A WONDERFUL CLOCK.

The astronomical clock in the cathedral at Besancon was the rival of the celebrated Strassburg clock until both were outdone by the one at Beauvais, completed in 1876. That at Beauvais is most startling in its performance, for it is intended to convey to the careless a warning of the frightful consequences of the misuse of time, and at a certain hour an opening discloses the lost in torment and flames. The religious idea of the Besancon clock, however, is more comforting. It is meant to teach this lesson :

"Having, through sin, lost a happy eternity, through our Lord's death and resurrection we regain the same by a good employment of our time ; and so the spiritual idea of the horloge is not death, which is the end of man's time, but the Saviour who restores it to him."

Our walk to the cathedral was full of interest. We passed the house where Victor Hugo was born, the archbishop's palace, the Roman columns, the *Porte Noire*, dating from the days of Marcus Aurelius, and so into the church, where we rang an electric bell to summon the attendant.

A voice high above us called down, "Who is there ?"

"Two strangers to see the *horloge*."

"Pass through the door to the right and ascend."

So we mounted the stairs till we reached a landing where we were met by a neat-looking woman, who civilly invited us to enter a small room in the tower. She had a little wand in her hand to point with, and she began her description in a rapid way, which proved that she had said it often and knew it by heart.

"This remarkable horloge," she began, "is in the Renaissance style. The entire time taken fer its construction was three years, and there are thirty thousand pieces of steel and copper in the machinery, and seventy-three dials. The height is six yards, the breadth two yards and twenty-four inches, the depth one yard.

"There are seventeen dials arranged around this central one," she continued, pointing with her little *baton* to the dials below a large clock face. "The middle ones gives the days of the month and the month of the year. Eight small dials, you observe, surround this. The top one indicates the equation of time ; this one at the left shows the length of the days : that at the right the length of the nights; below this the left-hand one gives the four seasons ; the right, the twelve signs of the zodiac ; this one, the days of the week ; the other the signs of the planets from which their names are taken, and the lowest one gives the date of the year.

"The eight larger dials show first the seconds ; then here on the left the time the sun rises for every day in the year ; there on the right, the hour that it sets. The others give the ecclesiastic reckoning. The first on the left gives the golden number ; the second the Solar Cycle; the third the Epact; the fourth the Dominical Letter, and the fifth the Roman Indiction.

"On the right and left we see above four dials larger than the sixteen below them. Two show the periodical eclipses of the sun and moon, and two the common and bissextile years, the common centuries. The sixteen smaller dials show the time at Paris, Rome, Vienna, St. Petersburg, New York, Algiers, London, Batavia, Jerusalem, Pekin, Taiti, Cayenne, Madrid, Constantinople, and Calcutta.

The New York dial had a home look. We took advantage of a short silence, during which the woman paused to take breath, to compare the time with that of Besancon. We found the New York time nearly five hours earlier, and felt amused to think that while we stood there at high noon, some of our friends at New York were not yet awake !

"The large central dial surmounting all shows the time at Besancon," resumed the cicerone, "and the twelve apostles are enclosed in the little alcoves—six in each. At every hour two retire and two others take their places to sound the hour on little bells, which they strike with the instrument of their martyrdom or the symbol of their rank.

"St. Michael and St. Gabriel, standing above, strike the quarters.

"The three other figures above the Besancon clock face represent Faith, Hope, and Charity. When the apostles change places, Hope and Charity turn toward Faith, who turns toward each, extending a chalice, and then they renew their positions.

"The sepulchre of our Lord is represented above this, two armed soldiers mounting guard. Twelve o'clock is about to strike, so watch the clock, if you please."

The woman stopped as the hands reached noon. Our eyes were widely attentive. As the hour sounded, the two apostles retired and two advanced ; Hope and Charity turned toward Faith, St. Mary lowered her sceptre, the armed soldiers fell prostrate, and a figure of the Saviour rose from the tomb, while sweet music sounded from a musical box attached to the machinery. The last stroke of twelve died away, and all was as before, excepting that the figure of our Lord remained visible.

"At three o'clock," resumed the guide, "the Saviour returns to the tomb, the stone rolls over him, the soldiers once more stand guard, and the music is no longer glad, but mournful.

"But this is not all ; at the sides we see various seaports. Here are Havre, Dieppe, Mont St. Michel, St. Helena, Cayenne, Port Louis, and the harbor of Brest. Observe that the waves are constantly in motion, and that one sees storms gathering and passing, clouds coming and going, the tides flowing in and out. The tides rise and fall exactly as they do at the places represented, and the flood-tides also just as they occur at the ports. The other dials demonstrate astronomical facts.

"Outside on the cathedral tower are four very large dials, which give the hours and minutes, the days of the month, the days of the week, and the phases of the moon. An electric attachment operating every twenty seconds, transmits the time to four other dials ; one in the church, another in the cloister, the third in the court of the citadel, the fourth in the archbishop's palace.

"One hundred and twenty-two indications are given, from a second of time to ten thousand years. And that is all," continued the woman, "except about the working of the machinery, which I do not explain."

After going behind the clock and looking well at the working, we gave the woman her fee and left, feeling solemnly impressed with the value of time, the wonders of science, and the beauty of the Psalmist's prayer : "So teach us to number our days, that we may apply our hearts unto wisdom."

Wonders of Astronomical Inventions.

Astronomers formerly knew nothing of the constituent elements of the heavenly bodies. Had La Grange been told of the wonderful achievements of the times later than his own, he would have pronounced them impossible. Think of Herschel, as he sat through those wintry nights, with the faithful Caroline at his side, recording the results of his observations. How little could he have dreamed that the actual gases of the far away planets which he was studying would one day be presented for analysis. The "Origin of Species" was presented to the world in 1859, and it was soon after this that a gigantic stride was made in asronsomical science in the series of spectroscopic discoveries . Tyho's crude machine did noble work. It was not a telescope at all, but the suggestion of what was to come. The inventor of this crudity so stimulated his scholars that much was accomplished, and one of them became such an enthusiast that he could not be diverted from his close observation of a star by the alarming tidings that his house was on fire. "I will come to the house when this more important matter in determined." Reflecting telescopes are much larger than refracting telescopes, because it is difficult to get glass which is pure enough for the making of large object glasses. The earliest of the colossal instruments ever turned upon the heavens was Herschel's monster 40-foot reflector. A reflecting telescope is a great funnel catching all the rays of light in its compass, and concentrating them into one ray small enough to enter the pupil of the eye. This telescope was erected in the clear atmosphere of the Island of Malta. The wonderful reflectors of Lord Rosse's had a mirror six feet in diameter, with a tube sixty feet long. When the telescope was in a horizontal position a man could walk inside from one end to the other. The mirror in a reflecting telescope is metallic, being composed of two parts of copper to one of tin. But the greater part of the work of astronomers is performed by smaller and refracting instruments. The "meridian circle" is the most practical of the telescopes in the great work of science. By the use of these instrument, a foundation is laid for mathematical researches of the most exalted character. Practical astronomy is thus brought into immediate contact with the affairs of daily life. In most large cities there are astronomical observatories and these are generally connected by electricity with the clocks of the city. Uniform time is thus secured.

Air Navigation Again.

The Tissandier brothers, who a yearago tested a navigable balloon in Paris with some success, have repeated the same experiment with the same balloon this year, the only difference was in getting additional power of movement by increasing tha size of the zinc plates used in the battery that furnished energy to the electric motor. With this help a force of one and-a-half horses was claimed and the propelling screw was driven at the rate of one hundred and ninety turns a minute. The balloon was allowed to ascend to a height of thirteen hundred feet above the earth, and found at that point a breeze blowing from the northwest at the rate of about seven miles an hour. The motor was then set in operation, and drove the balloon at the rate of nearly ten miles an hour, so that it was rapidly steered through a complete circle, and then moved against the wind as far as Grenelle. The ascent was made late in the afternoon, and, as it was getting dark, the aeronauts allowed the balloon to float away to the suburb of Varrenne, where they descended safely. Although the voyage smade by the Tissandier and Renard balloons seem to us absurdly short, they indicate, nevertheless, that the time is not far distant when balloons of a force much superior to them as that of a steamship is to the weak struggling of a dory, will navigate the air to some practical purpose. No attempts at doing this have ever yet been really made, but the evolutions of the ingenious toys which the French engineers have devised will soon point the way for applying the principles which they discover to airships made with serious purpose.

At dinner at the restaurant: "Have another glass of Burgundy, old fellow?" "No, thanks; it's too expensive." "Too expensive; I don't understand." "Yes, it cost me on an average a hundred and fifty francs for repairs to my carriage every time I drink it."

It ain't fur de lumbo' money dat some pursons work. It is 'case dat when da had ter do it da got so use ter de 'sociation dat at las' da fin's it de bes' 'panion. Er pusson ken own a disagreeable dog till he gets to used ter hes ways dat airter awhile he learns ter like him.

QUEER HAPPENINGS.

A Bloomsburg, N. J., woman, who was born dumb, began to laugh just before her death, and laughed continuously until she breathed her last.

As some workmen were burning brush on the battlefield of Missionary Ridge recently, a stump suddenly blazed up and was blown into many pieces. Investigation showed that three shells had been embedded in it.

A husband of Deadwood has put up in the Post Office the following notice : "My wife Sarah has Shot my ranche When I didn't Do a thing Too hur an' I want it distinctly Understood that any man That takes her in and keers for her On my account Wil get himself pumped so Full of lead that Sum tenderfoot will locate him for a mineral clame. A word to the wise is sufficient, an' orter work on fools. P. Smith."

Two cows went to a neighbor's gate during the sultry weather last summer, and the man, suspecting their desire, took a pail of water to them. They drank with great eagerness and then sauntered contentedly away. In half an hour they returned with three other cows. These too were liberally treated, after which they marched off. The next morning the first couple again visited their benefactor, bringing another stranger with them. Their visits became regular, and almost every time a strange cow or two accompanied them.

Nature tells of a canary that had been greatly annoyed by the hardness of the bits of cracker thrown into its cage. One day it lifted a piece of cracker and, taking it to the water trough, dropped it in and then stirred it about with its beak until it was in condition to be eaten. It now puts every hard substance which it deems eatable into the water. It endeavored tosoftensweetsin the same way, but finding that the sweet became gradually smaller and smaller, it hastily abstracted it, and has never since put anything of that nature into the water.

While a protracted meeting was being held in Resaca, Ga., a number of ministers stopped with Mrs. J. W. Davis, and she was sorely perplexed as to the means of getting something good for them to eat. She had tried in vain to get a ham in the place—all having been consumed by the large crowd in attendance—and but one small chicken could be found. While she was busy in the kitchen preparing the chicken, and wondering how she could provide for her guests, a covey of partridges flew into the dining room. The doors were closed, a number of birds caught, and the ministers fared sumptuously.

A drove of over 1,000 sheep was being driven on a road in Indiana. At a depression in the road water was found to cover it from fence to fence, but little more than the waggon track being bare. Just as the leader of the flock reached this spot a large black water snake crossed the track. The leading wether stopped short, and the entire space was soon blocked full. In a moment a dog came bounding over the backs of the sheep, and dropping down between the water holes took the leading wether by the ear, giving him a gentle pull. He sprang into the air, clearing the narrow space between the water holes, followed by the entire flock, the dog not leaving the track till the whole drove had passed.

Our Teeth.

They decay. Hence unseemly mouths, bad breath, imperfect mastication. Everybody regrets it. What is the cause? I reply, *want of cleanliness. A clean tooth never decays.* The mouth is a warm place, 98 degrees. Particles of meat between the teeth soon decompose. Gums and teeth must suffer.

Perfect cleanliness will preserve the teeth to old age. How shall it be secured? Use a quill pick and rinse the mouth after eating ; brush and castile soap every morning ; the brush with simple water on going to bed. Bestow this trifling care upon your precious teeth and you will keep them and ruin the dentists. Neglect it, and you will be sorry all your lives. Children forget. Watch them. The first teeth determine the character of the second set. Give them equal care.

Sugar, acid, saleratus and hot things are nothing compared with food decomposition between the teeth. Mercurialization may loosen the teeth, long use wear them out, but *keep them clean and they will never decay.* This advice is worth thousands of dollars to every boy and girl. Books have been written on the subject. This brief article contains all that is essential.

Never have a tooth taken out if it be possible to have it filled. The loss of a single jaw-tooth will not only give the cheek a sunken appearance, but it will prevent the proper mastication of the food, and this is a long step toward dyspepsia, with its train of evils.—[Selected.

A Simple Remedy.

There is no remedy of such general application, and none so easily attainable as water ; and yet nine persons in ten will pass by it in an emergency to seek for something of far less efficiency.

There are but few cases of illness where water should not occupy the highest place as a remedial agent.

A strip of flannel or a napkin folded lengthwise, and dipped in hot water and wrung out, and then applied around the neck of a child that has croup, will usually bring relief in ten minutes.

A towel folded several times, and dipped in hot water and quickly wrung and applied over the seat of the pain in toothache or neuralgia, will generally afford prompt relief. This treatment in colic works almost like magic. I have een cases that have resisted other treatment for hours yield to this in ten minutes. There is nothing that will so promptly cut short a congestion of the lungs. sore throat, or rheumatism, as hot water when applied promptly and thoroughly.

Pieces of cotton batting dipped in hot water, and kept applied to old sores or new, cuts, bruises, or sprains, is the treatment now generally adopted in hospitals. I have seen a sprained ankle cured in an hour by showering it with hot water, poured from a height of three feet.

Tepid water acts promptly as an emetic ; and hot water taken freely half an hour before bed time is the best of cathartics in cases of constipation, while it has a most soothing effect on the stomach and bowels. This treatment continued for a few months, with proper attention to the diet, will cure any curable case of dyspepsia.

Headache almost always yields to the simultaneous application of hot water to the feet and the back of the neck.

It is an excellent plan to record facts like these in a note book, which should be always be at hand when wanted. In the anxiety caused by accidents or sudden illness in the family, one becomes confused and is not apt to remember quickly what should be done ; hence there may be prolonged and unneccessary suffering before proper remedies are applied.—[Hall's Journal of Health.

The Panama Canal.

An impression prevails in certain quarters that the great enterprise of connecting the Pacific Ocean with the Gulf of Mexico will eventually fail, owing to the engineering difficulties in the way ; but Lieut. Henry H. Gorring, late of the American navy, who understands the situation thoroughly, has no doubt but that De Lessep's greatest work will be finished and in working order by 1890. He recalls the fact that eminent English engineers predicted the failure of the Suez Canal ; but the knowledge gained in that enterprise, insures, he thinks, the success of the Panama Canal. He says :

'The substitution of mechanical appliances for manual labor is the real solution of the problem. The cutting of the Suez Canal dragged along for eight years, during which only 22,000,000 cubic metres were removed. During this time the prophecies of failure, notably by eminent Englishmen, were as persistent and as positive as the prophecies of failure to complete the Panama Canal are to-day by Englishmen and Americans. During the eighth year machinery was substituted for human labor, the remaining 55,000,000 cubic metres were removed in the two following years, and the canal was opened in the tenth year. The French engineers start on the American Isthmus with the experience gained on the other work. They have taken three years to study their needs and to prepare mechanical appliances, and the work is now progressing rapidly. Americans would much perfer that the American canal should be the work of Americans. I use the word in its broadest sense. Evidently Americans had neither the courage nor the means to undertake it. The Frenchmen had ; they have gone quickly to work; they ask us for nothing, not even for subscriptions to the capital stock; they are spending their own money in their own way, and a very considerable part of the money they spend reaches the country in exchange for machinery, materials, and food. The Frenchmen are engaged in a work that will benefit American commerce, and especially benefit the commercial marine of the United States, quite as much as British commerce and the British commercial marine were benefitted by their work at Suez. It is a matter of no consequence to the United States who cuts the canal, provided it is cut. When it is completed, if it becomes necessary or even important to our national welfare and safety that we should control it, there is no doubt that we shall take possession of the canal and the country through which it passes, with as little hesitation and trouble as the British recently took possession of Egypt and the Suez Canal, and without the slightest consideration as to who built the canal or who operates it."

This is a very hopeful view to take of the matter, for Americans have not felt disposed to aid this enterprise, as they feared to lose the freight and travel between Europe and Asia which now makes use of our railways between the Atlantic and Pacific ; but the French engineers are not fools, and they undoubtedly will succeeded in opening up an avenue between the two continents by way of the Isthmus of Panama.

Legally Dead, but Physically Alive.

A man who was legally dead, and whose estate had been administered upon has come to life. In 1874 William J. Trailer, of Monmouth, Ill., left home for the West, and his relatives hearing nothing of him for years, regarded him as dead. His father was Thomas Trailer, who was murdered in 1867, leaving 160 acres of land and $10,000 to be divided among three children. Diligent search was made for William, but it was fruitless, and in May, 1883, Judge Porter, of Chicaga, was appointed by the County Court as administrator of his estate, and preparations were being made to distribute his patrimony among the legal heir. But William now turns up in the flesh, and protests and petitions the Probate Court to re-establish him in his rights, asserting that he is "not dead," and never was, and he is now here in his own proper person to make his petition. His two uncles. Maj. Bond, and J. W. Bond, identified him, and the letters of administration on his estate were revoked, and he is placed in full control of his property as completely as if he he had been dead and resurrected. His only explanation of his silence is that it did not occur to him to write home.

Cremation in Italy.

As the figures quoted below will prove, cremation has made the greatest progress in Italy, where, in 1876, Milan was the first city to revive this method of disposing of the dead. From that time the little temple built in the cemetery by Macciachini has gradually become a grand institution. The example of Milan was soon followed by Lodi, where a simple but perfect apparatus was erected in 1877, and last year a temple was erected at Cremona. Rome followed with a small temple on the declivity of the cemetery in Camp Verano, in which the mortal remains of many illustrious patriots have already been consumed. At Varese an elegant temple has been built on the highest point of the new and beautiful cemetery, dominating all the valley below. Plans are now being examined at Novara, Venice, Florence, Pisa, Leghorn, and Turin for new temples of cremation to be erected next year, while that at Spezia is only awaiting opening. Since the body of Albert Keller, a well-known philanthropist, was burned at Milan in 1876, the fires of the cremative apparatus have been lit in that city no less than 362 times. At Lodi the operation has been performed 26 times ; at Cremona, 12; at Udine, 2; at Rome. 35 ; at Brescia, 24; at Padua, 3, while at the same time associations of cremation have been constituted not only in the abovenamed cities, but also at Domodissola, Como, Bologna, Modena, Pavia, Codogno, Venice, Piacenza, Leghorn, Novara, Ancona, Genoa, Florence, Turin, Parma, Verona, Pisa, Carpi, Asti, Pistoja, Intra, and San Remo, counting together more than 6,000 members, not a few of whom are women. This rapid spread of the system of cremation has taken place among the Italians in advance of any governmental provision, and indeed the legislation may be said to be the only obstacle in the way. From a technical point of view the problem has been completely solved by the apparatus at Milan, which satisfies all sanitary and economical exigencies. The system does not exclude religious ceremonies.—[Naples Letter to the London Daily News.

A Bird Catching Tree.

Among the transactions of the New Zealand Institute Mr. R. H. Govett gives some startling facts as to the bird-killing powers of *Pisonia brunoniana* or *P. sinclairii*. A sticky gum is secreted by the carpels when they attain their full size, but is nearly as plentiful in their unripe as in their ripe condition. Possibly attracted by the flies which embalm themselves in these sticky seed vessels, birds alight on the branches, and on one occasion two silvar-eyes (Zosteropos) and an English sparrow were found with their wings so glued that they were unable to flutter. Mr. Govett's sister, thinking to do a merciful act, collected all the fruit-bearing branches that were within reach and threw them on a dust-heap. Next day about a dozen silver-eyes were found glued to them, four or five pods to each bird. She writes : "Looking at the tree, one sees tufts of feathers and legs where the birds have died, and I don't think the birds could possibly get away without help. The black cat just lives under the tree, a good many of the birds falling to her share, but a good many pods get into her fur, and she has to come and get them dragged out."

In a note Mr. T Kirk says that *Pisonia umbellifera*, Seeman = *P. sinclairii*, Hook, f.. is found in several localities north of Whangerei, both on the east and west coasts, also on the Taranga Islands, Arid Island, Little Barrier Island, and on the East Cape, possibly in the last locality planted by the Maoris. The fruiting pericarp is remarkable for its viscidity, which is usually retained for a considerable period after the fruit is fully matured. It can be readily imagined that small birds tempted to feed on the seeds might easily become glued to a cluster of fruits.

The German Tramp

From time immemorial the Wanderjahre have been recognized as a distinct period in the life of the German handicraftsman, and almost as a necessary part of his education. As soon as his apprenticeship was over it used to be considered a matter of course that he should shoulder his knapsack and go out into the world to seek employment, if not a fortune. Unless he had very pressing reasons for doing so, the youth who staid at home was considered a milksop unworthy of the freedom that was now his by right. With a few thalers in his pocket, and all his other possessions upon his shoulders, the young tailor, smith, or watchmaker started on his travels. While his money lasted he led a pleasant and careless life in the open air and the little inns frequented by persons of his class. When it reached a low ebb, he sought for work in some neighboring town. How long he remained in his new position depended upon circumstances. In Summer it was seldom longer than enabled him to earn money enough to resume his vagrant life. When Autumn came, he grew critical as to the character of the masters and made full enquiry of his companions as to the mistress's liberality with respect to diet, before he applied for work; for it would have been unpleasant to have to turn out again in the ice and snow. Two or three years would be passed in this way and then the wanderer would fall in love, and either return home or settle down in the place in which he happened to be.—[The Saturday Review.

He Got the Job.

"Say, missus, d'ye want yer sidewalk cleaned ?"

"No, bubby, I guess not."

"Waal, I guess yer better."

"Why ?"

"Cause ef yer don't I'll slip down on it an' break my leg an' sue yer husband fur $10,000. I guess you better have it cleaned."