c^2$	88	ad	8
$2de$	48	de	40
cd	55	cd	16
ac	8	d^2	20
dc		dc	55
bc	20	ge	
e^2	48	a^2	4
Total		Total	

FIG. VI

Red Code Value		Blue Code Value	
	$a = 2$		$a = 2$
	$b = 5$		$b = 3$
	$C = 11$		$C = 4$
	$d = 4$		$d = 5$
	e 8		e 6

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UNITED STATES PATENT OFFICE.

WINFIELD R. BUKER, OF CAMBRIDGE, MASSACHUSETTS, AND GEORGE C. PURINGTON, OF FORT FAIRFIELD, MAINE.

GAME.

Application filed April 24, 1920, Serial No. 376,199. Renewed July 17, 1924.

To all whom it may concern:

Be it known that we, WINFIELD R. BUKER and GEORGE C. PURINGTON, citizens of the United States, residing at 15 Brattle Street, Cambridge, county of Middlesex, Commonwealth of Massachusetts, and Fort Fairfield, county of Aroostook, State of Maine, respectively, have invented certain new and useful Improvements in Games, of which the following is a specification.

This invention relates to games and particularly to a mathematical game involving computation in the moves in such a manner as to stimulate both the knowledge of and practice in certain branches of mathematics.

In games of an educational nature the necessity of sustained interest is very great as any lag in the sport of the play relegates the matter to one of task and the game quickly loses popularity and is lost as an educational factor.

It is the object of our present invention to provide a game in which the strategy of the play as well as the scoring involves computation.

The theory and practice of such games in accordance with our invention will be explained and discussed hereinafter. As illustrative of our invention we have selected a simple form of apparatus and use by which such games are carried on and one well adapted to impart rapid and accurate calculation in both algebra and arithmetic.

In the drawings:

Fig. I is a game board and play pieces.

Figs. II, III, and IV are diagrammatic representations of fragments of a characteristic game in progress, and

Fig. V a representative score.

Fig. VI is a table of code values.

The apparatus comprises a tartan or plaided field A, preferably a square subdivided into 100 units *a*. Opposite sides of the field A constitute "Borders" or bases B in which are set down different values or factors opposite adjacent squares.

The pieces C are of disc or other suitable form and bear on their faces characters. These may be numerals or letters according as the play is to be of arithmetical or algebraic nature or may be both on opposite or combined faces.

The "Scots" or pieces C are two groups or clans each of characteristic color as for example Clan Bruce of characteristic red and Clan Elison of blue, it being sufficient for the purposes of this application to refer to the group of each player as reds or blues. The pieces C each bear a value designation, letters or numbers, which constitute the factor of multiplication, addition, etc. of the computation of the play.

Each group, i. e. reds or blues is preferably subdivided as shown in Fig. I into two or more groups of the same value designation and the designation of both are preferably similar so as to compel addition or multiplication. For example, if there are two sets of men on each side designated *a* and two *b*, there will be developed in ordinary play score points of a^2 value or b^2 value as well as those of *ab* value, etc. Also these values will frequently double or treble giving consolidated score items of $2a^2$ or $3b^2$.

Referring to Fig. II it will be seen that the Red Scot or piece having a value character *a* has jumped from its initial position indicated in broken lines over the Blue Scot or piece having a value character *b* giving the resultant product *ab*. This would be set down in the red column. In Fig. III a red player value *e* has jumped a Blue Scot *a* giving a play product *ae*. In Fig. IV a red man value *c* has jumped a blue man of character *c* giving a play product of c^2.

Along the border or base of each side adjacent check squares are assigned values which may be numbers or symbols. In the drawings we have shown numbers which we prefer for present purposes.

In the use of the apparatus shown the Scots or play pieces C are lined up on the two rows of squares adjacent to each border.

As shown the pieces lettered *a* to *e* inclusive are arranged in that order in two rows. In play, however, the order may be varied at will. Each player assigns to the symbols of his pieces numerical values. These values may be announced or may be kept secret till the score is computed. Values may be either plus or minus. This stimulates the closest observation of an opponent's play and a mental estimate of the mathematics of his strategy. The apparent careless exposing of a piece to attack may lead the enemy to guess its minus value and counter it with a minus piece thereby giving a plus value to the product or score item of the move.

The pieces are preferably moved diagonally along the diagonal lines of the overplaid E. Pieces are jumped or moved to the square or check next beyond that occupied by the enemy piece diagonally next in front of it.

Any piece reaching the border or goal line is rewarded by having its value character multiplied by the value of the border square and the same added to the score.

The apparatus preferably includes a score space or board having separate columns divided by equation marks so that the product of the jump items may be set down in a column and after cancellation or consolidation the numerical values may be assigned and the score footed.

While we have indicated as a preferred form pieces having alphabetical characters for algebraic play, it will be readily understood that multiplication or addition of numbers might be desired with younger children. All such modifications of characters, values, field or pieces are in accordance with our invention if within the limits of the appended claims.

What we therefore claim and desire to secure by Letters Patent is:

1. In a mathematical game apparatus, a board having a field of play sub-divided into a plurality of adjoining units, the marginal units of opposite sides of said field having different values, and two sets of play pieces, the pieces of each set having different arbitrarily selected numerical values.

2. In a mathematical game apparatus, a board having a rectangular field of play symmetrically divided into uniform position squares, the marginal row of squares on each side being of different value characters, and two sets of play pieces, the pieces of each set having different arbitrarily selected numerical values.

3. In a mathematical game apparatus, a board having a rectangular field of play symmetrically divided into uniform position squares, the marginal row of squares on each side being of different mathematical factors, and two sets of play pieces, the pieces of each set having different mathematical factors.

4. A mathematical game comprising an area of play and opposing play pieces of different arbitrarily selected numerical values adapted to be moved in intersecting paths in said area of play, and each having characters providing varying mathematical computations on the occasion of the intersecting meetings of opposing pieces.

5. A mathematical game comprising an area of play including positions of indicated values, and opposing play pieces of different arbitrarily selected numerical values adapted to be moved in intersecting paths in said area of play and each having characters providing varying mathematical computations on the occasion of the intersecting meetings of opposing pieces.

In testimony whereof we affix our signatures in presence of two witnesses.

WINFIELD R. BUKER.
GEORGE C. PURINGTON.

Witnesses:
VICTORIA LOWDEN,
MARION F. WEISS.