Gathering for Gardner II

Puzzle Cards

Jerry Slocum
January 19 - 21, 1996

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Puzzle Cards by Sam Loyd and Others
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Good Morning.
Puzzles were published in books and periodicals long before they were printed on Puzzle Cards late in the 19th Century. However a number of unique & interesting puzzles were first published and popularized in the form of puzzle cards. Some of the puzzles, especially those by America’s Greatest Puzzler, Sam Loyd, were later published in newspaper and magazine columns.

First we will review the types of cards that included puzzles.

**Album Cards** were usually sold as a series of 12 on stationery counters in souvenir shops, became popular about 1850, and lasted until 1890. (after 1920 movie stars, baseball.)
A pioneer printer, Louis Prang, published 95 series that included 2 Hidden image puzzle series and 1 rebus series.

**Advertising Trade Cards**
Given away color cards that were dominant by 1880 were collected & cherished by consumers and were used as family entertainment.
Sam Loyd was an early designer & printer of trade cards that used his original puzzles. Since they were not in color, they were not saved by many and today they are very rare.
Trade cards were the most popular between 1880 & 1900 as the first form of direct mass market advertising. During that period they were the most important advertising medium in America.
It has been called the Card Craze of the 1880s and perhaps thousands of puzzle cards were published during this period. When postal rates dropped to a penny a pound in 1900, a magazine boom was started that ended the card craze.
Trade cards advertised many household products, such as thread, soap & stoves, but Patent Medicines were the largest user of trade cards for advertising. Trade cards were an unregulated form of advertising until 1906. Quack cures and blood purifiers were commonly advertised. Sometimes narcotics (Morphene, Cocain), even poisons like mercury were part of secret ingredients. Alcohol was frequently included and some patent “medicines had up to 70% alcohol content. In October 1905, a series of articles was published in Colliers Magazine entitled “The Great American Fraud” and it included this cartoon (SHOW Skull).
The next year the first laws regulating food & drugs were passed.

**Post Cards** became quite popular very quickly after Worldwide standards were established in 1900, because they were cheap, 1¢, and fast – with several deliveries/day (& nearby delivery in hours.) They were used for Xmas & B-day greetings, coordinating visits, staying in touch, etc.
Telephones were not widely available until after WWI and from 1900 to 1918 postcards were the preferred method used by the people for communicating with each other. Color series were common and saved in albums. Cigarette Cards were included in packages of Cigarettes as a stiffener to prevent crushing. They were issued as many series of color cards & were intended to stimulate collecting. Most popular in 1920s & 1930s, especially in England. A recent catalog includes over 2000 puzzle related tobacco cards. (tricks, riddles, Op. Ill., quiz, puzzles, etc.)

**Rebus Puzzle Cards - Figure 1**
On Hope, on the left, is dated December, 1783. The theme, Hope & patience end all ills, perhaps was believable in the 1870s. The first 2 lines: “Through all vicissitudes in life; of folly, vanity and strife,” In the center is a Patent Medicine ad for Dr. Seth Arnold’s Balsam, from 1878. A Balsam is an aromatic plant resin. The card says: Purely vegetable & entirely harmless. This may be true but, Dr. Arnold’s Cough Killer used morphine & alcohol & was called a baby killer. The first line: “Cure Cholera Morbus, Dysentery; Diarrhea,” ... Etc.
On the right, in beautiful color, is an ad for Liebig’s Meat Extract Bullion, from 1892. Liebig started using trade cards in 1872, and used up to 14 colors in their Chromolithographic process to obtain superb color quality and enhance collectability. This is one of 90 Liebig rebus cards in 15 series. The first line: “Gesang und Reben; Grzen das Leben.

**Hidden Image Puzzle Cards – 1 - Figure 2**
On the left is one of 24 Album Magic Cards with hidden images by Louis Prang, dated 1865. The puzzle is: “Find the Woodsman”. Solution: invert the card & the Squirrel becomes the Woodsman. Louis Prang was a German immigrant in 1850 that became one of the most important printers of his day and was credited as being the Father of Christmas card and the Father of Chromolithography. Sam Loyd’s Historical Puzzle No.4, dated 1873 is shown in the center. The puzzle is to show “Who cut the cherry tree?” A clever Loyd innovation has a distorted horizontal image of George Washington masked by Honesty is the best policy. A computer scanned and compressed image of George is shown below the puzzle. Typical of Loyd puzzle cards, he sold this same puzzle card to several different advertisers. This card was from Casseday Brothers New Dining Room, NY. Sam Loyd’s Prize Tree Puzzle, shown on the right, offers a suit of clothes to the first person to send in a correct solution before January, 1883. The puzzle is to: “Find all the Animals.” I doubt they had to give away a suit because there are XXX animals in the tree. This was called the “Puzzle in the Cyclopedia”.

**Hidden Image Puzzle Cards – 2 - Figure 3**
On the left is Dr. E.C. Abbey’s Toll Gate #5 puzzle, dated 1889. The puzzle is to find 164 objects! On the back it advertises Dr. Abbey’s, book on the sexual system & 5 medicines. Another color puzzle card advertising Liebig Meat Extract, from 1887, is on the right. The puzzle is to find the duck. Solution: In the hanging light fixture. Leibig published 144 hidden image cards in 24 series. This card is in German.
All together Liebig issued about 12,000 trade cards, some in as many as 8 languages.

**Dissection Puzzle Cards – 1 - Figure 4**
Sapolio Color–Puzzle, dated 1881, adds a color requirement to an older puzzle that Sam Loyd claimed to have invented about 1850. Loyd’s puzzle is to cut the Mitre shape into 4 pieces of the same size and shape. Loyd’s solution, in an 1897 TitBits article, has two adjacent triangles that are joined at a corner and called one piece. Dudeney claimed that he found an 1835 source for the puzzle and disputed claim to have invented it.
Sapolio Color–Puzzle
The puzzle is to find 4 pieces of the same size, shape & color that fit in the blue border. Is it possible? It is in the handout. Send me a solution, if you find one. St. Nicholas Puzzle Card, dated 1892, is to be cut into 4 identical pieces with 3 uncut magazines in each piece. The puzzle, without the magazines, appeared in the Magician’s Own Book in 1857. A copy of this puzzle is in the handout, contact me if you would like some help solving it. (L pieces 3/4 x 1/2)

**Dissection Puzzle Cards – 2 - Figure 5**
Three of Sam Loyd dissection puzzles are shown here. On the left is a Greek Cross to be divided with 2 straight cuts and reassembled into a square. A prize of $10 was offered to the first person giving the greatest number of ways of solving the puzzle before March 31, 1887. See how many you can find on the copy of the puzzle in the handout without a financial incentive.
This is the earliest publication date I have found for this well known puzzle. (There is a infinite number of similar solutions with orthogonal cuts.)
The black portion of the rectangular A&P Baking Powder Puzzle, dated 1885, is to be cut into 2 pieces, which will form square. This is probably the first dissection using a hollow figure. A copy is in the handout for you to try to solve.
Sam Loyd’s title for the next dissection puzzle, “A Fair Double Puzzle”, is curious and debatable. The puzzle as stated is, “Find two ways of cutting into 3 pieces which will form a perfect square.” A $25. award for the first correct answer was to be reported in Tid Bits of 22 Feb. 1886. Unfortunately no one has found any copy of N.Y. Tid Bits. Loyd published the same two adjacent squares puzzle 10 years later in several columns (& the Cyclopedia) and never asked for two solutions. The puzzle, with one solution, is quite old. It was published by a 10th century Arabian Mathematician (Al–Nayrizi, who died in 922AD. I have not found any reference to a second dissection solution of 2 adjacent squares. The puzzle is copied in the handout. Can it be solved? I believe there is at least Loydesque type of solution that fits his title.

**Put Together Puzzles – 1 - Figure 6**
Now instead of cutting figures apart, here are some Sam Loyd puzzles to ut together.
Wonderful Chinese Pony Puzzle, Loyd’s first and most successful puzzle card, was published in 1868. Loyd claimed that he sold a billion copies. The puzzle is to form a horse using the 3 black pieces on the card. Loyd said he invented the puzzle while on a ship on his way back from Europe during Civil War (Apr. 1861 – Apr.1865). It was based on the White Horse Monument in Uppington Hill, England. The solution to the
puzzle is to form the silhouette of a horse with the 3 black pieces used for the border. Sam Loyd’s Trick Mules, usually called Trick Donkeys, was first published in 1871, and was certainly one of his best puzzles. The puzzle is to lay the 3 pieces so each mule has a correct rider. Loyd said he invented this puzzle at age 17, in 1858, and that he made $10,000 from it. P.T. Barnum used thousands to publicize his circus. This one advertises the Great Atlantic & Pacific Tea Company. I’m sure you all know the solution.

Two years after the Trick Mules was issued, Loyd published the Mustang Puzzle, a similar 2-piece version for the same customer.

The puzzle is to lay the 2 pieces so as to show the speed of the ponies. A copy is in your handout. R.D. Housden copied Loyd’s idea in “The Animated Dogs”, another 2-piece version. It advertised Dr. Walker’s California Vinegar Bitters which was made from roots & herbs, with no alcohol. It was devoted to temperance, Female complaints, rheumatism, gout, diseases of the blood and liver. Puzzle: To arrange the 2 pieces to bring the dogs from lifeless to running positions.

Put Together Puzzles – 2 - Figure 7

A puzzle advertising Bitters is dated September 1898, and is the earliest known example of a puzzle claiming its Bitters contains no narcotics but it didn’t mention its high alcohol content. The puzzle on the card advertising Hunnewell’s Universal Cough Remedy is the Tangram which was usually called The Chinese Puzzle. But the title of the card is, “Japanese Card Puzzle.” In the 1880s, when this card was issued, Gilbert & Sullivan’s Mikado was playing in New York and was enormously popular. It created a very positive public sentiment about the Japanese. The Chinese, however, were very unpopular due to a very large immigration and resulting labor problems. It was claimed that the Hunnewell Cough Remedy advertised here was also good for Asthma, Bronchitis, and Sore Throat.

Path Puzzle Cards - Figure 8

These 3 puzzle cards involve drawing paths. Loyd said he invented an early version of the Farmer’s Puzzle at age 9. This color example, from the 1880s, was not printed by Loyd, although in the 1870s he did print a version titled, “Puzzled Neighbors.” The puzzle is to make 3 paths, one from the house to A, the barn to C & the well to without any paths crossing. The key to the solution is to loop the path from the house around the well and barn before connecting to Gate A. A similar puzzle advertised Van Houten’s Cocoa in 1890. The puzzle Make paths from 3 children to 3 cups of cocoa, in reverse order, without paths crossing. Puzzle: Make paths from children 1, 2, 3 to cups 1, 2, 3 without any crossing. A much more challenging problem is the Star Soap Puzzle. If a prisoner in cell A can pass through all 36 cells to B without entering any cell more than once, he will be giver his freedom. A copy of this puzzle is in the handout. It can be done, try it. (Solution: Go out & back from A first.)

References: Dudeney, Dispatch 5/17/1896, 8x8 version.
Loyd Tit-Bits, 1/30/1897, 8x8 version.

Counter Moving and Jumping Puzzle Cards - Figure 9

Now we will jump to Counter Moving and Jumping Puzzle Cards.
Van Houten Septum Puzzle involves moving 7 coins from empty circles along the lines
to cover 7 of the 8 points. It is a beautiful example of the Octagram Puzzle published in Les Amusemens in XZXZ.

Sam Loyd’s Japanese Leap Frog Puzzle advertises Dr. E. Beeman’s Worm Medicine for children. The well-known puzzle is to reverse the 3 left & the 3 right toads by stepping on Toad–Stools or hopping a Toad. It was first published in the American Agriculturist in 1867. Puzzle: Three left & 3 right toads pass by stepping on Toad–Stools or hopping a Toad. The Great American Ball Blue 9 Puzzle is another example of an old puzzle being dressed up in color during the 1880s. Counting from the bottom up you count to 9 on any arm of the cross. How could a servant steal 2 balls and rearrange the cross so you still count to 9. A version of this puzzle was published in Les Amusemens in Cyclopedia p. 351.

Mathematical Puzzle Cards – Figure 10
The Mathematical Puzzle Cards: Ivory Soap was a pioneer in magazine advertising using color inserts, so the Bubble Puzzle card is quite unusual. The ages of the 9 children, from 2 to 10, are to be arranged to form a magic square with sums of 18 in each direction. The Puzzle of 100, also called the Century Puzzle, was used by Loyd, Dudeney, and others. It appeared in the Book of 500 Puzzles in 1859. The puzzle is to add the ten characters 0 to 9 to sum to 100. Loyd’s solution was: 24 3/6 + 75 9/18 = 100.
The Missing Link is another puzzle card by Sam Loyd. A farmer wants to make an endless chain of 30 links from 6, 5 link pieces. It costs 8¢ to cut & 18¢ to weld one link. If a new chain costs $1.50, how much can be saved?
New Home Sewing Machine Co. Trade Card. (Solution: cut all 5 in one piece = $1.30, save 20 cents.

Vanish Puzzle Cards –1 – Figure 11
The Magic Egg Puzzle, published by Wemple & Co. in 1880, was the first vanish puzzle card. Cut it in 4 pieces and use them to make 6,7,8,10,11 or 12 eggs. It modestly advertises that Trapper’s Oil cures pain in all its forms, internal & external. It may have stimulated Sam Loyd to his greatest puzzle invention, the “Get Off the Earth Puzzle Mystery” which was included as a supplement to the NY Sunday Journal on July 12, 1896. The 13 men shown are reduced to 12 when the circular section is rotated by moving the button up. The puzzle is: Which man has vanished? Where does he go? Loyd may have chosen Chinese men because of the unpopularity of the Chinese at that time, as I mentioned earlier. He claims that 10 million of these cards were sold. Many examples have been collected with various advertising, from Dr. Miles Nervine which restores health to the Republican Party’s best invention. Dudeney, Strand, M. Gardner. Loyd also thought so. (White)
Large Chinese immigration 1850–1882, low cost labor threat, strike–breakers.

Vanish Puzzle Cards –2 – Figure 12
Now Loyd disappears a Japanese! The Lost Puzzle involves finding a lost Japanese man. The puzzle is to explain how 8 men & 9 lanterns become 9 men & 8 lanterns when the circular section of the card is turned. This card was a give–away for the Metropolitan Life Insurance Co. in 1897. On the back it says the puzzle demonstrates the uncertainty of life;
We hope the right one was insured when the miniature earthquake occured. (Policyholder contest for best answer awards $100. in gold.) One of Sam Loyd’s last puzzle cards was the “Puzzle of Teddy and the Lion.” In this racist version 7 men & 7 lions become Six men & 8 lions. In this version, Which Black man becomes a yellow lion? A Stickley–Brandt Furniture Co. Trade Card. Contest first prize $7.50 Date 1909, Sackett & Wilhelms Co., Litho., NY.

Vanish Puzzle Cards -3 – Figure 13
Sam Loyd, Jr. designed 2 vanish puzzles. The first is: “What Happened to Mary?” Thirteen girls are reduced by one when you move the circle. This was a supplement to the Ladies World in 1912. Count the girls (13), move circle and count again (12). Puzzle: What Happened to Mary? One of the 13 customers vanishes in “The Disappearing Bicyclist,” which advertised New Departure bicycle brakes about 1924. Which boy has vanished? Where does he go? New Departure brakes Trade Card Date c.1924. Turn disc arrow to count 13 boys, move to VX and count 12 boys. Puzzle: Which boy has vanished?, Where does he go?

Optical Illusion Cards – Figure 14
(Both are 29.5mm) s Bitters uses the compelling converging line optical illusion and asks, “Which person is the taller?” Of course the boy and man are exactly the same size. Bitters is usually an alcoholic (14 % up to 43%) laxative with a bad tasting herb added. Lash’s claim it is Unequaled for headache, indigestion, and malaria. Take it straight; at all bars. Phenyo Caffein advertised its headache cure on an version of an ambiguous figure trade card. Do you see both “My girl & her mother?” Frequently the image you see alternates. (Cartoonist W.E. Hill published a better version w/feather in vx. On the right we have another Sam Loyd Card. He called it “Phantoms.” Look at star in the center of the image for 27 seconds, then at a blank wall. The after image you see is the likeness of General Grant. J.H Brown published Spectropia showing Ghosts everywhere

Word Puzzle Cards – 1 – Figure 15
Here is another American Ball Blue Puzzle Card, this one with a word puzzle. Name all 8 flowers and from their initials form a word. The word should describe the success of American Ball Blue. A copy of this card is in your handout. Please tell me the solution. Max Stein published a series of 16 word puzzles in 1907 entitled A Message for the puzzle is to read the message. The solution is a valley fold in the center of the card and mountain folds in the center of each column of gibberish. The message on this card, “Get busy and write.”

Word Puzzle Cards – 2 – Figure 16
Milk Puzzle. Cut the card on the left in 6 strips and form the word. It is solved by weaving together 3 strips horizontally with 3 vertical
The message on the Shoe Manufactures Puzzle is read by viewing the card at a very oblique angle. (It reads “WOODMANS SHOE PATTERNS – EUREKA HINGE BUCKLE.”)

**Maze Puzzle Card - Figure 17**
Maze Puzzle Card, “Stanley in Africa” is a Maze puzzle card. It asks you to race Dr. Henry Morgan on Stanley’s route from the Congo to Zanzibar. This is a bit curious since his route started in Zanzibar in 1874 and reached the Congo in 1877. (Oh well, the advertiser Mulcahys Boston One-Price KIoting and Hat House couldn’t spell Clothing either.)

**Folding Puzzle Post Card - Figure 18**
Another racially exploitive puzzle is the “Pick the Pickaninies” Post Card Puzzle. It was patented by Frank Lehman in 1907. The puzzle is to fold the 6 flaps to show 11 Black faces and no White faces. (Solution: Fold down 5,4,6,2,1,3. Numbered CW from Face, #1.)