



## THE TELL-TALE TICK.

I had knocked around in Australia for five years, put in a year's service in India, and had a whack at the Transvaal Insurrectionists as a volunteer, only to settle down at last, as a telegraph operator at Rocky Forks, a telegraph station between Omaha and Sioux City.

The next station, fifteen miles further up the road, was Dismal Point, and here Tom Brown, my oldest and truest friend, operated. Tom and I had roughed it all over the world together, and when we settled down here it was to be near each other.

One day Tom telegraphed down to me that he would meet me at Rocky Forks next Tuesday for a day's shooting. He said he would come down on the 5 o'clock train in the morning and wait for me to get off at noon. After that we would go up into the hills and shoot about the points of the ravine.

I liked nothing better than a day's outing with Tom, and I quickly ticked back word that he could rely on me next Tuesday, as that was my day off.

The following day there came a message through Omaha that the United Express would ship \$12,000,000 in bullion over the road to Sioux City the next Monday night, and that the train would pass through my station, Rocky Forks, at 8:15 in the evening. I telegraphed back that I understood it, and then I opened up the instrument and asked Tom if he had received his message yet. He said that he had, and would look for the train seventeen minutes earlier at Dismal Point.

That day and the next I passed in my usual way. Sunday was uneventful, and would have seemed long, except for the constant ticking of the instrument, which was kept busy sending messages about the important shipment to be made the next day. Monday evening at 7:30 I looked at my watch. "The train will soon be along," I said. "I guess I will call up Tom, and see if he knows where it is."



A DAGGER STICKING THROUGH HIM, PINNING HIM TO THE DESK.

I called up Dismal Point, and Tom answered. "The express train is one station up the road," said he, "and is ahead of time. It will wait here five minutes. I'll let you know as soon as it leaves here. Tomorrow—"

There was a sudden pause in the ticking and then a strange hand sent the message, "That is all."

I called up Tom again, but he did not answer. I kept calling, but no response came, and I thought that the wires had become entangled.

I waited for the express with its \$12,000,000 in bullion until 8:15, but it did not arrive. Then I telegraphed up road to Tom, but there was no answer. I waited five minutes longer and telegraphed again, but still no response.

"The wires must be down," I said. I walked out upon the platform and looked up the road. To my surprise I saw in the distance an engine coming toward me, slowly swinging down the track. As it came nearer I saw it was empty, and as it passed me I boarded it.

Reversing the engine, I started back up the road. I went with such fire as I could get up, back to Dismal Point. Here in front of the station, stood the express car, riddled of its contents. Across one of the trucks the express messenger lay dead. The engineer and fireman were so badly stunned that at first I thought they, too, were killed, but after some time I brought breath back into the life of the former. He, poor fellow, was too dazed to speak, and I lifted him into the car, thankful that he was alive.

When I stepped into the little station where Tom always sat, an awful sight met my eyes. There sitting at the instrument with his back to the door, was

## SCIENCE AND INVENTION

Every ton of Atlantic water, when evaporated, yields eighty-one pounds of salt; a ton of Pacific water seventy-nine pounds; Arctic and Antarctic waters yield eighty-five pounds to the ton, and Dead Sea water 187 pounds.

An electric company proposes to run a trolley cable along the Champlain Canal, between West Troy and Whitehall, for the purpose of driving canal boats. The power is to be supplied to motors, which will take the place of mules or horses in manning the boats.

Photographs have recently been successfully taken under water at a distance of ten or twelve feet. The camera was carried by a diver, the light was supplied by an electric lamp carried in the diver's headpiece. The experiments were carried out in the bay of Rio de Janeiro, Brazil.

A German firm, it is reported, has placed upon the market samples of pure indigo, derived from coal tar, which promises to supplant the vegetable indigo, as other dyes have been supplanted by the same source. Vegetable indigo is consumed to the extent of \$15,000,000, chiefly derived from India.

The number of asteroids discovered up to the present date is 423. A number of these small planets have not been observed since their discovery and are practically lost. Consequently it is now a matter of doubt, until the elements have been computed, whether the supposed new planet is really new or only an old one rediscovered.

What is believed to have been the largest snake ever contained in the reptile house of the London Zoological Garden died there last November, after having lived more than twelve years in captivity. It was a python from Malacca, and measured a trifle more than twenty feet in length. Its principal food was ducks, and it was fed, usually, once a week, although sometimes it refused food for a month.

As a rule the scent of flowers does not exist in them as in a store, or gland, but rather as a breath, an exhalation. While the flower lives it breathes out its sweetness, but when it dies the fragrance usually ceases to exist. The method of sealing from the flower its fragrance while it is still living is no new thing, and it is not known when it was discovered that butter, animal fat or oil would absorb the odor given off by living flowers placed near them, and would themselves become fragrant.

Vice President Schenck, maker of the Pittsburg and Lake Erie Railroad, has a private car which is fitted up in a novel manner. All its chair cushions and bed mattresses are constructed on the pneumatic principle. At night the seat cushions are emptied of air, folded and packed snugly away, and the larger cushions for the beds are brought out of their place of concealment in the sides of the car, and pumped full. It is said that these pneumatic cushions greatly reduce the jar of a railway journey, and that in time they may cause a revolution in the building of palace and sleeping cars.

Most of us no doubt have experienced the discomforts of being seized with a fit of coughing or sneezing at the most inconvenient times and places, and it is not usually supposed that any exercise of the will power can be made effective in checking either a cough or a sneeze. Dr. Brown-Sequard, however, in one of his lectures, said that coughing can be stopped by pressing on the nerves of the lips in the neighborhood of the nose. Sneezing may be stopped by the same means. Pressing in the neighborhood of the ear may stop coughing. Pressing very hard on the top of the mouth is also a means of stopping coughing.

**A Floating Home.** Practically the captain and his wife make their home in the cabin of the bark, and a comfortable home, too, says New York Sun. Upon the walls of the main room of this cabin, which is a room of spacious dimensions, there are two pictures of the bark itself. These are distinctly nautical; but, aside from them, the furnishing of the room is such as might be seen in any room devoted to like purposes ashore. In an alcove on one side is a piano; upon the other side is a sofa. In the center of the room is a table, upon which there are books and sewing, and here in port, where the ship stands on an even keel, a vase of flowers. The room is lighted at night by a lamp like a piano lamp, with a broad, spreading shade, by which, instead of being upheld by a standard with feet resting on the floor, is hung suspended from the deck beams running across under the skylight overhead. There are here deep upholstered armchairs and other easy chairs, and there are rugs on the floor. It is a homelike and attractive room.

Forward of this room is the forward cabin, which is also the ship's dining room. The mizzenmast comes down through that end of the fixed table, giving to this cabin a decidedly marine touch. Opening off the main cabin there are a number of rooms, including the captain's room, which is of ample size. There is here also a room for the captain's daughter, who sometimes sails with him. As is customary on American deep-water ships, there are two or three staterooms for passengers, who are carried when they offer. On her last voyage to Africa this vessel carried three passengers.

The captain sailed for many years; he is acquainted in ports all around the world, and wherever he goes there is no lack of social life for himself and his

wife. They have more invitations ashore than they can accept, and they entertain guests aboard the ship, which is indeed their floating home; but that they do not forget their home ashore may easily be imagined from the fact that the ship's name is made up in part of the name of the captain's home town.

## CLOTHES WRINGERS.

The Rise of a Familiar Article of Household Use.

The first American clothes wringer produced, which was put on the market about thirty-five years ago, was a substantial and serviceable machine, but its price prevented its coming at once into common use.

After some improvements the price was reduced, but it is only within the last twelve or fifteen years that the clothes wringer has come to be the article of common household use that it now is.

The price now is about one-fourth of the original price. The present output of American clothes wringers is about 750,000 annually.

Clothes wringers are made with rolls of ten to twenty-four inches in length; wringers larger than that are made to order. Ten, eleven and twelve inch are the sizes commonly operated by hand, though fourteen, and even sixteen, inch wringers are sometimes used in that manner. Larger machines are operated by other power. American clothes wringers are sold in many foreign countries; though in some, owing to natural or other conditions specially affecting the use of such appliances, comparatively few are sold.

Thus, while many articles of American manufacture are sold in South American countries, there are not many clothes wringers sold there, owing to climatic conditions, which are such in most of the countries that clothes dry quickly there and wringers are not much needed.

Few American wringers are sold in France, where washing is done commonly in wash houses, and few wringers of any kind are used. In Germany, Russia and all the Scandinavian countries, and in Great Britain, American wringers find a market, and they are sold also in Australia, South Africa and other foreign lands. They cost more than German or British wringers, but they sell in competition with them, as many other manufactured American products do, because of their superiority of workmanship and better adaptability to use.

## Prices Paid Modern Authors.

Rudyard Kipling commands the highest price of any living author, according to the Pall Mall Gazette, which says that it paid \$750 for each of his "Barrack-Room Ballads" and that "The Seven Seas" brought him \$11,000. He has received 50 cents a word for a 16,000 word story. Anthony Hope charges \$450 for a magazine story, reserving the copyright. Mr. Gladstone's price for a review is \$1,000. Conan Doyle received \$35,000 for "Rodney Stone," Mrs. Humphry Ward \$40,000 for "Robert Elsmere," \$80,000 each for "David Greave" and "Marcella," \$75,000 for "Sir George Tressady" and \$75,000 for "Bessie Costrell." Ian MacLaren has made \$25,000 out of "The Bonnie Briar Bush" and "Auld Lang Syne." Rider Haggard still asks for \$75 to \$100 a column of 1,500 words and will not write for less than \$10,000.

The highest price ever paid for a novel is \$200,000, which was handed over to Alphonse Daudet for his "Sappho." Zola's first fourteen books netted him \$200,000, and in twenty years he has made at least \$375,000. Ruskin's sixty-four books bring him in \$20,000 a year. Swinburne, who writes very little, makes \$5,000 a year by his poems. Browning, in his later years drew \$10,000 a year from the sale of his works, and Tennyson is said to have received \$60,000 a year from the Macmillans during the last years of his life. Mr. Moody is believed to have beaten all others, as more than \$1,250,000 has been paid in royalties for his hymns.

## Dinner Customs.

We are so accustomed to ladies and gentlemen going in pairs to the dining room that we are astonished to learn that this was not considered good form by our grandparents. The custom is of comparatively recent origin. Even now in many homes the lady of the house, true to the old fashion, leads the way to the table, followed by the other ladies in single file, the gentlemen bringing up the rear.

A writer back in 1780 tells us that his mother was greatly shocked, on board a man-of-war, when the captain asked her to "take his arm" on the way to dinner. She spoke afterwards of the "old lady's impudence" in so doing.

Another writer, in 1862, speaks of a lady who died in 1840—whose daughter was born in 1738—having "the horrors" when she first saw a lady "hook her self to the arm of a gentleman in a ball room." She remarked with indignation:

"If my daughter did that I should take her home immediately."

## Two Opinions.

A well-known novelist delivered a lecture recently in a New Jersey town. After the lecture, when the people met it was the proper thing for one to ask the other:

"Were you at the lecture?" and the answer in every case was: "Oh, yes, I was there, but I didn't hear a word. Did you hear the lecture?"

"Well, no! I was there, but I couldn't hear either."

A friend, who met the novelist, asked him what kind of audience he had and how he liked the town.

"It's a fine place," was the reply, "and I had the most attentive audience that I have ever spoken to. No one made a sound, and I didn't have to raise my voice above a whisper."



## Highways.

In building a highway the first and most important consideration is that of drainage, for if this is not good the base of the pavement will begin to yield, and yielding of the base means the destruction of the pavement. If the soil is soft and wet a very good foundation may be made of moderately large stones welded tightly together. They keep their position well, and at the same time allow for drainage. Where there is a clay soil it is well to excavate about six inches of it and fill in with sand or gravel. This allows the water to flow off instead of remaining on the clay and developing soft spots. After taking ample precautions for the drainage, the bed should be brought to the proper grade before the road material is placed upon it. For the road material it is sometimes well to begin with a layer of two or three inches of sand. This should be rolled. Aside from the matter of drainage, it affords a sort of cushion for the pavement.

The best, and in the end the most economical material for a highway, is that of macadam construction. This consists of broken stone from two to three inches in largest dimension, which is put on the road in layers about two inches thick. Each layer is rolled and the interstices filled with smaller pieces of broken stone or gravel before the next layer is placed. This broken stone should be from six to ten inches in thickness, depending upon the amount of traffic on the road. If the foundation is good such a road will require but few repairs for many years to come, or until it is practically worn out. The addition of a layer of broken stone will make it as good as new. If this road is considered too expensive a very good roadbed may be made of a mixture of loam and clay. This should also be thoroughly compacted by rolling before traffic is allowed upon it.

These are but two of the various kinds of road materials. They are both good, but they cannot always be recommended. The selection of a road material is a matter which depends largely on local conditions, and no fixed rules can be applied. The judgment of a competent engineer should be sought in order to determine the best and cheapest material for a certain locality.—Edwin M. Grimes, in Farm, Stock and Home.

## Cost of Bad Roads.

According to statistics collected by the office of road inquiry of the Department of Agriculture, the amount of loss each year by the bad roads of the country is almost beyond belief.

Some 10,000 letters of inquiry were sent to intelligent and reliable farmers throughout the country, and returns were obtained from about 1,200 counties, giving the average length of haul in miles from farms to markets and shipping points, the average weight of load hauled and the average length per foot for the whole length of the haul.

Summarized, it appears that the general average length of haul is twelve miles, the weight of load for two horses 2,000 pounds, and the average cost per ton per mile 25 cents, or \$3 for the entire load.

Allowing conservative estimates for tonnage of all kinds carried over public roads, the aggregate expense of this transportation is figured at \$446,414,000 per annum. Those in a position to judge calculate that two-thirds, or nearly \$331,000,000, could be saved if the roads were in reasonably good condition. At \$4,000 per mile a very good road can be constructed, and if any amount equaling the savings of one year were applied to improving highways, 157,000 miles of road in this country could be put in condition.

The effect of this would be a permanent improvement, and an exchange says not only would the farmer be astonished in the sudden reduction in his road tax, but he would also wonder at the remarkable falling off in cost of transportation. He would also find that he required fewer horses and less feed for them. He could make two trips to market a day instead of one, when ability to get his goods there at a time when high prices are ruling is a matter of great consequence.

Farmers are beginning to apply a little simple arithmetic to some of these matters, and it is not too much to expect that in the near future we shall see a decided revolution in the condition of our rural highways.—Farm, Field and Fireside.

## Acute Hearing.

With some fortunate persons the perception of sound is wonderfully keen. An able violinist went to fill an engagement in a strange city, and engaged apartments in a street where all the houses were built according to one pattern. Returning to his room late one night, and having entirely forgotten the number of the house, he was at loss to find his lodgings, until a musical expedient occurred to him. He imagined that he should be able to distinguish the sound of his landlady's street door bell, and so he deliberately went along the street, ringing each bell, till he arrived at one of a certain tone, which he at once recognized as the right one, and on hearing which he waited until he was admitted. This nicety of ear is not confined to musicians. An English lieutenant, on leave of absence from his regiment, spent a night at one of the hotels of Manchester. The following morning, as he was sitting at breakfast, a band of street musicians came past, and in one of the instruments he thought he recognized the peculiar style

of the playing of a man who had performed on that instrument in the band of his regiment, but who had deserted. The officer immediately ran downstairs, found his surmise correct, and, greatly to the deserter's astonishment, caused him to be at once arrested.

## LOST SPRINGS AND MINES.

How the Indians Fooled their Spanish Conquerors.

There is a tradition in New Mexico that many mines once freely worked have been lost. There is another tradition that many springs have also been lost, and it is understood that the losses of both mines and springs were brought about by the Indians. New Mexico is supposed once to have been much more attractive than it is now. The Pueblo Indians arose in revolt on the first full moon of August, 1680.

When they had driven the Spaniards down into old Mexico they set to work to change the condition so that there should be little temptation to reconquer New Mexico.

This idea included the filling of mines which had been opened and worked during the former Spanish occupation. The Indians, with great care, destroyed all traces of many mines. It is said. This is not so surprising as what they did to the springs. It is tradition, and the statement is commonly accepted as historical truth, that in their labors to render the country unattractive as possible these Indians suppressed numerous springs.

Such results were accomplished in an ingenious manner. The Indians dug down and cleared away dirt until they found the crevices of the rock through which the water came. They took the fibrous bark of a species of fir tree and tamped it into the crevices. As the material became water-soaked it swelled until it plugged. Nothing remained but to throw back the dirt and give to the surface the general arid appearance of the surrounding country. This was not a temporary expedient. It resulted, according to the present theory, in the permanent destruction of many sources of water.

To this day the appearance of slight moisture often stimulates a search for one of the missing springs. Occasional by these searches are successful. The earth is removed, the crevices are found, the bark is picked out, and the water, after more than two centuries of being turned back, resumed its natural flow.

## Adventure with a Lion.

A portion of the crew of a ship which was anchored off the coast of India once went ashore for the purpose of cutting some wood, and one of the sailors, having through some cause become separated from his companions, was considerably frightened by the appearance of a huge lioness which he saw approaching him. Much to his surprise, however, she did not, on coming up, appear to have any evil designs on him; but instead crouched at his feet and looked steadfastly first at his face and then at a tree some little distance away.

For a time the man could not understand this conduct; but presently, on the lioness rising and walking towards the tree, looking back at him as she went, he found out what it meant. Up in the branches of the tree was a large baboon, with two little lion cubs in its arms; and it was because of this that the lioness was in such tribulation. The difficulty now presented itself of how to save the cubs, for the sailor was afraid to climb the tree. So, having his ax with him, he resolved to cut the tree down; and this he did, the lioness watching him most anxiously during the whole time. When the tree fell, and the three animals with it, the lioness, it is said, dashed with fury upon the baboon and destroyed it; then, having gently caressed her afflicted cubs for some time, she returned to the sailor, showed her gratitude by fawning upon him and rubbing her head fondly against him, and at length carried her children away, one by one.

## Cedar Forests Being Used Up.

Hayes is being made of the best cedar swamps in the country to supply the increasing demand of the long-distance electric transmission plants and the power and lighting lines for poles. One firm handled 150,000 poles last year, and has been making large commitments to Buenos Ayres, South America and Canada, as well as ship ments to Texas, Utah and Colorado. The poles are rafted from the forest lakes in lots of 20,000, and lifted from the water by steam elevators. They are then sorted and placed in separate piles. Those which are not of high standard are used for fence posts, shingles, railroad ties and paving blocks.

## A Bureau of Courtesy.

A pleasant innovation at the Omaha exposition will be a bureau of courtesy. Nearly all the people of the city will be enrolled in the committee. Every member will wear a badge, and visitors will be at liberty to address any one who wears the badge and ask for information. The members, on the other hand, will be pledged to treat the visitor courteously and answer his questions, or put him in the way of getting them answered. The idea is being generally commented upon as a novelty, which indeed it is; but why wait for the exposition to put it into practice, and why let it drop afterwards?

## The Vanilla Bean.

It is not generally known that the vanilla bean is the costliest bean on earth. It grows wild, and is gathered by the natives in Papantla and Misantlan, Mexico. When brought from the forests they are sold at the rate of ten dollars and a quarter per one thousand, but when dried and cured they cost about ten dollars and a quarter per pound. The year mainly used by druggists, and last year over ninety million beans were imported into England.