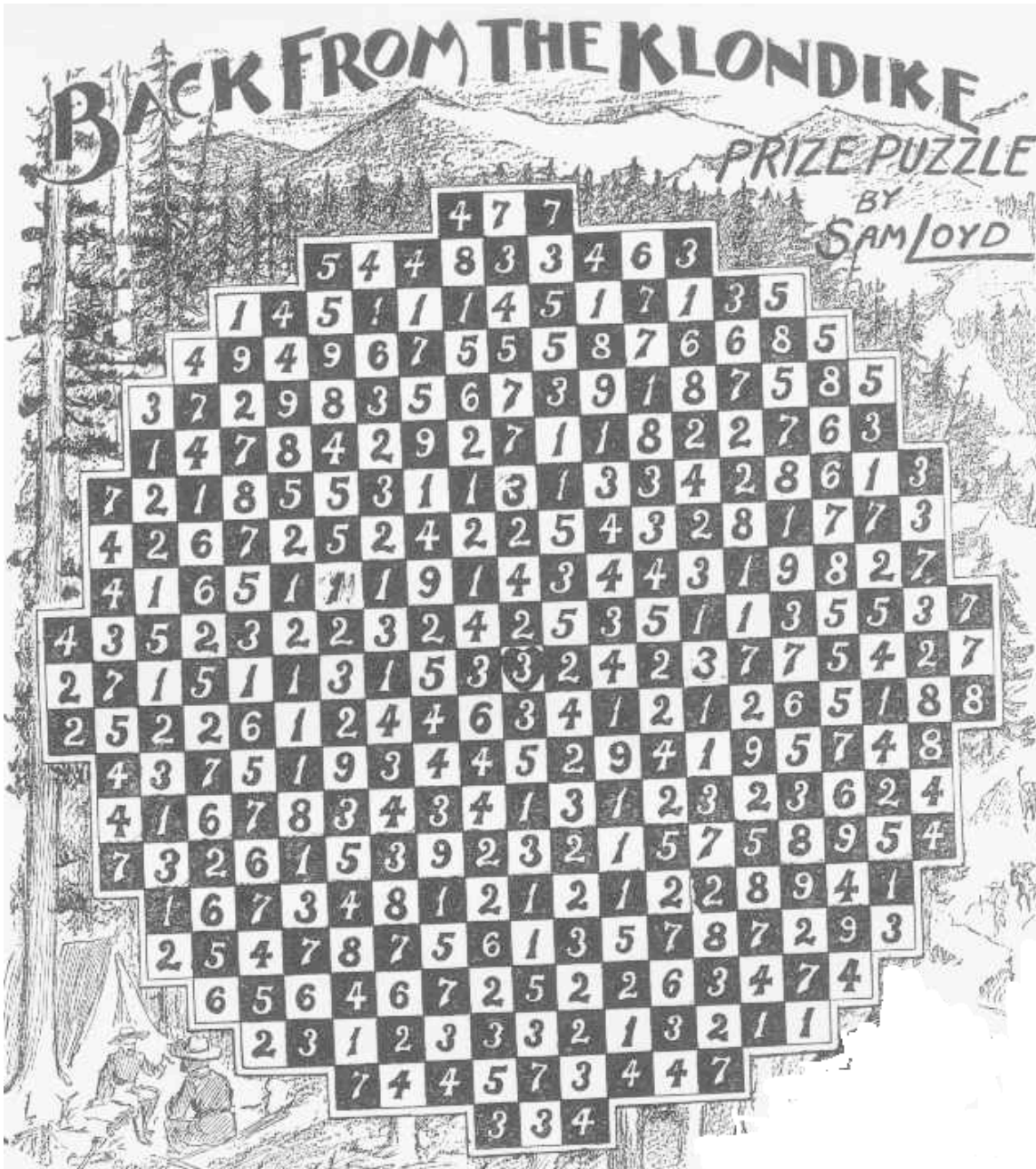# Back From The Klondike by Sam Loyd


The original puzzle was in black and white and had 1 challange: Start from that heart in the center and go three steps in a straight line in any one of the eight directions, north, south, east or west, or northeast, northwest, southeast or southwest. When you have gone three steps in a straight line, you will reach a square with a number on it, which indicates the second day's journey, as many steps as it tells, in a straight line in any of the eight directions. From this new point when reached, march on again according to the number indicated, and continue on, following the requirements of the numbers reached, until you come upon a square with a number which will carry you just one step beyond the border, when you are supposed to be out of the woods and can holler all you want, as you will have solved the puzzle.

Back From the Klondike Version 2

This maze was among the many puzzles Loyd created for newspapers beginning in 1890. In this version some squares are yellow or green. This allowed better explanations how the puzzle worked.

The numbers in each square in the grid indicate how many squares you can travel in a straight line horizontally, vertically, or diagonally from that square. For example, if you start in the red square in the center, your first move can take you to any one of the three yellow squares.   The green squares are some of the possible squares you could land on for the second move.
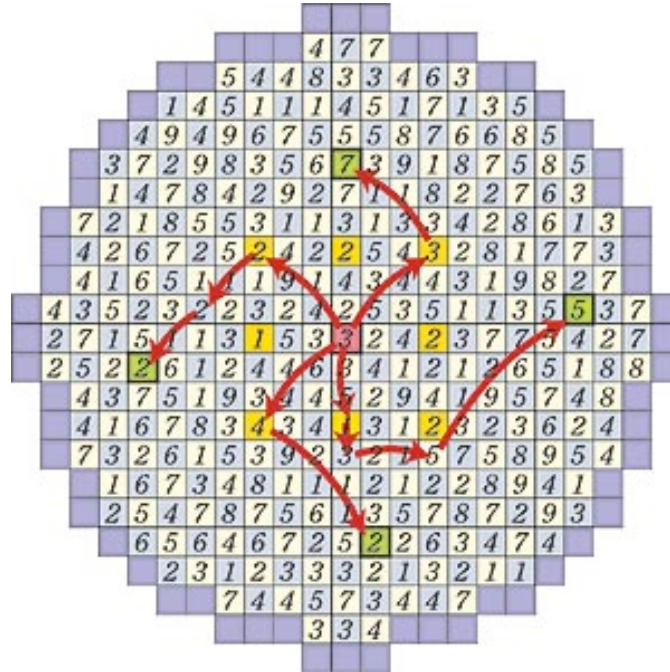
The challenge is to escape the grid and land on a purple square but the version with colored squares allowed for 2 additional challenges that were far easier to solve. This made the puzzle of interest to more people. The colored version of the puzzle had 3 challenges stated below
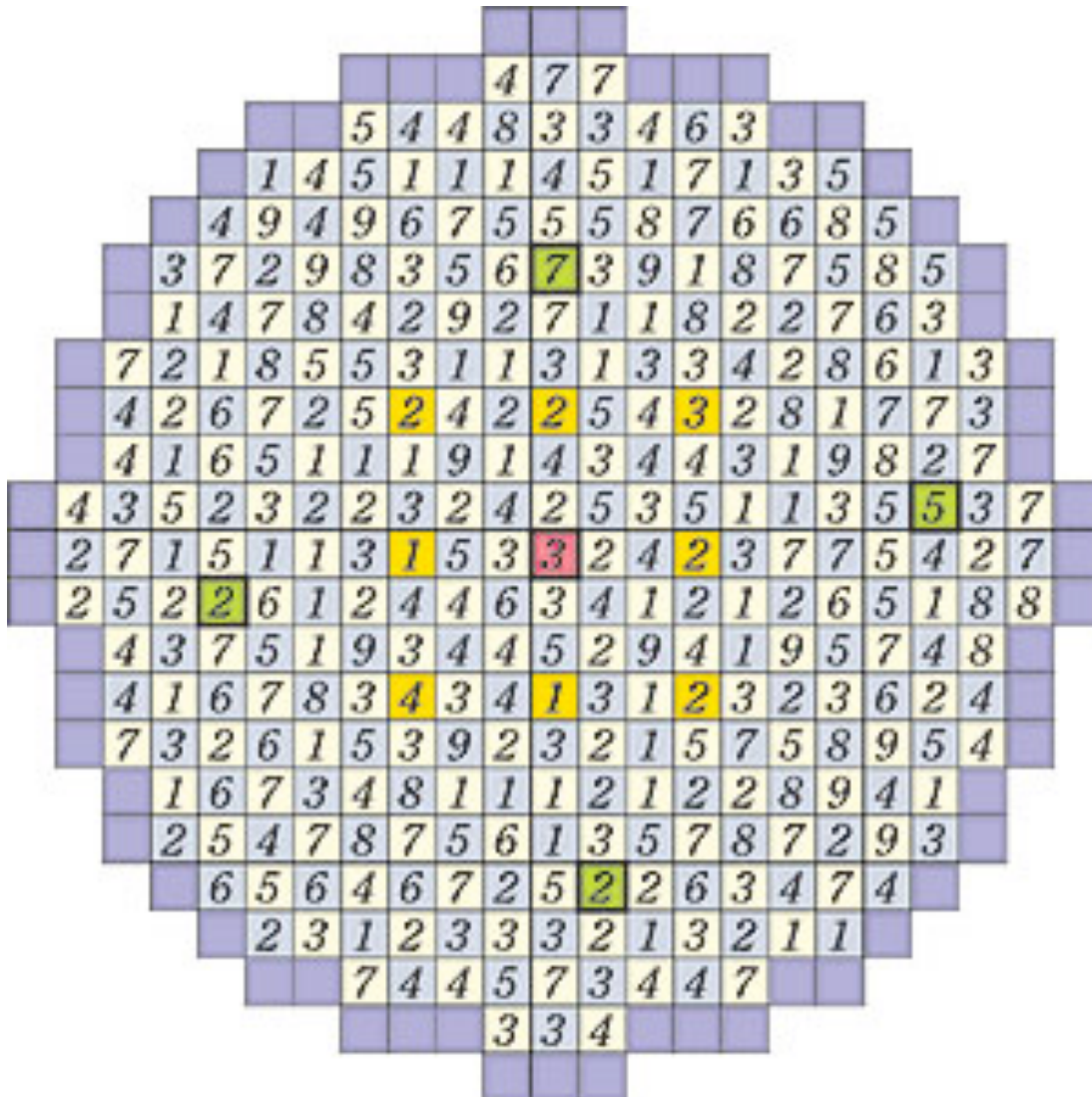
1. Can you travel from the red square in the center to the topmost green square in just two jumps?
   [Easy]

2. Can you figure out how to jump from the red square in the center to each of the other three green squares? The trip to one of the squares will take two jumps, the next three jumps, and the last one four jumps. **[Challenging]**

3. Loyd's original challenge was to figure out how to move from the red square in the center to one of the purple squares around the edge. The final jump must land on a purple square.   **[Difficult]**

Hint 1: All but the last jump is along a single straight line. The solution requires that you double back.

Hint 2: The solution takes 9 moves. 2 of the moves have been given.

Hint 3: ____ _____ __NE__ _____ _____ _____ __SW__ _____ _____

Back From the Klondike Version 2

```
                  4  7  7
            5  4  4  8  3  3  4  6  3
         1  4  5  1  1  1  4  5  1  7  1  3  5
      4  9  4  9  6  7  5  5  5  8  7  6  6  8  5
   3  7  2  9  8  3  5  6  7  3  9  1  8  7  5  8  5
   1  4  7  8  4  2  9  2  7  1  1  8  2  2  7  6  3
7  2  1  8  5  5  3  1  1  3  1  3  3  4  2  8  6  1  3
4  2  6  7  2  5  2  4  2  2  5  4  3  2  8  1  7  7  3
4  1  6  5  1  1  1  9  1  4  3  4  4  3  1  9  8  2  7
4  3  5  2  3  2  2  3  2  4  2  5  3  5  1  1  3  5  5  3  7
2  7  1  5  1  1  3  1  5  3  3  2  4  2  3  7  7  5  4  2  7
2  5  2  2  6  1  2  4  4  6  3  4  1  2  1  2  6  5  1  8  8
4  3  7  5  1  9  3  4  4  5  2  9  4  1  9  5  7  4  8
4  1  6  7  8  3  4  3  4  1  3  1  2  3  2  3  6  2  4
7  3  2  6  1  5  3  9  2  3  2  1  5  7  5  8  9  5  4
   1  6  7  3  4  8  1  1  1  2  1  2  2  8  9  4  1
   2  5  4  7  8  7  5  6  1  3  5  7  8  7  2  9  3
      6  5  6  4  6  7  2  5  2  2  6  3  4  7  4
         2  3  1  2  3  3  3  2  1  3  2  1  1
            7  4  4  5  7  3  4  4  7
                  3  3  4
```

1. Can you travel from the red square in the center to the topmost green square in just two jumps?

2. Can you figure out how to jump from the red square in the center to each of the other three green squares? The trip to one of the squares will take two jumps, the next three jumps, and the last one four jumps.

3. Start from that heart in the center and go three steps in a straight line in any one of the eight directions, north, south, east or west, or northeast, northwest, southeast or southwest. When you have gone three steps in a straight line, you will reach a square with a number on it, which indicates the second day's journey, as many steps as it tells, in a straight line in any of the eight directions. From this new point when reached, march on again according to the number indicated, and continue on, following the requirements of the numbers reached, until you come upon a square with a number which will carry you just one step beyond the border
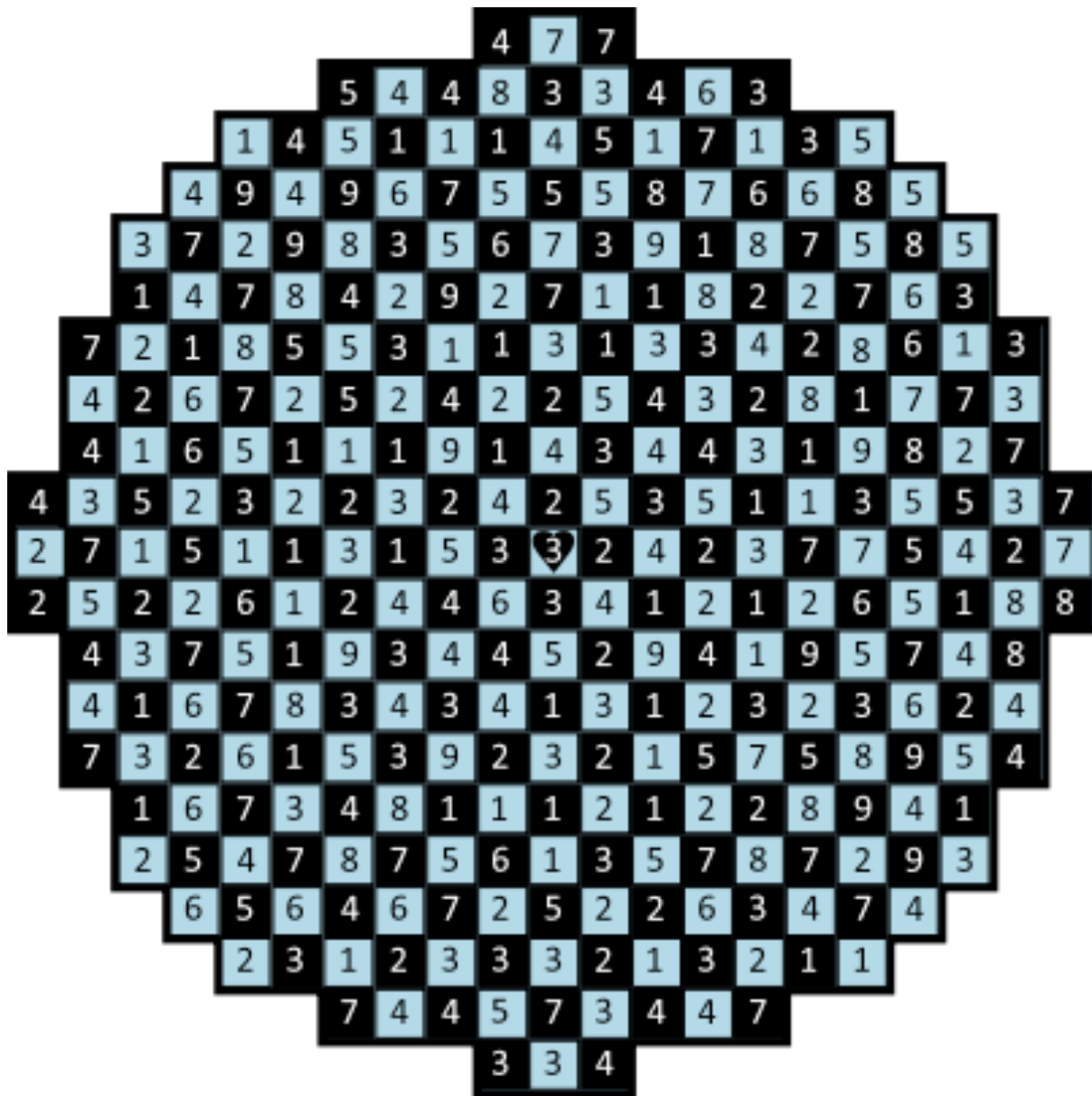
Back From The Klondike Solution
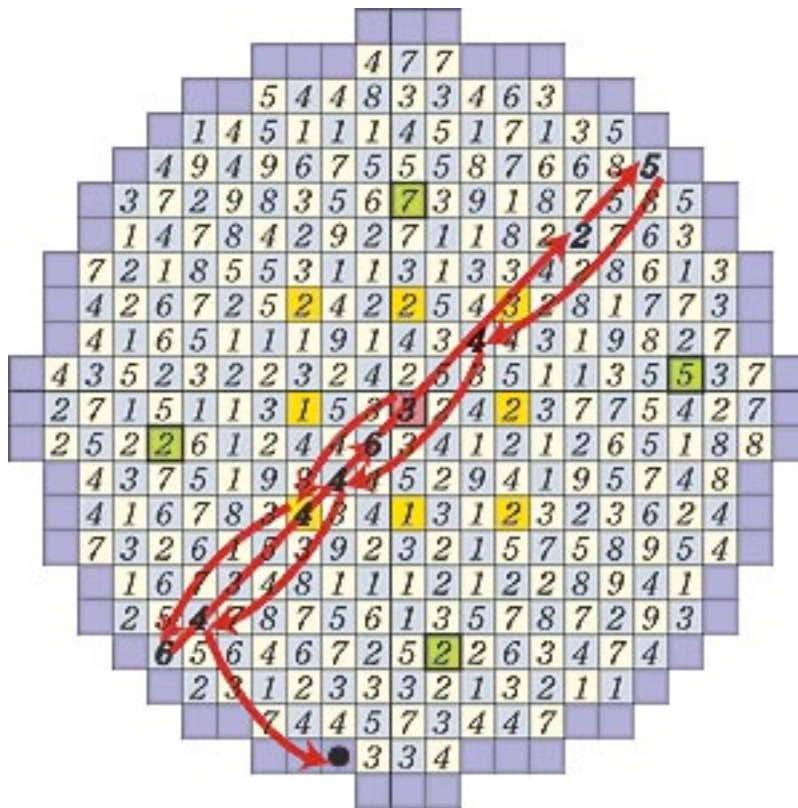
Loyd's given solution to the puzzle, described by Martin Gardner as "sneaky", is to move southwest twice, northeast three times, southwest three times and end with what Loyd calls a "bold strike via S.E. to liberty!"

Back From The Klondike

A modern rendering of the puzzle, with the mistake corrected ("81212" becoming "81112" in the 16th row).

```
                    4  7  7
                 5  4  4  8  3  3  4  6  3
              1  4  5  1  1  1  4  5  1  7  1  3  5
           4  9  4  9  6  7  5  5  5  8  7  6  6  8  5
        3  7  2  9  8  3  5  6  7  3  9  1  8  7  5  8  5
        1  4  7  8  4  2  9  2  7  1  1  8  2  2  7  6  3
     7  2  1  8  5  5  3  1  1  3  1  3  3  4  2  8  6  1  3
     4  2  6  7  2  5  2  4  2  2  5  4  3  2  8  1  7  7  3
     4  1  6  5  1  1  1  9  1  4  3  4  4  3  1  9  8  2  7
  4  3  5  2  3  2  2  3  2  4  2  5  3  5  1  1  3  5  5  3  7
  2  7  1  5  1  1  3  1  5  3 (3) 2  4  2  3  7  7  5  4  2  7
  2  5  2  2  6  1  2  4  4  6  3  4  1  2  1  2  6  5  1  8  8
     4  3  7  5  1  9  3  4  4  5  2  9  4  1  9  5  7  4  8
     4  1  6  7  8  3  4  3  4  1  3  1  2  3  2  3  6  2  4
     7  3  2  6  1  5  3  9  2  3  2  1  5  7  5  8  9  5  4
        1  6  7  3  4  8  1  1  1  2  1  2  2  8  9  4  1
        2  5  4  7  8  7  5  6  1  3  5  7  8  7  2  9  3
           6  5  6  4  6  7  2  5  2  2  6  3  4  7  4
              2  3  1  2  3  3  3  2  1  3  2  1  1
                 7  4  4  5  7  3  4  4  7
                    3  3  4
```

Start from that heart with a 3 in it that is in the center and go three steps in a straight line in any one of the eight directions, north, south, east or west, or on the diagonal as the ladies say, northeast, northwest, southeast or southwest. When you have gone three steps in a straight line, you will reach a square with a number on it, which indicates the second day's journey. Next move as many steps as it tells, in a straight line in any of the eight directions. From this new point when reached, march on again according to the number indicated, and continue on, following the requirements of the numbers reached, until you come upon a square with a number which will carry you just one step beyond the border, when you are supposed to be out of the woods and can holler all you want, as you will have solved the puzzle. It takes nine moves to complete the trip out of the Klondike

Moves   ____ ____ ____ ____ ____ ____ ____   ____   ____

Back From The Klondike   by Sam Loyd

This is one of Sam Loyd's most famous puzzles, first printed in the New York Journal and Advertiser, April 24, 1898 (as far as available evidence indicates). Loyd's given solution to the puzzle, described by Martin Gardner as "sneaky", is to move southwest twice, northeast three times, southwest three times and end with what Loyd calls a "bold strike via S.E. to liberty!"
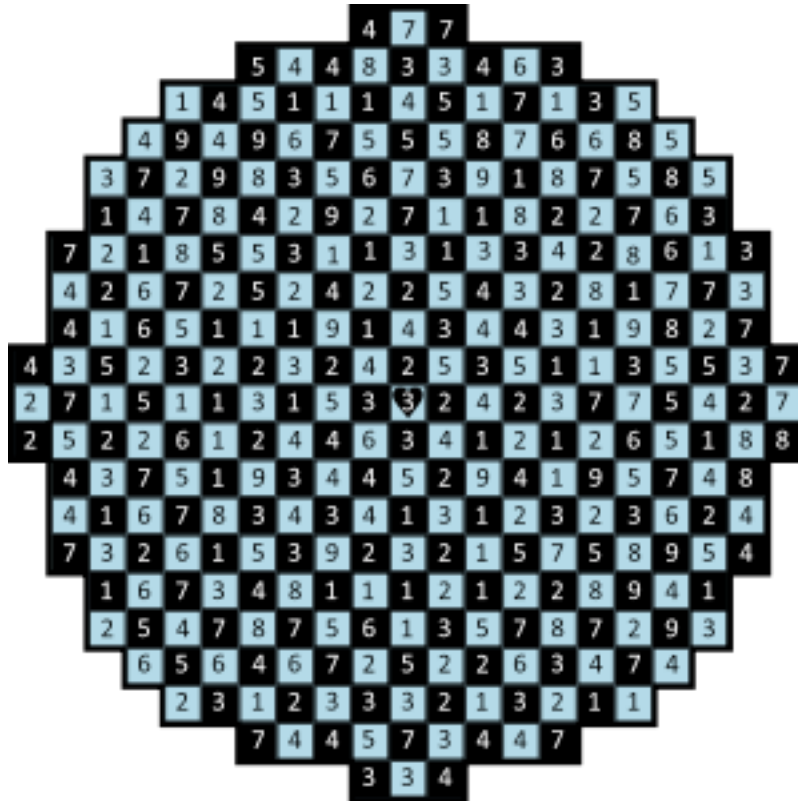
Loyd invented the number-jumping maze. Modern-day designers such as Adrian Fisher and Robert Abbott have taken the idea even further. Interestingly, Loyd devised this puzzle expressly to defeat Leonhard Euler's method of solving mazes. "Euler, the great mathematician, discovered a rule for solving all manner of maze puzzles, which, as all good puzzlists know, depends chiefly upon working backwards. This puzzle, however, was built purposely to defeat Euler's rule and out of many attempts is probably the only one which thwarts his method."

In 1976, two graduate students at the University of Washington wrote a Fortran program to solve the puzzle, and discovered hundreds of possible solutions, all of them eventually converging on a square which was part of Loyd's given solution. All of these routes also passed through a particular square which was *not* part of Loyd's solution, suggesting an artist's error in drawing the original puzzle. Changing this square from a "2" to a "1" results in a puzzle which only has a single solution.

When Sam Loyd died in April 1911 at age 70, *The New York Times* described him as a man with "a real gift . . . for the fantastic in mathematical science." Loyd, who was also a renowned chess strategist and skilled ventriloquist, created more than 10,000 puzzles during his lifetime.