

King Puzzlepate visits the Darktown Kindergarten and finds that Prof. Johnsing is having trouble with his class of pickaninnies, who have taken the liberty of constructing a checkerboard out of the back of his coat! He is ordering the champion of that checker club to patch up the coat or suffer dire consequences. Of course, it is a very simple problem; nevertheless, you, as well as the members of the chess and checker clubs, are invited to assist in the replacing of those eight pieces.

In the second puzzle Tommy Riddles and the Princess have discovered a problem in simple addition on the blackboard, where the figures 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 are represented by the letters A, B, C, D, E, F, G, H, I, J. Can you find out by rule or experiment which letters represent the numbers, so that substituting figures for letters on the blackboard the sum will prove to be correct?

A Charade.

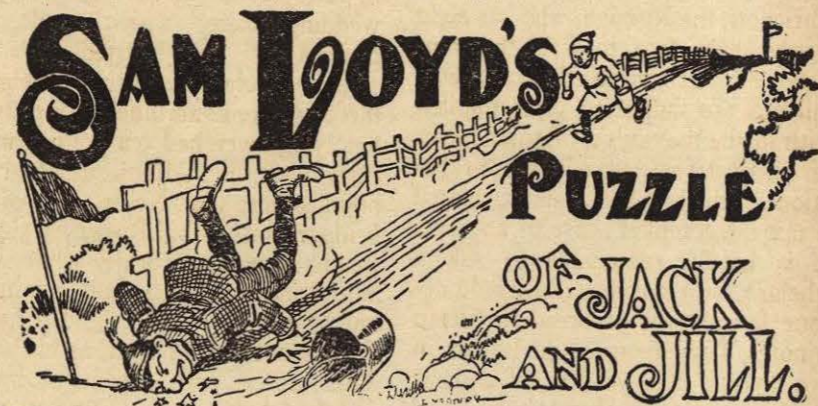
When scudding with a pleasant breeze,
Jack calls my first his friend;
Drinks to my next and is at ease,
Such hours he loves to spend.
But when my first doth chance to fail,
Or otherwise doth prove;
Straight from my whole to furl each sail,
With haste the tar will move.

A Charade.

My first is a term that's distinctive of joy,
For all plans that are form'd it has power to destroy
'Tis fear'd in the palace as well as the cot.
And yet had a hand in the gunpowder plot.
My second of life has been sometimes the bane,
And still has a mighty effect on the brain.
I scarce know what order my whole now must rank
But I yet declare it is nought but a blank.

A Charade.

My first, tho' a small, is a most useful word,
And there's scarcely a page where it has not occur'd.
My next, to the cattle and corn is a guard.
And should it be wanting, they all may be marr'd:
My whole I'd not give, nor would willingly take,
Consider and weigh, it may be a mistake;
For things do not always appear as they are,
And who judges too rashly may fall in a snare.



Here is a pretty puzzle from Mother Goose's story of Jack and Jill's race for a pail of water. The distance to the top of the hill was 440 yards, which is just a quarter of a mile. Jack got to the top first and was 20 yards on the return trip

when he met Jill whom he beat home by half a minute. The record of the race is complicated by the runners being able to run down hill one-half again faster than they ran up, so you are asked to figure out Jack's time for the half mile run.



Mathematical professors say that if three cats catch three rats in three minutes, they catch one rat every minute; therefore, "the same three old cats" would catch one hundred rats in one hundred minutes, being just one rat per minute.

This is the correct school teacher's answer, and no other can be given, but the terrible little scholar with the big head wishes to ask the teacher a simple question, just for information: "If three cats will catch three rats in three minutes, how long would it take them to catch four?" How long would that rat last with three cats after him?

Just take a look at the picture as it was given, and remove the front rats. The teacher says there is nothing stated in the proposition upon which to build a hypothesis regarding the staying qualities of a single rat opposed to three cats. "Then," asks the terrible scholar, "where does it differ from the first proposition of a hundred rats, for after the cats have disposed of ninety-nine rats on schedule time, what will they do to that last rat? One cat kills a rat in three minutes, but how long would it take three cats to kill the same rat?"

Then the terrible scholar asked the teacher: "If a pedestrian with five toes on each foot can walk a mile in eight minutes, how long would it take Ohrlenoff, the Russian, who has eight toes on each foot, to walk the same distance? Of course all good school children are taught to place implicit faith in the maxim that figures never lie, and yet some well-known propositions of the text books are calculated to tax the common sense of any one. It is hardly reasonable to ask a scholar: "If a starving man could devour four loaves of bread in fifteen minutes, how many could he eat in two hours?" and yet the cat and rat problem is very similar.

If three cats will catch three rats in three minutes, how many cats will it take to kill one hundred rats in one hundred minutes?

A Rebus

My whole is always caused by pleasure;
Behold me, then I am a measure;
Take off my head once more, and I am found
In sacred church or edifice renowned.
Cipher Answer.—19, 13, 9, 12, 5.

Worth Their Weight in Gold.



Old Moneybags let it be known that he would endow his daughters with their weight in gold, so they were speedily suited with suitable suitors. They were all married on the same day, and before weighing in partook of some exceedingly heavy wedding cake, which made the grooms very light-hearted.

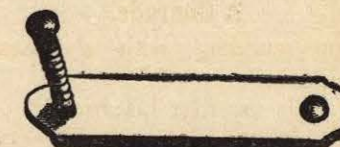
Collectively, the brides weighed three hundred and ninety-six pounds, but Nellie weighed ten pounds more than Kitty, and Minnie weighed ten pounds more than Nellie. One of the bridegrooms, John Brown, weighed just as much as his bride, while William Jones weighed half again as much as his bride, and Charles Robinson twice as much as his bride. The brides and grooms together weighed half a ton. But you need not bother about the weights of the brides, for the puzzle for you to solve is to tell the full names of the several brides after the wedding.



This odd little puzzle-game, which is played between two persons, playing turn about, with the one counter, is calculated to sharpen the wits and teach you to figure quickly. Place a marker on any one of the numbers shown on the hand, and call out that number (say 5). Your opponent moves it to any other number (say 4), and adding them together calls out 9. Then you go back to 5, and call 14, and so the game goes on until one of them makes exactly 35, and wins. If either is forced to go above 35, she or he will be an old maid or bachelor, as the case may be.

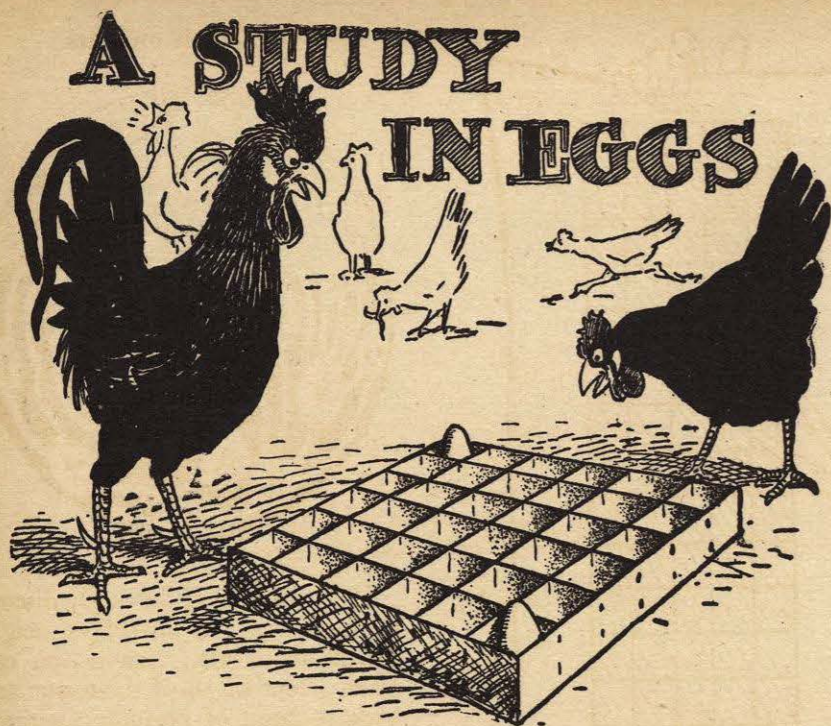
The game can be played very nicely with a ring which is changed from one finger to another alternately by the players as described above, remembering that the thumb always counts 5, the first finger 1, etc. This is an innocent little game played just for fun, not at all like the real game, where the placing of a ring on the third finger may place you under the girl's thumb for the rest of your mortal life!

Now, what is the best number to begin with? As Hamlet says, that is the question.



A Clever Riddle.

Here is a catch, fastened with two screws; can you tell why one screw is just like the other?



A STUDY IN EGGS

PROF. BURBANKS, who developed the seedless orange and coreless apple, and proved that figs might grow on thistles and that leopards can change their spots by lying down on some other spots has been playing all sorts of pranks with his domestic fowls. He has produced a brand of nestless chickens who are trained to fill up a crate of eggs without the useless intermediary nests, thereby saving the labor of packing and counting.

Each hen keeps account of her own eggs by making it a rule never to lay more than two eggs in line in any possible direction, up and down, right and left, or on the diagonals. This is a very pretty puzzle, which restricts, or sort of unionizes the work of the hens, and betrays a higher intelligence than is developed by the goose, who cannot be taught to perform the feat.

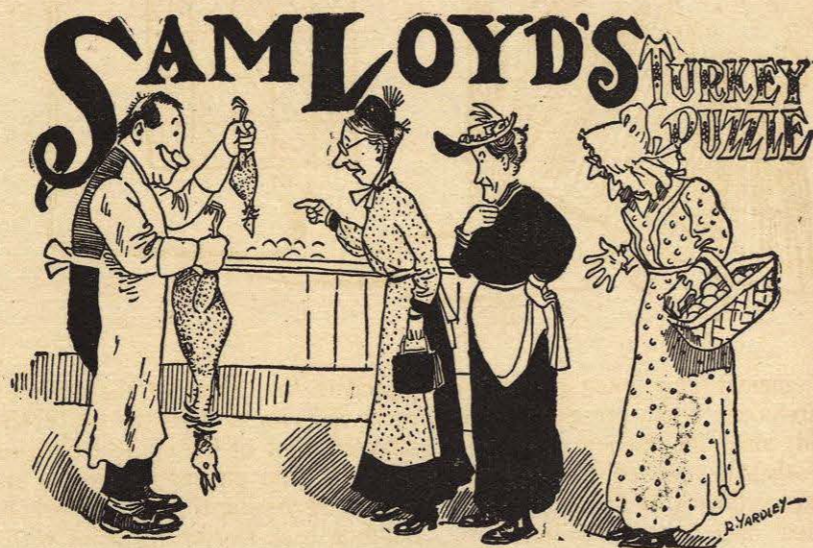
Can you tell how many eggs it is possible to place in the above 6x6 crate without having more than two eggs in a row? We have placed the two first in a row on the bias, as the ladies term it, so you must place no more on that diagonal, but as

"The little black rooster said to his mate, 'Do what you can to fill up the crate.'"

A Rebus

My blooming first comes once a year,
And only once, the mind to cheer;
My next comes with the rising sun,
And dies when his course has run.
My whole is hail'd by old and young
With garland and with festive song.

Cipher Answer.—13, 1, 25, 4, 1, 25.



Here is a seasonable problem developed from a chance meeting of two shoppers at the poultry market. Mrs. O'Flaherty explains that she purchased some turkeys at twenty-four cents a pound, and the same weight in geese at eighteen cents a pound. Mrs. Smith tells her that she

might have gained two pounds by following the rule given in "Hints to Boarding-house Keepers," which says: "For Christmas divide the money evenly between turkey and goose."

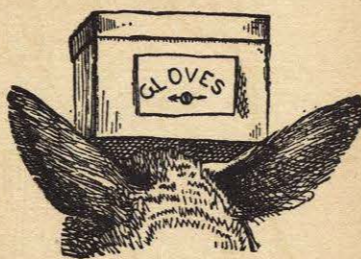
What was the amount of the purchase?

Good Advice



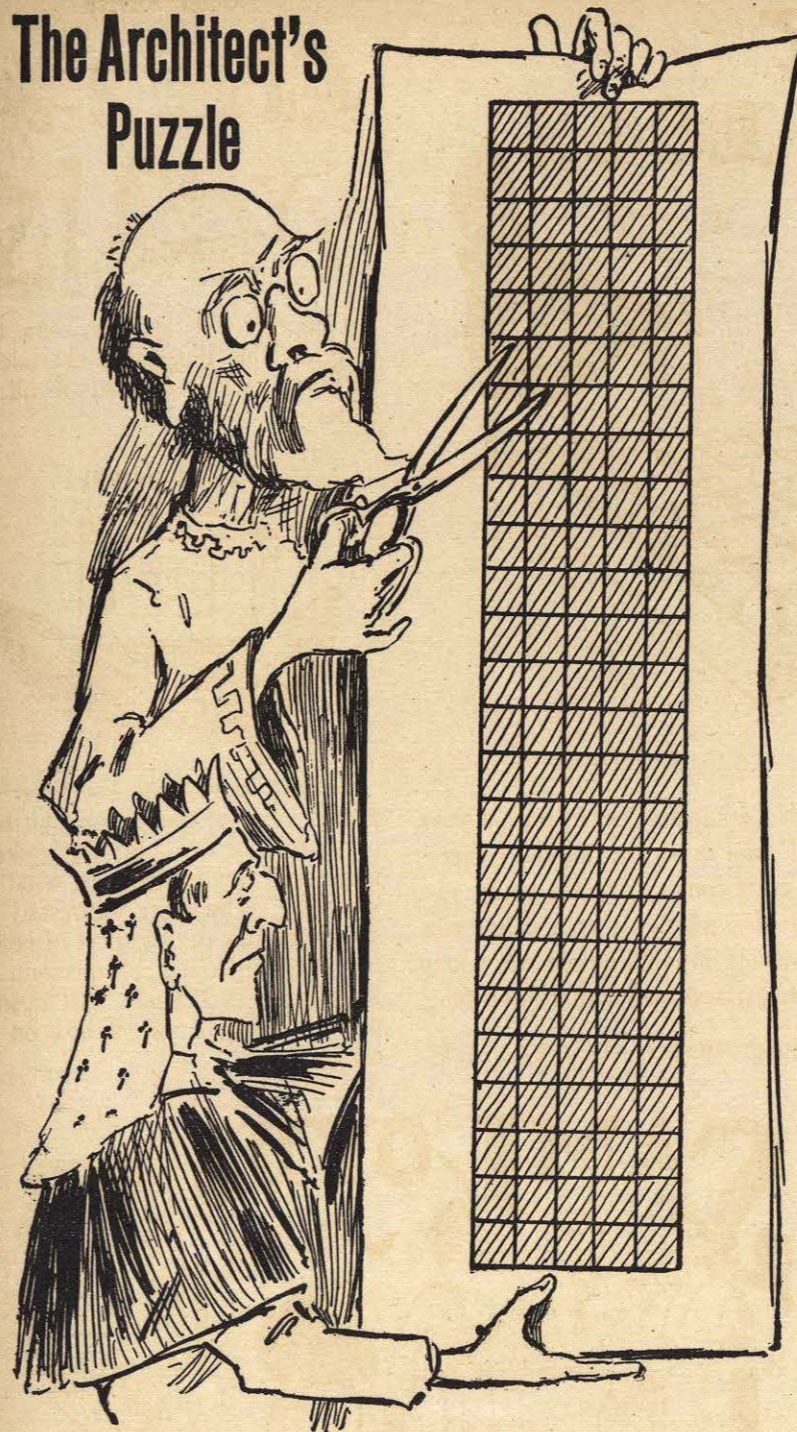
I hope it will take you some time to guess this illustrated charade, so that you will remember it all the better.

A Conundrum



Sammy knew that his sister expected a box of gloves for a birthday present, so he drew the above sketch and asked her if that was what she wanted. When she expressed her satisfaction at the prospect of receiving such an acceptable present, the little brute exclaimed: "All right; I promise to give you a box on the ears."

The Architect's Puzzle



An ancient king once called for his architect and, presenting the ground plan for a new dungeon, stated that he wished to have the plan so modified that the gaoler, who occupied one of the corner cells, could make the rounds of the prison by the most direct route.

The royal architect picked up a pair of scissors and, remarking that he had been familiar with the interior of gaols during his early life, cut the plan in two pieces, which he fitted together, saying, "By this arrangement the same amount of ground is covered, the doors are

placed in the center of the walls of each cell, so as to give an unobstructed view of the entire length of the cells, and an opportunity is afforded of passing through the whole building back to starting point without visiting any cell more than once." Show the improved plan and suggested tour of the warder.

A Charade

My first in half my second, just,
Oh, false and traitorous second;
My total dwell in silent shades,
Purity's emblem reckon'd.
Cipher Answer.—12, 9, 12, 9, 5, 19.

The Canals on Mars



Here is a map of the newly discovered waterways in our nearest neighbor planet, Mars. See if you can make a tour of all of the towns and back to point of beginning without going through any one spot twice. Commence at the south pole from the letter T, spell a complete sentence, using each letter once. The puzzle was sent to a leading magazine, where over fifty thousand correspondents unanimously reported: "There is no possible way," and yet it is a very simple puzzle.

Illustrated Charade.

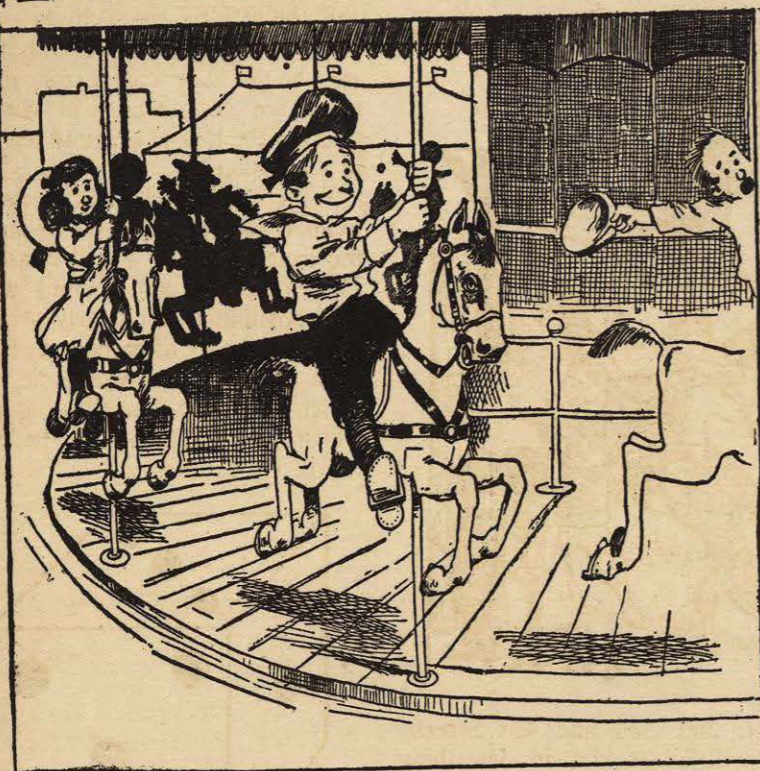


Here are the names of three New England towns given in pictorial language; can you guess them?

A Rebus

My first is a measure of space,
My second is a part of a tree;
My whole is but half of my first
And is frequently seen when at sea.
Cipher Answer.—25, 1, 18, 4, 1, 18, 13.

MERRY GO ROUND PUZZLE



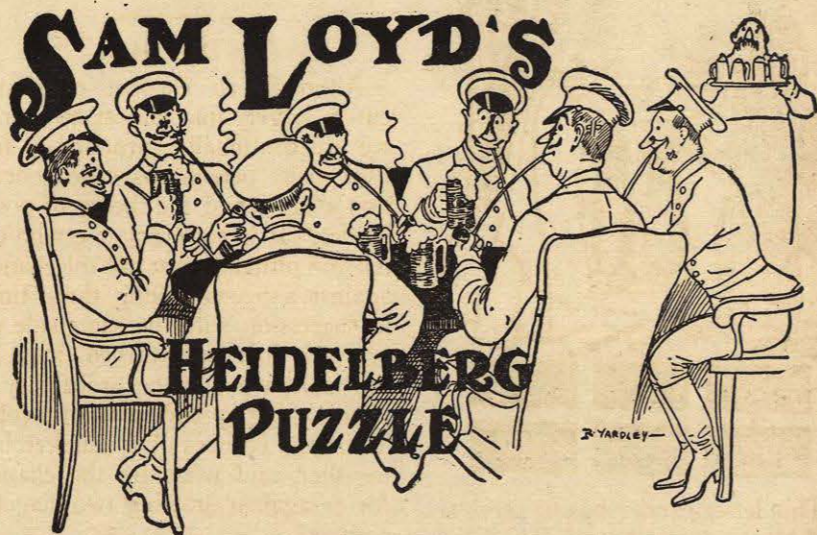
While enjoying a giddy ride at the carousel Sammy propounded a puzzle which reflects much credit to his mental abilities. "One third of the number of kids riding ahead of me, added to three-quarters of those riding behind me gives the correct number of children on this merry-go-round" is the way he puts it; but it will puzzle you quite a little to tell just how many riders there were at this whirligig circus.

A Rebus.

With the Lord of Creation
A vowel combined,
Is no small decoration
To some animal kind;
And the poet's ambition
You'll quickly disclose,
If with all expedition
You rightly transpose.

Deign again to transpose me,
'Tis full worth your while;
For you then will expose me
Detested and vile.
Now the same operation
A third time repeat,
And each one supplication
I render complete.
Cipher Answer.—13, 1, 14, 5.

A Charade
If a squeeze you'll combine with a sign,
A metal you'll have, not found in a mine.
Cipher Answer.—16, 9, 14, 3, 8, 2, 5, 3, 11.



At a recent Heidelberg drinking bout between the Red Caps and the Blues, each student invited all the others to pledge his good health in flowing bumpers of beer. There

The Frenchman's Effort.



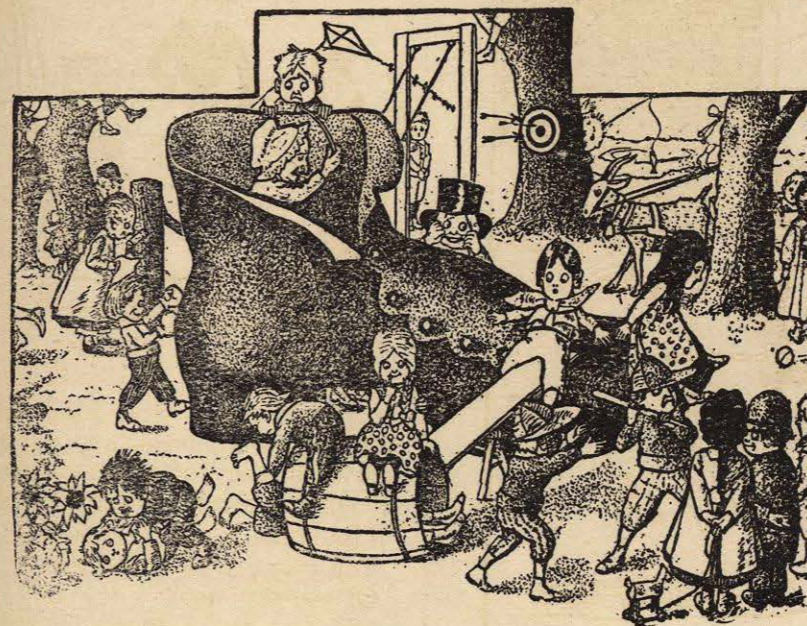
Here is one of those happy little incidents which break into the monotony of our hum-drum existence, and proves, as Shakespeare says, that "Life is but a Nickel-in-the-Slot. You may get the Tuti-Fruti, Or you may not."

At the table of Madame O'Flaherty's pension francaise, the Count says to the graceful lady of the house:

"Ah, Madame, I find one of your beautiful rabbits in ze goat!"
It was not a "bon mot;" but only the efforts of a foreigner struggling with the difficulties of our language, endeavoring to manufacture conversation. But what did the Count wish to say?

were less than two dozen students present, and yet the Red Caps collectively drank one hundred and eight more steins than the Blue Caps, so you are asked to tell how much beer was consumed altogether.

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?

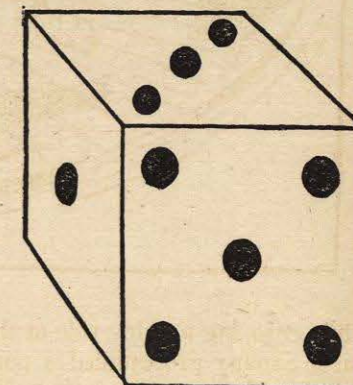
The Dice Game

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?

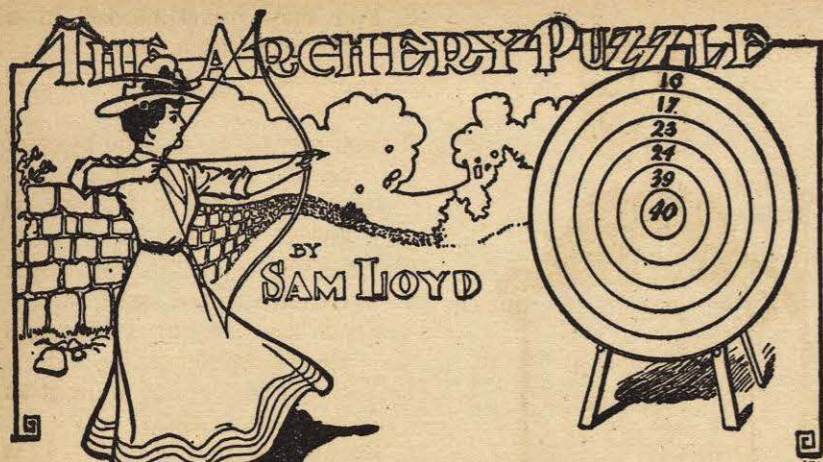
I asked a noted sportsman the other day what were the chances in favor of correctly guessing the toss of a penny ten times in succession. He replied that he did not believe that such a thing could happen in a lifetime. And yet, if a little pitch-penny tournament were inaugurated

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?



HOW CLOSE CAN THE YOUNG ARCHER COME TO SCORING A TOTAL OF 100 - USING AS MANY ARROWS AS SHE PLEASES?

Here is an odd little puzzle which occurred the other day at an archery meeting. The young lady who carried off the first prize scored exactly one hundred points. Can you figure out how many arrows she must have used to accomplish the feat?

The Recess Hour



I note with considerable amusement that when one of our great inventors was asked regarding the study which benefited him most during his school days, he replied that he "picked up the most useful information during recess."

It is safe to say that the fun, sport and exchange of bright ideas between a lot of romping scholars does as much to sharpen the wits and inject vim and go into a boy's character as does arithmetic or geography. We never forget the jokes and tricks of the recess hour, and on the time-honored maxims of "once a puzzlist, always a puzzlist," to pass them along to the second and third generations. I give a little puzzle which comes up with pleasant recollections of the long ago.

A bright lad challenges his classmates to give a figurative answer as to what a fellow should do when he has forgotten his lunch? The "figurative" answer is shown on the

blackboard.

Can you decipher it? I see that he has that famous old puzzle on the blackboard; four squares built with eight marks: change the positions of four of the marks so as to leave but three squares.

It reminds me of Captain Fred Burnaby's experience in an Armenian school as related in his book, "On Horseback Through Asia Minor." He says: "The following day I went to see the Armenian school.

"Perhaps you would like to ask the boys some questions?" said a priest who accompanied me through the building.

"Now, if there is one thing I dis-

like, it is being turned into an examiner, so I hesitated.

"Well," said the priest, a little impatiently, "they are waiting for you."

"There was a dead pause, and then I gave the worthy divine the following question: If one man can mow a field in three days, and another man in four, how long will they be doing the work if they are both working together?"

"Come," said the divine, "you have set them a very easy sum," and he duly translated it into Armenian.

"It is hardly worth doing," said one of the schoolmasters, "for, of course, the answer is three and a half."

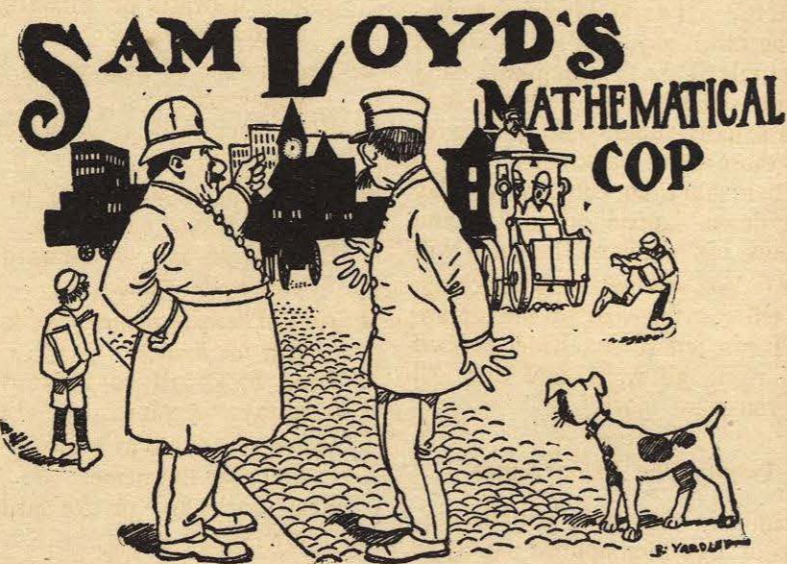
"Of course, three and a half," said the priest.

"No," I replied, and I breathed more freely on arriving in the open air, and blessed my old master, who had once set me that catch question, for my reputation as a profound mathematician was established among the schoolboys in Yuzgat."

A Rebus

A dirty, idle race are we,
As sots in us their image see;
But place the head upon the tail,
And when we're advertised for sale,
Let sons of luxury beware!
Distinction speeds a tempting snare.

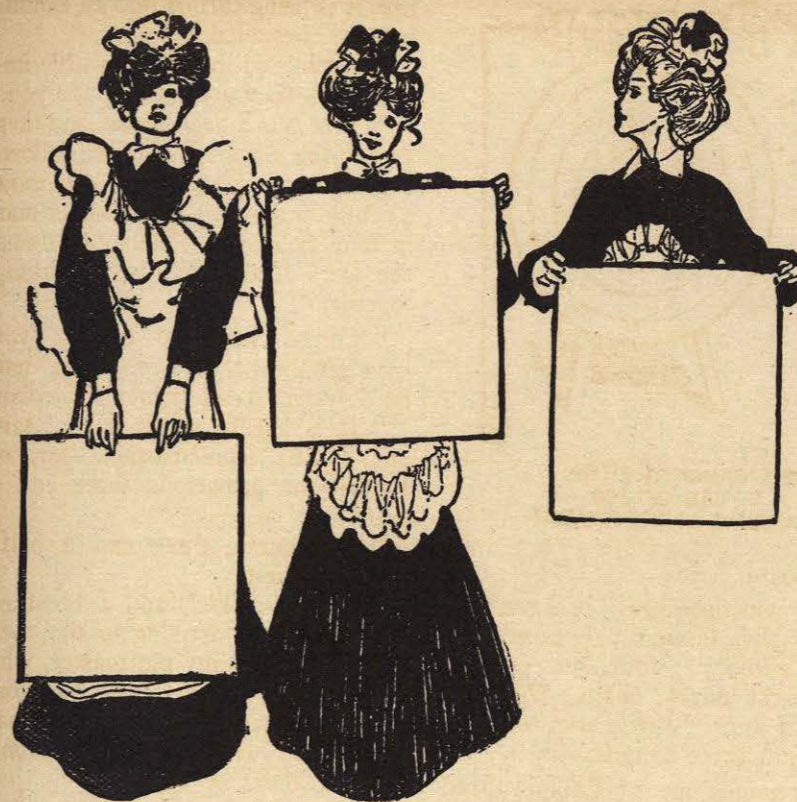
Cipher Answer.—19, 23, 9, 14, 5.



"The top of the mornin' to you; can you tell the time on that clock?" asked McGuire of his friend Clancy, who was known on the force as the mathematical cop. "I can do that same," replied Clancy. "Just add

one quarter the time from midnight till now to half the time from now till midnight, and it will give the correct time."

Can you figure out the exact time when this conversation occurred?



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.

8. You may travel abroad in a carriage whose name, Read backward or forward, is always the same.
9. You may pass o'er a flat piece of country whose name, Read backward or forward, is always the same.
10. When the lamb trots about by a creature whose name, Read backward or forward, is always the same.
11. You may go out and walk at an hour whose name, Read backward or forward, is always the same.
12. You may ride at a time that is later, whose name, Read backward or forward, is always the same.
13. If you shoot off a gun, you'll hear something whose name, Read backward or forward, is always the same.
14. And your dog may hunt well, for no longer his name, Read backward or forward, is always the same.
15. Your bird, too, may sicken of something whose name, Read backward or forward, is always the same.
16. You may quaff of a drink, made of wheat, and its name, Read backward or forward, is always the same.
17. Or stare at a giant, whose little, wee name, Read backward or forward, is always the same.
18. But this you can't do without something whose name, Read backward or forward, is always the same.
19. Whatever your doctrine or dogma, its name, Read backward or forward, is always the same.
20. Do but take a sly look, and of this, too, the name, Read backward or forward, is always the same.
21. Nay, whatever is done, still believe me, its name, Read backward or forward, is always the same.

A Rebus

I'm cold and hard, and aid the bold,
Then take me and transpose;
I'm damp and wet, and still more cold,
The comrade of the snows.
Cipher Answer.—19, 20, 5, 5, 12