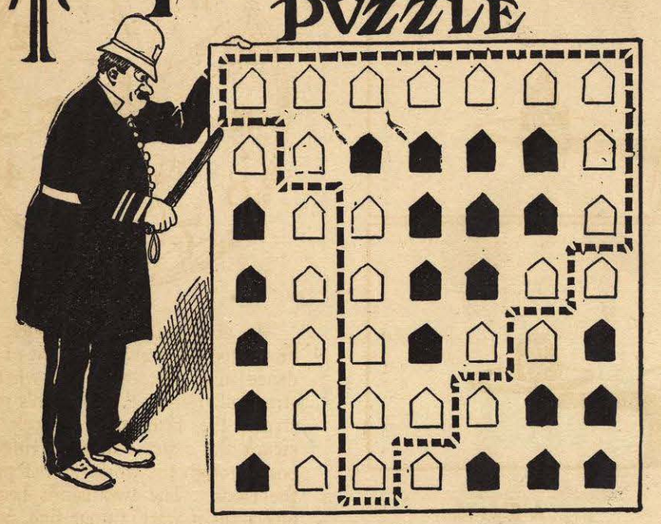
THE PATROLMAN'S PUZZLE



HERE'S a problem which has been puzzling Clancy ever since he got on the force. He has made a diagram of the situation and asks for the assistance of our clever puzzlists. He patrols seven blocks of the eighth ward, beginning and ending his nightly tour from the point he is indicating at the corner of Avenue A and Second Street. His orders are to patrol an uneven number of blocks on each street and avenue, so, as shown by the route, he goes either one, three, five or seven blocks before he turns. He knows all the servant girls in the houses he passes and some of them he says are right smart and pert, but before he selects a wife he would like to extend his route so at to discover a dark eyed beauty named Maggie Murphy, who he thinks lives in one of the houses off of his beat. You see he only passes those white houses and he wishes to find a route which complies to the regulations about only going an odd number of blocks on each avenue and street but will take him past the greatest possible number of houses.

Now, see if you can aid Clancy in the search for Maggie Murphy's home.

A Charade

Behead something irritating and leave something soothing.

Cipher Answer.—20, 5, 1, 19, 9, 14, 7.

A Charade.

My first is a creature of wonderful form;
My second gives shelter in sunshine and storm;
The empire of Flora embraces my whole,
Entire you may find me where sea-billows roll.

A Rebus.

Whether backwards or forwards I'm read,
Matters to me not a bit;
I am gentle and light, and transposed
Am ever ready and fit.

A Charade

Aristides had, of Grecian fame,
My first appended to his name!
Where Boreas reigns my next is found,
Immersed in ocean's depths profound;
My whole the balance rightly scans,
And baffles Fraud's unhallowed plans!

Cipher Answer.—10, 21, 19, 20, 9, 3, 5.

A Rebus

Four letters form me quite complete,
As all who breathe do show;
Reversed, you'll find I am the seat
Of infamy and woe.
Transposed once more, I oft am seen mean,
My name betrays my race;
Transposed once more, I ofte am seen
To hide a lovely face.

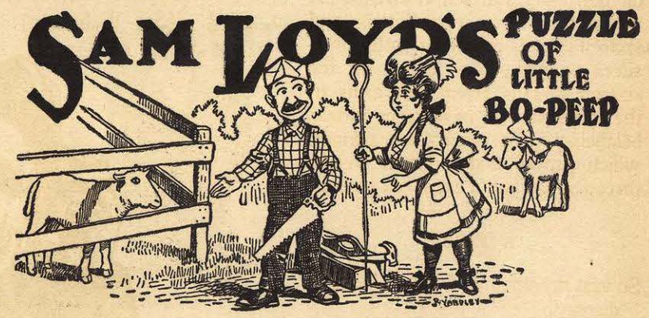
Cipher Answer.—12, 9, 22, 5.

A Charade.

Enchain my vile first for the general weal,
That a nation's sad wounds may have leisure to heal;
Encage my fierce next, but he springs from his lair,
And gives thee for combat no time to prepare;
Suppress my dire whole, lest, before thy shocked gaze
Each smouldering spark burst into a blaze.

Cipher Answer.—18, 5, 2, 12, 12, 9, 15, 14.

SAM LOYD'S PUZZLE OF LITTLE BO-PEEP

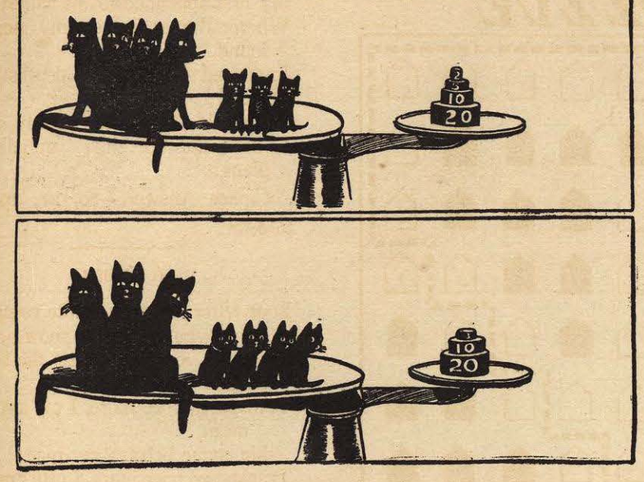


While discussing the problem of squaring an oblong, let us tell of a practical experience which befell our little friend Bo-Peep.

According to authorities on Mother Goose the carpenter who constructed the sheepfold for Miss Bo-Peep discovered that he could save two posts by making the fold square instead of oblong. "Either way would hold the same number of sheep," said the clever mechanic, "but the square thing is to have a post for every sheep to tie to!"

How many sheep must there have been in this famous flock?

CATS AND KITTENS PUZZLE



Elementary Lessons in Algebra.

Seeing that four cats and three kittens weigh thirty-seven pounds, while three cats and four kittens weigh but thirty-three pounds, we are asked to tell the respective weight of cats and kittens.

By inspection we see that the upper scale contains one more cat and one less kitten than the lower scale, and the difference is four pounds. One of the kittens in the lower scale suddenly grows into a cat and gains four pounds, so the difference between a cat and a kitten being four pounds, let us change all of the cats on the upper scales into kittens. It would then have seven kittens and sixteen pounds balancing with thirty-seven pounds. Now cancel off the sixteen pounds from both arms of the scales and we have seven kittens balancing with twenty-one pounds, which proves that a kitten weighs three pounds and a cat seven pounds.

A Rebus

So vast my amount fills the mind with dismay!
Behead me and thus take a thousand away;
Reverse what remains, and I'll daily dispense
To thousands the gift of a kind Providence.

A Charade.

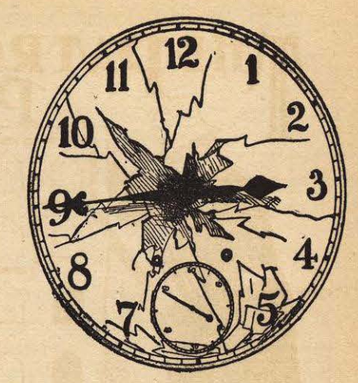
In fruitful field my first they grew,
My busy next there labored, too;
A hardy race my whole you'll find,
To husbandry and peace inclined.

Cipher Answer.—16, 5, 1, 19, 1, 14, 20, 19.

A Rebus

Behead a nail of stubborn steel,
A useful lesson to reveal,
In sacred records found;
Behead again, then at your will,
With art and perseverance till
Your grain producing ground.

Cipher Answer.—19, 16, 1, 18, 1, 2, 12, 5. (See Webster's.)



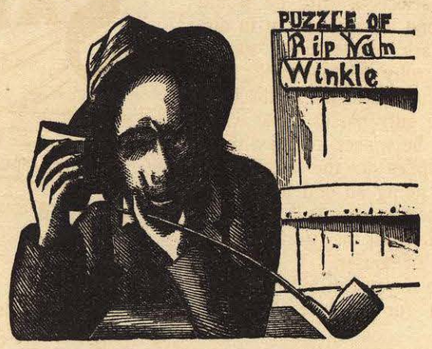
The above picture of a clock dial illustrated the important point of evidence in a detective story where a stray bullet from the assassin's pistol struck the face of the clock. It struck the exact center, driving the post through the works and stopping the clock. The two hands became united, as it were, in one line, pointing in opposite directions, although not in the position shown, for it is evident that the hand could not point at three and nine at the same time.

Can you tell what time of day it must have been, thereby proving an alibi for the hero who wishes to show that he was eating a plate of pig's knuckles in Hoboken at the time the pistol was fired in Sir Reginald's flat in Harlem?

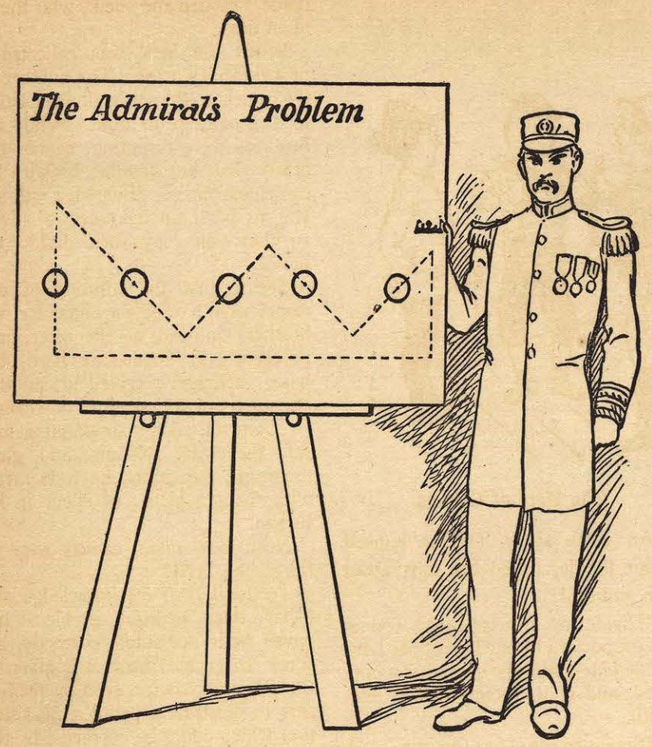
A Rebus.

To a liquid reversed add what measures each day,
And you'll have what delights both the grave and the gay.

Cipher Answer.—16, 1, 19, 20, 9, 13, 5.



Here is a picture of Rip Van Winkle and his dog Schneider. The puzzle is to find the dog, but it is chiefly interesting to me as showing a specimen of my early engraving—more than half a century ago!



Admiral Togo is showing how a battleship might pass through the exact center of the five rings and back to the starting point in just seven straight moves. But the admiral tells his class in naval strategy that the feat can be done in less than seven moves. The puzzle, therefore, is to show in how few straight marks the trick can be done.

An Illustrated Proverb.

Here is some valuable advice in pictorial form; the longer it takes you to guess it the better it will be impressed upon your memory.

A Rebus

My first mounts high when low you sleep;
My second's found within the deep;
And should you wish my whole to see,
You'll find it perched on yonder tree.

Cipher Answer.—19, 20, 1, 18, 12, 9, 14, 7.

A Rebus

My first a useful barrier is
My next from harm to keep;
My whole upon some ruined tower
Does through the night watch sleep.

Cipher Answer.—23, 1, 12, 12, 6, 12, 15, 23, 5, 18.

"How you was, Mr. Rastus Johnsing? Late spring we am havin'."

"Dat's so, Mandy; when de sausage comes out of its hole an sees his shadow, he goes back for another nap."

"Don't know what yo' talkin' 'bout, nigger; it's de ground hog what looks at his shadder."

"That's what I said, Mandy; isn't sausage ground hog?"

"You think yerself mighty smart, Mister Johnsing. I thought you were dead gone on chicken, but I guess it's for ————." Give the name of the animal that will complete this sentence.

Fun at Sing Sing.

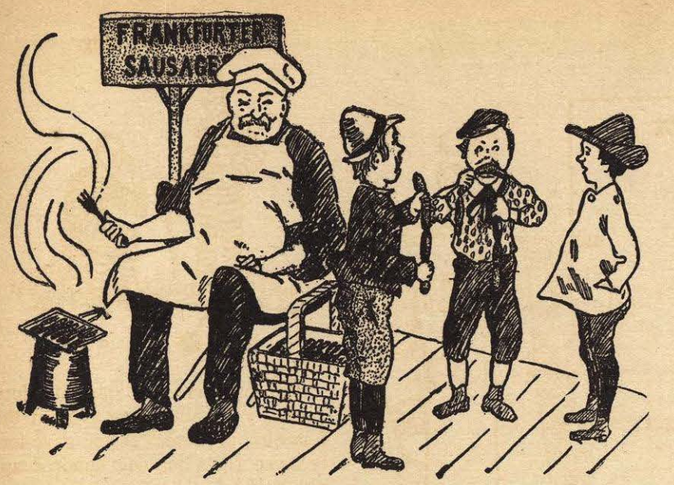
Two pals who did "pick it" duty (oakum) at Sing Sing evolved the following problem: "If you gave forty seven cents for one hundred apples, and sold them for seventy cents, what per cent profit would you make on your investment?"

Picture Puzzle

There is no such thing as a bad puzzle, for everything that incites interest and amuses is useful, as it trains the youthful mind to concentrate; but of all the styles of puzzles, pictures which conceal objects possess the least known merit. I do not know as they teach anything. Nevertheless, I recall some pleasant moments spent over this old puzzle long, long ago. How we little ones used to delight to show it to visitors and ask, "Can you tell who Fannie is offering the hay to?"

A Rebus

Here is a pictorial puzzle which you will be very smart to guess in ten minutes.



Here is a financial problem pertaining to partnership relations, profit and loss or partial payments which I would not have to propose if that clumsy Dutchman had not placed his head so as to obstruct a view of the price of frankfurters.

It appears that three little boys from Harlem lost their way to school, and in their frantic efforts to locate the school, if it was to be discovered within the extended boundary of the metropolis, found themselves at the lunch hour wandering aimlessly along the Bowery at Coney Island.

When they all met under the long pier to discuss the various products of the place it was found that Harry had secured four frankfurters and Tommy seven. To pay for his part of the banquet Jim chipped in eleven cents, which Harry and Tom proceeded to divide between the two, so as to equalize finances. It has a puzzling look to the mathematician, but to these young boys, fresh from school, it was no more trouble to divide eleven between two than it was to put eleven frankfurters into three. In fact, it did not take them an instant longer than it did to decide not to harrow the feelings of their parents by mentioning their misfortunes. What they told their teacher would be too complex a question for our puzzlists. The present problem is to show how eleven cents were divided equitably between Harry and Tommy, which you can readily do when you have figured out the price of frankfurters.

The Herd of Camels.

An Arab sheik, finding himself about to die, called his sons about him and said:

"Divide my camels among you in the proportion of one half of the herd to the eldest son, the second son one-third, and to the youngest son one-ninth.

Thereupon the oldest son cried: "O, my father, one-half, one-third, and one-ninth do not constitute a whole. To whom, therefore, shall the remainder of the herd be given?"

"To any poor man who may be standing by when the division is made," replied the sheik, who thereupon died.

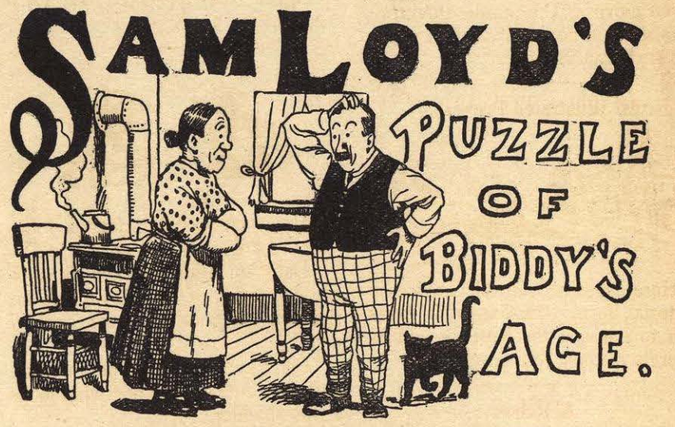
When the herd was collected a new difficulty arose. The number of the camels could not be divided either by two or three or nine. While the brothers were disputing, a poor but crafty Bedouin, standing by with his camel, exclaimed, "Behold, I will sell you my beast for ten pieces of silver, so that you may then divide the herd."

Seeing that the addition of one camel would solve the difficulty, the brothers jumped at the offer, and proceeded to divide the herd, but when each had received his allotted portion there yet remained one camel.

"I am the poor man standing by," said the crafty Bedouin, and, gaily mounting the camel, he rode away, with the ten pieces of silver in his turban.

Now, how many camels were in the sheik's herd?

To the best of my knowledge and belief this beautiful problem has never been presented correctly before. In garbled form it is given in the puzzle books, or even by professors to illustrate a paradoxical situation which could be corrected by the introduction of one more camel. They omit the all-important sentence, "Divide the camels in the proportion of one-half and one-third and one-ninth." That word "proportion" is the saving clause which makes the problem sound.



Biddy was very sensitive on the matter of her age. So for the last two score years she has invariably answered queries pertaining to her earthly sojourn by the following little verse, which was doubtless quite correct when first perpetrated:

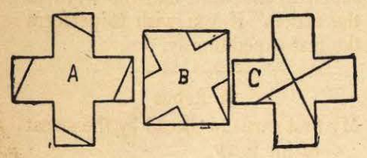
"Five times seven and seven times three
Add to my age and it will be
As far above six nines and four
As twice my years exceeds a score."

Can you tell Biddy's age?

The Greek Cross.

Eminent archaeologists and antiquarians like Le Plongeon, Schliemann, Prof. Wilson and others show that prehistoric man must have hit upon the crude sign of two crossed marks to indicate a human emblem, just as we in many instances employ peculiar brands or marks for similar purposes.

My present object, however, is to give a discourse upon those ancient emblems which have evolved the geometrical proportions of the Greek or mundane cross, which for upward of six thousand years has stood for the symbol of human intelligence, and is now recognized as representing science and mathematical exactitude. The symmetrical cross formed from five squares for thousands of years has been known as the Hindoo problem. By cutting it in five pieces, upon the principle of Euclid's forty-seven proposition, it will form a square. Almost all puzzle books give the scientific clipping of the four corners as shown by Fig. A to form the square B.



When a puzzle, however, can be done "a shorter way," "in fewer pieces," or in less moves," it is said to be "cooked," or, in puzzle language, "busted." Well, when I told the head of Harvard College that the symbol which was incorporated in the Harvard seal could be converted into a square by making four pieces instead of five, I was informed that the feat was impossible.

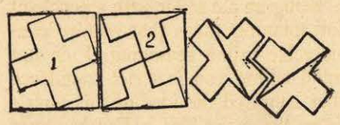
I used it as an advertising puzzle, offering a hundred dollars for the shortest method of converting the Greek cross into a square. Several hundred thousand answers were received employing five pieces, but not one answer that showed how to do it in four. Fig. C shows how the four pieces should be made.

I afterward discovered that there was an infinite number of answers, as the parallel cut may be made anywhere on the lines shown, and the perpendicular cut at any right-angled point of intersection.

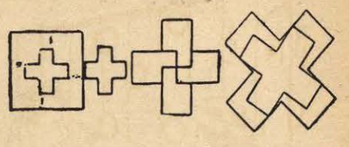
The four segments will always fit to form a perfect square, so the puzzle makers can exercise their ingenuity by introducing conditions or stipulations which will bar out all other answers but the one intended. In the illustrations given it is asked to divide a cross in four equal parts which will form a square. In a second puzzle it was said "to divide a cross, with two clips of the scissors, in four pieces, which will form a square."

There are numerous other problems connected with the symmetrical proportions of the Greek cross which make a most valuable lesson in the theory of all cutting puzzles.

A beautiful requirement is to divide a square in five pieces which will form two crosses. Fig. 1 shows how to produce five pieces which will form two crosses. The center piece makes a new cross, and the four outside pieces will form another. But, after the puzzle had become famous, I found a second way in one piece less, as shown in Fig. 2.



Another way to vary the stipulations so as to form a beautiful puzzle calls for the dividing of a square in five pieces which will form two crosses of different sizes.



First cut out the little cross, then divide the remainder in four parts which will form the large cross, as shown. The fourth figure shows the puzzle of cutting a cross in five pieces which will form two crosses of equal size, and is one of the most beautiful problems of the series.

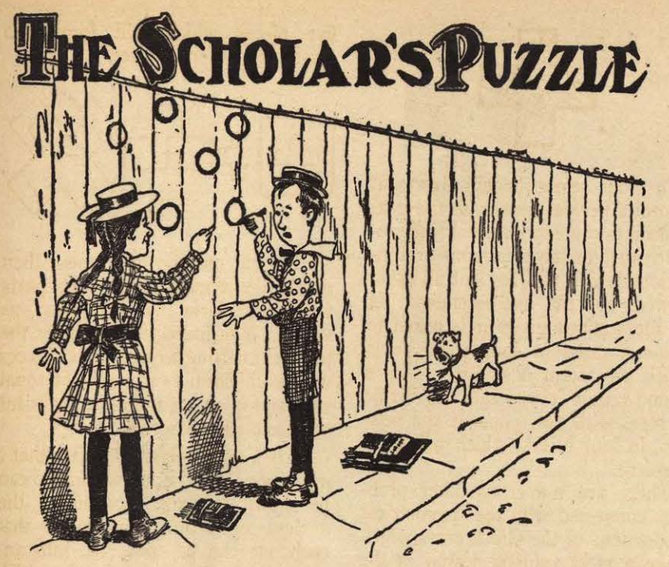
It is a most remarkable fact that a mysterious affinity or relationship can be shown to exist between all the ancient signs and symbols, in that each one can be converted into another by some subtle change which constitutes a clever puzzle. The Swastica can be changed into a square, the square into a cross, the cross into a triangle, an oblong or several crosses, and from these we can form a star, a crescent, oval, a monad, and from that a circle, which looks very much as if the squaring of the circle was one of the mysteries pertaining to the mystic signs and symbols.

A Puzzle.

My tongue is long, my breath is strong,
And yet I breed no strife.
My voice you hear both far and near,
And yet I have no life.
Cipher Answer.—2, 5, 12, 12.

In describing his experiences at a bargain sale, Smith says that half of his money was gone in just thirty minutes, so that he had pennies where he had dollars before, and but half as many dollars as before he had pennies. Now, how much did he spend?

THE SCHOLAR'S PUZZLE

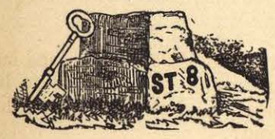


JENNIE was the brightest little girl in school; she carried off the highest honors in every branch of study, and, as a matter of fact, amused the entire school, teachers as well as scholars, with her clever tricks and puzzles. She met Joe the other day and showed him a new trick, which is just as pretty as it is clever. She drew six little rings on the fence and said: "Now you can only see two rows of three in a line as I have placed them, but I want you to mark out one ring and place it somewhere else, so as to show four rows of three in a line." What an easy puzzle! Just change the position of one ring so as to have four rows, instead of but two.

All puzzle books give that famous address that the person gave who wrote to

WOOD
JOHN
MANE

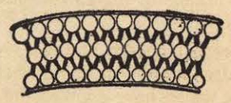
which it is said reached the intended destination of John Underwood, Andover, Maine; but they failed to mention that this printed letter here tells where the epistle was sent from:



If I am not very much mistaken the following illustration was intended to give an idea of the date.

The Kangaroo Puzzle

Being an old sailor with a penchant for spinning yarns that require considerable saline seasoning, I do not mind telling you in strict confidence that I pirated the idea of this puzzle from the taffrail of a Dutch jigger which I saw riding at anchor in the bay during my last trip to Australia. I jotted down in my notebook at the time the suggestion that there was a possibility of every word having a mechanical peculiarity of its own, susceptible of being illustrated in puzzle form. As a proper souvenir of the occasion I present the following sketch of the taffrail of that boat. The name was painted in the twelve upper rings, and I suggested to my companion that it would make a pretty puzzle to find in how few moves the name could be moved down to the lower row. Astonishing as it may appear, it is safe to say that all of our puzzlists will know the name of that Dutch jigger when they have solved the puzzle.



Select a word of twelve letters, and place the letters in their proper order in the upper row of the rings, one letter in each ring. Then move them down one step at a time, or jump one letter over another when possible, so as to spell the same word correctly in the lower row of rings, in the fewest possible moves. I think it was the jumping feature that suggested the name, or I might have described it as a Shakespearian puzzle, for though you may ask, "What's in a name?" you will find, as Hamlet says, "The play's the thing" wherein "to suit the action to the word and the word to the action," if you wish to perform the feat expeditiously.

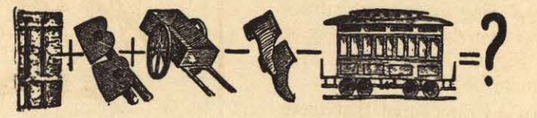
A Rebus

My first earns his bread by the sweat of his brow,
Till my second compels him to cease;
When, if wise, what he gained by my whole may allow
Him to spend his last days more at ease.
Cipher Answer.—16, 15, 18, 20, 5, 18, 1, 7, 5,

A Charade

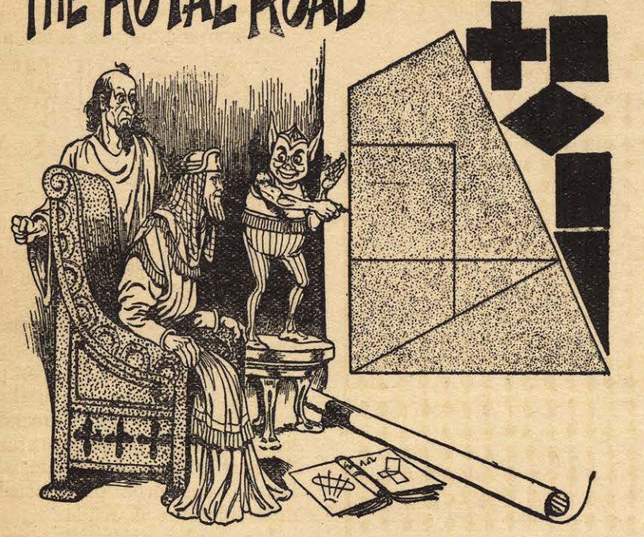
A well known tree transposed aright,
Will turn the darkness into light.
Cipher Answer.—16, 1, 12, 13.

Pictorial Algebra.



Here is an elementary study in arithmetic wherein you write down the names of all the articles, and then cancel out all the — articles so as to tell what remains. If you guess the names correctly it becomes a very simple puzzle.

THE ROYAL ROAD TO MATHEMATICS.



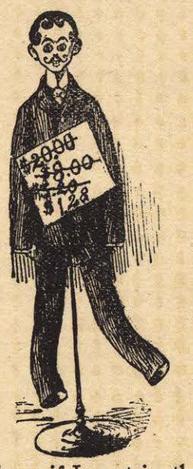
AGAIN I am forced to tell your Imperial Highness that the royal road to geometry has not yet been discovered," exclaimed Euclid to King Ptolemy, who had been dozing during a lecture on the elements of geometry.

"To illustrate the futility of knocking learning into a pupil's skull with a wormwood club," said Beppo, the court jester, "I make bold to volunteer a few soothing remarks.

"My learned friend has discoursed upon the six geometrical forms, the traprapezium, the square, greek cross, parallelogram or diamond, rectangle and triangle. The trapezium, he has told us is a geometrical form with four sides, no two of which are parallel. The shape was originated many years ago as the mainsail for a catamaran, the five other geometrical shapes will readily be recognized as the flags or ensigns of ancient yachts. The most interesting part of the whole business is that I can mark off the trapjezium into five parts, which form six wonderful puzzles. Cut these five pieces out of paper and it will be no easy task to rearrange them to form the trapezium. Then utilize all five of the pieces so as to form a perfect square! They will also fit together to make a greek cross. If properly placed they will make a perfect parallelogram, or a rectangle, or a right angled triangle.

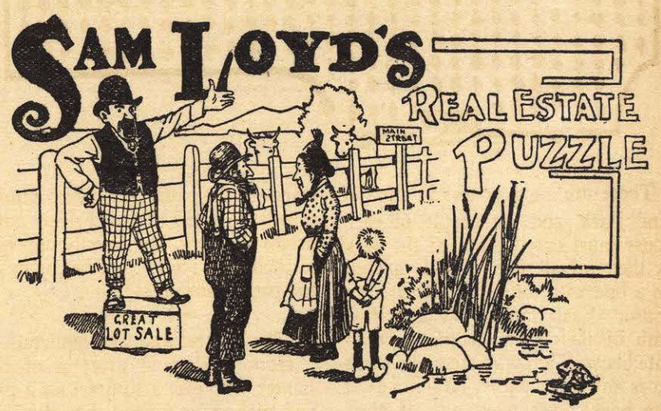
"Thus we have the six geometrical shapes illustrated by these five magical pieces, and it is safe to say that by the time you have guessed these six puzzles you will be pretty familiar with the geometrical form, and won't have gone to sleep over Euclid's eleven volumes either! All of the five pieces must be utilized in producing each of the patterns shown, just as in the case of the trapezium, and will go far towards teaching the mystic affinity or relationship between the different geometrical forms as treated by ancient occult writers."

A Remarkable Cut Price Puzzle.



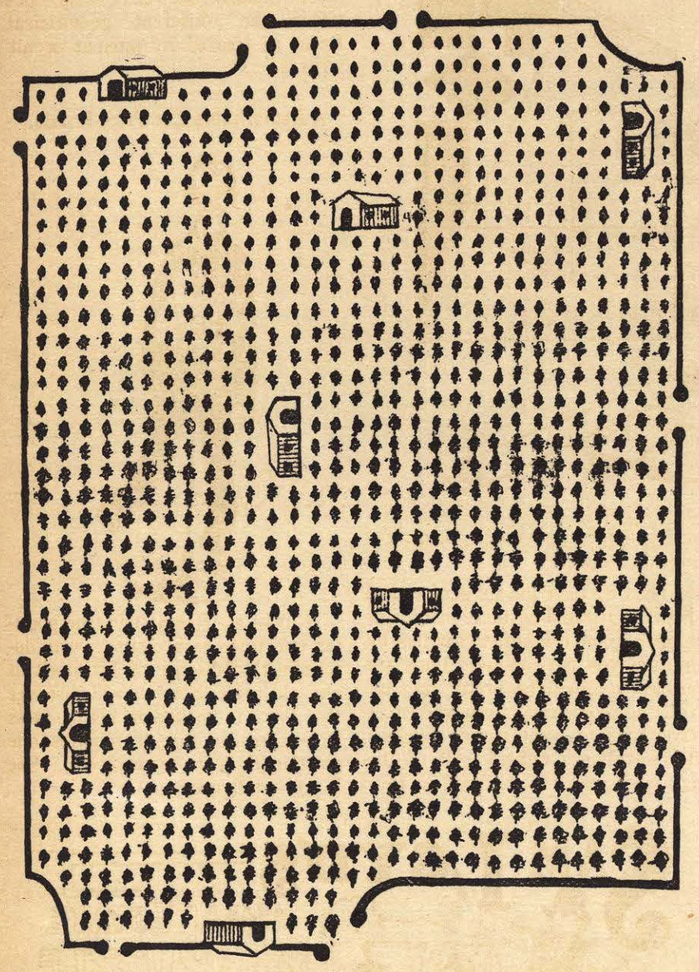
It looks as if Isaacstein, the popular one price cash clothier, was determined to dispose of his stock at any old price, but you will discover that there is method in his madness if you realize that it requires one more mark-down to reach cost. See if you can figure it out.

SAM LOYD'S REAL ESTATE PUZZLE



While the suburban boom is on we will take occasion to tell how a real estate speculator stopped off at a wrong station, and, having a couple of hours to wait for the next train, made a quick turn. He bought a piece of land for $243, divided it into lots, and sold them back to the original owners at $18 per lot, and cleaned up the whole transaction before his train arrived. He made a profit on the deal just equal to his first cost price of six lots, so you are asked to tell just how many lots were laid out in the town of Boomville.

Puzzleland Park



There are eight houses in Puzzleland Park, and the people of each house must only go out of the park by their private gate directly across, on a line with the door of their own house. Each family has a private path of their own leading to their gate between a row of trees; no paths cross any other paths; no inmates of one house ever meet any of their neighbors, so they never quarrel about which should turn out for the other in Puzzleland. Some of the paths are crooked and very funny, but as each one has a map with his particular route marked out by the landlord, who is a great puzzlist, they never get lost. Here is one of the maps, on which you are asked to trace out the paths which each family must take to get to their private gate, across the park, but directly opposite to their door; but remember, none of the paths must cross!

The Hunter and The Squirrel.

Here is the old problem of the hunter who saw a squirrel on a tree and tries to get a good shot at it, but the squirrel cleverly manages to keep always on the opposite side. The hunter, as shown by the tracks in the snow, has gone around the tree so as to make a complete circle, but the squirrel has also gone around the tree, keeping on the opposite side, and we wish to know has the hunter walked around the squirrel? I give the problem because puzzlists from all parts of the world have asked me to give my answer to the problem.

A thousand and one subtle arguments have been offered to prove that the man does not go around the squirrel, principally based upon Webster's definition that around is, on all sides of; encircling, encompassing.

I claim that the man has most positively gone around the squirrel, just as the rim of a wheel goes around the hub which turns on the axle; just as the earth goes around the sun, which has a lesser orbit proportional to their difference in weight.

I remember going all around a field once, but a cross dog faced me all the time so I could not reach the apple tree; but I went all around that field and all that was in it. I wished at the time that I was big enough to take that dog by the tail and swing him around, but perhaps some philosopher would tell me that the dog was not being swung around, because he always had the same end toward me.

One of the same professors who maintain it is impossible to go around the earth unless the earth stops turning, places implicit faith in the old snake story. He says a snake can always swallow a snake of its same size; he once placed two four foot snakes together in a cage, and each seized the others tail and began to swallow it at the same time, so they both disappeared simultaneously. He asked Sammy to illustrate it upon the blackboard, and Sammy, who was quite a little artist, drew the following piccure:

A Rebus

A bird select, on moorlands bred
And carefully remove its head;
Then your admirer, ladies see!
Cut his, and past and gone he'll be.

Cipher Answer.—16, 12, 15, 22, 5, 18.