Aug. 6, 1957 E. D. CLAY ET AL 2,801,855

MATHEMATICS GAME APPARATUS

Filed Sept. 17, 1953

Fig. 1

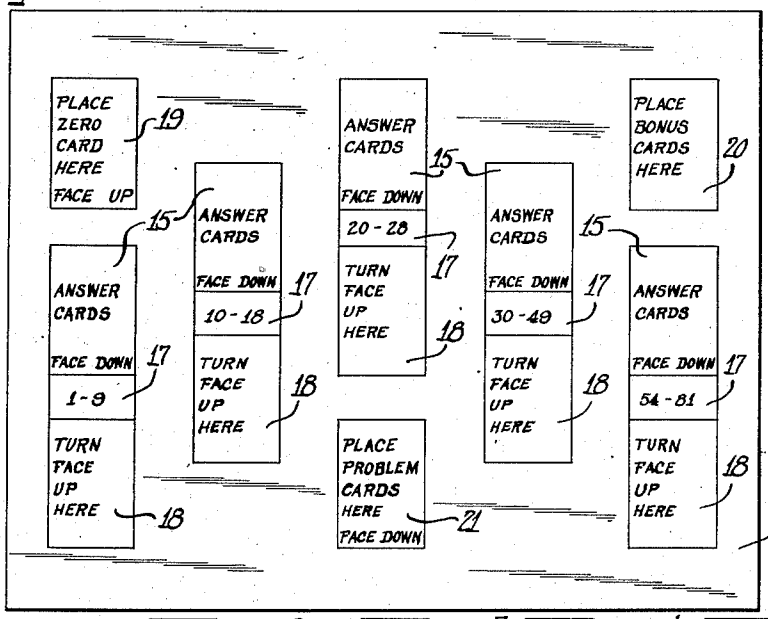


Fig. 2

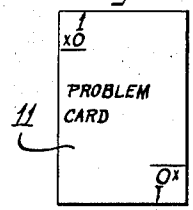


Fig. 3

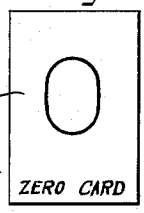


Fig. 4

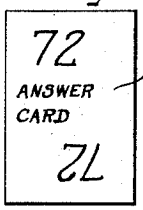


Fig. 5

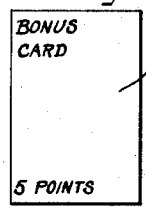
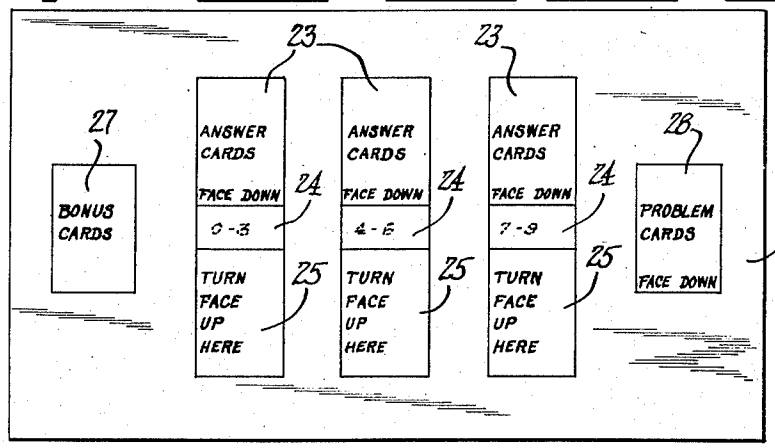


Fig. 6



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MATHEMATICS GAME APPARATUS

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3 Claims. (Cl. 273—135)

The present invention relates to improvements in card games and more particularly concerns a game pedagogically useful for children who are learning mathematics.

An important object of the present invention is to provide an improved card game especially appealing to children who are in process of learning basic mathematics.

Another object of the invention is to provide a card game device which is readily adaptable for teaching and reviewing basic mathematics involving addition, subtraction, multiplication or division.

A further object of the invention is to provide a mathematics card game which is adapted to be played by children of varying degree of progress in learning of mathematical facts.

Still another object of the invention is to provide a mathematics card game which is especially suitable for group play.

Other objects, features and advantages of the invention will be readily apparent from the following detailed description of certain preferred embodiments thereof taken in conjunction with the accompanying drawing in which—

Figure 1 is a plan view of a game board which is especially suitable for drill and review of the multiplication tables;

Figure 2 is a plan view of a problem card to be used with the board of Figure 1;

Figure 3 is a plan view of a zero card to be used in playing the game;

Figure 4 is a plan view of an answer card to be used in playing the game;

Figure 5 is a plan view of a bonus card used in playing the game; and

Figure 6 is a plan view of a modified game board suitable for playing the game with relation to addition, subtraction and division.

Since the game of the present invention is primarily aimed toward children who are learning basic mathematics, fairly simple game apparatus has been provided which, however, is sufficiently complex to afford sustained player interest.

Since adaptation of the game to multiplication facts offers the widest range of scoring possibilities, description of game apparatus for this purpose, as depicted in Figures 1 through 5 will first be given. To this end, the game comprises a game board **10**, a set of problem cards **11**, a zero card **12**, a set of answer cards **13** and a set of bonus cards **14**.

The game board **10** is divided into a plurality of appropriately identified delineated playing spaces, the principal spaces being arranged in groups provided for receiving the answer cards for play. There may be, for example, a set of eighty-one of the answer cards **13**. These are placed face down in first area spaces **15** of the respective groups provided therefor on the playing board **10** and preferably identified in respective boxes or areas **17** therebelow by respective ranges of answers that may be found on the cards. There may be five groups of the playing spaces having the answer card area spaces **15**

disposed in spaced relation symmetrically across the board from left to right. In the box **17** under the first answer card area space **15** may be provided the legend "1–9" indicating that the cards placed face down in the first answer card space will have answers thereon running from 1 to 9. Under the second answer card space may be the legent "10–18" indicating the answer cards in the pile in that space have answers running individually from 10 to 18. Likewise in the legend box **17** under the third answer card space is found the designation "20–28," in the legend box **17** under the fourth answer card space is the designation "30–49," while in the legend box **17** under the fifth answer card space is the indication "54–81." The answer cards are sorted out into five piles corresponding to the five answer card spaces, in accordance with the answer legends in the answer boxes under the answer card spaces **15**, and the respective piles of answer cards are placed on the answer card spaces face down. The topmost cards in the several first area spaces **15** are then turned face up and laid in respective companion card receiving second area spaces **18** attached below the legend boxes **17** associated with the first answer card area spaces.

At one side of the playing board **10** as for example at the upper left hand side thereof the zero card **12** is placed face up in a delineated area space **19** designated therefor.

The bonus cards **14** of which there may be, for example, a set of eighteen, are placed on another portion of the playing board **10**, such for example in the upper right hand portion of the playing board in a delineated area space **20** designated therefor.

For ready identification the several sets of playing cards may be of distinguishable colors. For example, the problem cards may be white in color. The answer cards may be green in color. The zero card, being the only zero answer card supplied, may be the same color as the other answer cards. The bonus cards may be orange in color. The several spaces designated for the several sets of cards may be colored correspondingly. The colors mentioned are only exemplary and it will be understood that any combination of colors preferred may be utilized.

In playing the multiplication game, the problem cards, of which there are preferably one hundred in the pack to cover all combinations of multiplication facts, are shuffled. Then four cards are dealt to each of the players, of which there may be from one to six. If there is but one player he deals two hands of four cards each, which he plays alternately. The remaining problem cards are placed face down in a problem card space **21** which may be conveniently located on the lower central portion of the playing board **10**. Where there is a plurality of players, the player to the left of the dealer starts the game by comparing the problem cards in his hand with the answer cards face up on the playing board. If he finds any one or more answers to problems present in his hand he picks up the matching answer card, which together with the corresponding problem card then makes a book which the player places in front of him. A succeeding answer card from the pile associated with the space from which an answer card has been removed is turned down in such space. If the answer on such card responds to a problem card in the hand of the player he may promptly make another book. If after having made one or more books none of the remaining turned up answer cards find response in the player's hand, he may select a card from any one of the answer card piles and turn it up with a view to making a further book if possible. This may be continued indefinitely by the player until he fails to turn up an answer card that matches one of his problem cards.

Should the player in any one turn play out all four of the problem cards held in his hand, he draws a replacement set of problem cards from the pile on the playing board and continues with the play as long as he can make books of matching problem cards and answer cards. When a player has exhausted his book making possibilities in any one turn, he replaces any problem cards up to four that he has played out of his hand by withdrawing the next succeeding cards from the problem card stack on the playing board.

The first player who has in hand or turns up a zero problem card, takes the zero answer card **12** from the playing board and also receives a bonus card **14**. Thereafter, if the player holding the zero card again turns up a zero problem card he may count it as a book. Any succeeding player who has in hand or turns up a zero problem card during his turn at play, receives the zero card from the player who previously held the same and receives credit for a book. Thereby, drill thru play is had in the rather important zero answer phase of multiplication.

Bonus cards are also awarded to the players who in any one turn can play out an entire hand of four cards.

Play proceeds until all of the answer cards have been played into books. Scoring may be on the basis of one point for each answer card, five points for each bonus card and ten points for the player who possesses the zero card at the end of the play.

In order to provide oral drill for the players, coupled with the visual experience while playing, the rules may require that the players announce the problems and answers as they match the problem and answer cards in making books. The rules may also provide for penalties for wrong answers detected by opponents, or bonuses for the opponents detecting wrong answers in the course of play.

In adapting the game for addition, subtraction and division facts a simplified arrangement of playing board **22** (Figure 6) may be used. On this board may be a transversely spaced series of three answer card spaces **23** having therebelow respective answer legend boxes **24** to which are attached respective designated spaces **25** for receiving turned up answer cards in play. A bonus card receiving space **27** may be provided at one end of the board such for example as at the left end, while a problem card space **28** is provided at the opposite end. One of the boards **22** is provided for playing both the subtraction and division games whereon the number ranges as shown in dash outline in the legend boxes **24** will apepar, for addition the legend boxes will carry respectively "0–5," "6–10" and "11–18."

In playing the addition, subtraction and division games, the same type of problem, answer and bonus cards may be used as described hereinabove in conjunction with the multiplication game. The bonus cards may, of course, be identical for all four games. However, the problem and answer cards will necessarily be different for the four games, in accordance with the mathematics facts to which the game is directed. Where the games are supplied in a complete set of four games, it may be desirable to have the answer and problem cards for each game distinctively colored so that they will not become mixed up with the cards for one of the other games.

It will be readily apparent that each of the mathematics games provided herein is adaptable to students of any degree of learning in the particular basic mathematics field in which instruction is being received. For example in multiplication, where the child or children have learned only the 1's, the multiplication game can be limited to play with the first pile in which the answers are from 1 to 9. Then after instruction in the 2's has been received the second pile can be added. Thus additional piles of answer cards are added as learning progresses. Thereby the students can observe their progress and incentive is provided for progression to the next higher multiplication table. Similar progression can be practiced in playing the other three mathematics games.

The game board is a practically indispensable component of each of the games to serve as guiding means for the players, especially juveniles. For example, the legend areas **17** or **24**, as the case may be, are important in guiding the players in selecting the piles from which to turn down answer cards in the course of play.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

We claim as our invention:

1. In a combination in a game device especially useful in drilling children in basic mathematics, a playing board having a playing face provided thereon, with a plurality of delineated playing spaces arranged in groups each of which includes a first area space for answer cards and a companion second area space in spaced adjacency thereto, each first and second area space having therebetween an area bearing a respective legend as to a given answer range, a pack of answer cards having on one face of each a respective and different answer to a mathematical problem, the answer cards being receivable in face-down piles on said first area spaces sorted in accordance with said respective legends and being movable into face-up position successively onto the respective companion second area spaces, and a pack of problem cards corresponding generally in number to the answer cards and bearing thereon respective problems for which the answer cards bear the respective answers, said problem cards being dealable by hands of limited number to players for successive matching into books of the problem cards with the corresponding answer cards in said second area spaces.

2. A game device as defined in claim 1 including, in addition, a delineated area space identified for bonus cards and a set of bonus cards receivable in said bonus card space to be won and removed by the winning players in the course of play.

3. A game device as defined in claim 2, wherein the problem cards include certain ones with "zero" problems, and the playing board has thereon a further delineated playing space identified for a "zero" card, and a "zero" card receivable in said "zero" card space to be matched with the "zero" problem cards when held by the players in the course of play.

References Cited in the file of this patent

UNITED STATES PATENTS

543,722	Brown	July 30, 1895
777,268	Thompson	Dec. 13, 1904
830,424	Ferris	Sept. 4, 1906
1,073,786	Thomas	Sept. 23, 1913
1,402,807	Tegtmeyer	Jan. 10, 1922
1,415,019	Crossland	May 9, 1922
1,532,722	Wall	Apr. 7, 1925
1,723,377	Salomon	Aug. 6, 1929
1,730,418	Gardner	Oct. 8, 1929
2,355,785	Dorfman	Aug. 15, 1944
2,562,633	Needham	July 31, 1951
2,565,702	Stinson	Aug. 28, 1951

FOREIGN PATENTS

296,599	Great Britain	Sept. 6, 1928