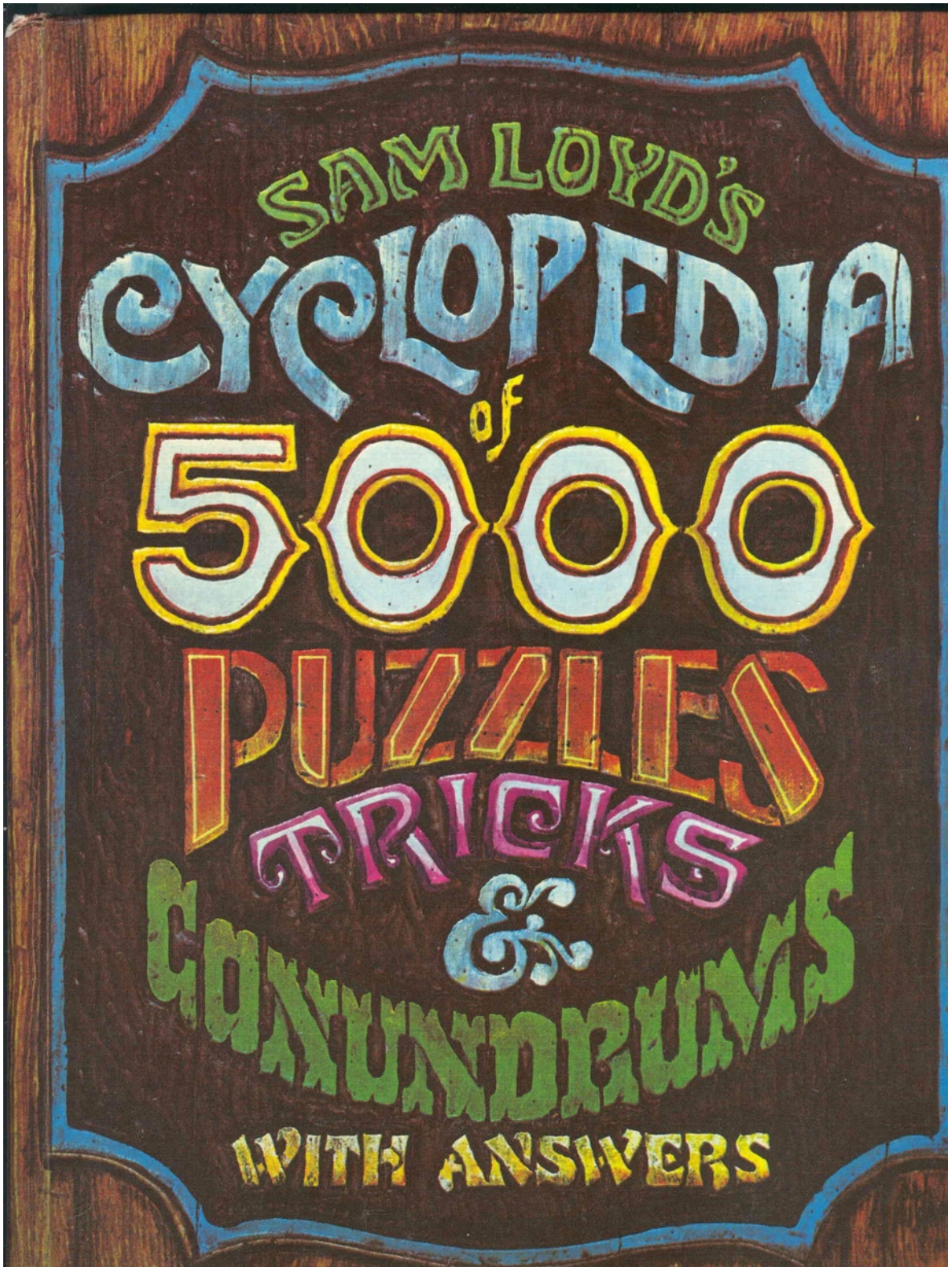
EDITING SAM LOYD

Dover Publications asked me to prepare a new edition of Sam Loyd's **Cyclopedia**. This took much longer than anticipated because of there are many more omissions and error than anticipated. Here are a number of problems for which I cannot find a solution. Comments or solutions gratefully accepted.

SAM LOYD'S CYCLOPEDIA OF 5000 PUZZLES TRICKS AND CONUNDRUMS

WITH ANSWERS


SAM LOYD'S
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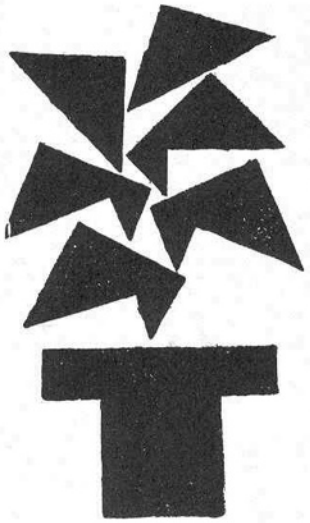
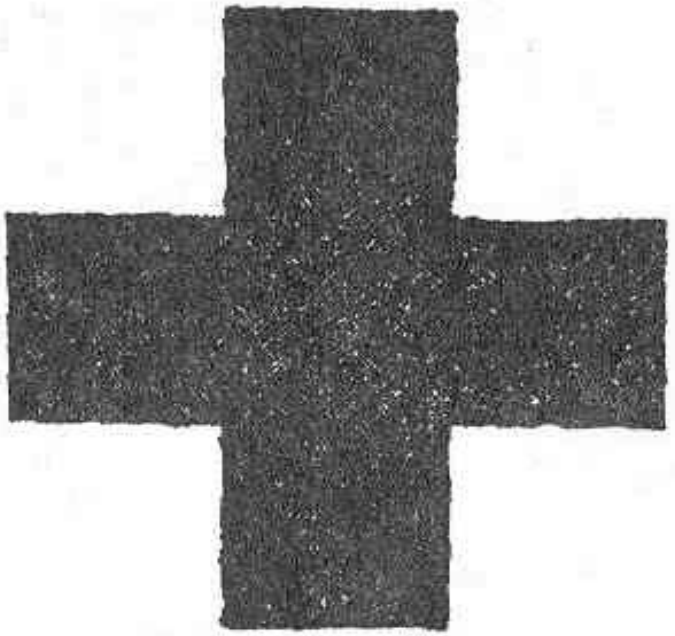
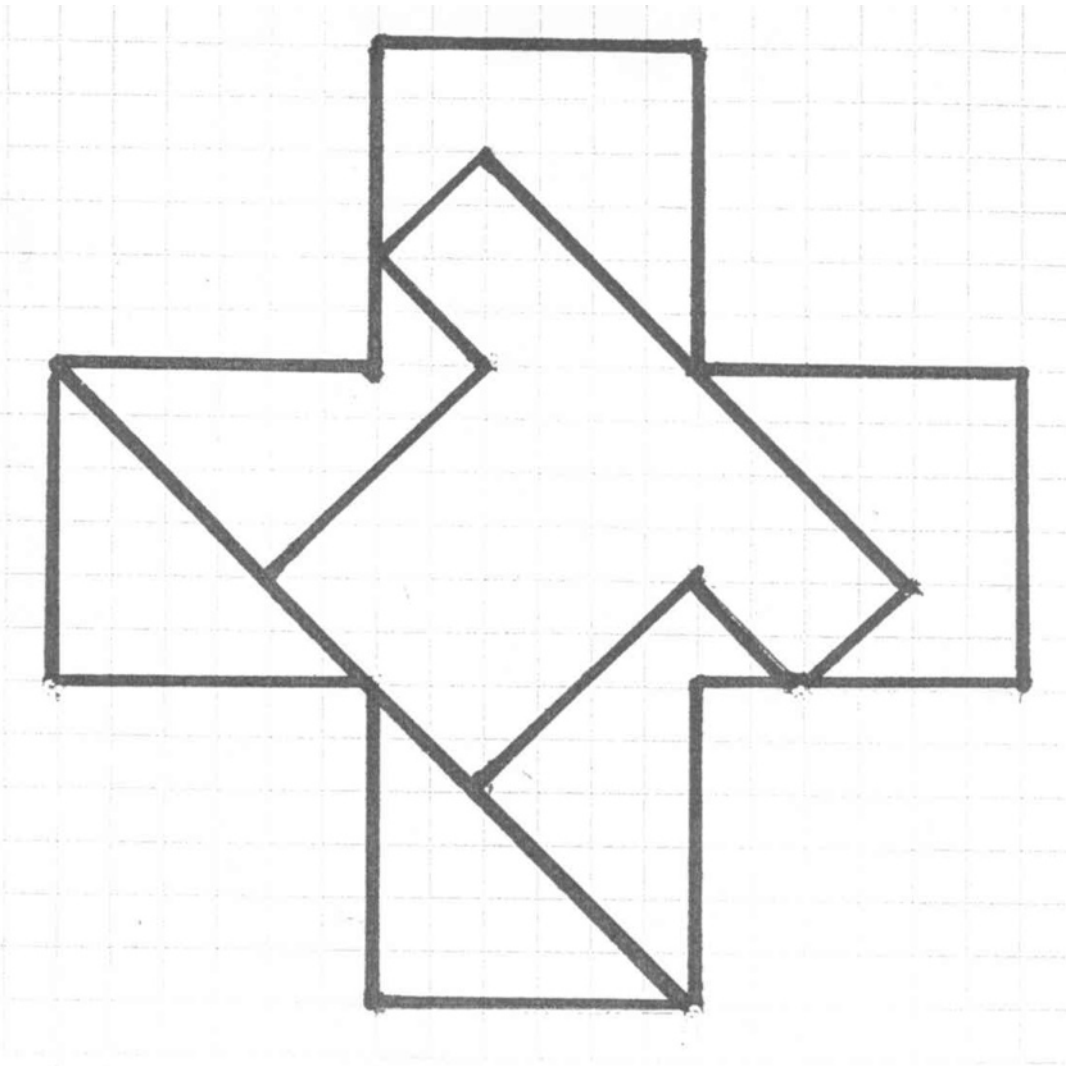
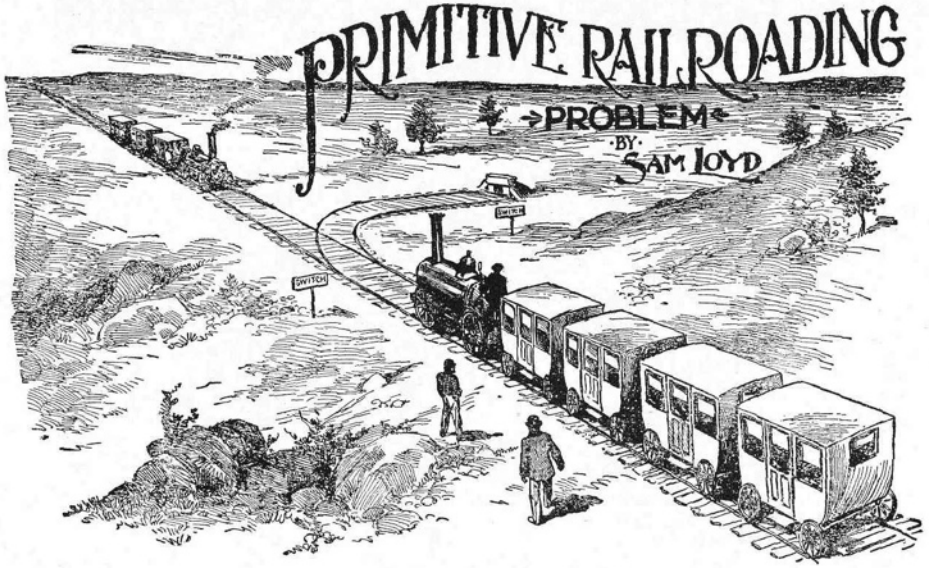
The Hindoo Flower Trick.



Here is an illustration of the famous Hindoo Flower-trick. The fakir plants a seed in the hat and a beautiful flower at once appears; then he asks you to take the seven pieces and arrange them so as to form a Greek cross.







PROPOSITION—How many times is it necessary to back the engiines to pass the two trains?

OWING TO THE WIDE-spread interest taken in a simple little Rail Road Switch Problem which I sprung upon my friends some time ago, as well as in response to the request from many for another practical lesson in railroading, I present one which is an offshoot from the first, and illustrates the difference between sidetracking a trian or passing it through a Y branch, which reverses the direction of the trains. In this specimen of primitive railroading we have an engine and four cars meeting an engine with three cars. and the problem, as in the previous one, is to ascertain the most expeditious way of passing the two trains by means of the swith or side-track, which is only large enough to hold one engine or one car at a time. No ropes, poles or flying switches are to be used, and it is understood that a car cannot be connected to the front of an engine. It shows the primitive way of passing trains before the advent of modern methods, and the puzzle is to tell just how many times it is necessary to back or reverse the directions of the engines to accomplish the feat, each reversal of an engine being counted as a move in the solution.

Pounds, Shillings and Pence Mixed With Dollars and Sense.

An advocate of our decimal system of currency refers to the well-understood feature that the removal of the decimal point does not change the value of the sum-total of a given sum of money. For example, take $90.16.2, which represents ninety dollars, sixteen cents and two mills, and remove all the decimal points, and we have 90,162 mills, which does not change the value. When the writer, however, says that this cannot be done with English money he errs, and we invite him, as well as our army of puzzlists, to solve the following:

Find a certain sum of English money, in pounds, shillings and pence, the value of which will not be changed by the removal of the separating dots.

Dollars and Sense Puzzle.

Here is another problem on what we might term similar dissimilar lines, which goes to prove that the Yankee dollars are just as smart as the English pounds. A puzzling financier discovered that any number of £, s., d., reversed and subtracted will always produce 19s. 11d., or a multiple thereof. For example, take any amount below ten pounds, say:

	£	s.	d.
	9	6	8
Reversed	8	6	9
		19	11
Or again	8	6	2
	2	6	8
	5	19	6

which is six times 19s. 11d.

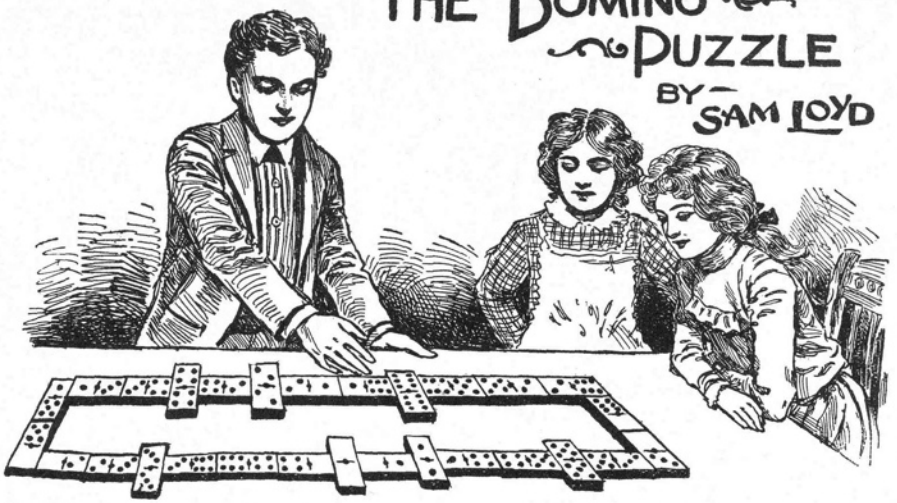
The interesting feature of the puzzle is the statement that "no one has been able to explain this curious relationship of pounds, shillings and pence!"

Cannot some of our clever puzzlists give the why and wherefore of this curious action of the English money, by showing by means of an example that the same phenomenon applies to our own. United States currency as well?

When does a dentist do the most work? When he extracts several acres (achers).

THE DOMINO PUZZLE

BY SAM LOYD



PROPOSITION—How many points can be scored in a game of dominoes?

I USED TO BE VERY fond of dominoes, and flattered myself that I could put up a pretty stiff game of straight muggins, but it was my privilege to meet a certain Monsieur Blume, in Paris, who speedily disillusioned me of the notion that I knew anything about the science of dominoes. He was a professional player, of about 80 years of age and had been blind from birth. He made a living by going about the cafes, giving exhibitions of his wonderful play in which he gave phenomenal odds to all opponents. I have upon several occasions alluded to the fact that every game or pastime is susceptible of furnishing a series of problems or puzzles, as in whist or chess, which illustrate in an instructive way the peculiar strategy of the play. M. Blume would always finish a game of dominoes after the manner of a problem, in that he would announce that he would make exactly five, ten or twenty points, as the case might be, and it was this feature of the play which suggested to me the domino puzzle of: "What is the greatest possible number of points that can be scored by both players in the regular game of muggins wherein the two ends are counted whenever they add up five, ten, fifteen or twenty?" It may be mentioned to such of our puzzlists who may not have a set of dominoes conveniently at hand, that the sketch shows a complete set of twenty-eight stones, which may be utilized to solve the puzzle.

Just lay them down one at a time and count both ends whatever they add up, 5, 10, 15, or 20, and see how much you can make.

While on the subject of dominoes I will explain one of the neatest parlor tricks you ever saw. Take a full set of the 28 dominoes and mix them up well, and unobserved by any of the spectators conceal one of the stones in your hand. Tell them you will go out of the room while they match the set in one long row, and you will tell them what the two ends will be.

Be careful not to select a double number. Mix them all up carefully and while doing so return the one you had, at the same time telling the them that the two ends were 3 and 1, or whatever numbers you had on the dominoe.

Here is another puzzle which incidentally introduces two very interesting subjects: the origin of the game of dominoes and that ever popular theme of the magic square.

According to a well-authenticated bit of history, two monks who had been committed to a lengthy seclusion contrived to beguile the dreary hours of their confinement without breaking the rules of silence which had been imposed upon them by building up magic squares with small flat stones, upon which they had black dots like "dice." The amusement gradually advanced into a species of a game of skill, and by a preconcerted arrangement between the players the winner would inform the other of his victory by repeating in an undertone the first line of the vesper prayer. In process of time the two monks so far completed the set of stones as to represent every possible combination of two figures from double blank to double six and perfected the rules so as to make a most interesting game, so that at the end of the term of their incarceration it became generally adopted by all of the inmates of the monastery as a lawful and instructive pastime.

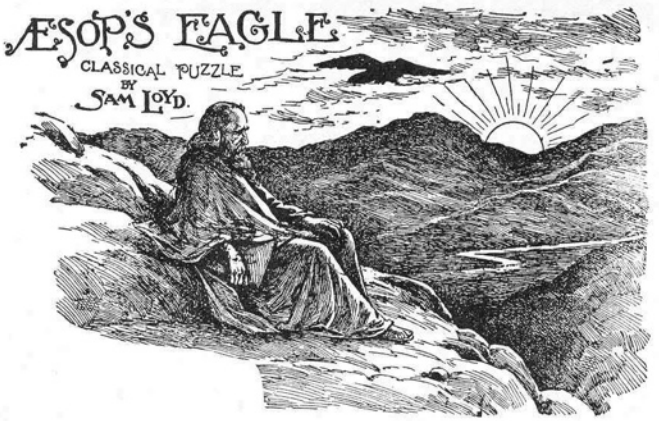
It soon spread from town to town and became popular throughout Italy, and the first of the line of the vespers was reduced to the single word Domino, by which the game has ever since been known.

An old writer on the subject says that the various combinations, or arrangements by which a number of the stones, being the same as our ordinary dominoes, might be formed so as to make magic squares which would add up the same in every direction, seems to have been lost, and its possibility has been questioned by eminent mathematicians. In this respect, however, the writer errs, for to modern puzzlists, who are familiar with the theory and construction of magic squares, the feat is an easy one, and as such I present it to our young puzzlists.

What is the keynote to good manners? B natural.

ÆSOP'S EAGLE

CLASSICAL PUZZLE
BY
SAM LOYD.



Aesop, who lived some twenty-five hundred years ago, was a slave belonging to a noble Athenian, who, being struck by his originality and marvelous gift of inculcating morals or cutting satire in his stories of birds, animals and fishes, brought him to the notice of Croesus, King of Lydia. Among his oldest fables is the story of the ambitious eagle, which resolved to fly to the sun. Every morning as the sun rose in the east the eagle would fly towards it, going a thousand miles before the hour of noon, when the sun would be on the meridian, thus as the sun would pass on towards the west the eagle would continue its hopeless chase, and just as the sun would disappear below the western horizon the eagle would find itself back to the original starting point.

The story is all right as told, but his mathematics are slightly out of gear, and present a pretty problem for our puzzlists to study over. In the early start towards the sun, they are both advancing towards the meeting point, and we will accept the intimation that the sun goes five times faster than the eagle, so they will speedily be on the meridian, but a stern chase is a long chase, so the afternoon race will be the longer one, and will carry the eagle 500 miles farther west every day, so that it will be many a long day before Aesop's point is actually accomplished and the foolish eagle returns to the starting point after making a complete circuit of the globe.

The circumference of the earth being known, and it being assumed that the eagle flies at a height from the earth's surface which does not materially affect the distance, it is shown that the eagle would go 500 miles further west each day. Let us start the bird on his tour from the dome of the Capitol at Washington, Wednesday January 1st. 1896, on which day of the week would he return to the starting point?

Here is the way a Dutchman gave the problem: "Suppose two geese start from opposite windows of that dome at Washington, what direction would they have to fly to meet again in the shortest possible time?

Third proposition: Do you know why it is that if you saw an Island exactly one hundred miles away due north-east, you would never get there by sailing due north-east?

NEW YEAR'S RESOLUTION PUZZLE

The Puzzleland Sunday School Teacher is giving the children some good resolutions with which to begin the new year. It is a good idea to inject a little difficulty into the lesson so as to impress it well on the memory. Of course, it is any easy puzzle for the little folks, nevertheless let us see if you are clever enough to read it right off.

The Golf Puzzle

-BY- SAM LOYD

PROPOSITION—Guess the proper distance to drive the ball.

OF COURSE EVERYbody is playing golf now, and even the lazy ones, who, a few weeks ago, declared how much pleasanter it was to swing in a shady hammock and watch the others plodding around the golf links, have caught the golf fever and are chasing the ball around the golf links with their minds full of thoughts of how much pleasanter is it to chase the ball around the golf links than it is to be swinging in a shady hammock and to be thinking how much pleasanter, it is etc., etc., D. C., ad lib. But be that as it may, what I mean to infer is, that they have all got it, and unless you are prepared to discuss all the wrinkles and systems of golf, or take in with well-assumed appearance of credulity tales of feats which would make Baron Munchausen blush to the core, you might as well ruminate at home in a shady hammock, etc., etc. I am not much of a golfer, but have been picking up points for a great combination system. One fellow offered to teach me the sharp points if I would "caddy" for him, which reminded me of the boy who worked his passage from the West on a canal by leading a horse. I have struck a genius who has evolved a winning system based on mathematics. He says: "Just cultivate two strokes of different lengths, one a drive, the other an approach, and play direct toward the hole, so that a combination of the two distances will get there."

What should be the proper length of strokes to learn, to win out in the least possible number of strokes on a nine-hole course, of 150 yards, 300 yards, 250 yards, 325 yards, 275 yards, 350 yards, 225 yards, 400 yards and 425 yards?

When is a dog most like a human being? When he is between a man and a boy.

How does a boy look if you hurt him? It makes him yell Oh! (yellow).

Why didn't the last dove return to the ark? Because she had sufficient ground for remaining away.

Why is a specimen of extra fine handwriting like a dead pig? Because it is done with the pen.

What does a husband do who misses a train by which he promised his wife to return? Catches it when he gets home.

What coat is finished without buttons and put on wet? A coat of paint.

What is the greatest surgical operation on record? Lansing, Michigan.

Why are fixed stars like pens, ink and paper? Because they are stationary (stationery).

Why should a person not like to gaze on the Niagara forever? Because he would have a cateract in the eye.

What bridge is warranted to support any strain? The bridge of a fiddle.

Why are laws like the ocean? The most trouble is caused by the breakers.

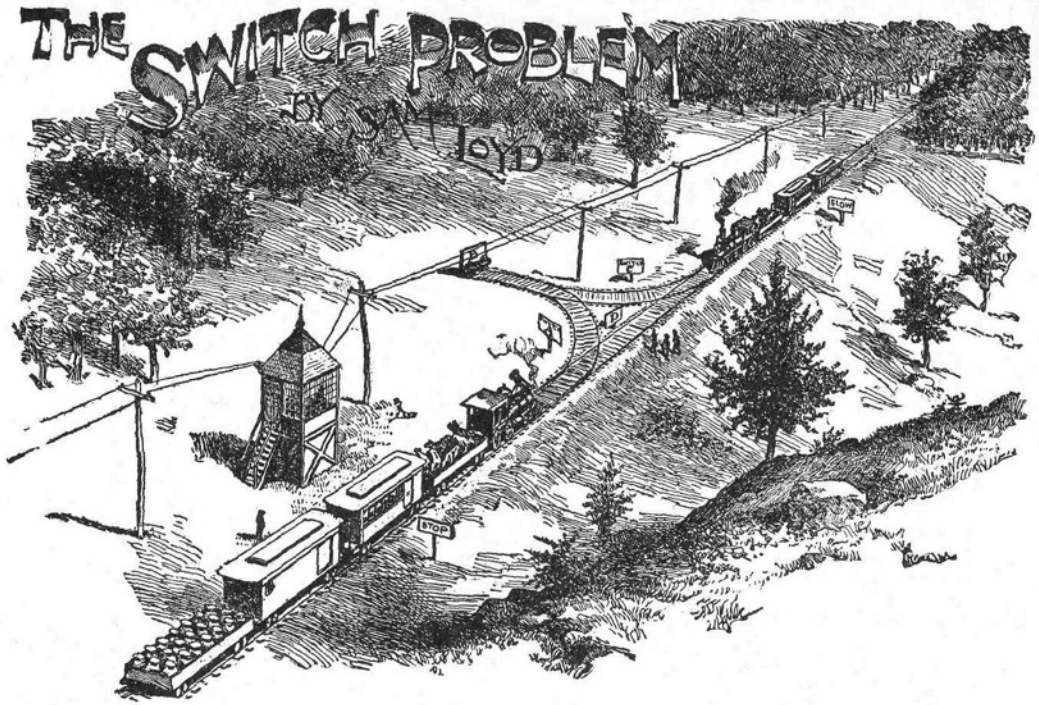
Why does an aeronaut dislike to speak about his trips? It is a soar point with him.

Why is a Chinaman never at a loss for a word? Because he always has his cue.

What is he most popular paper at the summer resorts? Fly-paper.

THE SWITCH PROBLEM

BY SAM LOYD



PROPOSITION—Show how to let the two trains pass.

THIS IS A PRACTICAL problem for railroadmen, given to illustrate some of the complications of every-day affairs and is based upon the reminiscences of the days when railroading was in its infancy, before the introduction of double tracks, turn tables or automatic switches. Yet, I am not going back to the days of our great-grandfathers, for there are those among us who are familiar with the advent of the iron horse, and the good lady who furnished me with the subject matter of this puzzle based it upon personal experience of what she called "the other day."

To tell the story in her own way, she said:

"We had just arrived at the switch station, where the trains always pass, when we found that the Limited Express had broken down. I think the conductor man said the smokestack had got hot and collapsed, so there was no draught to pull it off the track."

The picture shows the Limited Express, with its collapsed engine, and the approach of the accommodation train from Wayback, which, by some means or other, must pass the stalled train.

The problem being to make the two trains pass, it is understood that no ropes, poles, flying switches, etc. are to be employed; it is a switch puzzle pure and simple, the object being to get the accommodation train past the wreck and leave the latter train and each of its cars in the position as shown in the sketch. It is necessary to say that upon the side switch there is but room enough for one car or engine, which is also true of the sections of the switch marked A, B, C or D.

The problem is to tell just how many times the engineer must reverse; that is, change the direction of his engine to perform the feat. Of course the broken-down engine can not be used as a motor, but must be pushed or pulled along just as if it were a car. The cars may be drawn singly or coupled together in any required numbers.

The problem complies with the ordinary rules of practice and is given to test your ingenuity and cleverness in discovering the quickest possible way to pass the broken down train.

What is the difference between a lady and an apple? One you have to get side her to squeeze, and the other you have to squeeze to get cider.

Who is the greatest chicken-killer spoken of in Shakespeare? Macbeth, because he did murder most foul.

Why is music cheaper on Sunday than during the week? Because during the week you get it by piece, and on Sunday you get it by the choir.

Which death would you prefer to die, Joan of Arc's or Mary Stuart's? Most people prefer Joan of Arc's, because they like a hot steak better than a cold chop.

If you were invited out to dinner and on sitting down to the table saw nothing put a beet, what would you say? That beet's all.

When is charity like a top? When it begins to hum.

Why is a man sometimes like dough? Not because a woman needs (kneads) him, but because he is hard to get off of her hands.

Why are a dead duck and a dead doctor alike? Because the" have both stopped quacking.

A REBUS.

Here is an odd rebus which every-
one cannot see through even when
knowing the answer to be the letter
R.

Whether old Homer tippled wine or
beer,
Julep or cider, history is not clear;
But strange it is—the bard, though
wont to roam,
But for one liquid, ne'er had left
home.

Proposition: Show how the Merchant measured the wine and water.

OF COURSE EVERY one is familiar with the story of the man with a barrel of honey who met a customer with a five and a three quart pitcher, who wished to purchase four quarts of honey. It is an interesting case of juggling with the measures, and is devoid of catch or quibble, and will serve to explain the accompanying puzzle, which is built upon an extension of the same principle.

A merchant of Bagdad who catered to the wants of the pilgrims who crossed the desert, was once confronted by the following perplexing problem: He was visited by the leader of a caravan, who desired to purchase a store of wine and water. Presenting three ten-gallon vessels, he asked that three gallons of wine be put in the first, three gallons of water in the second, and three of wine and three of water mixed in the third, and that three gallons of water be given to each of the thirteen camels.

As both water and wine, according to Oriental usage, are only sold in quantities of an even number of gallons, the merchant had only a two and a four gallon measure wherewith to perform a feat which presents some unexpected difficulties; nevertheless, without resorting to any trick or device, or expedient not pertaining to the ordinary measuring problem, as already referred to, he dispensed the water from a full hogshead, and the wine from a barrel, in the required proportions, without any waste whatever.

In how few manipulations can the feat be performed, counting every time that liquid is drawn from one receptacle to another as a manipulation? This puzzle is undoubtedly the most remarkable problem of its kind extant, and for many years baffled the puzzlists of the world to reduce to the least possible number of "moves," as the manipulations were then termed. By many it has been referred to as Sam Loyd's greatest

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A WORD PUZZLE.

You first write four to equal one,
Take one away and still have one;
What can be spared may not be theft,
So fifty take; yet naught is left.

Some Interesting Palendromes.

1. Reverse a mechanical power and have a feast.
2. Reverse a twist of thread and have music.
3. Reverse one who is diseased and have to resist.
4. Reverse a beverage and make it royal.
5. Reverse the evil one and have resided.
6. Reverse attraction and have a meadow.
7. Reverse a female name and be afflicted.
8. Reverse a male name and have done wrong.
9. Reverse a falsifier and have a banister.
10. Reverse a measure and make an opening.
11. Reverse a dispostion and form a destiny.
12. Reverse a liquor and create a crime.

Answers will be found among the following words: Red rum, liar, door, Dennis, lever, Seton, leper, lager, devil, draws and doom.

PROPOSITION—Show how the men should divide their money.

WE GIVE OUR PUZzlists one of these natural problems based upon the accidental development of ordinary affairs, which are periodically springing upon the public, and which go the rounds of the press challenging a reasonalbe explanation or solution. It is safe to say that the problem, in one form or another, has reached me from a score of noted puzzlists and mathematicians, all of whom question its correctness for the reason that they are led to look for a deeper proposition than pertains to the problem, whereas it is a simple little incident in "hire mathematics," which the laborers could readily solve for themselves:

A gentleman engaged two workmen to dig a driveway from a new house he was building to the road, distant from his door just one hundred yards. He agreed to pay one hundred dollars for the job, so it made no difference to dim how the men divided the money. The men did not work continuously so as to charge for their time. They worked from opposite ends of the road and estimated according to work done per running yard. The man who worked from the house end had a larger distance to wheel the dirt, but did not have to remove so much as did the man working at the other end, so he agreed to take 90 cents per running yard for what he did. The man working in from the road had more earth to remove, so it was agreed that he should have $1.10 per running yard for his work.

When the road was finished, they estimated their work according to agreement and found that each man was entitled to fifty dollars, so they divided the hundred dollars evenly, and went on their way rejoicing. They saw no difficulty in the settlement, and did not even suspect that there was opportunity for dispute, or introduction of a complex problem.

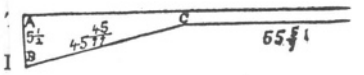
The owner of the house, however, who was a noted professor of mathematics, called them back and showed that the money should not be divided in that way. He explained the impossibility of figuring out how much work each man had done at the price agreed upon, to earn an equal amount of money, and evolved therefrom a complicated state of affairs which made both of the men dissatisfied. The carpenters, masons and plumbers struck out of sympathy, so that the house was not completed in two years.

Can you show how much work each man did to receive the same amount of money.?

Why is a blush like a young lady? Because it becomes a young woman.

Two Men and A Ditch Puzzle.

In that famous unanswerable problem wherein it is stated, that two men dug a ditch 100 yards long, wherein the first got 90 cents per running yard, and the other $1.10 on account of the ditch being deeper, it can be shown that if the first man dug 55 5-9 yards at 90 cents, he would receive $50. From the point C, the other man dug down to the road five feet deeper, and measured the hypothenuse line of 45 and 45-99ths, at $1.10, which also makes $50. Which is doubtless the intended answer to this problem, which has been a bugbear for several centuries.



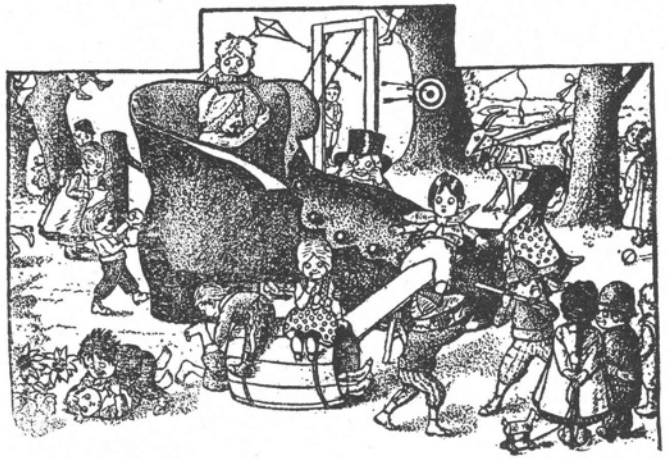
Cypher Ans. 16, 5, 18, 3, 8.

A CHARADE.

My second takes my first
As first she leaves her nest.
My whole a holy name you'll find
Among the martyrs blest,
Cypher Ans. 19, 20, 5, 1, 8, 5, 14.6

Which tree commands the most respect from its fellows? The elder.

Sam Loyd's Puzzle of the Old Woman Who Lived in a Shoe.



That is all there is to it; whether they got more whipping than bread does not cut any ice in this puzzle. The question is to determine how many children this famous opponent to race-suicide had to pack in her shoe?

Puzzle of the Letter Carrier's Route

This letter-carrier has to serve six city blocks, as shown in the sketch, and he asks if you can guess the shortest route he must take. Begin and end wherever you please, but whenever you turn, turn only to the right and then your answer will be right and you won't be left. Let us say the long blocks are on Avenues A, B and C, while the short ones are on 1st, 2nd, 3rd and 4th Streets. That will assist you in describing what you suggest as the shortest route for him to take.

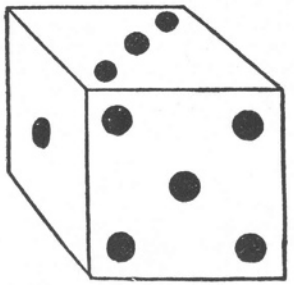
Here is another puzzle worth mentioning in connection with this subject. It appears that a valentine was expected from London or Clifton, but the only legible letters on the postmark were ON. Now what would you say were the chances that the letter came from London?

The Dice Game

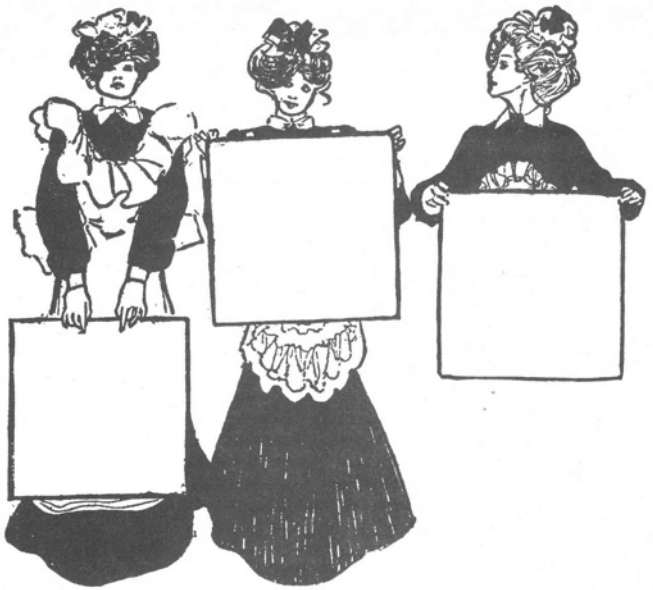
Although an element of chance enters largely into almost all games, we are continually surprised to find how many persons have no conception whatever of the theory of possibilities. It is not every one who can tell you offhand what are the chances against a penny falling three times in succession with the same side up, or, with four aces turned down on the table, what is the probability of your picking up two cards of a color. Twist the corners of a handkerchief together, and what are the chances for or against drawing two diagonal corners?

I asked a noted sportsman the other day what were the chances in favor of correctly guessing the toss of a penny ten times in succession. He replied that he did not believe that such a thing could happen in a lifetime. And yet, if a little pitch-penny tournament were inaugurated with 2,048 competitors, the first toss would furnish 1,024 winners, the second 512, the third 256, the fourth 128, the fifth 64, the sixth 32—16—8—4—2, and on the eleventh throw we should have one victor, neither more nor less, who had correctly guessed the toss of a penny ten times in succession.

With these preliminary exercises to show the relationship of chance to the exact sciences, I will relate that I once became stormbound with a party of miners for nearly a month, where our stock of games was limited to a solitary, well-worn die, from which I evolved the following game, which became known as "The Twenty-five Up Puzzle."



The game is played between two persons, and the object is to see who can get twenty-five first or compel his opponent to carry the score above that point. The first player "sets the pace," as the boys termed it, by calling out any number from one to six. Supposed he commenced the game with 5, the second player then throws the die. Say three turns up; the score adds up eight. The die is no longer thrown now; the element of calculation begins. The first player now rolls the die over, giving it merely a quarter turn, so as to select any one of the four sides, one, two, five or six. Suppose he took six, the score would be fourteen. The next player turns up four, making the score eighteen; the other player turns up six, carrying the total to twenty-four, which will win, as his opponent cannot make twenty-five, and is compelled to go above that figure. The miners believed in lucky numbers, and were ignorant of mathematics. But what I wish to know from a scientific standpoint is this: What is the best number to call first, and wherein is it better than the others?



The Three Napkins

"Betsy Ross wasn't so much of a much with her star cutting stunt, I don't think," said the office boy "That trick is so dead easy it gives me a pain. She wouldn't be one, two, three in it with the girls over at the restaurant. Oh my! but ain't they the cut-ups for fair!"

"Here's a puzzle Maggie showed me the other day, that's a puzzle as is a puzzle: Take three napkins, each a foot square; then tell me how big a square table could you cover with those three napkins?

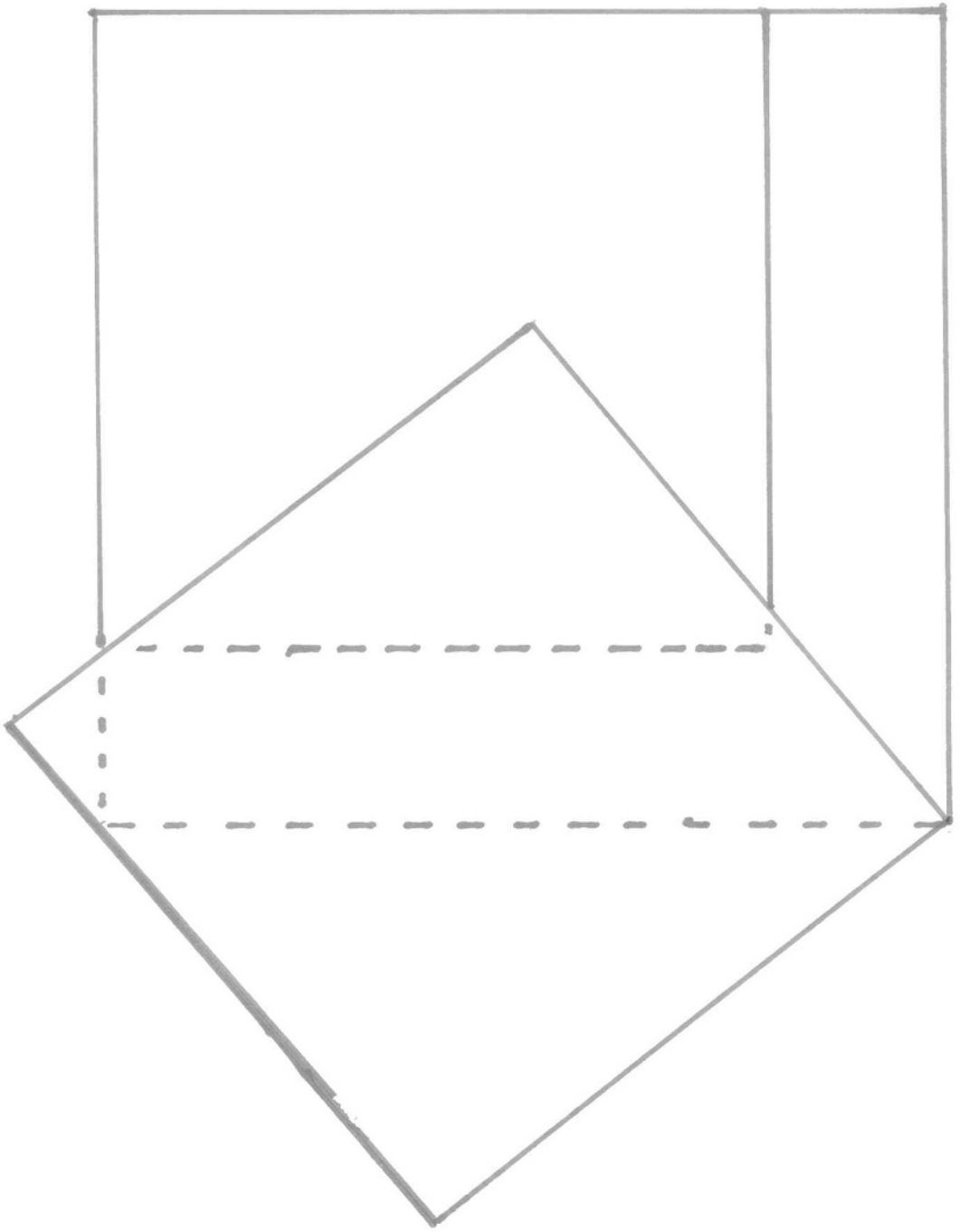
"There ain't no cutting, just lay them down, lapped or folded, and see how big a square the three will cover. You needn't send anything, just tell me the size of the square and I can tell if you have guessed it all right, all right, and then I'll give you some more."

Twenty-One Palendromes

Originally the term "palindrome" seems to have been applied mainly to sentences that read the same from left to right and from right to left. The ancients were very fond of these verbal tricks and very likely we should be so, too, if the language readily lent itself to them. As a matter of fact, it is very difficult to construct palindrome sentences in English. One of the very few extant examples is Adam's famous introduction of himself to Eve—"Madam, I'm Adam." Here, however, are twenty-one riddles the answer to each of which is a palindromic word:

1. Dean Swift often speaks of an empress whose name,
   Read backward or forward, is always the same.
2. The mother of men was a lady whose name,
   Read backward or forward, is always the same.
3. And Cain took a wife in his exile, whose name,
   Read backward or forward, is always the same.
4. And of female recluses we know that the name,
   Read backward or forward, is always the same.
5. When you speak to a lady, you'll find that the name,
   Read backward or forward, is always the same.
6. When a child, you were dressed in a garment whose name,
   Read backward or forward, is always the same.
7. Then, too, you were fed on a diet whose name,
   Read backward or forward, is always the same.

In Sam Loyd's Cyclopedia, pp. 245 & 372, his 'The Three Napkins' puzzle considers three square napkins, each one foot square. He asks what is the largest square these three can cover. His answer that they will cover a 15 1/4 inch square. He places one napkin at the corner of the large square and then says 'the others will easily cover the remainder'. Making a model, one does find that they do indeed easily cover the remainder. Below, I will insert a drawing showing how the second napkin fits over the first. Loyd gives no analysis, but it seems there is some extra space and so one asks: what is the largest square that three equal squares can cover??



PUZZLELAND GINGERBREAD.

To show how the clever people of Puzzleland, like everybody else all over the world, try to get the better of a bargain, it may be mentioned that ginger-bread is always made in odd shapes, marked off in so many little squares for a penny. But there is always a puzzle connected with ginger-bread in Puzzleland which gives purchasers a chance to win the whole cake for nothing. This puzzle is to find how to cut the cake on the lines in two pieces which can be fitted together so as to form an 8x8 square!

Then, as usual, there is a second problem connected with the ginger-bread exhibit which you are asked to guess. Each of the children has a nickel and the funny old saleslady offers to let each of them take as big a piece for the nickel as can be marked off provided that each one of them gets a piece containing just as many of the little squares as the other purchaser.

Like all good children they were very clever at puzzles and got good big pieces, but you will find it quite a puzzling problem to tell just how many of the small squares each got for a nickel.

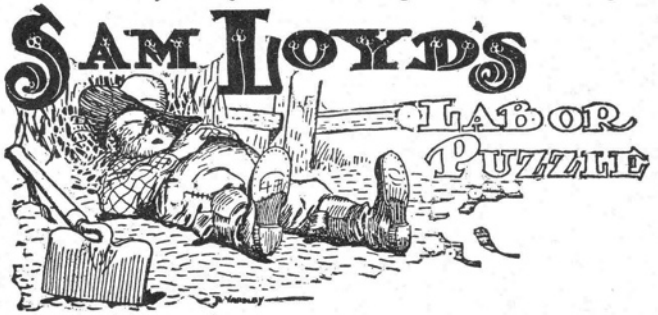
A Charade.

Productions first of various good,
For man and beast supplying food;
My next th' effect of cold or fear,
Or from the feather'd tribe we hear;
My whole strikes terror to the heart,
And awful rends my first apart.

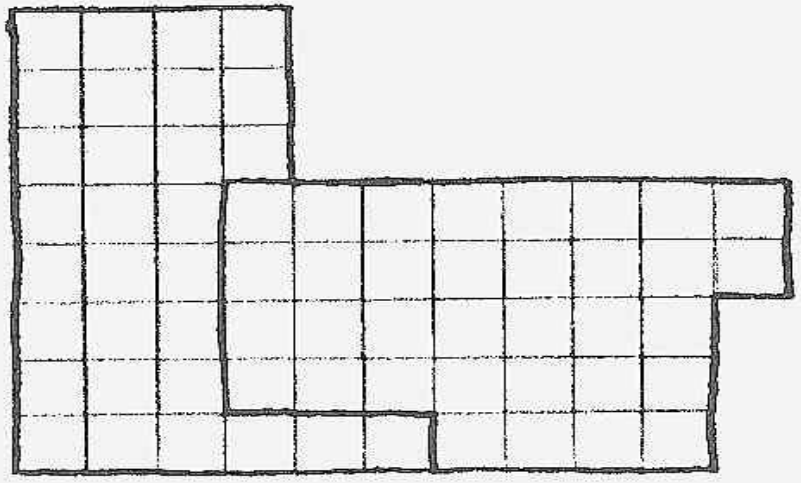
A Charade.

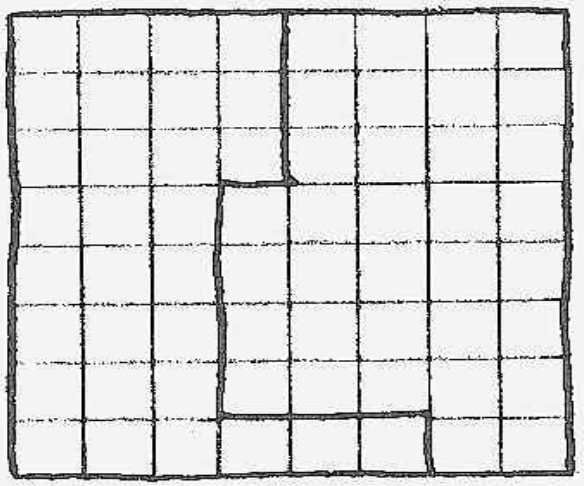
My first, ye fair, adorns your head,
You wear not any thing instead;
Within the convent's gloomy walls,
My second to devotion calls;
In July's eve, my whole is sound,
Decking, with azure tint, the ground

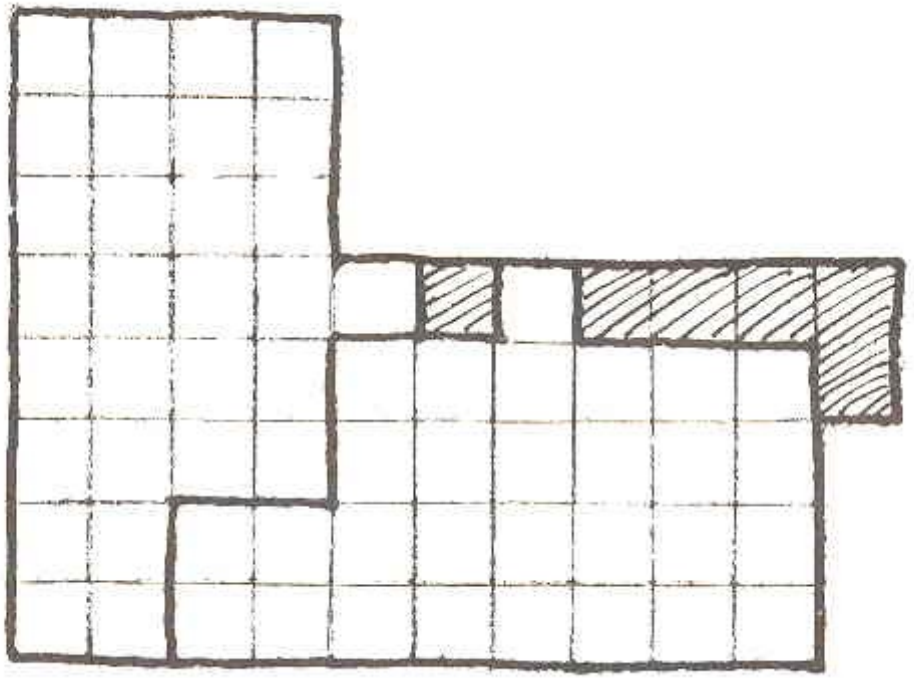
SAM LOYD'S LABOR PUZZLE



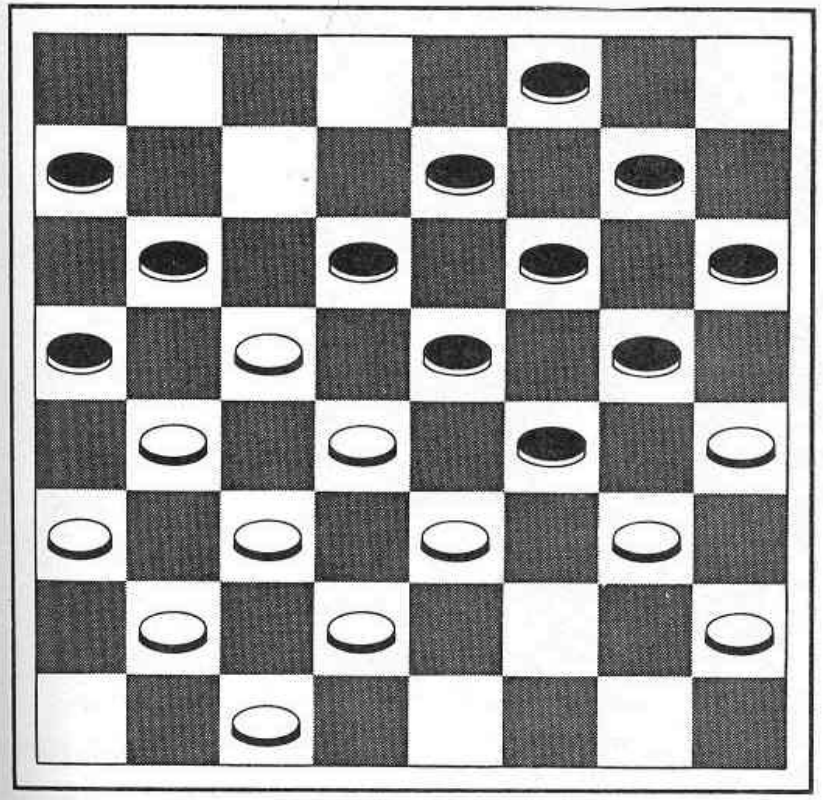
I asked Bill Sykes if he wanted to work, and he asked, "Why should I work?" "To earn money," I replied. "What's the use of earning money?" he said. "To save it up," I replied. "But what do I want to save money for?" he asked. "So that when you grow old you can rest," says I. "But I am growing old as fast as I wish now," says he, "and what's the use of working to rest when I can begin to rest right now?" I failed to convince him, but I got him to contract to just try for 30 days at 16 shillings a day, but stipulated that he would forfeit 20 shillings for every day he idled. At the end of the month, neither owed the other anything, which convinced Bill of the folly of labor. Can you tell just how much work Bill accomplished?







On p. 292, Loyd asks for the shortest game of checkers (= draughts). The shortest game with no captures takes 24 moves and this has been proven. But in 1978, a game of only 20 moves was found – White captures all the Black men. As of 1997, it was not known if this was the shortest game.

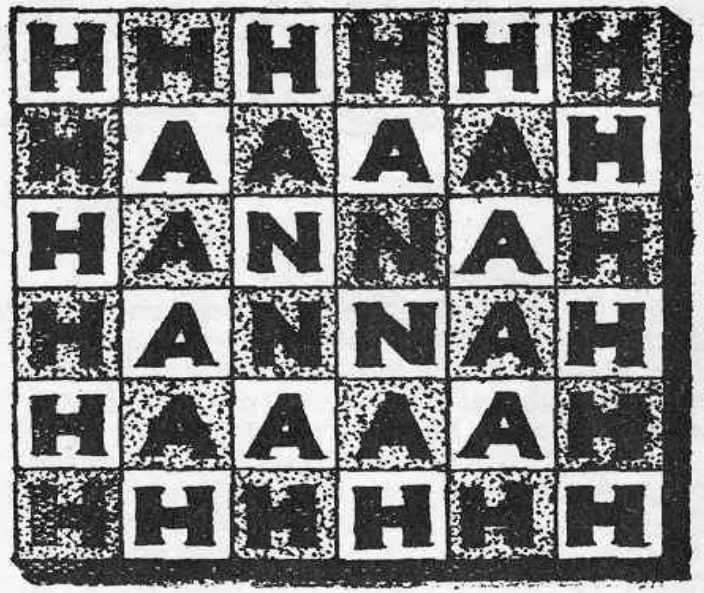


BLACK	WHITE
1. 9-13	24-20
2. 12-16	21-17
3. 10-15	23-18
4. 15-19	18-14
5. 8-12	25-21
6. 4-8	29-25
7. 6-10	27-23
8. 10-15	23-18
9. 2-6	31-27
10. 6-9	27-24
11. 1-6	32-27
12. 6-10	27-23

HANNAH

Here is an odd little puzzle in the form of a monogram, as shown, we also discover that we may begin and end at any point, and from that fact of each monogram being susceptible of being read upside down, as well as backwards, the puzzle becomes very confusing to determine just how many ways it can be read so that no two ways will be exactly alike, the only stipulation being that the letters must be adjacent, so that one is not permitted to slip across the diagram.

Here is a similar puzzle:



Loyd asserts HANNAH can be spelled 14,400 different ways!!

PROPOSITION---Tell how much they drank and how to divide the remainder into three equal portions.

HERE IS A JUGGLING trick, which occurred to a company of our boys in blue during the campaign in Cuba. It is merely an extension of the famous old story of the barrel of honey and a five and a three-gallon measure, into which you are to put four gallons of honey.

In this instance, the boys, who had been on a foraging expedition, captured, among other things, a ten-gallon keg of beer. They naturally sampled a part of it, and carried the remainder back to camp in three equal portions, viz., one portion in the keg and the other two portions in the three and five-gallon measures.

The puzzle is to show how much they drank, and how they measured out and divided the balance into three equal parts, without resorting to any other expedients except straight measuring, as is understood to govern juggling problems of this nature.

Question of Facts and Figures.

An authority on life insurance matters says: "It is incorrect to assume that reliable calculations cannot be made upon the probability of the length of life, for we know that even the health of the different cities has been figured down to an exact chance or probabilty, as can be demonstrated by the infallible laws of mathematics."

The distinguished actuary has fallen into the popular error of placing implicit confidence in the all-conquering power of figures, for noting that while it is true that "figures never lie," nevertheless, some liars will figure, and do not realize that there are many calculations pertaining to the principles of life insurance which will notyield to mathematics. No more unfortunate illustration could have been referred to than the health rate of cities; for the death rate in proportion to the population of a town has nothing whatever to do with the health of the place. If a certain locality were so healthy that no one died for fifty years, a new disease called old age must eventually develop and become so virulent as to produce a higher death rate. The only correct method of determining the health of a town or of a class of people must be based upon the average age of those who die.

Speaking about the infallibility of mathematics, my friend the actuary is challenged to figure out the value of my offer if I say: You may toss a cent and as soon as it falls head I will give you a prize. If it falls head on the first throw I will give you $100, but it does not fall head until the second throw, I will pay $200, or $400 if head first appears on the third fall, or$800 on the fourth throw, or $1,600 on the fifth, always doubling the prize until the head first appears.

It looks like a simple proposition, but no one can give even an approxmate value of the offer as originally made.

What affection do landlords most appreciate? Parental (pay-rental).

When day breaks, what becomes of the pieces? They go into mourning (morning).

Why are washerwomen the silliest of women? Because they put out their tubs to catch soft water when it rains hard.

Why is a book like a king? Because it has many pages.

When are two apples alike? When pared.

When a colored waiter drops a platter of roast turkey, why does it create a great continental disaster? Because it is the fall of Turkey, the overthrow of Greece, the ruin of Africa, and the breaking up of China.

When should an inn keeper visit a foundry? When he wants a barmaid.

Why is an author more remarkable than a cat? Because he is the owner of many tales and they all come out of his head.

Who are the men who have made their mark? Those who can't write.

That foraging trick was very simple for the boys. They first filled the 3, then pour the 3 into the 5; fill the 3 once more from the keg and pour out the 5, which leaves one

Baron Munchausen entertains our puzzlists with an exhibition of his wonderful animals. He is showing Princess Enigma his trained frogs which he calls "The Digits." He commands them to form a pyramid of nine frogs with the largest at the base, in the fewest possible number of hops, moving one frog at a time. At no time must a larger frog stand upon one of a smaller size, and the puzzle is to tell in just how few hops the feat can be performed. Numbers have been placed upon the frogs to make it easier to describe answers to the puzzle although it is only necessary to state the exact number of jumps required to perform the feat.

Little Tommy Riddle is showing the Baron's Scotch owl, which it will be remembered always made remarkable answers.

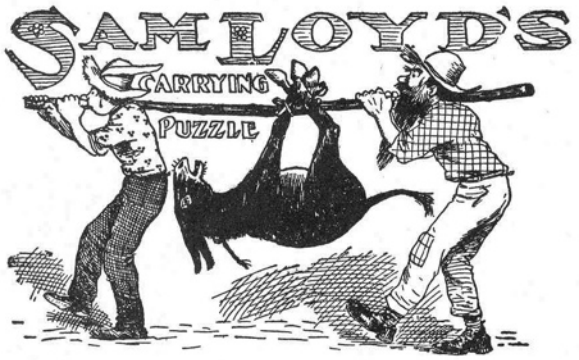
The Baron was a Scotchman and it is told that while journeying through the woods he met a wise owl and said to it, "Hoot Mon, Hoot," and the wise owl replied, 'Too Hot to Hoot," which was a most remarkable answer, for no one has yet been able to discover in how many ways that one phrase can be read in those wonderful words of the wise owl!

A Charade.

If from a reasonable quantity of my second, I frequently but judiciously take my first, it will materially contribute to my third.

A Charade.

You eat me, you drink me; describe me who can!
I'am sometimes a woman and sometimes a man?



Aesop tells how a father and son failing to ride their donkey in a way to please the public, finally decided to carry the beast.

They had not gone far, however, when they met the village schoolmaster, who explained that as the man was stronger than the boy, and the donkey weighed 220 lbs., they should adjust the position of the weight so that the man should carry 125 pounds and the boy but 95.

Where should the weight be hung if the distance from shoulder to shoulder was four feet?

Loyd's answer is “In Puzzleland, the king tells us that as written, the owl's wise remark can be read ten different ways.”

THE GROCER'S PUZZLE

WITH ONLY 5 AND 9 POUND WEIGHTS HOW CAN HE PUT HIS 20 POUNDS OF SUGAR INTO PACKAGES OF 2 POUNDS EACH?

Of course there are many ways of doing this puzzle; for example, weigh fourteen pounds of sugar by placing the five and nine pound weights on one side of the scales, so as to leave but six pounds of sugar in the large bag. Then, weighing out five pounds more from that six with the five-pound weight, we have but one pound left in the bag, which may be used as a weight to get two pounds in each bag.

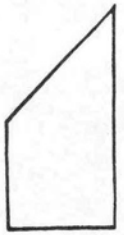
The puzzle, however, is to perform the feat in the fewest possible number of manipulations, so as to show the quickest way to do it.

A Rebus

If you, my whole, would now expound,
You'll find the form is mostly round;
Cut off my head, you then will find,
I'm not before, but come behind.
And if again my head you sever,
You'll find me still in pool or river.

Cipher Answer.—13, 8, 5, 5, 12.

A Tailor's Problem.



Here are two pretty puzzles belonging to the one design. A tailor had a remnant of cloth which he wished to cut into four pieces of the same shape and size. Show how he performed the feat by marking out a similar design. The second is a cutting puzzle. Take a piece of paper of the same shape and cut it into the fewest possible pieces which will fit together so as to make a perfect square.

A Rebus

My first, I must own, is duplicity's self,
A granted permission my second will name;
My whole will exhibit a privileged elf,
To encircle a part of your delicate frame.

Cipher Answer.—2, 18, 1, 3, 5, 12, 5, 20.

A Charade

In battlefield when front to front,
Contending armies bear the brunt,
My first is in the fray;
If e'er with quantities perplexed,
You gents may measure with my next,
Or with my total weigh.

Why is a fish hook like a horse? They both need baiting.

SAM LOYD'S

Neither Loyd nor Gardner gives a solution. Here is a solution of mine.

Weigh a bag of 9. Weigh 5 from it, leaving 4 in the bag. Using the scales, divide this in two equal amounts, which allows us to weight the rest into 2lb bags.