

# Sam Loyd's Most Successful Hoax

Jerry Slocum

Martin Gardner called Sam Loyd "America's Greatest Puzzlist". And Loyd is famous for the numerous wonderful puzzles that he invented,



Figure 1. Two Great Puzzles and the Cyclopedia of 5000 Puzzles by Sam Loyd

such as the Trick Mules (above left), Get Off the Earth Puzzle Mystery (above center) and the thousands of delightful puzzles included in his Cyclopedia (above right) as well as the engaging stories he used to pose his puzzles.

However Loyd also has a reputation for taking credit for puzzles created by others. Henry Dudeney complained numerous times that Loyd did not give him credit for puzzles that Dudeney had created.

And sometimes his delightful stories accompanying his puzzles were beyond a mere exaggeration, they were a hoax, completely false. Loyd's book about the Tangram puzzle called, *The 8th Book of Tan*, included an extensive, but bogus history of the puzzle that claimed that it was 4,000 years old. In fact the puzzle is actually about 200 years old.

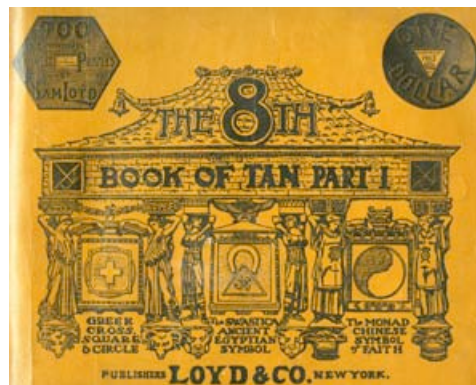


Figure 2. The 8<sup>th</sup> Book of Tan by Sam Loyd

Although Sir James Murray, Editor of the *Oxford English Dictionary*, exposed Loyd's false Tangram history in 1910, 7 years after the book was published, Loyd's hoax is still occasionally reported in publications and web sites

An interview with Sam Loyd in the *Lima (Ohio) Daily Times* on January 13, 1891, provided Loyd an opportunity to plug a new Puzzle of his, named "Blind Luck". Loyd also mentioned in the interview, for the first time that he was the inventor of: Pigs-in-Clover, which had been a puzzle craze in 1889, just 2 years earlier. He also claimed that he invented the popular game Parcheesi, and the 14-15 Puzzle.

Let's look at each of Loyd's claims of invention.

From Mid-February to May 1889 *Pigs-in-Clover* was a huge puzzle craze in the United States. Three weeks after it came out, "*The Waverly Free Press*" reported that the Waverly "toy works were turning out 8,000 a day and they are 20 days behind in their orders." The puzzle reached the US Senate by mid-March and became a metaphor for politics, as we see on the right. Mark Twain mentioned it in his book, "The American Claimant".

The question of who invented the puzzle was, at that time, not in dispute. Charles Crandall was reported to be the inventor in numerous newspaper articles in 1889. And Sam Loyd's name was never found in connection with the puzzle at the time of the craze.



Figure 3. The Pigs-in-Clover Puzzle



Figure 4. Judge's Political Pigs-in-Clover cartoon



Figure 5. Charles Crandall, inventor of Pigs-in-Clover

Charles M. Crandall holding his best-selling puzzle, "Pigs in Clover." A model made from his building blocks is behind the puzzle. (1889)

We checked further and found that Crandall applied for a patent in February 1889 and he signed an oath shown on the left that he was the sole inventor.



Figure 6. Crandall's Oath of Invention

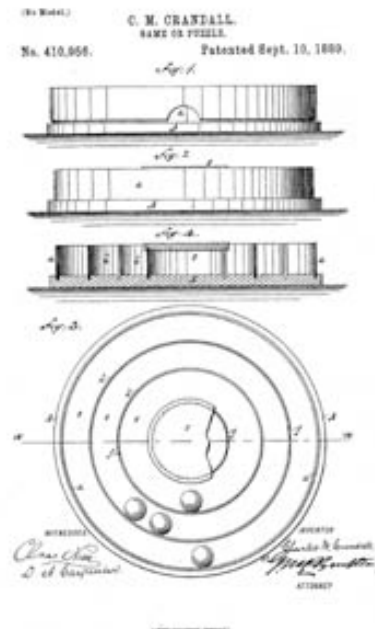


Figure 7. Crandall's Patent for Pigs-in-Clover

The patent shown on the right for the puzzle was issued to Crandall on September 10, 1889. It is surprising that Loyd had the audacity to claim that he invented Pigs-in-Clover less than 2 years after the puzzle craze ended and with all the newspaper reports that Crandall had invented it.

And it is even more surprising that he succeeded in making the world believe his claim.



Figure 8. Hindu Parcheesi Players, 18<sup>th</sup> century

We also checked on Loyd's claim that he invented the Game Parcheesi. The *Chicago Tribune* reported in May 1893 about an exhibit on the History and evolution of games at The World Columbian Exposition being held in Chicago. One of the games exhibited was Parcheesi and the game was described as coming from India where it had been played since the 4th century. The game company Selchow & Righter bought the rights to Parcheesi in 1870 and obtained a trademark for it in 1874. There was no evidence of any involvement by Sam Loyd.

Now let's examine Loyd's claim that he invented the 15 Puzzle. According to newspaper reports, the first commercial 15 Puzzle was made by Matthias J. Rice in Boston and first sold in Boston and Hartford Connecticut two weeks before Christmas 1879. It was called "The Gem Puzzle".



Figure 9. Matthias Rice's Gem Puzzle was the first commercial 15 Puzzle

Notice that the 15 blocks are not constrained in the box and the instructions are very simple:

***"Place the blocks in the box irregularly, then move until in regular order."***

Rice said in an interview that once he succeeded in having a store in Boston sell the puzzle, he could never keep up with orders! By mid-February 1880, sales took off from Boston & New York and by mid-March the entire Country was involved in an enormous 15-Puzzle Craze.

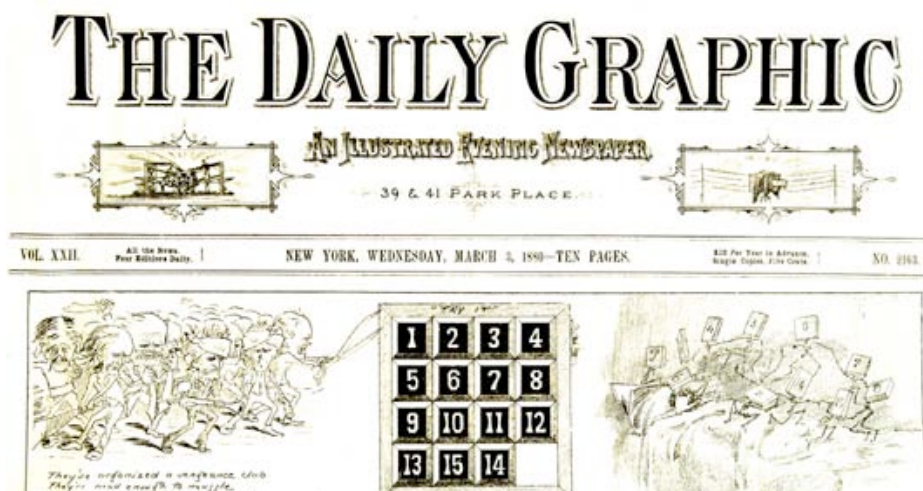


Figure 10. *The Daily Graphic* at the peak of the Fifteen Puzzle Craze, March 3, 1880

From the beginning, the Craze was initiated and fueled by the phenomenon that one time when you tried, you could solve it - and the next time it seemed impossible. The big problem was when you were able to get all the numbers correctly placed except the numbers 15 & 14 which were reversed - the only ones not in “regular Order.” Still there were many people that claimed it was always solvable. During March the puzzle craze generated songs, theatre productions, and political cartoons.

America’s dominant political satire magazine, *PUCK* published a full page color political cartoon about the selection of candidates for the 1880 Presidential Election - featuring the 15 Puzzle.

To get a feeling for how the 15 Puzzle craze started and spread in the US, let’s look at the timeline below showing the start of 15 Puzzle sales and how the puzzle craze that it created rapidly spread and enveloped the whole Country.



Figure 11. Puck Magazine cartoon about the 1880 Presidential Election

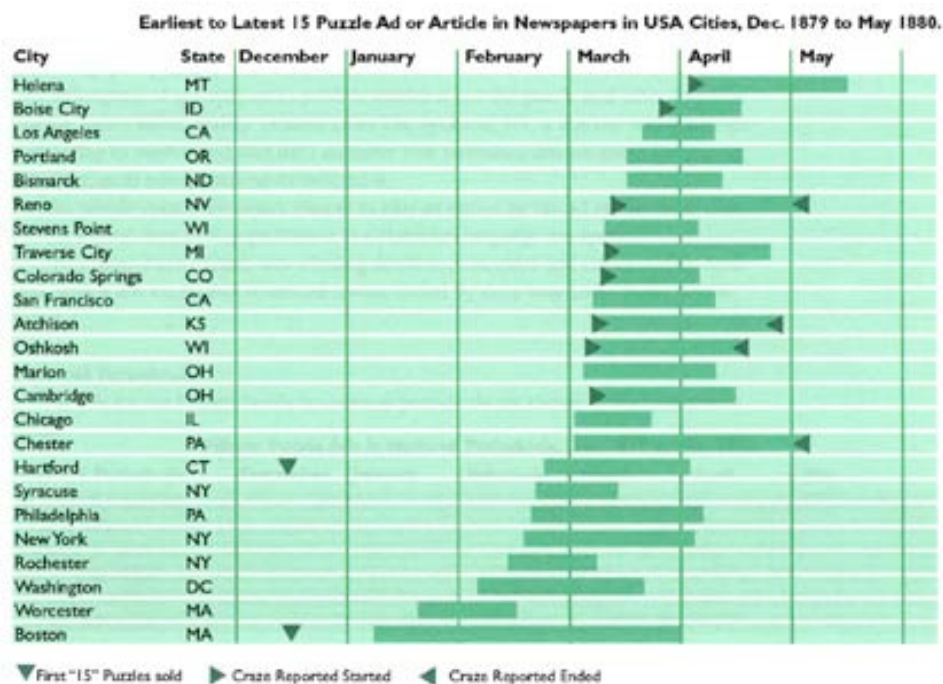


Figure 12. Timeline of the 15 Puzzle Craze in the United States

As you can see the craze spread from New York to San Francisco in about 3 weeks and ended in most of the United States by Mid-April, 1880; but an equally big 15-Puzzle craze in Europe had just begun.

Now let's look at Sam Loyd's involvement in the 15 Puzzle. As described earlier, Sam Loyd first mentioned that he invented the 15 puzzle in an interview published in January 1891, *more than 10 years after the 15 Puzzle Craze had ended!* He continued to make the same claim for the next 20 years in at least 23 articles, ads and interviews that we found, before his death in 1911.

<b>Date</b>	<b>Publication</b>	<b>Title</b>
January 13, 1891	<i>Lima Daily Times</i>	"He Invents Puzzles"
February 1891	<i>Manufacturer &amp; Builder Mag,</i>	Note about "Blind Luck"
1892	Ad for Piper Heisdick Tobacco	"Our '93 Challenge"
May 11, 1893	<i>Indiana Country Gazette</i>	Charity Fund request
October 14, 1893	<i>Tit Bits</i>	Sam Loyd Puzzle
July 1894	<i>Our Illustrated Press</i>	Loyd's "Our Puzzle Corner"
<b>January 4, 1896</b>	<b><i>Illustrated American</i></b>	<b>"The Famous 15 Block Puzzle"</b>
March 22, 1896	<i>Brooklyn Daily Eagle</i>	Loyd's first puzzle column
May 31, 1896	<i>New York Sun</i>	Loyd interview
<b>June 24, 1896</b>	<b>Sam Loyd Letterhead</b>	<b>Loyd letter to Mr. Raynor</b>

Figure 13. Sam Loyd articles and interviews that credit Loyd for the invention of the 15 Puzzle.

We looked but did not find any Loyd articles, interviews or publications that mentioned any Loyd involvement with the 15 puzzle during the 1870s or 1880s. The list above shows a sample of the articles and interviews that credited Loyd with the invention. We will discuss the two highlighted in red a bit later.

After his death in 1911, 9 of the 11 obituaries that we found mentioned his invention of the 15 Puzzle including all of the ones shown below - and 8 of 11 credited him with inventing Pigs-in-Clover as well.

<b>Date</b>	<b>Publication</b>	<b>Title</b>
April 12, 1911	<i>New York Times</i>	"Sam Loyd, Puzzle Man, Dies"
April 12, 1911	<i>Chicago Tribune</i>	"Puzzle King Sam Loyd Dies"
April 12, 1911	<i>Mansfield News</i>	"Noted Puzzler Dies"
April 22, 1911	<i>Scientific American</i>	"Samuel Loyd"
May 1911	<i>The American Magazine</i>	"Sam Loyd"
June 7, 1911	<i>Gettysburg Compiler</i>	"The Puzzle King is Dead"
June 23, 1911	Stevens Point Journal	"The 'Pigs in Clover' Man"

Figure 14 Obituaries of Sam Loyd

And after his death many books, biographies and encyclopedias credit Loyd for the 15 Puzzle invention, including the 2005 Encyclopedia Britannica.

Date	Publication		
• December 1926	<i>Nineteenth Century</i>	• 1911	Ahrens- <i>Mathematical Spiele</i>
• January 1930	<i>Science &amp; Invention</i>	• 1914	Loyd- <i>Cyclopedia of Puzzles</i>
• February 24, 1934	<i>New York Herald</i>	• 1931	Dudeney- <i>Puzzles &amp; Curious Problems</i>
• Sept. 13, 1941	<i>Christian Sci. Monitor</i>	• 1943	<i>Dictionary of American Biography</i>
• March 5, 1943	<i>Hammond Times</i>	• 1978	van Delft- <i>Creative Puzzles of World</i>
• August 1957	<i>Scientific American</i>	• 1995	M-W's <i>Biographical Dictionary</i>
• January 1984	<i>Science Digest</i>	• 1996	Pickard- <i>The Puzzle King</i>
		• 2005	<i>Encyclopedia Britannica</i>

Figure 15. Articles credit Loyd with the 15 Puzzle invention

Figure 16. Books credit Loyd with the 15 Puzzle invention

Sam Loyd's own letterhead - at least from 1896 until 1903 - claimed that Loyd was the "Author" of the "15 Block Puzzle, Pigs-in-Clover and the game *Parcheesi!*"

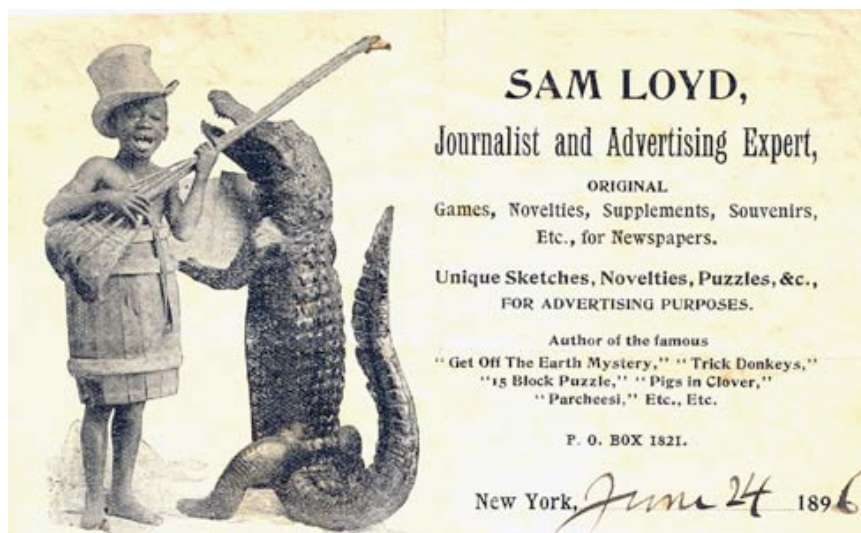


Figure 17. Sam Loyd's Letterhead, June 1896

Now let's look at the first article by Sam Loyd where he challenged readers to solve the 15 puzzle. Sam Loyd's article in *The Illustrated American* on January 4, 1896, shown below, included a sketch of a puzzle solver drawn by Loyd - and it was the first time Loyd challenged his readers to solve the 15 -14 Puzzle. He offered a \$1,000. reward for the solution!

## The Famous 15 Block Puzzle.



Whether thousands of persons really went insane or not over the "15 Block Puzzle," which had such a phenomenal run some twenty years ago is difficult to prove, but it is a fact that the entire world—from the highest to the lowest, wise as well as foolish—went mad over the tantalizing mystery of the fifteen little blocks.

Many remarkable stories are told of prominent people who were held in thrall by the fascinating mystery. One clergyman of note purchased the puzzle on Park Row in the morning, and stood on the sidewalk moving the numbers around until midnight. An editor of a leading daily was discovered in a restaurant, where in a fit of abstraction he had cut his pie into little pieces, and was pushing them about on the plate. One mild form of insanity which did develop to an alarming degree pertained to the history of the puzzle and to the veracity of such as mastered it. More

pastored on to small pieces of cardboard, so as to make a very convenient and durable puzzle game. Of course it is understood that the movable blocks are placed on the board with the 15, 14 standing transposed as shown.

The object of the problem is to move the blocks one at a time, and bring about an absolutely perfect sequence of figures, with the 14 and 15, as well as all other numbers, in their regular order. As a number can only be moved to the one vacant square, it becomes a very simple matter to record the required play by writing out the blocks played, as, for example, 14, 11, 10, 15, 13, etc., etc., to the desired arrangement.

It requires but a few minutes' experience, in an honest endeavor to untangle the transposition of the 15 and 14, to give one a taste of the fascination that made this remarkable puzzle so popular as to be referred to in parliamentary debates, or leading editorials throughout the civilized world.

Patience and chance are more potent than science or mathematics in the solution of this curious problem, of which it was well said "the more you study the less you know." You straighten out one little transposition only to find that an entanglement has been pro-

duced.

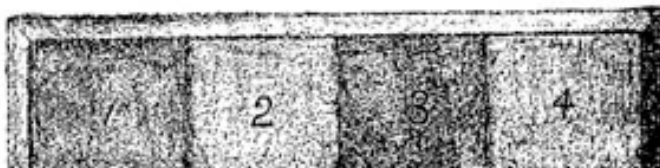


Figure 18. Sam Loyd's first article where he challenged readers to solve the 15-14 problem and offered a \$1,000. reward, to be divided among the solvers.

The mystery of the 15 Block Puzzle was at once developed and became a craze. I give it as originally promulgated in 1872.

As every one claimed to have discovered the mystery, and the author is desirous of learning if any, or how many, kept a record of the sequence of moves which effects the solution, he offers to divide a thousand dollars equally among all who send correct answers within the next thirty days.

The board is reproduced just as originally drawn, with the numbers marked on the fifteen squares, showing how the blocks must be arranged at the commencement. The blocks may be cut apart, and



Figure 19. Loyd claims he posed the 15 Puzzle in 1872

Loyd wrote, "I give it as originally promulgated in 1872. The board is reproduced just as originally drawn, with the numbers marked on the fifteen squares, showing how the blocks must be arranged at the *commencement*." (Author's italics)



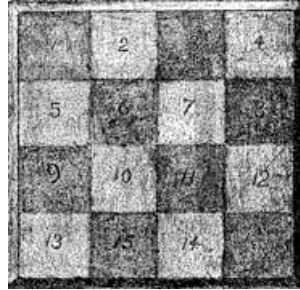


Figure 20. Loyd defines the block positions at the start, with reversed positions for the 15 and 14 blocks

And a reward of \$1,000. was offered “to be divided equally among all who send in correct answers.”

Loyd’s instructions are: “The object of the problem is to move the blocks one at a time, and bring about an absolutely perfect sequence of figures, with the 14 and 15, as well as all other numbers, in regular order.”

Considering that Loyd was a professional puzzle designer that had a lot of experience challenging readers, it is obvious that he had never proposed this problem to readers in 1872 or at any other time because the problem as he posed it - was indeed -- Solvable!



Figure 21. Solution to Loyd’s stated problem

This solution was first mentioned in an article in the *Worcester Evening Gazette* of January 29, 1880 and the same solution by MAME and J.D. Warner was published in the *Rochester Democrat and Register* on February 23, 1880. (16 years before Loyd’s article) W.W. Rouse Ball published this solution in his book, *Mathematical Recreations and Problems* in 1892.

And Persior Frazer presented 48 solutions for the 15 Puzzle to The American Philosophical Society on March 19, 1880.

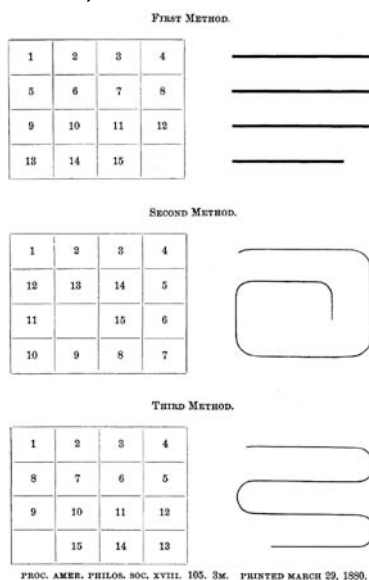


Figure 22. Persifor Frasier presented 48 Fifteen Puzzle solutions to The American Philosophical Society on March 19, 1880.

Of course all of these solutions comply with the instruction that the blocks must be placed in “Regular Order” - but not the “Regular Order” that Loyd had in mind.

The key aspect of the problem that Loyd was apparently not aware of was that the location of the empty space must be specified when posing the 15 Problem! So what did Sam Loyd discover about his 15 problem and his \$1,000. reward for a solution?

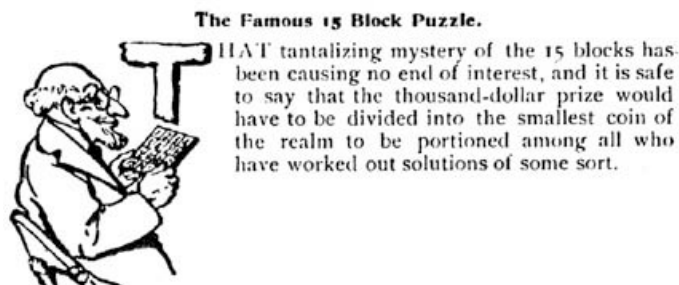


Figure 23. Loyd’s response to reader’s solutions to his 15 Puzzle problem.

He was a bit surprised!

Loyd wrote:

“it is safe to say that the thousand-dollar prize would have to be divided into the smallest coin of the realm to be portioned among all who have worked out solutions of some sort.”

But did he pay the \$1,000. reward for the solutions?

Of course not! He wrote: “Many succeeded in getting the correct position, but failed to record the sequence of plays.”

Was he the first to offer a financial reward for a solution for the 15 Puzzle?

Far from it! The first financial reward for a solution to the 15 puzzle was offered by Dr. Pevey, a dentist in Worcester, Mass on January 20, 1880 as shown below.

## **A Prize Offered.**

### **THE “15” PUZZLE.**

**WHO CAN DO IT?**

**I Offer a Set of \$25.00 Teeth,**

**“THE BEST,”**

on Rubber or Celluloid, and made by my NEW IMPROVEMENT, warranted and perfectly adjusted,

**AND \$100 CASH,**

**To the Successful Competitor.**

Open to the whole world.

Set the numbers in regular order, from 1 to 15, then transpose Nos. 14 and 15 and groove. When finished the blank must be after the No. 15.

This offer stands good for one month.

**DR. CHAS. K. PEVEY,**

**Pevey's Dental Rooms,**

WORCESTER, MASS.

Figure 24. The first reward for solving the 15 Puzzle was a set of false teeth and \$100. offered by Dr. Pevey in January 1880

Notice that Pevey defined the finished state, “When finished the blank must be after the No. 15.” to avoid Loyd’s error. Three weeks later he upped his reward to \$1,000. for the solution, beating Loyd to the \$1,000. reward by about 16 years.

## Why did Dr. Pevey offer rewards for the solution to the 15 Puzzle?

Dr. Pevey Explains. (*Worcester Evening Gazette*, January 31, 1880)

The reason why I wanted you all to help me work out the puzzle was to convince that girl. You see she said she worked it out; she knew she did, and if I said she did not, I simply doubted her veracity. Now to doubt the word of a young lady is high treason and of course should be punished as such, so I stopped to think how I could convince her (without putting it into words) that she did not do what she said she did. From her looks I made up my mind it was no easy task and would probably require the whole population of Worcester to help me. For she knew she did it! And that you know would ordinarily settle it, but take what it would or cost what it would, she must be convinced, but now that we have all given the matter a weeks careful study, and without a single favorable result. Probably she will no longer contend that she did it.

At first some of us, as you know, rather held to it that it could be done, and that perhaps she was right. But now that we are all of one mind, that it can not be done, and that we were mistaken, we will laugh over our week's fun and proceed to business again.

Respectfully,

Chas. K. Pevey

Pevey's Dental Rooms, cor. Main and Pleasant Streets, Worcester, Mass.

The timeline below summarizes the key dates in Loyd's hoax:

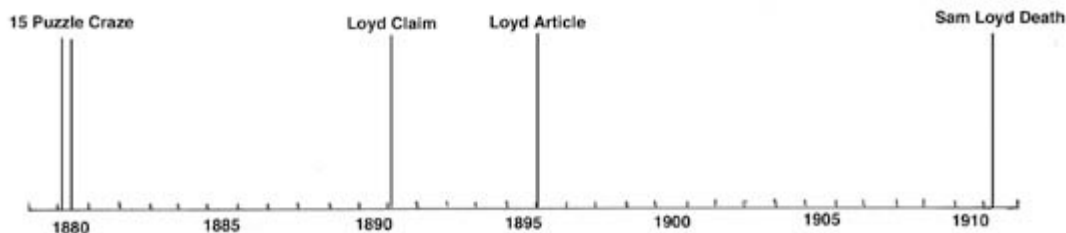


Figure 25. Timeline of key dates in Sam Loyd's hoax.

- 1880 15 Puzzle Craze worldwide ended by July 1880
- 1891 Loyd's first claim that he invented the 15 Puzzle
- 1896 Loyd's first article challenging readers to solve the 15 puzzle
- 1911 Loyd's death

Conclusions about Sam Loyd's 15 Puzzle hoax:

- Sam Loyd did not invent the 15 Puzzle
- He had no role in the 15 Puzzle Craze
- Loyd's campaign to take credit for the invention began in 1891 - 10 years after the 15 Puzzle Craze ended
- At least 23 articles & interviews repeat Loyd's claim of invention of the 15 Puzzle
- Loyd's campaign was very successful
- After his death in 1911, obituaries, books, articles, web sites & even encyclopedias 94 years later falsely credit him with inventing the 15 puzzle

Since Martin Gardner has written that Sam Loyd invented the 15 Puzzle, I thought it would be interesting to get his reaction to our findings - so I sent a galley proof of The 15 Puzzle book to him.

Martin Gardner's comments:

"Did Sam Loyd, America's greatest puzzle maker, invent the notorious 14-15 sliding block puzzle? He claimed he did but the claim was a total lie. Loyd had nothing whatsoever to do with either the puzzle or its popularity."

*This article is based on findings reported in "The 15 Puzzle" book, by Jerry Slocum and Dic Sonneveld and was first presented in lectures at the Seventh Gathering for Gardner, March 2006, The Convention of the Association of Game and Puzzle Collectors, March 2006.*