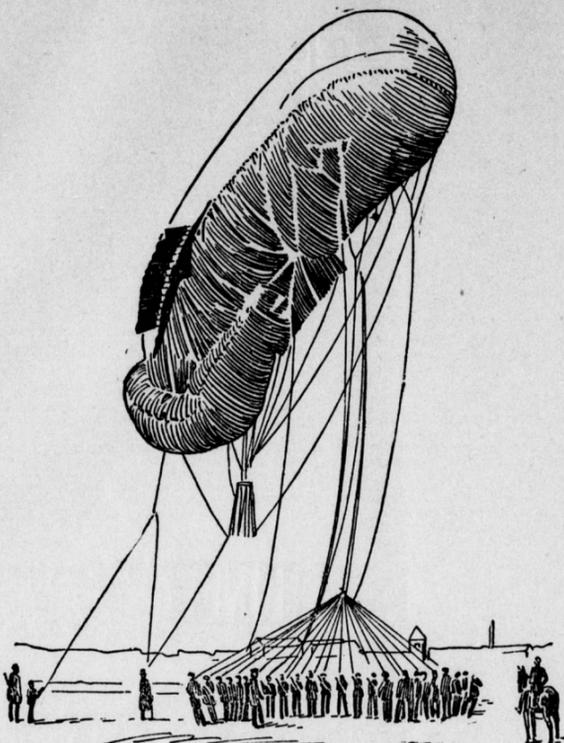


**ASCENT OF A DRAGON BALLOON.**



tions, the gas will be conveyed in wagons drawn by a steam traction engine or by four horses. This gas is stored in steel cylinders, 110 cylinders being required to fill one balloon of 10,000 cubic feet capacity. Hitherto one cause of great concern in the ballooning operations has been the difficulty of obtaining a balloon sufficiently steady to ensure the making of accurate observations. It has also been feared that the difficulties attending the manufacture, handling and conveyance of the gas might prove insurmountable. In order that this may not prove a stumbling block in the Transvaal, the British army is being also furnished with equipment for the rapid erection of observation towers. The care of these is entrusted to the Royal Engineers, a section of the British army whose operations have always been distinguished by excellence of work. One of the illustrations shows one of these towers after it has reached a height of 110 feet. It will be seen that the observation posts afford every facility for reconnoitering the movements of the Boer army. The results of the

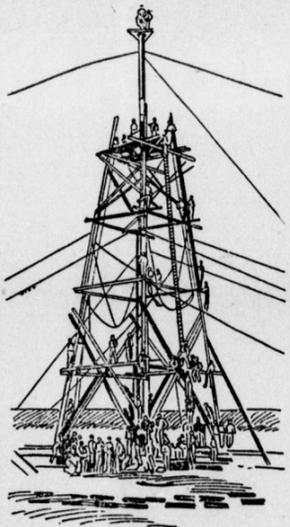
**BRITISH WAR BALLOONS WATCH THE BOERS.**

Remarkable Battlefield Work Done by Mounted Telegraphers.

DISPATCH from Cape Town states that the British troops have an important auxiliary in the military balloon, and the defence of Ladysmith was considerably facilitated thereby. The balloon was in telephonic communication with the camp, and kept a watch on the Boer movements during the night. The brilliant work performed by the signaling corps of the United States army during the war with Spain caused special attention to be drawn to that branch of the service. An interesting comparison will be afforded by the study of the operations of the signallers of the British army in the hostilities in the Transvaal. The latest information received is to the effect that a complete ballooning corps from England is on the

firmly expected that their advent in the Transvaal will afford many lessons in the possibilities of ballooning in warfare.

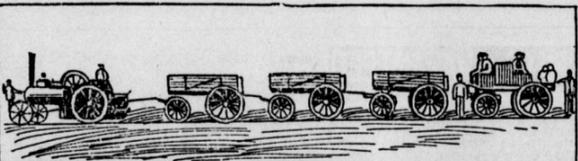
The British balloon division is fully equipped for the work it is to perform. The chief work which it will be expected to execute may be summed up as follows: First, to discover the whereabouts of the Boers hidden in cover; second, to make observations and to take photographs; third, to



TOWER CONSTRUCTED BY ROYAL ENGINEERS WORKING WITH THE BALLOON DIVISION.

carry dispatches. Invaluable information concerning the enemy's movements will be telephoned from the men in the cars to those below. The balloon, too, will render excellent service for map-making purposes. Photographs will be taken vertically downward that will show every detail of the country and the position of the Boer forces. It is only a matter of practice for skilled surveyors to become efficient in judging distances and heights from a balloon car and in making accurate sketches and maps.

The British military balloons now going to the front hold about 10,000 cubic feet of hydrogen. Each balloon will carry two persons—one in the car and the other in the netting.



BALLOONING TRAIN IN THE FIELD.

sories fell into British hands, and this calamity no doubt influenced his opinion. However, since those days military balloons have done good work on many occasions, and it is con-

These balloons are made of gold-beaters' skin, which is far superior in every way to silk. Each balloon will be placed on a wagon and drawn by twelve horses to the scene of opera-



TELEPHONING FROM A WAR BALLOON.

observations made by balloon or tower will be communicated to the general staff headquarters by means of telephone and telegraph lines, to be erected by the telegraph battalion of the Royal Engineers. This battalion has seen long and honorable service. In the erection of temporary lines it has made a record for speed, stability and efficiency. Galloping across a plain, horsemen may be seen, impaling their specially constructed posts at regular distances. With a speed that is almost incredible, other horsemen follow, unreeling the coils of wire; others, with an agility and skill hitherto confined to circuses, pursue them, standing on saddle to adjust a wire to the insulator, dropping into their seat, only to repeat the operation a few yards further on. The illustrations show that this line is not as primitive in construction as one might suppose.

**Baled Money.**

But speaking of cotton—strange how the subject sticks to one—I once asked a small farmer in Georgia, "Why do you raise cotton year after year? It seems to me it's the hardest thing in the world to raise; it requires more care than anything I know of; has to be plowed oftener and looked after more carefully; why don't you raise something to eat?" And the man with the two-mule farm laughed and said, "I'd know you was from the North just by that fool speech. Because I owe for my land. I have to have money every year to run this farm. I can borrow money on my next crop of cotton. And the man who lends me the money can keep his eye on my crop from the time the seed is in the ground till it is loaded on the cars. His security is all right. But if I go to him in the spring and tell him I ain't going to raise any cotton, but only corn and garden truck, he can't keep track of no such perishable security as that. He won't lend me a cent. So if I want any money I've got to raise cotton." And I made what haste I could to swim ashore. It is so easy, son, for us to tell people 2000 miles away just what they ought to do. So much easier than it is to go there and do it.—Robert Burdette, in the Los Angeles Times.

**Secret Drawers Designed by a Woman.** "Most people seem to think," said a maker of furniture, "that secret drawers and hidden receptacles in furniture only exist in novels and plays, but this is by no means so. I very frequently take orders for such items, and I employ a clever woman designer, who shows positive genius in planning places of concealment, which no amount of tapping or measuring could reveal. In most cases, even were the hollow receptacle discovered, the woodwork around would have to be cut away, so complex are the fastenings. Most of the orders come from women—and rich people, of course—and I have no doubt that a desire to hide articles from too curious servants dictates the orders."

"Barker humbly says he is but an instrument in the hands of destiny." "I know he talks that way; but, all the same, he thinks destiny has his hands full when it is using him."—Indianapolis Journal.

**SCIENCE AND INDUSTRY.**

Lieutenant Maury has calculated that if an inch of rain fell over a fifth part of the surface of the Atlantic, it would mean an addition to its volume of 360 million tons of water, and that if the same amount of water evaporated from the ocean, it would leave 16 million tons of sea-salt.

According to the state geologist of Indiana, the natural gas supply of that state is decreasing in pressure, and its quantity is limited. In five years all the pipe lines have been extended towards the heart of the field, and the centre is now reduced to an area of less than 150 square miles. In this centre the pressure has diminished from 264 pounds in 1895 to 181 pounds in 1898, and the average rock pressure of the entire field has been reduced from 191 pounds in November, 1897, to 173 pounds in November, 1898. The average pressure at which salt water overcomes gas is stated at between 130 and 150 pounds to the square inch, and this necessitates the abandonment of the well.

A strange complaint which has lately been prostrating large numbers of Parisians has been attributed by medical men to a rather peculiar cause. This is the presence in their patients' morning rolls of salts of lead, deposited on the floors and walls of the ovens in which they have been baked. According to the medical theory, the extensive use of old timber in place of other fuel that so largely obtains in France is directly responsible for this condition of affairs. As a result, the Paris council of hygiene has issued an edict forbidding the employment by bakers of wood from old houses, disused railway sleepers or wooden paving blocks for their furnaces. Such timber is usually impregnated with sulphate of copper or creosote, and poisonous volatile salts are liable to rise from it when heated.

Last spring a plan was proposed at the Harvard college observatory for the construction of a telescope of unusual length for photographing the stars and planets. Anonymous donors have now furnished the means by which this experiment may be made, and it is expected that a telescope having an aperture of twelve inches and a length of a hundred feet or more will soon be ready for trial at Cambridge. The exhibit of the Harvard observatory at the Paris exposition will represent the work of the United States in astronomy. Among the collection of photographs of heavenly bodies will be the stellar charts and photographs of stellar spectra produced with the aid of the great photographic telescope now in South America. There also will be an exhibit of glass photography illuminated by electricity.

Another mechanical prodigy has been added by the Boston Elevated Railroad company to its magnificent equipment. This is a new steel shaft reported to be the largest ever cast—to form part of a new vertical cross-compound engine, which is being put in place in the company's central power station, an engine of four thousand horse power, at ordinary speed. The shaft is twenty-eight feet in length, over all, thirty-eight inches diameter in the centre and weighs in its finished state about seventy-five thousand pounds; as a rough casting it was much heavier, of course, a hole fifteen inches in diameter having to be bored in the centre. In the journals, which are each fifty inches in length, leaving a length of some twenty feet between the centres, the diameter is thirty inches. The vast proportion is characterizing all the other features of this undertaking will be further understood when it is stated that the fly wheel casting weighs seventy-five tons.

**Minimum and Maximum of Sleep for Man.**

"The old rule of eight hours' sleep is sheer nonsense," said a New Orleans physician, chatting after office hours. "Natural sleep is something that can't be regulated by any formula. The body takes what it needs, be it much or little, and the necessary amount varies with the individual. In a general way I would say that four hours is the minimum and ten hours the maximum for people in fair health. Either more or less is a pretty sure sign that something is out of gear—usually something in the brain. I have two patients who sleep only four hours and keep in tolerably good condition. Both are middle-aged men, and neither of them works very hard. They are simply so constituted that nature can repair its losses in four hours of unconsciousness. In many other people nearly three times as long is required; the nerve calls work more slowly—why, nobody knows. The queerest case that ever came under my personal observation was that of a bookkeeper of this city, who used to sleep two or three hours a night through the week and on Sunday would catch up in a twenty-four hour nap. That is no exaggeration, but an actual fact well known to all his intimates. He seemed to be able to store away nervous energy as a camel stores water." His general health during the twelve or fifteen years I knew him was excellent, but he finally died of an attack of pneumonia.—New Orleans Times-Democrat.

**An Echo of the Past.**

He—How do you like your new automobile? Is it hard to manage? She—Oh, no. The only trouble I have is that somehow I can't break myself of saying, "Get up!" when I want to start the thing, and "Whoa!" when I want the machinery to stop.—Automobile Magazine.

The gold yield of Brazil is constantly increasing.

**THE GREATEST MOOSE HEAD.**

Romantic History of an Enormous Specimen in Tacoma.

A moose head whose antlers measure from tip to tip six feet six and a half inches, a head on which from tip to tip a board could be placed, the tallest of men lie down and not be too tall for the length of it—in fact, the



LARGEST MOOSE HEAD IN THE WORLD.

largest moose head in the world—is the property of W. F. Sheard, of Tacoma, Wash. It has forty prongs, and its immense fanlike antlers are enormous in their width as well as in height. The marvel is that any neck could have carried such a burden.

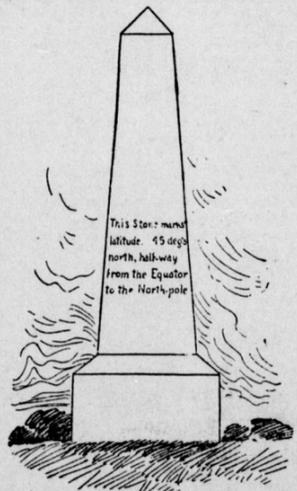
Its history is unusual and tinged with the romantic superstition of the Canadian Indian. For many years the Indian tribes around Fort Selkirk and the mouth of the Stewart River, in the northwest territories of Canada, had told among themselves the tale of a mighty moose, a "hi-uh moose," that for years and years had haunted the district of the Stewart River. Many years before, when this gigantic animal had first appeared, their fathers had endeavored to kill it; for days they had tracked the beast through the pathless forests. Easy to track it was, for the immense antlers, said the Indians, made a path through the foliage of the trees wider than a man was high, and the marks of his huge prongs on the bark were certain indications of his path. But nobody was able to kill him. Gradually grew up around this huge, mysterious animal a superstitious reverence that he should escape all bullets and arrows and evade all pitfalls.

In October of 1897 an Indian-French half-breed, untroubled by superstition, legends or scruples, came into the post and reported that for four days he had followed the "hi-uh moose," and had killed it near the headwaters of the Stewart River, two hundred or three hundred miles from Dawson City (Klondike). This was in the dead of winter.

Finally a party of whites went out from the post and brought the moose in. The next year the head was sent down the Yukon to Tacoma, Wash., where W. F. Sheard, a skin merchant of that city, bought it, and in his possession this unique and magnificent trophy remains.

**Midway Between Pole and Equator.**

A big shaft of granite will soon be erected by the Government of the United States at North Perry, Me. The purpose of the erection is to mark the geographical spot which is midway between the North Pole and the Equator. On the stone is the inscription: "This stone marks latitude 45 degrees north, half way from the Equator to the North Pole." The shaft will rise near North Perry's solitary church, and will be the most curious sight in the vicinity. The people of the village—500 in all—are so taken by surprise that they can discuss little else than the oddity of the Government's proceeding in so distinguishing their settlement. The North Perryans are not precisely men of science. Most of their time is devoted to working in lumber camps and guiding parties of hunters, and perhaps not one of them has ever dreamed he has been living in a town built upon such a site. On the day of the



SHAFT TO BE ERECTED AT NORTH PERRY, ME.

"unveiling" North Perry will take a holiday and celebrate their new honors with a picnic.

**Muscalonge Stopped the Mill.**

The water wheel in the Waterford grist mill suddenly stopped one day, and three muscalonge, weighing about five pounds each, were found wedged in the sluiceway, shutting off the water.—Meadville (Penn.) Democrat

**THE GREAT DESTROYER.**

SOME STARTLING FACTS ABOUT THE VICE OF INTEMPERANCE.

'Tis the Little Things That Count—Where There is Deep and Constant Drinking There Can Be No Happiness—Drunkards are Mostly Acquired, Not Hereditary

Just a little here and there, boys, Such a trifling thing, you think; Sixpence for a yellow novel, And another one for drink; A little spent in the card room, Threepence for a cigar, But O, do you ever think, boys, 'Tis the little things make or mar?

Just a little while from home, boys, And all your unwary feet Will be lured to sin-stained by-paths That lead to ruin's broad street, It is just the first wrong thought, boys, Just a few vile words, ah me! And your current of life is changing, You are drifting out to sea,

Where no human hand can save you, Rudderless, and lost, Don't you think those boasted pleasures Are bought at a fearful cost? 'Tis the little things that count, boys, That make up the mighty whole, 'Tis the little thoughts and deeds, boys, In the balance against your soul, —Our Young People.

**Merriment as Related to Drunkards.** When Dr. Thomas J. Hill asserts that whiskey contains all the constituent elements of food, he probably speaks from medical knowledge.

But when he states that whiskey makes hundreds merry for every ten it makes miserable, he knows not whereof he talks. One drunkard may feel exceedingly merry, but he is sure to make everybody within his sphere of influence miserable. Where there is deep and consistent drinking there can be no happiness.

Mr. Hill seems to think that all drunkards are hereditary drunkards, and that they drink because they are unable to abstain from it. Generally speaking, we are an intemperate nation, but the intemperance of nineteen men in twenty is not hereditary. It is acquired. There are men who achieve drunkenness deliberately and periodically. Others have drunkenness thrust upon them.

The periodical drunkard is a prey to circumstances. If he happens to be a rich man either joy or sorrow will arraign him at the bar. If he is a laboring man he gets drunk on pay days, because the task of earning his money is over and he seeks the relaxation which on peniless days he is unable to purchase.

But whether a man be a periodical or a habitual drunkard, he is sure to cause misery. Dr. Hill inveighs against ministers and ultra-temperate physicians, who "assemble in a moral blockhouse, deaf to the bugle of common sense."

The excessive use of whisky has nothing to do with common sense, and whether it is a fine thing for snaky bites, as a merriment producer it is a failure throughout the world. As a misery maker it is perfection.—New York Journal.

**The Woe of England.**

The drink evil continues to be one of the most pressing questions of the day in the United Kingdom. From the latest statistics it appears that the consumption of whisky last year was the greatest yet reached, the population having swallowed more than a gallon per head of liquor known by that name. The London Lancet, in referring to the British death-rate from intemperance, directs attention to one of its most painful features—the increase of alcoholism among women. The deaths from chronic alcoholism in the year 1897, as compared with the year 1878, in men show an increase of 82 1/2 per cent., those of females of 145 1/2 per cent.; and the deaths from cirrhosis in men an increase of twelve per cent., and those from cirrhosis in females of twenty-six per cent. The amount of disease, caused by liquor, which falls short of a fatal termination is necessarily a matter beyond all power of calculation. "Statesmen," the Lancet says, "may create for themselves the most magnificent national vic which yields the exchequer so many millions sterling a year; but, speaking from a medical point of view, we must point out that it is disgraceful and disastrous."

**Villainous Deceptions.**

In New York City alone three chemical laboratories manufacture concoctions for the adulteration and coloring of beer, whose sales annually aggregate several hundred thousand dollars. Of American beer which was made in different parts of the country and tested by our Department of Agriculture, according to their report of 1887, six bottles out of twenty-six contained salicylic acid, and one out of two foreign bottles which was made in Bremen and labeled "Kaiser." The same report contains the result of the analysis of seventy samples of American wine, eighteen of which contained salicylic acid and thirteen sulphurous acid. In the composition of fifty other samples of sweetened California wine, hardly a trace was found of grape juice.

**The Criminal Inebriate.**

In an able address on State medicine before the American Medical Association at Columbus, by Dr. D. R. Brown, of Chicago, occur the following passages: "An important factor in the cause of crime is intemperance. Fully fifty per cent. of the criminals arrested in Chicago are inebriated, and the police reports of New York show about the same proportion. Ferris has shown beyond question that in France crimes increase and decrease with the more or less abundant vintage, and we may safely attribute at least some of the increase of criminality and pauperism in the United States to the increase of intemperance; and it may be estimated that alcoholics are the direct or indirect cause of probably seventy-five per cent. of all crime committed."

**No Good in It.**

There is no real good that comes to one from the use of intoxicants as a beverage. Most men who drink will admit there is no good in it. They may insist that there is no great harm, but at the same time acknowledge that there are no beneficial returns for the large investments of time and money. The supposed benefit to one's health, or to his social and business standing, can readily be shown to be in fact no benefit at all.

**Whisky and Coffins.**

A writer in the Century tells of a man in Buenos Ayres who traded in whisky and coffins. "I remember," says he, "the tiers of whisky barrels ranged on end, on one side of the store, while on the other side, and divided by a partition, were the coffins in the same order, of all sizes and in great numbers. The unique arrangement seemed in order, for as a cask was emptied a coffin might be filled."

**The Crusade in Brief.**

No one wants to be a drunkard. Total abstinence is the only absolutely safe course.

The man who calls himself a "moderate drinker" deceives nobody but himself.

Wine may multiply the flow of words, but it never increases the purity of thought.

Alcohol, in even moderate quantities, tends to produce an appetite that becomes insatiable in its demands.

Some surgeons will not undertake to perform operations upon persons who have been addicted to drink.