Stereoscopic Daguerreotype.

MESSRS. EDITORS—Directly after seeing the extract from the "London Mining Journal," in No. 34 of the Scientific American, I succeeded in re-producing the solid daguerreotype. My stereoscope is 9 inches long, 6 high, and 5 deep; my daguerreotypes are half sizes, placed upright in each end of the box (stereoscope); I have two mirrors, diverging at an angle of sixty degrees from the centre of the front of the box; there are two sight holes, two inches apart, in the middle of the front of the box; the light is admitted from the back. This instrument produces the most astonishing effect; it brings out the picture in bold relief, just as if the subject were standing before you in reality. It requires to be seen to be fully appreciated.

I have made a decided improvement on the above instrument: I take two pictures on one plate, two and a quarter inches apart; or, what is still better, on two plates joined together afterwards. I always place my two cameras at an angle of thirty degrees, in taking the pictures, keeping the eye of the subject directed in a line drawn directly between the two cameras, thereby producing what we might call a right and a left picture.

When I wish to produce the solid pictures, I simply look at the so arranged plate, through a common opera-glass, having the concave glasses taken out and convex ones put in their place, although the latter are not absolutely necessary. A yet simpler mode is to look at the above-named plate through a pair of common spectacles, having glasses of short focal distances; but the opera-glass is the best, in asmuch as it can be set to any focal distance, and it prevents the reflection of surrounding objects.

I perceive that our leading daguerreotypists have taken the matter in hand, and I expect to see them produce beautiful pictures which will rapidly take the place of the old kind.

J. F. MASCHER.

Philadelphia, June 13, 1852.

[A sharp controversy has taken place between Sir David Brewster and M. Claudet, about photographs taken by lenses, it has appeared in the "London Times." Sir David Brewster asserts that photographic portraits deviate more and more from truth as the lenses increase in diameter. He advised the search after more sensitive materials and the use of small lenses. He says, "that while M. Claudet will continue to practice his art, as he has hitherto done, with large lenses, others," he hopes, "will not disdain to guide the light of the sun by the light of science." He is very sharp on poor M. Claudet, and says he produces a copious number of grim anamorphoses of humanity, which have the merit of showing how well people look in their winding sheets. M. Claudet replies, and has greatly the advantage of the Scotch philosopher in temper and discreet language; in fact, he shows Sir David to be very inconsistent, for he awarded Claudet the only Council Medal at the Great Exhibition for his pictures, while now he denounces them. He says he will prove "that perfect lenses, of 3¼ inch aperture, and a sufficiently long focus, operating at a distance of 12 feet, are capable of giving a correct representation of the human form, and producing binocular portraits, to be raised into relief by the stereoscope without exaggeration, and he stands ready to repeat them before any scientific persons interested in the question." Here, then, Claudet marches right to the point in settling the dispute with the famous Optician—the greatest of this or any other age—and it would be nothing wonderful if he were mistaken: no man is perfect, the greatest and best make mistakes.

(For the Scientific American.)

The Electric Fire Telegraph.

Your paper of June 12 contains a very kind reclamation from A. A. Pope, of Somerville, Mass, in my behalf, as originator of the Electric Fire Telegraph. I wish, with your permission, to add a word in justice to the part taken in this enterprize by Moses G. Farmer, the constructor and present Superintendent of the Fire Alarm in this city.

The present performance of the Fire Telegraph, in Boston, may be first briefly stated, as the basis of its claim to scientific novelty and public utility. The nineteen alarm bells, scattered over Boston, are struck simultaneously with heavy hammers, by the touch of a single finger, at the Central Office, where an alarm of fire comes in over the wires from any one of the numerous signal stations in different parts of the city. Thus, frequently, within a few weeks, the bells all over Boston, have begun to strike the District number within a few seconds of the first discovery of a fire in some remote precinct. This is believed to be the first application of the telegraph to produce the effect of *power* at a distance. It is also the most thorough municipal organization which has yet been attempted, endowing the Municipality with nerves of sensation and motion, with brain and muscular apparatus.

My part in the originating of this system, dating back to 1845, has already been sufficiently stated in your journal. As early as 1848, Mr. Farmer's electro-magnetic escapement, for the liberation of powerful striking machinery, was constructed, and his attention was directed to the mechanism of the system, the right to some parts of which he has secured. After my communication, in March, 1851, to the City Government of Boston, Mr. Farmer entered at once into the work of practical arrangement and adaptation, giving proportion and form to the various parts, combining their operation, devising new safeguards and instruments, and contributing so much to the system in its present effective operation, that I wish always to ascribe to him a fully equal part with myself in its production.

I may be allowed to add that the construction, in Boston, has presented difficulties, apart from the first application of a new system, greater than would exist in almost any other city in this country. Where there a few large fire bells, with suitable tolling apparatus already provided, the application, with the experience now acquired, would be easy, and an indefinite amount of power could be obtained. Any communication addressed to Mr. Farmer, with regard to the extension of the Fire Telegraph in other cities, would receive also from me such attention as it would be in my power to give. WM. F. CHANNING.

Boston, June 14, 1852.

(For the Scientific American.)

New Instrument for Navigation.

As your paper is the medium through which the public receives information of nearly all the improvements in arts and sciences, at the present day, I have taken this method to make known a valuable improvement in getting the longitude at sea; or, the Easting from New York city to Liverpool, and the Westing from Liverpool to New York city, or any other place. With a good time-piece in hand—well regulated to mean time—and with an instrument that I have made for the purpose, I make the first observation in the seaport before the ship sails (this can be done at any time of night, if it be clear starlight); note down the bearing, the day of the month, the hour, minutes, and seconds, A. M. or P. M. This may be done a week or more before the ship leaves port, provided the time-piece keeps correct time. The subsequent observations can be made at sea, any time in a clear starlight night, and any time of the year, in the northern hemisphere. The subsequent observations are reckoned from the first observation made in port, each one independent of the other. I have a book, containing two tables, which are made for the purpose of saving time in the calculation; also examples made out, giving the answer in longitude, going East or West, and a diagram or figure annexed to each example,—making this method as plain to be understood as to look at the face of a clock to learn the time of day. In making the calculation, you set down the degrees thus: 45° 20′, as the first observation, and the time; next, the present observation, and the exact time; then turn to the tables, there is nothing to be done in the calculation but to add or subtract. The observation can be made in ten minutes, if the ship runs steady, and the calculation in less time.

I use none of the planets, or their satelites, in my calculations, excepting the one we stand on; I would prefer that the moon should be below the horizon at the time of making the observations. This instrument is so planned that there can be a compass attached or detached at pleasure, for the purpose of getting the variation of the needle; this can be ascertained at the time of getting the latitude by the Polar Star. This instrument may also be used, in preference to the sextant, in getting the latitude and longitude by the sun. Suppose, at 10 o'clock A. M., observation made; sun's altitude 55°; bearing of the compass 70°, south-east. The sun passes the meridian and descends to 55° altitude; the compass bears 61° south-west, from 70° 9°,—4° 30′ south-east or north-west is the variation of the needle.

In taking the angles by this instrument, you have no need of a line and plummet, pendulum, index hand, or vernier hand; yet every five minutes of a degree can be distinctly seen. This instrument can be separated into four parts in one minute, and placed in the cabin for security. JOHN STINSON.

Danville, Warren Co., N. J., June 8, 1852.

Recent Foreign Inventions.

TO PREVENT WOOD FROM WARPING.—C. Francois Tachet, of Paris, has taken out a patent for the following method of preparing wood to prevent it from warping or shrinking. The ordinary method of doing this is to employ two or more thin pieces which are united together with the grain cross-wise, by means of glue or liquid cement, but this only partially answers its intended purpose. as glue, or cement, applied in a liquid state, is always liable to be affected by a moist atmosphere, and the expansion produced thereby, and the subsequent unequal contraction in drying, causes a certain amount of warping Now the object of the patentee is to unite pieces of wood together, as to render them independent of atmospheric influences, and this he effects by employing the cement in a dry and powdered state, and applying heat to the exterior of the pieces of wood to be united, so as to effect the melting of the cement by transmission. The cement which the patentee employs is gum lack, alone or in combination with other materials. This he reduces to a powder, and sprinkles evenly over the surface of one of the pieces of wood to be united. He then lays the other pieces of wood on the cement-covered surface, and repeats the process of sprinkling cement and applying thicknesses of wood according to the ultimate required thickness to be produced. He then clamps the pieces of wood together and applies sand heated to about 300° centigrade to the exterior surfaces, and continues this application of heated sand until the cement is melted, when the sand is removed, and the air admitted to cool the wood and set the cement When quite cold, the prepared wood is removed from the clamping-press, and may then be applied to any useful purpose.—[London Mechanic's Magazine.

[We commend this invention to the attention of pianoforte makers, and all cabinet makers in general.

Tomato Figs.

The following is the method of preserving tomatoes in Bermuda, and thereby manufacturing a sweet preserve something like figs:—

"Take six pounds of sugar to one peck (or sixteen pounds) of the fruit, scald and remove the skin of the fruit in the usual way, cook them over a fire, their own juice being sufficient without the addition of water, until the sugar penetrates and they are clarified, they are then shaken out, spread on dishes, flattened, and dried in the sun. A small quantity of the syrup should be occasionally sprinkled over them whilst drying, after which pack them down in boxes, treating each layer with powdered sugar. The syrup is afterwards concentrated and bottled for use. They keep from year to year, and retain their flavor surprisingly, which is nearly that of the best quality of fresh figs. The pear-shaped or single tomatoes answer the purpose best. Ordinary brown sugar may be used, a large portion of which is retained in the syrup.

The Mouth of the Mississippi.

A distinguished officer of the Engineers of the U. S. Army, who has long resided in New Orleans, and who made good use of the many opportunities offered him for studying the peculiar character of the delta of the Mississippi and the characteristics of our grand but mysterious river, has made a proposal to the New Orleans Chamber of Commerce to enter into a contract with that city, the State, or the General Government, to deepen the channel over one of the bars at the mouth of the Mississippi. He proposes to give a depth of at least twenty feet, by the lead, at low water, over the shallowest part, and to make the channel wide enough for a tow-boat with one ship on each side to pass at all times: to maintain this condition of the bar for twenty-five-years—when the same process could be again applied—for the sum of one hundred thousand dollars per annum. The first instalment to be paid only when the depth and width shall have been made. Should the depth of twenty-five feet, instead of twenty feet be obtained, the sum of $125,000 will be paid.

The plan of operations has been submitted, to many professional and practical engineers, and no objection has yet been made to it.

Artesian Wells in Arkansas.

The Dallas (Ala.) Gazette says that the first Artesian well of Mr. J. E. Mathews, in Cahaba, is completed. It is 735 feet deep, and sends forth a stream of water measured at 1,200 gallons per minute. The famous French well at Grenoble, it is said, does not discharge more than half this quantity. "The water (says the Gazette) boils up, roaring like a cataract, forming a branch of considerable size, and the low grounds, some two hundred yards distant, require ditching, to carry off the immense quantity of water collected upon its surface.

Mr. Reid, the successful borer of this well, has commenced boring another, some sixty yards distant (for Mr. Mathews) which will be some 1,500 or 2,000 feet deep. To prevent injury to the first, it is necessary to make the second one much deeper, so as to reach a different stratum of water. The first well is tubed, as the second will be.

Mr. Reid is also boring a well for Dr. English, two hundred yards distant from Mr. Mathews. It is now 536 feet deep, and discharges 200 gallons of water per minute."

A correspondent of the Gazette gives the following in relation to the first well of Mr. Mathews, which was bored for the purpose of obtaining sufficient water to supply a steam cotton mill:—

First, a well was dug in the ordinary way, 32 feet through the red clay sand and gravel lying upon the rotten limestone. A large pine log was then procured, and a hole 3¼ inches in diameter bored through it. After sharpening the end, and putting an iron band around it, the log was put down and firmly driven and forced into the rock. The well was then filled up—the upper end of the log appearing about a foot above the surface. The boring then commenced, and, with the various tools and contrivances of the art, the earth was rapidly penetrated.

As each lower sheet of water was reached by the tools, the water was thrown up by the whole in greater quantities and with more violence. When the "first water"—that is, the water just below the first sand stone—was reached, the upward flow of the water did not exceed seven gallons per minute. It was increased to one hundred gallons when the second sand stone was perforated, and on reaching the third sheet of water, upwards of 300 gallons per minute rushed up through the orifice, seemingly impatient of its limits.

Thinking that the quantity of water would be increased by enlarging the hole, they rimmed out 9¼ inches in diameter, and 538 feet deep, to the sand stone lying above this third bed water, and inserted a tube from the first, and resting upon the third sand stone. They were not disappointed. The water from a small stream became a large column rushing upwards with violence, at the rate of 1,300 gallons per minute, and running off in a considerable rivulet.

The walls of the Buffalo Republic printing office fell last week with a tremendous crash, burying several compositors in the ruins. They all escaped most miraculously, with a few bruises, the cases nd imposing stones supporting the roof and bricks, and giving them time to creep out. The forms, type, &c., were all knocked into *pi*.

John Cunningham, the American engineer has been freed from his Cuban imprisonment.