

**Progress of the Atlantic Telegraph Cable.**

The British steamer *Cyclops* has sounded the ocean road from Ireland to St. Johns, N. F., and found it to be as reported by Capt. Berryman, who took the soundings in the United States steamer *Arctic*, last year, but the water is proved to be still deeper on the Newfoundland shore, which fact is the more favorable to the enterprise. The *Cyclops* has returned, sounding a second time across the ocean.

The correspondent of the *Herald*, writing from Southampton under date June 16, says the U. S. frigate *Niagara* would leave that port on Saturday, the 20th, for Liverpool, where she will take her part of the cable on board. The preparations for its reception have employed about one hundred and fifty men, night and day, since the arrival of the vessel at Portsmouth, and everything has been done that could be done to hasten her departure.

By the last news from Birkenhead it appears that the two vessels which have been employed in taking in the cable preparatory to placing it on board the *Niagara*, are at present engaged at the factory wharf receiving it for that purpose. Each of these will be loaded with about three hundred miles, or one-fourth of the whole, and the coiling from both will proceed at the same time, so that the process of freighting the *Niagara* in the manner described will not consume more than two-thirds of the time which was originally supposed, or from three to four weeks altogether. The *Agamemnon* was to have commenced taking in the cable on the 15th, but as the arrangements for its reception are not completed, it was hardly probable that they would begin before the 22nd, about the time the *Niagara* would have reached Liverpool. As the forming of two coils can be carried on in the latter at the same time, it will not require as long by from one to two weeks to put her part of the cable on board as will be consumed by the *Agamemnon*, so that she will be lying at Cork eight or ten days longer, that city having been selected as the place of rendezvous for the whole telegraph fleet.

One of the most important parts of the machinery which is required in the laying of the cable are the guards for the propellers of the *Agamemnon* and *Niagara*, and without which its successful accomplishment may be defeated. These are absolutely necessary to prevent the fouling of the submarine cable in the event of a ship being obliged to back out of the way of icebergs or from other causes. It is a point to which the greatest attention has very properly been given, as the breaking of the cable, after several hundred miles of it had been paid out, would postpone the completion of the enterprise for some years, in addition to the great pecuniary loss by which such a disaster would be attended. It was proposed to avoid such a disaster by surrounding the screw with a cage, which would effectually prevent the cable from coming in contact; but as the two vessels were differently constructed, and as it would be necessary to place the *Niagara* in dry dock before the cage could be fastened on her, it was decided to abandon it in her case, and to adopt a guard in its stead. The cage has, therefore, only been used on the *Agamemnon*, which was docked for the purpose.

The *Niagara* has been fitted with two guards of iron, which sweep around the stern in the form of a semi-circle or horseshoe, enclosing both the propeller and the rudder, the lower being when light about a foot above the water line, and the other at an elevation of some seven or eight feet from it. As the ship will draw three or four feet more when loaded with the cable, the lower guard will, of course, be submerged to a corresponding depth, forming a still better protection when in the process of backing, which, after all, may be entirely avoided. This guard is placed about three feet from the flange of the screw, and between eleven and twelve from the side of the rudder post, so that its full diameter at this point is from twenty-two to twenty-four feet. The length of the perpendicular bars which sustain these guards varies from seven to fourteen feet, and the whole presents so small a surface to the action of the water and is so well fastened with bolts and screws that it is expected to resist all the

pressure to which it may be subjected either from the inside or outside.

The engine which is to be employed in the paying out of the cable was to be put on board the *Niagara* in Liverpool. Here also she would receive the rest of the machinery, consisting of the brakes and rollers, which are so essential to the accomplishment of the work. The cable, in its way from the hold over the stern of the ship, passes over some five or six rollers, the brakes being used only when it is to be stopped. All this portion of the machinery was in process of construction at Manchester, but would be completed soon after the *Niagara* had commenced receiving her portion of the cable.

**Death of the Hon. William L. Marcy.**

This distinguished statesman died very suddenly on the 4th of July, at Ballston Spa, Saratoga county, N. Y. He had been spending a few days at the Sans Souci Hotel in that village, prior to an intended visit to Europe with his family, who were absent at the time of his decease. He was found dead in his room, lying on a couch with a book on his breast, and not a muscle of his face was distorted, nor an article of his wearing apparel disarranged. William L. Marcy was three times Governor of New York, and was Secretary of War and State during the administrations of Presidents Polk and Pierce. He was an able statesman, upright and honorable, and conferred dignity upon every office which he filled. He was seventy-one years of age at the time of his disease, and died regretted not only as a patriot and statesman, but as a man, by all who had the honor of his acquaintance. His funeral took place at Albany, N. Y., on the 8th inst., and was the largest ever witnessed in that city.

**A Snake Removed from a Woman's Stomach.**

The Logansport (Ind.) *Pharos* is credited with giving currency to one of the most remarkable triumphs of angling ever performed since the piscatory art was first practised. The feat was nothing else than the removal of a snake from the stomach of a Mrs. E. Ryan, by Dr. Myers, of Logansport, with his patent tapeworm trap illustrated and described on page 384, Vol. 10, SCIENTIFIC AMERICAN.

The following is the account given of the transaction:—

Mrs. E. Ryan, of Fort Wayne, about twenty years of age, has been severely afflicted for four years with a sensation in the stomach, as though there was some reptile moving in it. During that time she was treated for various diseases by numerous physicians of skill, and by several for tapeworm. Hearing of Dr. Myers's new process for the removal of parasites from the human stomach, Mrs. R. went to Logansport and placed herself under his charge. Within two weeks Dr. M. removed from her stomach a snake about three and a half feet long, and one and a half inches in diameter, and relieved her of all her suffering, instead of aggravating it, as had been the result of previous treatment she received. During the latter part of her illness she was unable to attend to the domestic care of her family, or even to take care of herself. It required two hours to prepare for retiring at night; an equal time transpired before she could lie down, and often she was deprived of sleep for nights together. Frequently she would walk the floor until exhausted, because unable to lie down without the most excruciating pain. Mrs. Ryan's own words are, that her sufferings were such that she often prayed for death to relieve them. Mrs. R. supposed she swallowed the snake, which was apparently of the water species, while drinking from a spring in the evening at her former residence west of Fort Wayne. She left the care of Dr. M. for home, feeling as though she was saved from worse than death.

**Improved Frictional Bearings.**

In the list of claims published in our last number, one embraced an improvement in journal boxes as a new article of manufacture, for which a patent was issued to D. Taylor, of Carbondale, Pa. Since that date, H. A. Chambers, agent and conjoint proprietor of the patent, has called at our office to show us one of the new journal boxes. It consists of a cast iron casing or shell lined with bras

the two metals being fused together, thus forming a perfectly solid box. The brass lining is cast first, then laid in another mold, and the iron cast around it. As the melting heat of the latter is higher than that of the former metal, a portion of the outside of the brass is fused, and the two metals are thus united and solidified together. A journal box thus formed is afterwards trimmed and finished for use. As iron is not one-fifth the price of brass, cheap solid bearing boxes with brass linings, can thus be manufactured at a comparatively small cost, in comparison with journal boxes made entirely of brass. This excellent improvement is applicable to all frictional surfaces, such as boxes and pistons, that rub in contact with iron or steel, and when the brass is worn out it can be melted from the iron and both metals used over again.

**The Comet.**

A contemporary journal has a long and labored article on comets, stating that "the year 1857 has been remarkable for the appearance of a long expected comet, first noticed as early as 1274." We have done our best on a previous occasion to explain this whole "comet" humbug, but may be allowed a brief repetition. There have been but two comets seen this year, both small affairs, which are visible every few years with good telescopes; but the great comet of 1556 which was supposed by some to be identical with the great comet of 1274 has not yet appeared, though it has been expected ever since 1848. These are the facts in a nut-shell.

The efforts of would-be wits and the still more excruciating efforts of some would-be philosophers, have muddled the matter until the mass of the community possess but an extremely confused idea of the subject; but when we find in a dignified journal, a two column article, full of facts correctly stated in relation to ancient comets, and adding that, "the excitement attending the appearance of the comet of 1857 has passed away," it is time the writer was respectfully snubbed, and not allowed to "come-it" in future over intelligent readers, without a larger supply, either of sunshine or humor.

**Manufacture of Steel.**

A few weeks since we gave a very condensed abstract of a paper read by C. Binks before the British Society of Arts, setting forth the importance of nitrogen in some form as a constituent of steel. As the subject has attracted considerable attention, we may add that the author had not at that date applied his theory to actual manufacturing operations, although he claims to have experimented on quantities large enough to materially sustain his theory.

Assuming that the value of compounds of carbon and nitrogen, instead of carbon alone, in steel-making be acknowledged, he holds that of all such combinations or of elements containing these, it is undoubtedly to the use of the cyanogen compounds that we should resort for all manufacturing purposes; and the time seems not very far distant when these compounds will become some of the most readily obtained and cheapest of chemically manufactured products. Some years ago, Mr. Lewis Thompson pointed out how these could be had through the nitrogen of the atmosphere, and the operations of the blast furnace suggest methods for the production of those compounds that are of the highest practical value. There are at play here all the elements for the production of cyanogen, of certain cyanides, and thence of other compounds, and the requisite conditions can be superadded for securing these for commercial purposes. That cyanogen is formed in certain zones of the furnace was proved by Bunsen and Playfair. Dr. Clark, of Aberdeen, many years ago, examined a saline product that was found to ooze out of the twee holes of a blast furnace in Scotland, and discovered it to be cyanide of potassium. In several places on the Continent, as at Mariazell, in Styria, for example, we are told by Gmelin that this product is so abundant as to be sold commercially for galvanic gilding purposes. It is, he claims, the product of cyanogen, when combined with the accumulated proportion of potash contained in the fluxing lime-

stone. But why not, Mr. B. asks, specially add the alkaline element, and combine in the furnace simultaneously the peculiar reducing and converting actions of these compounds with their special manufacture for other and equally valuable industrial applications of them that are springing up?

**Changes in the Variation of the Compass.**

It is stated that within the last thirty years the compass has so varied along the coast of Sweden, that the Government have published a new chart, corrected to 1855. At Gothland, in 1834, the variation was fifteen degrees, while it is now only ten degrees thirty minutes. On the coast between Bjaro Blubb and Malorem, it was sixteen degrees in 1833, but is now only one-half that number.

A correspondent informs us that in tracing a meridian line in Kansas that was run by the government surveyors, he finds that it varies about twelve degrees from the pointings of the magnetic needle, and about the same from the sun at noon, and also from the true north pole of the heavens, as indicated by the North Star. We perfectly agree with him that there has either been great carelessness in running these important lines at that locality, or that there is a mystery connected with the allowances for variation which the world at large have little idea of, and which it is highly desirable to have elucidated.

**New Astronomical Instrument.**

Mr. Alvan Clark, of Cambridge, Mass., the celebrated astronomical instrument maker, has published a description of a new instrument of his own invention, for measuring the distance apart of stars too distant to be brought into the field of view of a telescope. Within a year from the first thought of the instrument entering his mind, he had built a telescope of six inches aperture, and one hundred and three inches focal length, mounted it equatorially, governing its motion by Bond's spring governor clock, at the College, provided for a filar micrometer, arranged a mode of using pieces of glass ruled with a ruling machine. Experiments have demonstrated the feasibility of using the two eye-pieces in this way, and of obtaining by them very accurate measures of the distances of stars which are from three to one hundred minutes of space apart. The success of the instrument was, however, greatly due to the spring governor which keeps each star upon the wire accurately bisected.

**Car Coupling.**

The Baltimore and Ohio Railroad Company continue to employ wooden strips to connect their cars together, so that in case a car or the engine is thrown off the track, the coupling will break, and not drag the others to destruction. The same thing was in use for a long time, and may be still for aught we know, on the Camden and Amboy Railroad. We remember being left behind one dark, stormy night by the breaking of one of these strips. There are, it seems to us, ingenious couplings already patented, which are well adapted to do all that is claimed for the "wooden strips," and they are more reliable for holding the cars together on a regular pull.

**Splitting Logs.**

A correspondent sends us a plan of splitting logs by inserting a series of pointed screws driven by power so as each to serve as a wedge, which appears highly practicable, and which he wishes to give the public, in order that some one may, perhaps, proceeding on the hint, produce a highly useful and patentable machine. Such a machine would evidently avoid concussions, and might, we imagine, be made to split wood very rapidly.

**Institute of Architects.**

An association has been formed by some of the most prominent architects in this city for the purpose of promoting the scientific and practical perfection of its members, and elevating the standing of the profession. They propose to have regular meetings for the discussion of subjects of professional importance; lectures, designs and models, &c. The title is "The American Institute of Architects."