# WEST-CAROLINA RECORD.

THE STRONGEST BULWARK OF OUR COUNTRY—THE POPULAR HEART.

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**Don't be in a Hurry to Go.**

Come boys, I have something to tell you;
Come here I would whisper it low;
You're thinking of leaving the home stead,
Don't be in a hurry to go.

The city has many attractions,
But think of the vice and sins;
When once in the vortex of fashion,
How soon the course downward begins!

You talk of the mines of Australia,
They're wealthy in treasure, no doubt,
But, ah, there is gold in the farm, boys,
If only you'll shovel it out.

The mercantile life is a hazard,
The goods are first high and then low,
Better risk the old farm awhile longer—
Don't be in a hurry to go.

The great busy West has inducements;
And so the business mart,
And wealth is not made in a day, boys,
Don't be in a hurry to start.

The banker and broker are wealthy,
And take in their thousand or so—
Ah, think of their frauds and deceptions—
Don't be in a hurry to go.

The farm is the safest and surest;
The orchards are loaded to day;
You are free as the air of the mountain,
And monarch of all you survey.

But stay on the farm awhile longer,
Though profits come in rather slow,
Remember you've nothing to risk, boys,
Don't be in a hurry to go.

If you would know the value of money, go and try to borrow some; for he that goes a-borrowing goes a-sorrowing.

Diligence is the mother of good luck, and God gives all things to industry.

A little neglect may breed mischief.

Drive your business, let it not drive you.

If you would be wealthy, think of saving as well as getting.

Beware of little expenses; a small leak will sink a great ship.

If you would have your business done, go; if not, send.

Not to oversee workmen is to leave them with your purse open.

From the People's Journal.

**A Peep at the Greenwich Observatory.**

Where do you live? Your friend may know, when you tell him your house is so many miles South or North, East or West of the town of so-and-so, in such a township, county or state. But in cosmopolitan language you live quite somewhere else. The world's scientist cares nothing about your town or county or state. These "all Greek" to him. You must tell him, in order to give him a definite idea of your location, how far north of the equator you live, i. e., your latitude; and you must tell how far East or West of Greenwich you live, i. e., your longitude. In Scientific language you do not live even at home, but so many degrees from the equator and so many from Greenwich. Would you learn, then, something of this latter place, by which every other place on the face of the globe is located? It is in England close by London—a part of the great metropolis, you might say with propriety. Let me describe—not Greenwich—but all that makes Greenwich a pivotal point in the world—that wonderful accumulation of machinery which keeps us in order, and without which our ships that are upon the ocean and ourselves that are upon the land, would be sailing about without reckonings. In this assertion I deprecate not that pardonable pride which seeks to make our own National Capital the starting point of longitude, but which is doomed to disappointment, because all other nations have fixed upon Greenwich as such point, to change which now would be too much like "upsetting things" to be tolerated by peace-loving scientists. To begin then:

Never had science a more pleasant retreat than Greenwich Observatory appears to be this bright summer morning. For all its pleasant aspect, however, the idea of exploring it is decidedly a formidable one. At the very entrance gates one feels suddenly convicted of the most abject ignorance. Here are mysterious metal pins fixed on the wall for the determination of British measurements, and the question at once arises, what have these to do with astronomy? Then there is a great clock-dial, on which the hours are reckoned, from one to twenty-four, and which is popularly believed to be kept going by the sun.

Determined to clear the way as he goes on, the visitor makes these outer difficulties the subjects of his first inquiries on gaining admittance, and he discovers to his amazement that the very length of his trousers, and the cut of his coat, and the height of his hat have all been determined by measurements, based upon the motions of the heavenly bodies.

A tailor's yard-measure, it appears, bears a certain proportion to the length of a pendulum which, under specified conditions, beats accurate seconds of time, and seconds of time are determined by astronomical observation. If the tailor wishes to verify his measure, he has only to bring it to the Observatory gate, where he will find a standard absolutely accurate. As to the clock, it is oval, and the earth moves slowly, and as we see, the sun, is behind his time.

It is clear, therefore, that if the Greenwich clocks were to be regulated according to the time at which the lord of day puts in an appearance at this little cobweb, they would require constant alteration. They are however, set to record the average time of his transit. This never varies, and twelve o'clock "Greenwich mean an astronomer's clock, and astronomers know nothing of A. M.'s; their calculations are sufficiently complicated without them. The notion that it is kept going by the sun is, it need hardly be said, a delusion.

In passing the outer portal of the Observatory, the visitor finds himself in an open court-yard, with an irregular pile of buildings on his left hand. Entering a low doorway in one of these, he is at once interested to discover that he is really at what may be considered the fountain head of all our computations of time. The chief business of Greenwich, as all the world knows, is to tell us the time of day; and in this small and somewhat mean-looking apartment is the great telescope by which observations for this purpose are effected.

This instrument—the transit circle, as it is technically called—is twelve feet in length, and its largest glass is eight inches in diameter. It is suspended by the middle between two massive stones buttresses in such a manner as to permit of its sweeping the sky in a straight line overhead, though it cannot be veered round to the right or left.

We have arrived, let us suppose, a little before noon; the sun is about to cross the meridian, and an observation is to be made. Shutters in the roof are thrown open, the great telescope is swung up and fixed in position, and an observer seats himself at the lower end of it. While we are waiting for the great luminary, let us take a peep through the instrument. All that can be seen is a number of vertical lines—technically called wires, though they are in reality so many pieces of cobweb—stretched across the field of observation at irregular distances. The centre one is the celebrated meridian of Greenwich, or at all events it represents it, and it is curious to reflect that from this centre line the ships of all civilized nations, and in all ports of the known woruld, are reckoning their distances; that this little piece of cobweb is, practically, all that divides the world into eastern and western hemispheres.

While we are peering along the telescope, the drowsy tinkling of innumerable clocks is heard through the still summer air, and we begin to think that for once, at least the sun is behind time. If not, then it seems plain that all Greenwich clocks are wrong, a supposition which is quite at variance with all our traditional ideas of the place. On inquiry, it is gratifying to find that our faith in Greenwich time-pieces is perfectly justified, and that it really is the sun that is behind time. The apparent motion of the sun, as everybody knows, is really the motion of the earth. Now the earth moves round the sun in a kind of oval pathway. When she is on either side of this oval her motions are accelerated, and the sun will cross the meridian before he is due. Just now, however, we are at the end of the time "is simply the mean or average time at which throughout the the year the sun crosses the meridian.

Let the observer now resume his watch at the instrument. What he has to do is to record the precise instant at which the sun's edge or limb, as astronomers express it, passes that central "wire." In any single observation, however, he may be a little at fault and for the sake of greater accuracy, therefore, he will not note the instance at which it passes over all the "wires" and then strike an average between them.

Slowly the sun creeps up to the first line, and the observer lightly taps a little spring attached to the telescope. The second "wire" is reached, again the spring is tapped, and so on throughout the whole of the seven or nine webs employed in the observation.

This spring is connected with a telegraph wire extending to a "chronograph" in a distant part of the buildings, and in order to understand the method of recording the observation, we will now follow the telegraph signal, or, as imagination is even swifter than the telegraph, we will imagine that we have reached the "chronograph" first, and are there ready to receive the signals.

Accordingly we find ourselves in a queer little chamber, in which the most prominent object is a very beautiful specimen of a clock whose pendulum, instead of oscillating backwards and forwards, swings around in a circle, thus producing a motion pertectly uniform and unbroken. This clock is revolving the "chronograph," which consists of a cylinder around which a sheet of white paper has been strained. While we are watching this revolving barrel, we see the observer's signals come. A little steel point which is traveling over the spring attached to the great telescope; and every time the observer taps the spring, this little traveling point pricks into the paper, thus recording that the sun has just crossed a "wire." This in itself, however, would not be a record of the time of transit if it were not that another little steel point, which is in connection with a galvanic clock in another part of the building, has previously marked the sheet of paper into spaces representing precise seconds of time. On the completion of the observation the paper may be removed from the cylinder and affords a permanent record of it.

Nothing perhaps, throughout the Observatory at Greenwich, is calculated to strike the visitor with astonishment than that galvanic clock to which reference has just been made. There is nothing very remarkable in its appearance, but the work it accomplishes renders it perhaps the most important one in England.

In the first place, as we have seen, it plays an important part in registering observations. Besides this it regulates several clocks within the Observatory, as well as the large one already referred to outside the gate, one at Greenwich Hospital School, another at the London Bridge Station of the Southern Railway, another at the Post-office, St. Martin's-le-Grand, and another in Lombard street. Once every day it telegraphs correct time to the great clock tower at Westminister; it drops the signal ball over the Observatory, another near Charring cross, and one at Deal; it fires time guns at Shields and Newcastle, and every hour throughout the day it flashes out correct time to each of the railway companies. All this is accomplished as it were by the mere volition of the clock, and without any human interference whatever. Every morning it is corrected by an actual observation of a star; and thus, without being aware of it; do we every day start our trains, and make our appointments, and take our meals by the motions of the heavenly bodies as observed and recorded during the preceding night.

We now proceed to one of those curious little domes surmounting various parts of the Observatory. Here we find an instrument devoted entirely to the study of the moon. Observations of the moon are of immense importance to navigators, inasmuch as she affords the means of determining longitude at sea. Her motions, however, from various causes, are of an extremely complicated nature, and it is very necessary that she be observed at all times, and under all circumstances. But with the transit circle, the instrument first noticed, it is plain that the moon could be observed only when she is crossing the meridian, and not always then. Some five or six-and-twenty years ago, therefore, Sir George Airy, the present Astronomer Royal, designed the "Altazimuth," and since then the importance of Greenwich as a lunar observatory has been just about doubled.

With this instrument and the transit circle the Observatory might do all that, strictly speaking, comes within its province. The whole duty of Greenwich, as defined by Herschel, is "to furnish now, and in all future time, the best and most perfect data by which the laws of the lunar and planetary movements as developed by theory, can be compared with observation." Mensurative astronomy for practical purposes is the great business of Greenwich.

The Great Equatorial telescope was mounted about sixteen years ago, under the direction and from the plan of the present Astronomer Royal. It is the largest instrument in the observatory, and of its kind is one of the finest in the world. Its object glass, which is thirteen inches in diameter, and has a focal distance of eighteen feet, alone cost $21,000. The most curious feature in this telescope is the clock-work arrangement by which it follows any object under examination. It is used, as already intimated, chiefly for what may be called gazing purposes—such, for instance, as the scrutiny of the marvellous eruptions on the surface of the sun, or of the mountains of the moon, and it is often necesary to continue such observations for hours together. It is plain, however, that if an observer is examining the face of the sun, the motion of the earth will gradually bear him and his telescope eastward until the great luminary is lost to view. He will steadily creep out at the western side of the field. This is obviated by the operation of a clock driven by falling water. This powerful piece of mechanism is connected with the great iron framework supporting the telescope, and just as the earth creeps round from west to east, the telescope and all that pertains to it is borne round from east to west. Thus, so far as the motion of the earth is concerned, the sun, moon, or stars, as seen through the Great Equatorial will appear to be perfectly stationary.

We have now seen all the more prominent features of Greenwich Observatory, though there yet remains innumerable objects of the utmost interest—rain gauges, anemometers, hygrometers and thermometers, placed in all kinds of positions, and under all kinds of conditions. In one room are something like a couple of hundred government chronometers, placed here for the purpose of being regulated, while in a building apart from the Astronomical Observatory is a Magnetic Observatory, established for the purpose of ascertaining and recording the various phenomena of the magnetic currents of the earth.

**To Mend China.**

Take a very thick solution of gum arabic in water, and stir into it plaster of Paris, until the mixture is of a proper consistency. Apply it with a brush to the fractured edges of the china, and stick them together. In three days the article cannot be broken in the same place. The whiteness of the cement renders it doubly valuable.

To find one that has passed through life without sorrow, you must find one incapable of love, of hatred, of hope, or fear—one that hath no memory of the past and no thought of the future—one that hath no sympathy with humanity, and no feeling in common with the rest of his species.

The intellect was created not to recieve passively a few words, dates, and facts, but to be active for the acquisition of truth. Accordingly, education should labor to inspire a profound love of truth, and to teach the processes of investigation.

It is easier to suppress the first desire than to to satisfy all that follow it.

If you will not hear reason, she will surely rap your knuckles.