

PROPOSITION—Arrange the ten pieces so that the snake will have its tail in its mouth.

THERE IS AN OPPORTUNITY for our young puzzlists not only to combine instruction with amusement, but to aid the cause of science. If it were not of serious importance it might be likened to the case which not infrequently happens to puzzlists when they forget the answer to a puzzle they are showing.

Professor Von Schafskopfen, the distinguished naturalist, has been greatly exercised by the conflicting stories concerning the Hoop Snake, which is so called on account of its peculiar mode of locomotion, produced by taking the end of its tail in its mouth and rolling along the ground like a hoop. This trait of the genus ophidia is described by many naturalists, but considerable discussion has been caused by the account given by a college professor who claimed to have seen three snakes, combined in one large hoop, rolling along at lightning speed, and then suddenly disappear by swallowing each other. No one questions the possibility of the swallowing trick, but grave doubts having been thrown upon the existence of the hoop snake. Professor Von Schafskopfen has been scouring the country in search of specimens. His labors were so far crowned with success as to discover in the wilds of the Hoop Mountains a fine specimen of a petrified hoop snake, in such a

position, with its tail in its mouth, as to prove the truth of the custom. With a fine saw he cut the snake into ten pieces, and, packing them in cotton, returned in triumph with his prize; but has been completely baffled in his attempts to readjust the pieces so as to make both ends meet, and craves your kindly assistance.

Mathematicians say that they can be arranged so as to make 362,882 different snakes, without producing an endless hoop, which the skeptics claim goes to prove that it is 362,882 to 1 that no such snake ever existed.

In his despair the professor asks our puzzlists to submit sketches of the restored Hoop Snake. Puzzles of this nature are offered more in the nature of lessons in puzzle making, for our young folks do not wish to cut up these puzzle pictures. The suggestion is that you might build puzzles upon similar lines.

In law courts what relation are the judges, sergeants and counsellors to each other? They are brothers—brothers-in-law.

Why was St. Paul like a white horse? Because he loves Timothy.

Why do men go out of the theatre? Because some plays are so solemn they must go out to smile.

What is the color of a grass plot covered with snow? Invisible green.

Why don't foreign noblemen marry poor American girls? A poor girl has no principal, hence no interest, and without either she cannot bank account (a count).

What did the blind man say to the policeman when he told him he would arrest him if he did not move on? I'd just like to see you.

If Dick's father be John's son, what relation is Dick to John? His grandson.

When is a silver cup most likely to run? When it's chased.

When may a man's pocket most likely to be empty and yet have something in it? When it has a hole in it.

Why are two t's like hops? Because they make beer better.

Who are the two largest ladies in the United States? Missouri and Mrs. Sippi (Missouri and Mississippi).

When is butter like Irish children? When it is made into little pats.

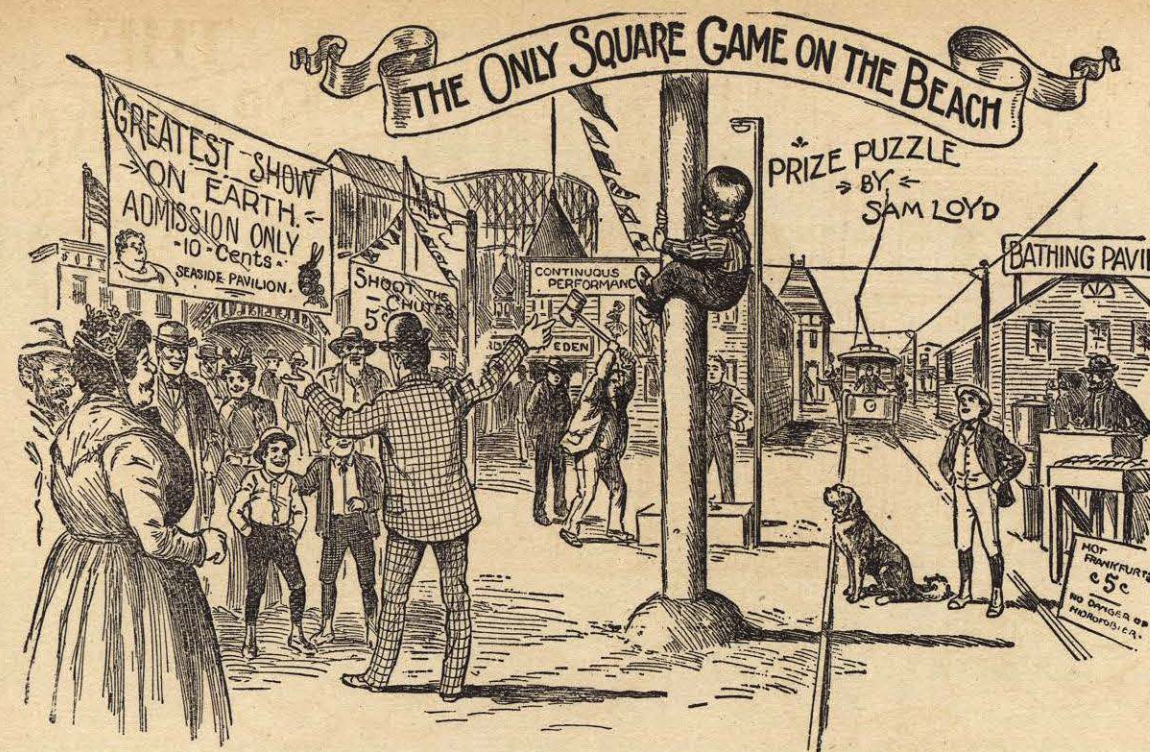
What are the most difficult ships to conquer? Hard-ships.

When are weeds not weeds? When they become widows.

What is better than presence of mind in a railroad accident? Absence of body.

What letter in the alphabet is most useful to a deaf old woman? The letter A, because it makes her hear.

What subject is generally made light of? Gas.



PROPOSITION—Guess the height of that pole!

THERE IS A SEASONABLE little puzzle picked up by the sea, which to a certain extent meets the demands of some of the younger puzzlists, who have at times suggested the presenting of a puzzle which might be solved by a guess "pure and simple," and which would give the veriest little tot as good a chance to win the prize as a big-headed mathematician.

To make a slight digression, however, I may say incidentally that my experience has shown that the bright little puzzlists, as a matter of actual fact, get more than their share of prizes, and exhibit surprising natural wit in getting at the true inwardness of a puzzle by quick intuition.

Nevertheless, be that as it may, here is the problem as picked up on the beach. You see, it was the opening of the season last week down at Coney Island, and, as a matter of course, all society had to be there, and I went along with the "push." We had shot all the chutes, tested our strength and lungs on all the machines, and knew just how many times we could hit the darkey's head with a base ball, when we were attracted by the liberal offer of a ten-dollar bill to the one who could climb to the top of a greased pole in the fewest number of minutes. I did not compete for the prize, and am not represented part way up to the pole with that far-away, wearied look, but

that little darkey did get to the top and furnished the subject for the present puzzle. I timed him during his performance of the feat, and obtained the following data for the problem:

THE PUZZLE.

He would climb up six feet in six minutes and then slip back three while resting, and kept right on working at that rate, going up six and falling back three, until he reached the top.

Of course, as the problem is to tell how long it took him to reach the top, our puzzlists would like to know the height of the pole, so I took a snap-shot photograph of the scene, just as he was taking a rest, and so everything is true to nature and may be depended upon just as well as if you were there.

Boys can doubtless base their calculations upon practical experience, but I think the girls are more lucky at guessing and will stand just as good a chance to win the prizes offered for the best solutions first received, for the guess as to how long it took that little darkey to climb to the top of the pole giving the best reason for the opinion offered.

Of course, this is a puzzle based upon actual facts, as most puzzles are, and it would be a simple matter for any one to run down there and measure the height of the pole, but, strange to relate, this little problem was hatched out upon the very day of the great fire, and in giving the

puzzle I present the last picture taken of the famous old Bowery at Coney Island.

There is really nothing difficult about the puzzle, for if you have your wits about you it is a simple matter to guess the height of the pole.

When is a trunk like two letters of the alphabet? When it is M T (empty).

Why is a waiter like a race-horse? Because he runs for cups and plates, as well as steaks (stakes).

What sort of a day would be a good one to run for a cup? A muggy one.

Why are sticks of candy like race-horses? Because the more you lick them the faster they go.

Why ought a greedy man to wear a plaid waistcoat? To keep a check on his stomach.

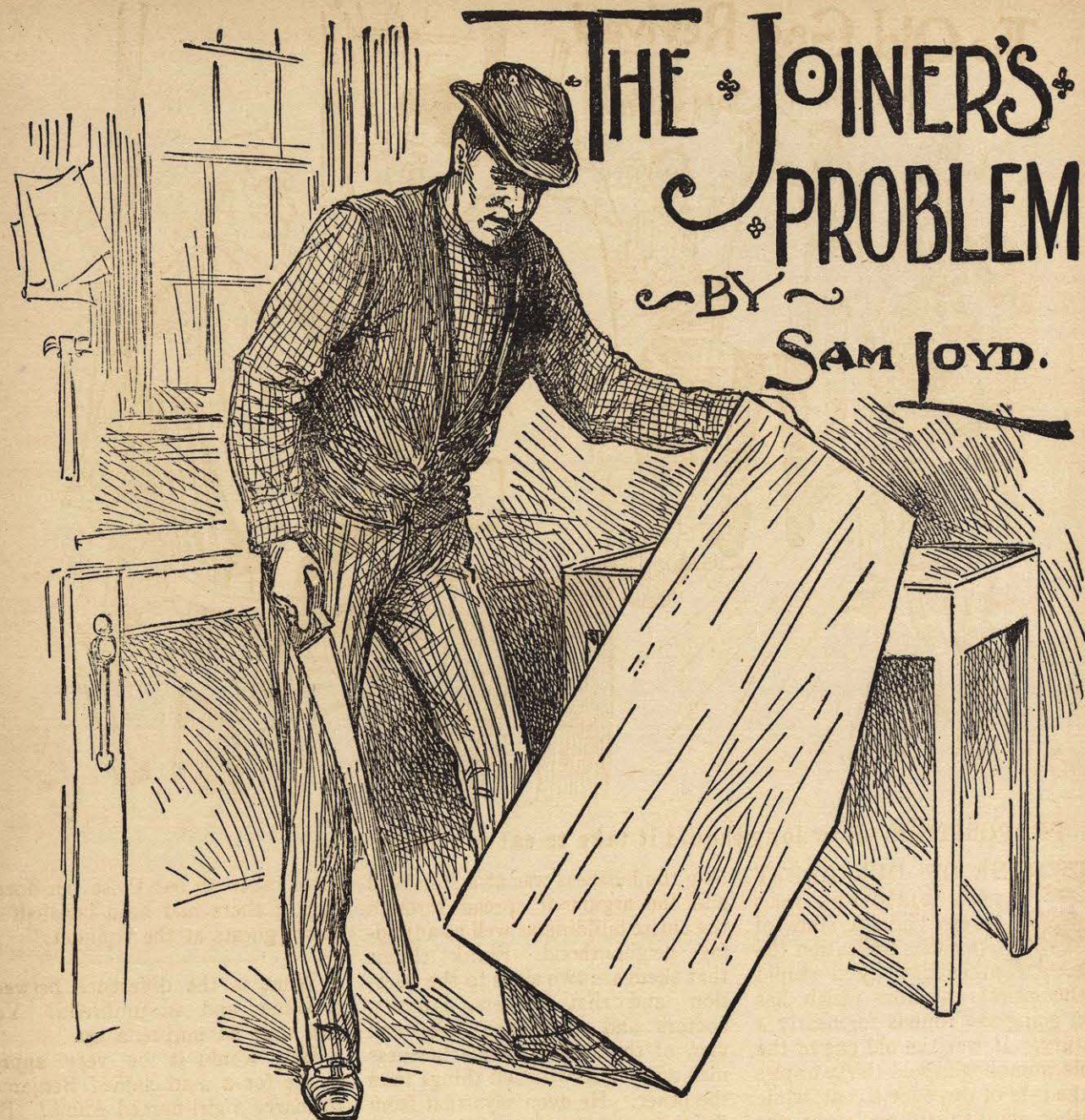
Why are free sittings in church very immoral? Because you are getting good—for nothing.

When is a bedstead not a bedstead? When it's a little buggy.

Why, when you are going out of town, does a railroad conductor cut a hole in your ticket? To let you pass through.

What is the greatest instance on record of the power of the magnet? A young lady, who drew a gentleman thirteen miles and a half every Sunday of his life.

When are handcuffs like grip sacks? When made for two-wrists (tourists).



THE JOINER'S PROBLEM

BY SAM JOYD.

PROPOSITION—Cut the board into the fewest possible number of pieces which will fit together and form a perfect square.

STUDENTS OF GEOMETRY will find here an interesting elementary problem which can best be solved by experimental puzzle methods, although it will be found that there is a scientific rule for getting the correct answer which bears a close resemblance to the famous Forty-seventh proposition of Euclid. The joiner has a piece of board four feet long by two feet wide, with a corner clipped off. The puzzle is to divide the board into the fewest number of pieces, so that without any waste they will fit together and make a perfect square top for the table, which is shown in the picture. In this particular case the missing piece

has been cut off at what the mathematicians would term an angle of fifteen degrees, but when you have discovered the answer to the puzzle, it is worthy of note that the rule which governs the same might be applied to any other angle to produce the same result.

A CHARADE.

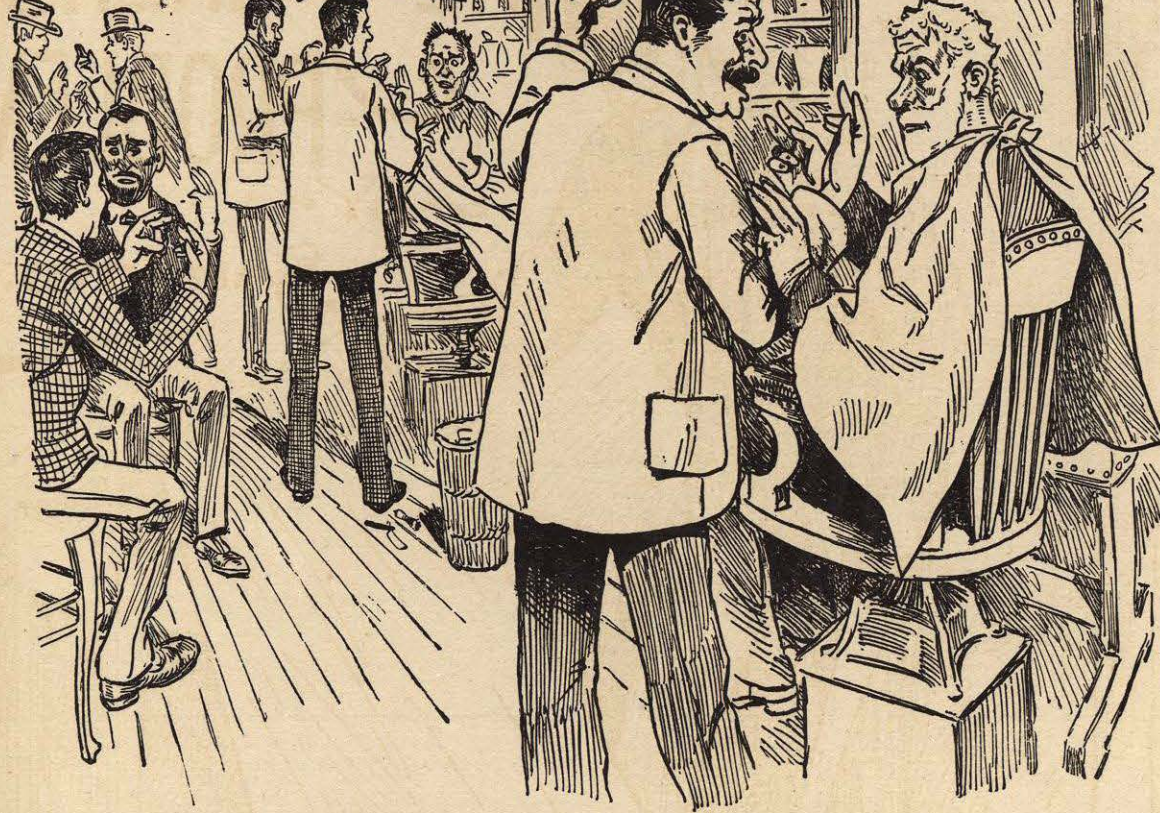
If from your shelf you take a book,
You'll find me there if you but look;
And if you put me back again,
That I am there is also plain;
Decapitate, 'twill then appear
Without mistake that I am here;
Behad again—you'll want no more,
Because I always come before.
Ans. 20, 8, 5, 18, 5.

A REBUS.
With pen in hand, it may be said
My first you often need;
Then add to that a horse's head,
And what will urge his speed!
Nine letters thus complete my theme,
Which now you bring to view;
And, though it very strange may seem,
I but consist of two!
Cypher Ans. 4, 9, 16, 8, 20, 8, 15, 14, 7

Why is a horse one of the most worried of animals? His thoughts are always on the rack.
What is the difference between a church organist and the influenza? One knows the stops and the other stops the nose.

The Old Gag Revived

Puzzle by SAM JOYD



PROPOSITION—How long should it take to eat ten dozen eggs?

ONE OF OUR GREAT office buildings was thrown into a state of utter demoralization the other day by a stupid mathematical chestnut which has been going the rounds for nearly a century. It was the old gag of the apple woman who sold thirty apples at the rate of three for a cent, while another sold thirty apples at the rate of two for a cent, so the first received ten cents and the other got 15 cents, making 25 cents in all. The next day they formed a little apple trust and combined to sell five for 2 cents, but at the close of business found that the sales only netted 24 cents, so each one accused the other of having purloined the missing penny.

In the present instance eggs are substituted for apples, which some people consider a sufficient change to entitle them to the credit of having originated a new puzzle. Dutch Frank, generally known as the "calculating barber," sprung it upon a life insurance agent, who, considering himself away up in figures, would not yield the point without dragging every one who was in the shop into the discussion, so, before

long the business was at a standstill and the argument spread through the entire building as well as adjoining neighborhood. Frank claims that there are two sides to the question, and that barbers, lawyers, doctors and clergymen take one view of the subject, while business men and those who sell things take the other. He even says that from their answers to the puzzle he can tell a professional man from a merchant. Let us look at the puzzle so as to see what it really amounts to.

During an Easter banquet, when ten dozen eggs were consumed without intermission, thirty eggs were eaten during the first course at a rate of three eggs per minute, which would take just ten minutes. During the second course thirty were eaten at the rate of two per minute, which would be fifteen minutes more. Then, finally, in the third course, the remaining sixty eggs were eaten, first three and then two in a minute, alternately, so as to again average five eggs in two minutes.

"Not to bother your head with the mathematics of the situation," says Dutch Frank, "I will just ask you to tell me how long would it

have taken to eat those ten dozen eggs if there had been but half as many guests at the banquet?"

What is the difference between a woman and an umbrella? You can shut an umbrella up.

Why would it be very appropriate for a man named Benjamin to marry a girl named Annie? Because he would be Bennie fitted and she Annie-mated.

When is a horse like a house? When he has blinds on.

Why is modesty the strongest characteristic of a watch? Because it always keeps its hands before its face, and runs down its own works.

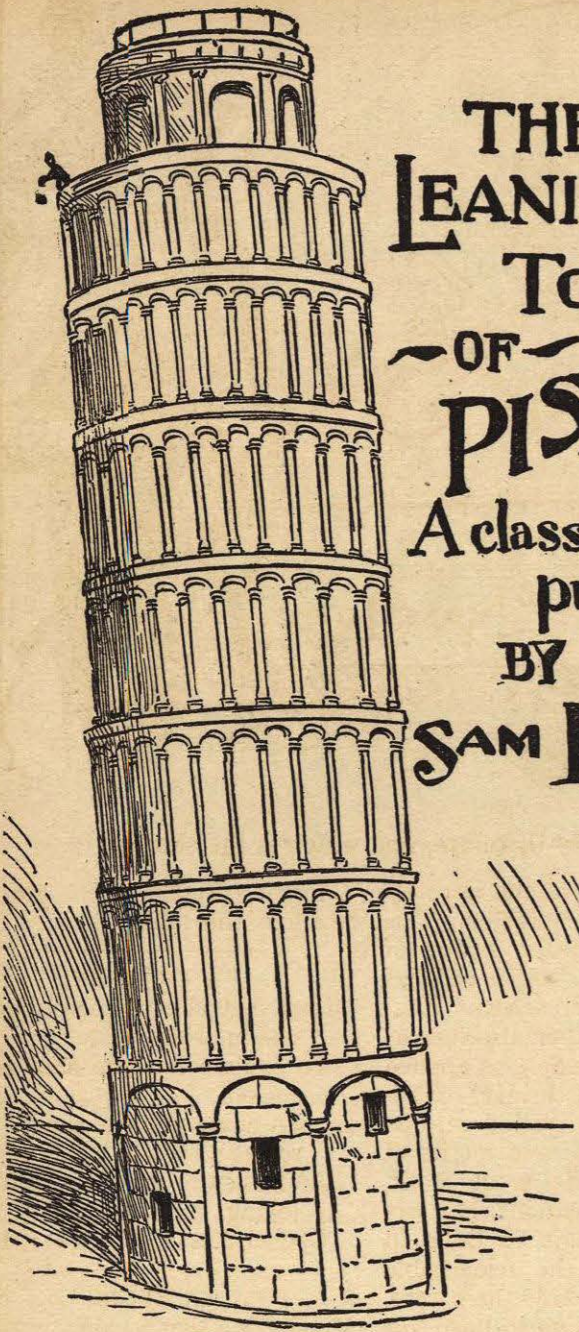
Why is it dangerous to keep a clock at the head of a pair of stairs? Because it sometimes runs down and strikes one.

Why are mortgages like burglars? Because they secure your money.

When were there only two vowels? In the days of No-a, before U and I were born?

What, as milliners' say, is "the sweetest thing in bonnets?" A lady's two lips.

What question is that to which you must always answer "yes?" What does y-e-s spell?



**THE
LEANING
TOWER
OF
PISA**
A classical
puzzle
BY
SAM LOYD.

PROPOSITION—Tell how often the ball will rebound.

THE OLD DISCUSSION is being revived again regarding the accidental or intentional incline of the leaning tower of Pisa. By scientists and mathematicians the story is accepted of its having been built during the twelfth century for the scientific demonstration of certain problems pertaining to the attraction of gravitation, but others maintain that its leaning position was owing to the foundation giving way during its construction. I note that Sheep gives a fine view of it in his photographs of the world, accompanied by the assertion that "it is fifty feet in diameter and leans thirteen feet from perpendicular. The foundation being made insuffi-

ciently solid, it began to incline before it was one-third completed." All of which conflicts with the information of the glib attendant who escorted us to the top, as well as being contrary to common sense. It is difficult to explain why the architect was so fool-hardy as to add the other two-thirds to its height when the foundation was already giving way. It is well known that Galileo's writings tend to show that the tower was built for scientific purposes, and it was there that he refuted the philosophy of his opponents, who maintained that the velocity of a falling body was in proportion to its weight. One of the earlier problems, however, which has been connected

with the purposes for which the tower was erected, was the following the answer to which I do not find in mathematical works.

An elastic ball was dropped from the top of the tower, which is exactly 179 feet high, and on each rebound would rise exactly one-tenth of the height from which it fell. The question was to determine the distance the ball would travel before it came to rest.

A REBUS.

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

Why is an opera singer like a confectioner? Because she deals in high screams (ice creams).

A feeling all persons detest,
Altho' 'tis by every one felt,
By two letters fully express'd,
By twice two invariably spelt.
Errvy (N. V.).

Why is education like a tailor? Because it forms our habits.

Why is a nobleman like a book? Because he has a title and several pages.

Why are the legs of an ill-bred fellow like an organ grinder? Because they carry a monkey about the streets.

Why is a blacksmith like a safe steed? Because one is a horse-shoer and the other is a sure horse.

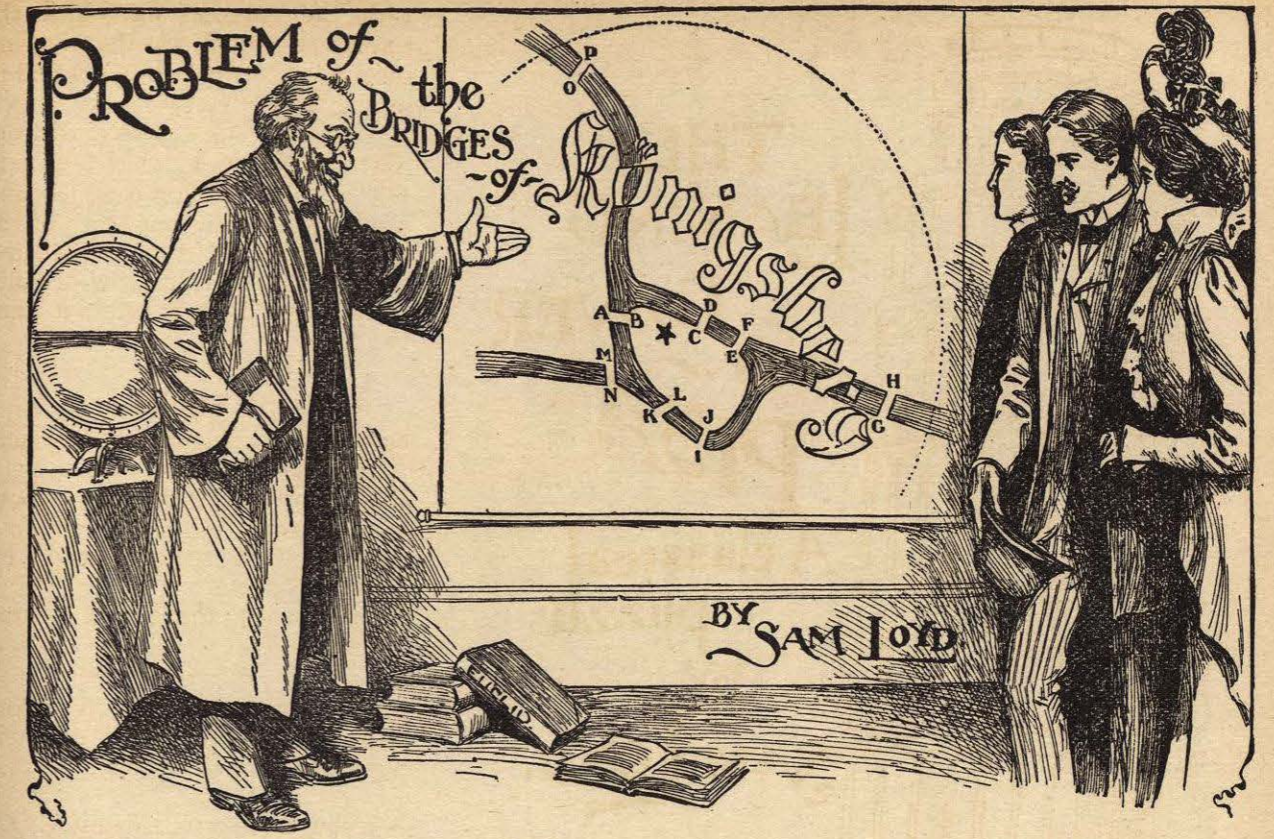
Why is a pawnbroker like a drunkard? Because he takes the pledge but cannot always keep it.

Why are photographers the most uncivil of all trades-men? Because when we make application for our photographs they begin with a negative.

Where does charity begin? At C (Sea).

Which is the strongest day in the week? Sunday, because all the rest are week-days.

When is an altered dress like a secret? When it's let out.



PROPOSITION—Tell just how many different routes there are, and which is the shortest.

THERE IS AN ODD PUZZLE, interesting not only on account of the general principle involved, but because of its antiquity and the curious history connected with it. Königsberg, the second capital of Prussia, is divided by the River Pregel into four quarters, including the island of Kneiphof, as shown in the accompanying map. There are eight bridges connecting the different parts of the town, and there is a puzzle connected with them which greatly vexed the good citizens of Königsberg, over two hundred years ago.

A promenade, embracing a tour of the bridges, had always been an amusement and recreation for the young people, when according to old accounts, somehow or other the question was raised as to how long it would take to make a tour of the bridges, which led to the startling assertion that a complete tour of all bridges—without going over any bridge more than once—was impractical. It is a matter of history that a committee of young folks visited Euler, the mathematician, in 1735, and asked him to decide the point at issue. A year later Euler presented a voluminous report to the Academy of Sciences of St. Petersburg, wherein he claims

to have demonstrated the impossibility of solving the problem. This decision appears in the report of the Academy, 1741, vol. 8, and has been published in French and English by noted mathematicians, as it treats of the principle as applied to any number of bridges. Professor Ball, of Trinity College, discusses the antiquity and merits of the problem in his great work, *Mathematical Recreations*, but errs in ascribing its origin to Euler in 1736, and makes the remarkable statement that "in 1759 there were, and still are, according to Baedeker but seven bridges." The oldest records refer to eight, and our map presents an accurate tracing from Baedeker, who especially refers to the eight bridges. Euler it may be said, was a very young man in 1735, and was not the famous mathematician until nearly fifty years afterwards, so he may have fallen into the error of starting from some of the locations, which, like certain combinations of my 14-15 puzzle, would not work out.

The question of returning to the starting point does not enter into the problem at all; it is merely a matter of proving that it is possible to start from a certain point of the town and go to another point by passing over all of the bridges but once. Then tell just how many

different routes there are, and which is the shortest.

A CHARADE.

Of my first you have two, but here one may do,
To explain it; more need not be spoken;
In my next, deep in shade, some scores have been laid,
And when in my whole, you'r not joking!
Cypher Ans. 5, 1, 18, 14, 5, 19, 20.

A REBUS.

My first is a sign of pain,
Of sorrow or surprise;
My second it is plain
Within your kitchen lies.

My whole is found in Spain,
'Neath genial southern skies,
A fruit,—but I'll refrain,
And leave it in disguise.
Ans. 15, 18, 1, 14, 7, 5.

Why, when you contemplate a trip into the country, should you leave the wash-hand basins behind? Because they are not ewers (yours)!
What is the greatest instance of cannibalism on record? When a rash man ate a rasher.

Why can't you make a venison pasty of buck venison? Because the pasty must be made of dough (doe).



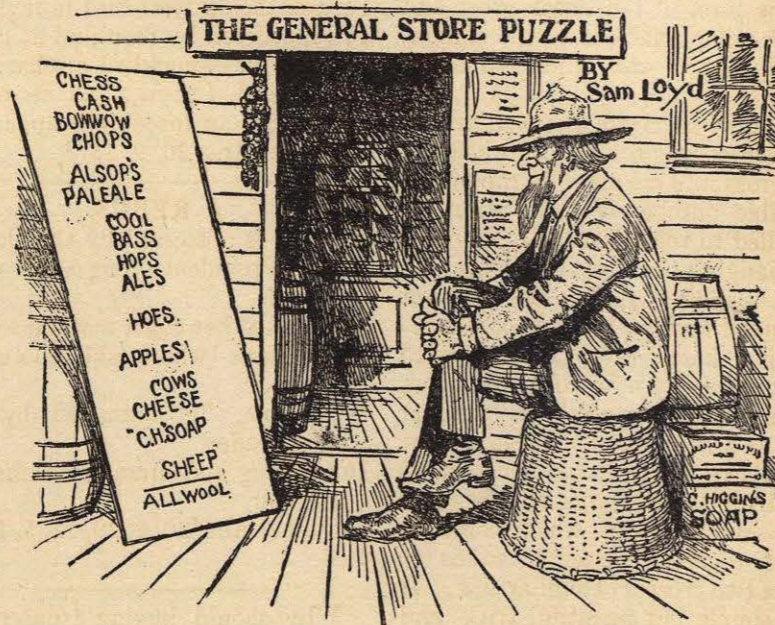
"Andre's denials fell on deaf ears as his captor's spoke no english."

HERE IS AN ODD little concealed word puzzle, built upon historical lines. According to a German writer upon the American war of independence, the capture of Andre in 1780 was effected by two Hessians, who could not speak English. Without discussing the probabilities of the case, we will ask our young puzzlists to discover the possible home of the captors concealed in the description of the picture.

The General Store Puzzle.

Some people can never catch on to the puzzling features of Algebra, and I confess to the seeming absurdity of multiplying P D Q by m i x, although I can see that the adding of M to ore would make it more. The addition and subtraction of letters is all right, but as a Western school teacher told me, "The multiplication of one letter by another is a corker." He kept a general store in connection with his school "and other things," as he termed it, and,

as shown in the picture, introduced a system of algebra which goes as far as he knew. I saw the billboard, and from the prominent position which he gave to chess, above money consideration and so far away from soap, I knew he must be a true vot-



ary of the royal game, and studied out his algebraical sign.

I soon discovered that, like all great merchants, he had a secret price code, viz.: a word of ten letters which gives a number for each letter, by which they mark their goods. You see the letters are all arranged like numbers to be added up by simple addition. If you will guess what that key word is you can change all the words to numbers and you will see why all of those animals and things add up exactly so as to make "all wool" the correct answer. It is a simple puzzle, and as tending to show that algebra is not such a bug-bear after all, our young friends are asked to discover the key to the cypher word.

What French word contains every vowel and but one consonant? Oiseau.

What parts of speech are shopkeepers most familiar with? Articles.

When did Ruth treat Boaz badly? When pulled his ears and trod on his corn.

Why is the port of Plymouth like a very wonderful phenomenon in accoustics? Because it includes a part of the sea called the Sound; and that is the only sound that you can see.

Why are young ladies so partial to sunset and twilight? Because they are daughters of Eve?

What kind of robbery may be said to be not dangerous? A safe robbery.

When is a fish-kettle like a city omnibus? When it's blocked-tin (blocked in).

The Red Cross Lassie Puzzle



PROPOSITION—Divide a Greek Cross into the fewest possible number of pieces which will fit together so as to form two Greek crosses of similar size.

IN THE WHOLE realm of puzzledom, and geometry included, there is nothing so fascinating and eminently scientific as the series of problems pertaining to the form of the Greek cross and its peculiar relations to the square, parallelogram and other symmetrical shapes.

As differing from the well-known mathematical problem of converting the cross into a square by the fewest possible number of cuts, attention is called to the following pretty feat of changing one cross into two.

It appears that one of our wounded boys in blue, who was returning home after being nursed back to life by a faithful Red Cross lassie, begged the red cross from her arm as a keepsake; but she, in true sweetheart style, took her scissors and by a few deft clips, cut the cross into several pieces, which could be fitted together perfectly so as to make two crosses of similar size. It is a simple but beautiful trick, and

the satisfaction of guessing it will be as great as if you should win a prize.

CHARADE.

Don't lose me friends, though day and night
I mock the swiftest bird in flight.
I'm murdered by mankind at large
Reverse me—quickly I discharge.
Transposed, I'm in a bill' tis clear
Once more an insect will appear.
Cypher Ans. 20, 9, 13, 5.

A REBUS.

My first is possessed by the Queen,
May Providence long smile upon her!

My next at her court may be seen
By those whom she choses to honor.

My whole, 'tis admitted by all,
kind reader,

In learning and literature stands as a leader.

Cypher Ans. 20, 9, 20, 12, 5, 16, 1, 7, 5.

Why should buying trousers on

credit be considered dishonorable? Because they are breeches of trust.

CHARADE.

A bitter fruit of sin—in deeds accurs'd—

Teeming with ills to man, behold my first;

Oft have its victims to my next been driven;

To herd with beasts—from home and kindred riven,

My whole extends his guardian power

O'er cloister'd fane and battled tower.

Cypher Ans. 23, 1, 18, 4, 5, 14.

A REBUS.

My first to my second is like a twin brother;

Each seems but an echo—the one to the other.

My whole may be heard 'mid the wild surging throng,

Or where the cool rivulet dances along.

Cypher Ans. 13, 21, 18, 13, 21, 18.