Curious Adventures of John, Mary and Beauty

BY EDWARD TOWNSEND.

ON THE morning when the contestants in the archery tournament and their friends were to set off the border John was awakened by a rattling of pebbles against his bedroom window. Jumping out of bed and running to the window, he saw Gobemouche dancing about on the lawn in a great state of excitement.

"My word!" exclaimed John, throwing up the window. "What in ever is the matter with you?"

"Tournament is off!" exclaimed Gobmouche. "Hurry down, for you must arrange to meet the crisis."

"What have I got to do with it?" demanded John, who rather wanted to get back into his warm bed. He was not found of archery.

"You are a healthy old minister for finance," exclaimed Gobemouche. "All the sandwiches in the country have been ordered for today and the price for 'em is booming.

"I want you to sell 'em short on our advance information. We'll make more money that we can stuff in our pockets.

"You do the selling, I'll bust the market, and we'll divide the profits. Come, come! Get action, Sir John."

There was something about Gobemouche's rattling way of talking which communicated excitement and John dressed in as much of a hurry as ever he could and rushed out to meet Gobemouche, who was trying to modify his impatience by throwing gravel from the path at a cat in a tree which was making faces at him.

"Well' what's the tournament off for?" John asked when he joined the Man in the Street.

"Snakes in the grass," whispered Gobemouche. "A fellow who was down at the border with the targets told me. Grass full of snakes. Anyway, he says he's pretty sure he saw one." .

"What of it?" asked John in surprise.

"What of it?" repeated Gobemouche indignantly. "Do you suppose we want to endanger the lives of our soldiers? Half of 'em will be barefoot and the other half wear knicks. Nice time they'd have with millions and millions of poisonous reptiles waiting to bite their precious shins.

"What you want to do is to run about to all the delicatessen stores, which are plum out of their heads because they can't fill their orders for sandwiches and sell 'em short.

"Then I'll come out with my Snake Extra and—well, say, what will we do with all the money we'll make?

"Hush! Here comes Princess and Lady Mary. Don't let them know until we've sold the market down to the last crust."

John flatly refused to go into the speculation, and Gobemouche, telling him that he was a fool not to take advantage of his advance tip, himself rushed off to sell the sandwich market short.

"Good morning, Sir John," said Princess, who was very amiable for so early in the morning, though she had refused to wash her face, and that helps the temper some.

"I have concluded," Beauty went on, "to call off that archery business and give a sandwich party in the park instead. I tried some of the sample sandwiches yesterday and they are simply heavenly.

"Archery's no fun anyway, and, as Lady Mary was just saying, the whole end and aim of any expedition is to go somewhere, eat what you've got to eat and come home again. Why not cut out the going and coming and just keep in the eating?

"That's pretty good sense, if Lady Mary did suggest it."

"Besides," said Mary, "all the ladies of the court are going to wear new frocks, so what's the use of taking a horrid nice long walk and getting the starch all out of our skirts?

"The hired girls scold enough as it is about the washing—what are you laughing at, John, you silly."

John tried his best to explain Gobemouche's market operations and how the increased demand for sandwiches would certainly take his last penny out of his pockets. But they could not understand.

Suddenly the whole city sounded with the raucous cries of "Extra!" and John bought one of each kind. Gobemouche had the snake in the grass story played up in every color of ink and illustrated with pictures of the most fearsome looking serpents swallowing anguished little boys.

The rival paper announced the change of plan made by her Serenity from archery on the frontier to lunch in the park and hinted at the financial embarrassment of an important pool which had backed a reckless plunger in selling the sandwich market short.

Within no time thankful multitudes were saying that the snakes had been discovered by the Princess herself and a public calamity averted by her marvelous foresight and wisdom.

Goubemouche didn't look very downhearted when John met him at the park.

"I didn't lose a penny by the smash of the bear pool," he whispered to John. "When you wouldn't rig the market for me I got a lot of fellows who are no good anyway to form that bear pool.

"They were chumps and muckers who didn't like me, but, oh! how they did bite at the sandwich proposition!

"You see, I'm a philosopher, I am, Sir John, and so I cyphered it out that if the pool won I'd enjoy cutting them apart from my share in the whackup; if they lost, why I'd enjoy seeing 'em squirm.

"And squirm! Why they squirmed like snakes! Oh, by the way, the snake the target man saw was only a make believe one I planted there to base my Extra story on.

"But I'm out of the newspaper business. The editor was sure of the bear pool, and he says I'm too funny to be wasted on a red ink issue.

"I'm going to be a second promoter. Want to help?"

"What's the good of that?" asked John, who, however, was rather taken with the idea.

"Nothing but good!" declared Gobemouche. "You always get your name in among those present; you get ice cream nearly every day, and if you pull off a good piece of work you get your commission.

"I know the job, perfectly, but I need a title to help out. You'll do. There's a chap here from over the border. He's a count.

"He was chased out of his country for breaking all the laws, not paying his debts and throwing peppers in his grandmother's eyes so's he could steal her watch. Now he has promised me the watch if I get him a few good introductions where he can pick up a living in the way of jewelry, silverware or anything the families do not lock up.

"If you'll give me a start by asking the count to play mumblethepeg with you I'll soon get him going strong as a friend of my friend, Sir John."

"I'll give him a good swift kick if you bring him near me!" exclaimed John hotly. "I'm ashamed of you, Gobemouche."

"It's being ashamed of yourself that hurts," replied the other lightly. "Someone is sure to get that watch, so why not I? It winds with a key. Ever see one? So long. Here comes the count."

Gobemouche was a resourceful person. Not having John to help him, he piloted the Count near a table where a family of great wealth were eating the very highest priced sandwiches and drinking champagne out of tin cups.

"Now, my dear Count!" exclaimed Gobemouche in a voice those at the table must overhear. "You must be careful who you meet. A man of your wealth and title really must be careful.

"First, you must know, my dear friend, Sir John, minister of finance, you know. But be careful. Let us now seek a table where we may order some refreshments."

The very wealthy man's wife had kicked her husband's legs under the table, made signs and faces and at last even made him understand.

"Gentlemen," he exclaimed, jumping up and addressing Gobemouche and the count, "there seems to be no empty tables, but I have room here. Pleased to have you join us."

They made haste to take the seats indicated by the very wealthy person.

"Not much to offer you," he continued. "Only these sandwiches, bought at the very top of the market, and this wine—nothing higher priced to be had."

The count proved to be a very amusing fellow, full of playful tricks. He borrowed all the watches and rings the family wore—and they were many—and said he could make them disappear in a most amusing way if they would excuse him from the table for a few minutes to prepare the trick.

John had kept an eye on Gobemouche and the count, and, suspecting the end of the trick, ran up and began to denounce the count as a swindler. He was joined by many, and each of them, taking hold of the count's shoulders, began shaking him vigorously.

All the watches and jewelry he had placed in his pocket began to rattle: "Jiggiety-jiggerty-jink. Jiggerty-jiggerty-jink.

"But this is the station where your father said you were to be put off."

John and Mary both thought this an odd remark for the count to make. But it turned out to be the conductor, and so they were not so surprised.

"Anyway," said Mary sleepily, as they followed the porter and their handbags to the station, "I'm glad Beauty came to life for a while."

"Poor Gobemouche," said John. "I wonder what will become of him."

(The End.)

In the New House.

"I'm on this job for a plane deal," said the carpenter, as he smoothed off the kitchen table.

"On the contrary, I'm going to put in some crooked work," added the stoveman, as he fixed the elbow of stovepipe.

"As far as spending money is concerned, I will look after the drain," chuckled the plumber.

"I guess some important work of mine will soon be on the carpet," remarked the furniture man.

"But I'm more important than you all, for the whole rhythmic flow of life in this house depends on my meter," declared the gas man.

In the Field of Electricity

Aluminum Conductors.

THE special characteristics of long lines for the transmission of power currents are favorable to the use of aluminum as a conductor, and advantage has been taken of the electrical and mechanical properties of this metal to employ it successfully for this purpose. It is therefore of interest to compare, from a common basis, the properties of aluminum with those of copper from the point of view of the electrical engineer who has to choose between the two metals for his aerial cables or wires. For most purposes, says the Boston Transcript, the mechanical strength of the metal would be a minor consideration, but with long spans of 600 feet to 1,000 feet for cross-country lines the sustaining power of tensile strength of the metal is of great importance to withstand the united effects of the weight of the wire, high wind pressure, and the weight of an ice coating on the wire which must be anticipated in our northern climates.

As for the electrical properties of the two metals, we find that, if the conductivity of copper wire is represented by unity, that for aluminum wires of the same degree of hardness would be 0.58. To convey a given current with the same drop in potential the cross section of the aluminum cable must therefore be 1.72 times that of the copper, corresponding to a diameter some 31 per cent greater. As the weight of copper is 3.4 times that of aluminum, it will be seen that, for a given weight of metal, almost twice as much carrying capacity is obtainable from aluminum; in other words, for equal conducting power the weight of aluminum required is about one-half that of copper. So far as weight of metal is concerned, therefore, the transmission of power can be effected with the same loss over a given distance by one-half the weight of aluminum as would be possible if the conductors were of copper, and if the price of aluminum wire by weight were twice that of copper the capital cost would be the same.

In a paper presented to the Interpational Congress of Electricians at St. Louis in 1904, Mr. F. O. Blackwell gave the results of tension experiments made upon wires of both metals. The figures cover a wide range owing to the different degrees of rolling and drawing of the wire during the process of manufacture. Soft, semi-hard, and hard wires were made the subject of experiment, but in general the tensile strength of aluminum suitable for suspended cables proved to be greater than that of copper for equal weight, and it is also more elastic, the ratio of the modull for aluminum to copper being as 7.5 to 12 hard-drawn cable wire. The elastic limit for aluminum is taken at 14,000 pounds per square inch, and for copper at 40,000 pounds per square inch.

The increased diameter of aluminum cables offered a greater broadside to a gale, also an increased weight of ice coating upon which the wind acts to produce stress in addition to the weight of ice covering the wire. With the customary assumed wind pressure of forty pounds per square foot upon a plane surface, due to a gale, a pressure of twenty pounds per square foot may be taken to act upon the curved surface of wire or ice. The resultant of such lateral pressure, combined with dead weight of wire and coating, produces enormous stresses in long spans of tightly strung wires, but for wires of equal conductivity aluminum is quite as strong as copper, the lower tensile strength being compensated for by greate cross-section and less stress due to decreased weight. Quite apart from the foregoing, there are other considerations affecting the choice of the engineer, but as far as mechanical strength is concerned with efficiency as a conductor of electricity, aluminum and copper may be placed in the same scale. Cheapness in manufacture might entirely alter the present relative place of the two metals in the schemes of the electrical engineers.

Growth of Wireless Stations.

O the 1,559 wireless telegraph stations now in existence 641, or 41 per cent, are equipped with appartus of the (German) Slaby-Arco system. These 641 stations are scattered over the territory or vessels of thirty-one different countries. Of these, some 174 are situated on land. They usually command a radius of 125 miles, but, in several cases this is extended to 249 miles, 435 miles, or even greater distances. In Germany there are thirty-six stations, mostly located on the coasts of the Baltic and the North seas, including a great experimental station at Nauen, which commands a radius of 2,860 miles. In the United States are twenty stations, including Fire Island, Washington, New Orleans, San Francisco and San Juan. Russia has seventeen stations. That of Vladivostock is the most prominent; commanding as it does a range of 620 miles. Austria-Hungary has ten stations. Denmark and Spain seven each. Holland six (that of Scheveningen reaches 435 miles), and Norway and Sweden five each. In non-European countries the systems has four stations in Argentina, six in Brazil, five in China, eight in Cuba (that of Havana commanding 320 miles), six in Mexico, two in the Philippines and one in the Sandwich Islands (at Honolulu). The majority of these land stations are government property, and are under the control of the postal, naval or lighthouse services. Most of the installations are on ocean vessels. Of these twenty-two are on Dutch and German steamers, while 389 are on warships. They include vessels of the following nationalities: German, 140; Russian, 126; American, forty-three; Swedish, nineteen; Austrian, seventeen; Dutch, ten; Norwegian, eight; Argentina, six; Brazilian, five; Danish, five; Greek, three and Indian, two. Some fifty-four mobile military stations have been installed in various countries. In France, Great Britian and Italy the German system is unable to meet the competition of systems under local control.

Efficiency of Receiving Stations.

Mr. Charles A. Culver of the University of Pennsylvania has undertaken a study of the relative efficiencies of the various types of receiving systems in use in wireless telegraphy, and the Physical Review for September contains an account of the first part of his investigations. Of the types tested, those consisting of one or more vertical wires are the most efficient, and it seems immaterial whether the component parts are connected together at the lower, upper or both ends. Partial screening of the aerial produces little effect, while the resistance of the earth between the sending and receiving stations is of prime importance. From a consideration of his own results and those of others Mr. Culver concludes that the theory of propagation of the waves through the surface of the earth accounts for more of the observed facts than the free ether-wave theory, although it does not at present account for several phenomena encountered in practical work.

An account, with several illustrations, of the lofty tower erected at Nauen, near Potsdam, is given in La Nature for September 28. This steel tower, which is triangular in section and 528 feet in height, carries fifty-four groups of three cables, or 162 cables in all, in the form of a vast umbrella, covering an area of about fifteen acres. The tower or mast is held in position by three powerful guy ropes, which are anchored at the base to massive blocks of concrete. At their upper end, where they are attached to the tower, they pass for several feet through an oil bath. A battery of 360 Leyden jars of large size disposed in three groups of 120 flasks each, with a total capacity of 400,000 amperes, is situated at the base of the tower.

Sugar by Electro-Chemical Process.

An electro-chemical process by which wood and water are actually converted into the purest and sweetest sugar is being demonstrated in a western city, says the Chicago magazine, Popular Mechanics. The machine, which costs only $1,000, is composed of a water boiler, a furnace for heating steam until it turns into hydrogen and oxygen, a retort in which the charcoal is reduced to a gas and mixed with hydrogen and oxygen, a water tank in which the combination of gases is cooled, an air compressor and a set of highly charged electrodes. To operate the plant the inventor took an armful of pine wood, eucalyptus, corn cobs, a piece of an old buggy and a barrel hoop and piled them into an oven where they were made into charcoal. The charcoal ready, he put thirty-two pounds of it into the retort and started the fire under his water boiler. Twenty minutes later, when things were getting hot, he started the air compressor and a set of highly charged electrodes. The water, converted into steam, passed through a heater, where it was dissociated into hydrogen and oxygen at a temperature of 3,000 degrees. The mixture of gases was then compressed upon the carbon heated to a like temperature. Then he let the compressed gas flow past the electrodes and a fine spray of powdered sugar burst from the end of the pipe. Thirty minutes later it ceased. The entire output was about seventy pounds of sugar. It is claimed sugar can be produced commercially at a cost of only 1 cent per pound.

A Chicago chemist, Dr. James Lawrie, adds these comments: The synthetical process of building up sugar and alcohol has long been a dream of commercial chemists. Some of the lower sugars have actually been made in this manner, out only on a small scale and at great expense. The idea itself is feasible, and as sugar contains the elements carbon, hydrogen and oxygen, in the proportions C12, H22, O11, in which the hydrogen and oxygen bear the same relationship as they do in water, namely, two parts of hydrogen to one of oxygen, thus the invention has all the starting material necessary, at practically no cost. The only problem, of course, was the combining of this material in the desired proportions of 12 parts of carbon to 11 of water. As to whether he has actually accomplished this matter as in the way stated, you will have to rely upon the accuracy of the report. The chemical men who read it will probably scoff at it, whether it is true or not. As it is such a far-reaching invention, personally I, like the others, would have to be shown. It is well known that hydrogen and carbon combine at high temperature and under certain conditions to form acetylene and some of the other higher hydrogen-carbon compounds.

Electric Meters Run Backward.

For the edification of the judges of special sessions court of New York City, Dr. George F. Sever, professor of electrical engineering in Columbia university and consulting engineer of the department of water supply, gas and electricity, explained to them the mechanism of a little contrivance which, attached to an electrical meter, not only will prevent the meter from registering the amount of electricity expended, but if desired will cause the meter to go backward instead of forward.

This contrivance is an electro-magnet, contained in an oblong box, with side pieces so that it may conveniently be placed over the meter. The inventor of this swindling device, Herman Barth, had just admitted his guilt. It was said that not only had he sold several of the magnets for $200 each, most of which were installed in saloons, but that at the time of his arrest he was constructing a larger one, which was to be bought by a garage where a large amount of electricity is needed day and night for the charging of electric vehicles.