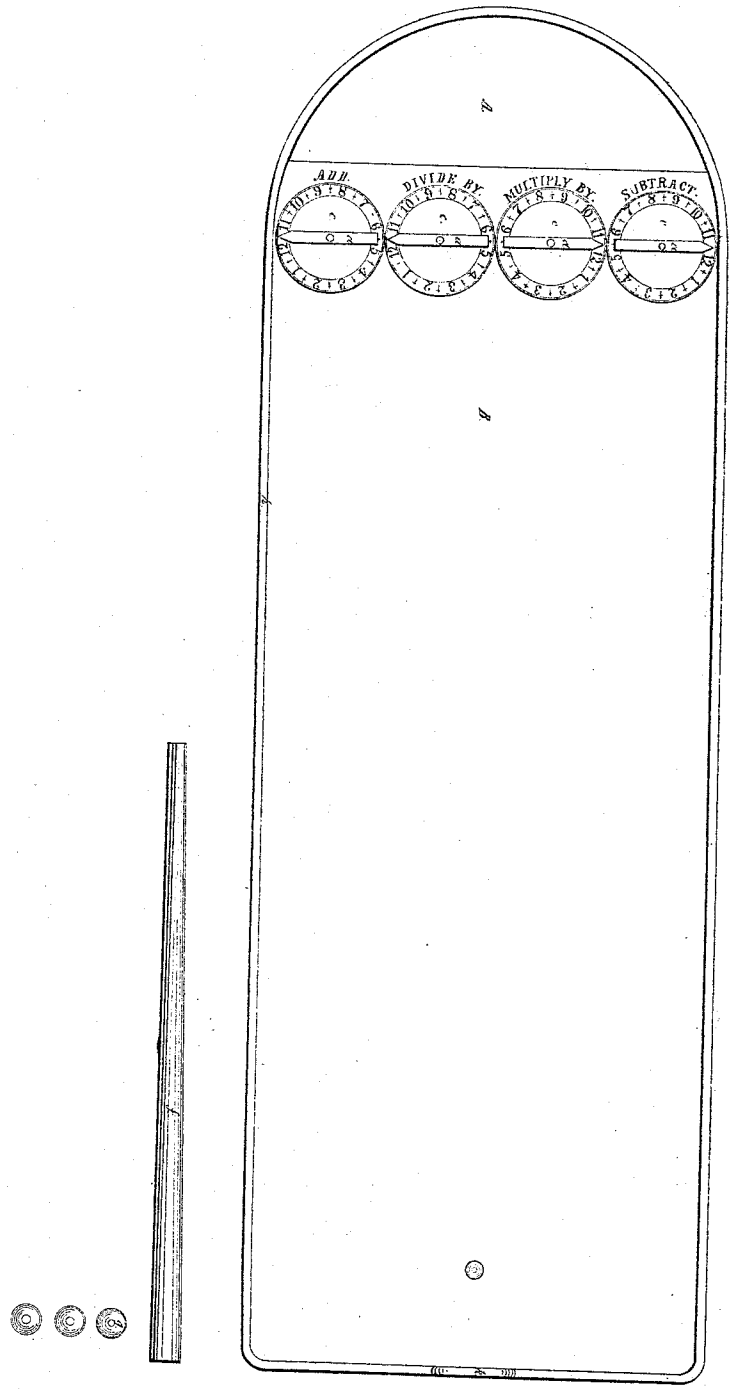
S. A. Emery.

Game Board.

No. 83,946. Patented Nov. 10, 1868.



Witnesses.
James G Cumston
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United States Patent Office.

STEPHEN A. EMERY, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 83,946, *dated November* 10, 1868.

ARITHMETICAL GAME.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, STEPHEN A. EMERY, of Boston, in the county of Suffolk, in the Commonwealth of Massachusetts, have invented a new and useful machine or device, entitled "An Arithmatelle," designed to combine instruction in arithmetic with amusement, in the form of a parlor-game; and I hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification.

B represents a level board, (to be covered or not with billiard-cloth or other covering,) five feet long, more or less, thirteen inches wide, with a railing, *h*, of sufficient height to prevent a ball or marble from rolling off, except at the bowed end into a bag, A.

c c c c are four circles, three inches in diameter, each containing the numerals from 1 to 12, inclusive, in the order and position as shown in the drawing, and marked, respectively, "add," "divide by," "multiply by," "subtract," in the order indicated by the drawing.

d d d d are pointers or indices, made to revolve horizontally on vertical pivots, *e e e e*, and elevated sufficiently from the surface of the board to be easily moved by a rolling marble or ball.

f is a cue, four feet long, more or less, for projecting balls or marbles *g g g*, three in number.

j is the point from which the balls or marbles are to be projected toward the circles.

k is a slight depression in the railing *h*, to admit of a more convenient use of the cue.

This device is to be used or game to be played by any number of persons in the following manner:

Each player commences the game with twelve points as his capital, the indices being adjusted pointing at right angles across the board, as shown in the drawing. Placing a ball or marble at the point *j*, the player hits it with the end of the cue, so as to drive it toward the circles.

When an index shall have been made to revolve by this means, the starting capital, 12, is to be affected by the figure nearest which the pointed end of the index stops, according to the word or words attached to the circle containing it. For instance, if the index in the circle marked "subtract," stop at figure 9, this, subtracted from the capital, 12, gives 3 as the result.

Without readjusting this index, but leaving it as it last stopped, a second ball or marble is now projected toward the circles, the figure caused to be pointed by this now affecting 3, the result of the first play.

Supposing the second ball to cause the index in the circle marked "multiply by" to stop at 10, the result would be 30. This index also must be left as it stopped, and then the third ball may be played.

Supposing the third ball to cause the index in the circle marked "divide by" to stop at 6, dividing the last result by this, the result would be 5; or if, instead of this, another index should show "multiply by" 2, the result would be 70; or if, instead of this, another should show "add" 10, the result would be 40; or, again, if instead of this the index should indicate "subtract" 1, the result would be 29.

The same index may be moved by consecutive balls, in which case the figure at which the index last points is to be used to affect the count.

If two of the indices are moved by the same ball, the one nearer the left hand is to be reckoned first.

The indices being now readjusted as at the beginning of the game, the next player now plays three balls in like manner as the first, and after him, in turn, all who participate in the game.

When each player shall have played the three balls ten times, the one who has the largest number as the result is to be regarded as having won the game.

With young players, fractions and minus quantities had better be omitted in the calculations. When older persons play, a fraction less than one-half should be rejected; when more, it should be counted one. To render the game most perfect, every fraction should be reckoned with mathematical exactness.

I do not claim as new the use of the cue, or balls, or table, as used in other games.

What I claim as my invention, is—

The arrangement, and construction, and mode of operation, as above described, by which instruction in the science of arithmetic is secured, in combination with an entertaining amusement.

STEPHEN A. EMERY.

Witnesses:

GEO. F. EMERY,

F. W. EMERY.