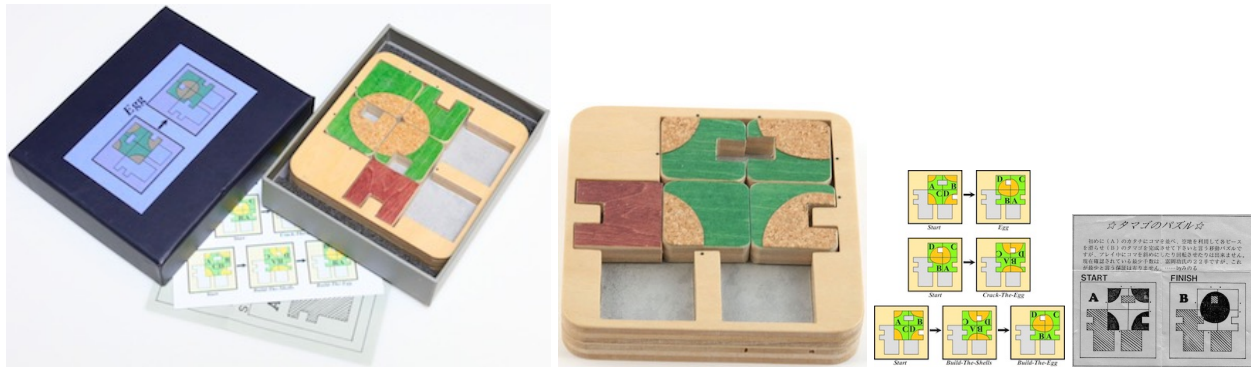


Egg

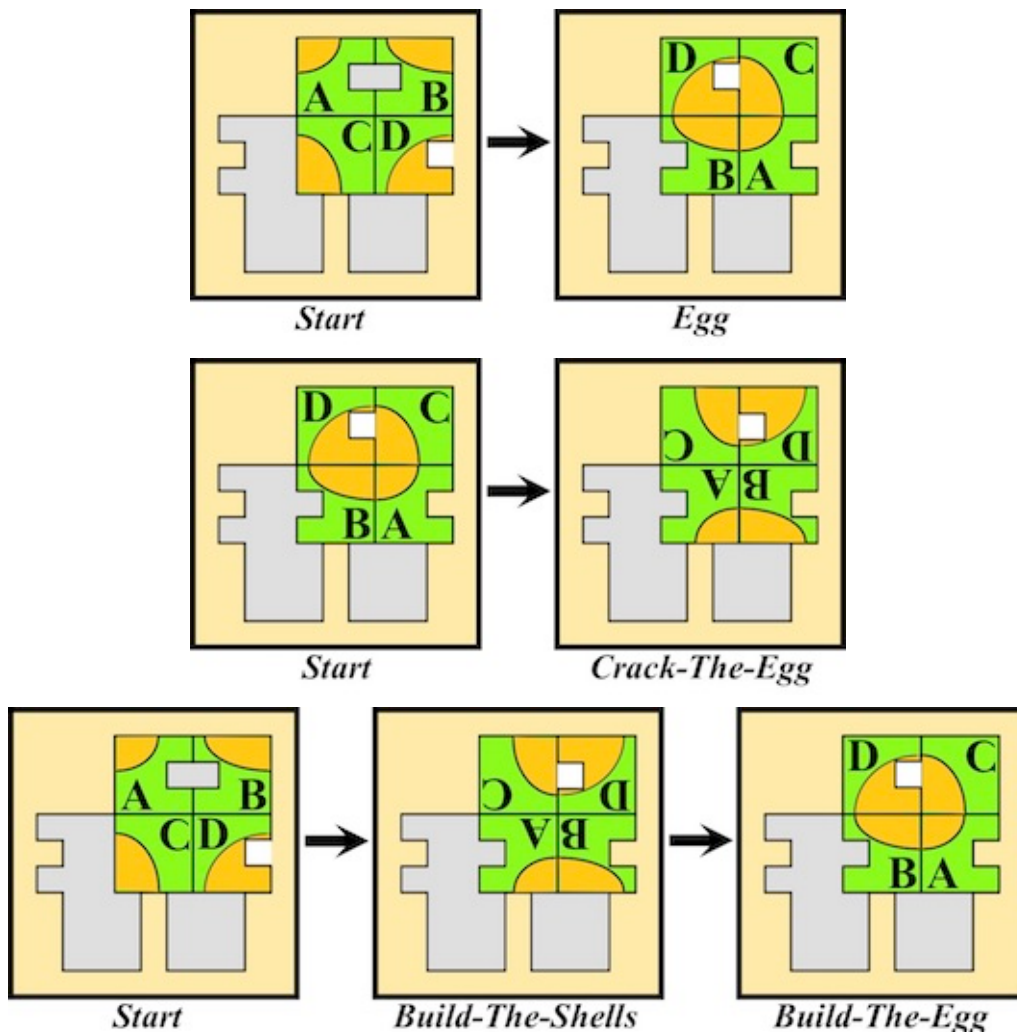
with "Crack-The-Egg" and "Build The Egg"



Egg designed and made by Minoru Abe, circa 1985.

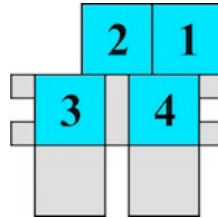
(directions and wood tray with 5 wood pieces, 3" square; cardboard box by J. A. Storer)

After removing the brown keeper piece, the *Egg* puzzle is shown in the directions above and below, along with two other puzzles that we present here:



Egg, 13 Moves

The puzzle geometry allows a piece to be rotated at any of locations 1, 2, 3, 4 as shown below, provided that there is sufficient unoccupied clear space below and next to it, and this ability allows a 13 moves solution (36 segments of either a straight-line move or rotation); rotations are at locations 1, 3, and 4 (an essentially identical solution rotates at locations 1, 2, and 4).



Egg, 22 Moves Without Using Rotations

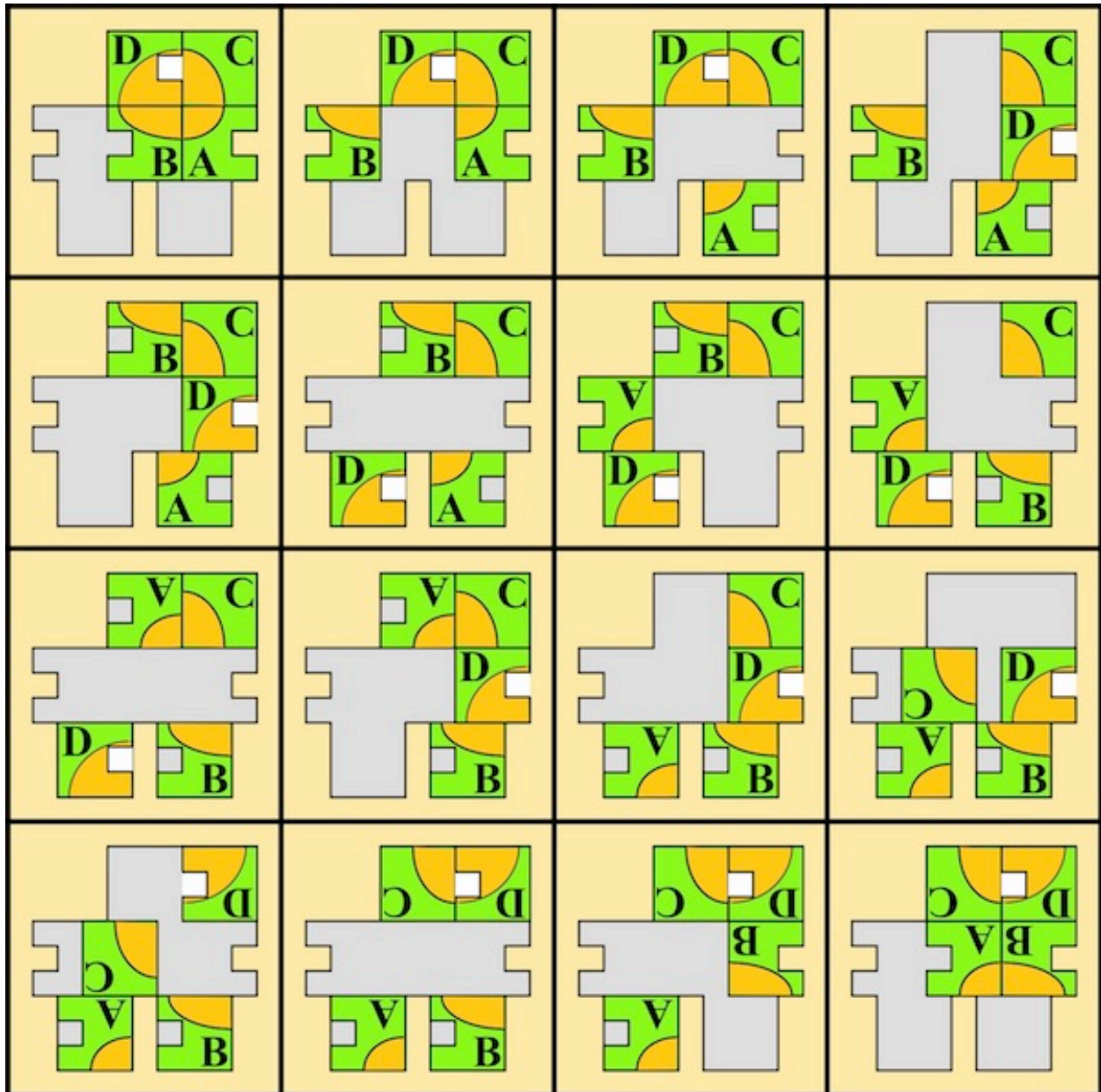
Unlike the Crack-The-Egg and Build-The-Egg problems, the basic Egg problem can be solved without rotations; here is a 22 moves (50 straight-line moves) solution:



Crack-The-Egg, 15 Moves

Rotations are necessary to solve this problem. It is interesting to note that this can be done in 38 moves with rotations only in location 1, 38 moves with rotations only in location 2, or 23 moves with rotations only in location 3 (solving is not possible using only location 4 for rotations).

Here is a 15 move solution (37 segments of either a straight-line move or rotation) that uses locations 1, 2, and 4 for rotations:



Build-The-Egg, 28 Moves

The second half of the problem, building the egg from the shell halves, can be done in 15 moves by reversing the *Crack-The-Egg* solution.

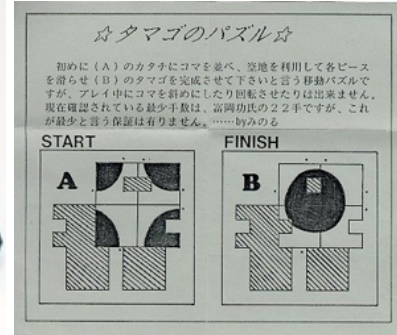
It is interesting to note that building the shell halves can be done in 30 moves with rotations only in location 1, 29 moves with rotations only in location 2, and 33 moves with rotations only in location 3 (solving is not possible using only location 4). Also, an interesting 22 moves solution does not rotate at location 4 and rotates piece A three times.

Here is a 14 moves solution (36 segments of either a straight-line move or rotation) to build the shell halves that uses only locations 3 and 4 for rotations; the last move of A can be combined with the first move of A in Crack-The-Egg reversed solution for a total of 28 moves.



Dinosaur Egg

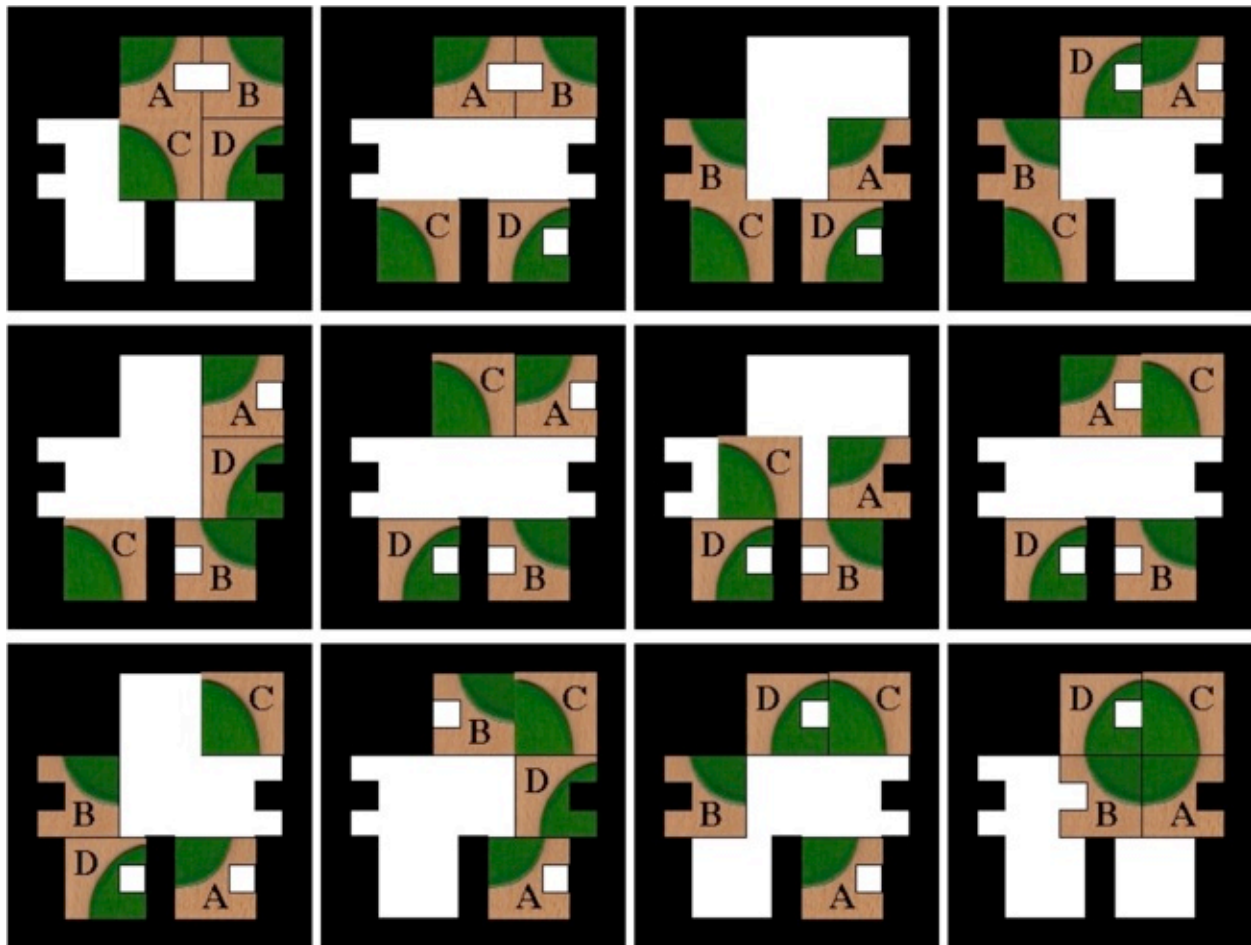
A Mass Produced Version of Egg



Designed by Minoru Abe, purchased 2010.

(wood tray 4.5" x 4.5" x 3/4", 4 wood pieces, and wood keeper piece)

Here is the start position and every other step of the 22 rectilinear moves solution that does not use rotations, using photos from the puzzle:



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