Scientific American.

ESTABLISHED 1845.

MUNN & CO. Editors and Proprietors

PUBLISHED WEEKLY AT

No. 361 BROADWAY, NEW YORK.

O. D. MUNN. A. E. BEACH.

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One copy, one year, for the U. S., Canada or Mexico.....$3 00
One copy, six months, for the U. S., Canada or Mexico..... 1 50
One copy, one year, to any foreign country belonging to Postal Union. 4 00
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MUNN & CO., 361 Broadway, corner of Franklin Street, New York.

The Scientific American Supplement

is a distinct paper from the SCIENTIFIC AMERICAN. THE SUPPLEMENT is issued weekly. Every number contains 16 octavo pages, uniform in size with SCIENTIFIC AMERICAN. Terms of subscription for SUPPLEMENT, $5.00 a year, for the U. S., Canada or Mexico. $6.00 a year to foreign countries belonging to the Postal Union. Single copies, 10 cents. Sold by all newsdealers throughout the country. See prospectus, last page.

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NEW YORK, SATURDAY, NOVEMBER 19, 1892.

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(Illustrated articles are marked with an asterisk.)

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SCIENTIFIC AMERICAN SUPPLEMENT

No. 881.

For the Week Ending November 19, 1892.

Price 10 cents. For sale by all newsdealers.

LAUNCH OF THE CRUISER CINCINNATI.

Another valuable addition to our growing new navy was made in the successful launch, on November 10, at the Brooklyn Navy Yard, of the 3,000 ton protected cruiser Cincinnati. The new vessel is one of the fleet of smaller steamers, swift and unarmored, and having highly efficient batteries, which the government is building instead of the much larger, heavily armored, and far more expensive battle ships, in which foreign countries have invested so much money. The Cincinnati is being built at the Brooklyn Navy Yard because all the bids for her construction by private establishments exceeded the appropriation for her cost, which was $1,000,000; and a sister ship, the Raleigh, launched some time since, is being built at the Norfolk Navy Yard.

The Cincinnati is of 3,183 tons displacement, having a length of 300 feet, a beam of 42 feet, and a depth of 23 feet 9 inches. She is a steel built ship throughout, fitted with 106 compartments. Her complement will consist of 24 officers and 266 men in the crew. She is provided with an armored protected deck and with engines calculated to develop 10,000 indicated horse power. Her speed is estimated at nineteen knots per hour. She has a coal-carrying capacity in the bunker of 556 tons.

The main battery consists of one 6 inch and ten 5 inch rapid-fire breech-loading rifles on center pivot mounts, protected by thick steel shields. Two 5 inch guns are placed on the poop, two under the poop in sponsons, two under the forecastle in sponsons, and the other four, two on a side, in sponsons. The secondary battery consists of eight 6 pounders, four 1 pounders, and two Gatling guns. There are four torpedo tubes, with openings about four feet above the water, worked from the berth deck, fixed tubes forward and aft, and the other two, which are training tubes, are placed at the sides on the forward berth deck. The tubes are of the Whitehead and the Howell pattern, using gunpowder impulse. The rig is that of a two-masted schooner, spreading 7,210 square feet of sail. The foremast has a barbette gallery for machine guns just below the top. The vessel is lighted by electricity and is thoroughly ventilated.

Aboard the Cincinnati little remains to be done on the cruiser to complete it. Her construction is so far along as to show the upper decks laid down and calked. Below decks most of the woodwork is in place, though all the fine paneling and furniture with which the ship will be supplied still remain in the joiner shops of the Brooklyn Navy Yard. The joiner work is made up of mahogany and butternut wood. Large and capacious desks are provided for each stateroom, and above these desks are to be mirrors larger in size than any provided for the new war ships. The engine and boiler rooms of the Cincinnati are as yet unprovided, but the engines and boilers for the ship are at present housed in the shops of the department of steam engineering of the Brooklyn Navy Yard. The engines are all ready for setting up aboard the new vessel. The shafts are now in place, though without the propellers being in position. The propellers and hubs will be placed upon the shafts when the cruiser is admitted to one of the dry docks.

THE AMERICAN MUSEUM OF NATURAL HISTORY.

The new building of the American Museum of Natural History was transferred from the city to the trustees on Nov. 2, with appropriate exercises; the speakers being the Hon. Paul Dana, Hon. Seth Low, Bishop Potter and Mr. Jesup, President of the Board of Trustees. The new building adjoins the old one, both together forming only a small portion of the contemplated design. The new part is built in the Romanesque style. It is three stories in height, with a basement, and is approached by an imposing flight of steps, under which there is a *porte-cochere*. The building is entirely fireproof, the floors, walls and ceilings being iron, stone, brick or tile. The buildings are lighted throughout with the incandescent electric light. The warming and ventilation is carried out according to approved modern methods. One interesting feature is the free use of wrought iron in the construction of the building. The two elevators in the new building have cars which are treated in a very effective manner in wrought iron. The library in the upper floor contains about 25,000 volumes and is separated from the reading room by a highly artistic wrought iron screen, and even the shelves themselves are of iron. The loftiness of the ceilings and the breadth of the corridors recalls the Museum of Natural History at South Kensington. The arrangement of the museum has been much changed and improved. The lighting was severely tested on the opening day, which was very dark and foggy, but the window space proved ample even under these trying conditions.

In the basement of the new building is a large lecture hall, in which are two screens and two sets of lanterns, so that if desired two subjects or two parts of the same subject may be kept in view at once. The educational value of both the mineralogical and geological collections is greatly enhanced by their being separated. One of the latest acquisitions is a section of a gigantic redwood tree, twenty-two feet in diameter, forming a part of the Jesup collection of woods.

New York may well be proud of this institution, and it is to be hoped that as much money will be appropriated from the public funds as is consistent with the other needs of this great city. It is to the credit of the municipal authorities that nearly two millions of dollars of the public money has been expended on buildings and maintenance since the collection was moved from the old armory building.

PROGRESS OF AMERICAN STEAMSHIP BUILDING.

The fast steamships City of New York and City of Paris are soon to change their port of calling from Liverpool to Southampton, England. This, it is said, will reduce the time of passage to and from New York by some three hours, avoid serious delays, and improve the facilities for passengers in reaching London and the Continent. The change takes place in March next, when the two steamers will sail under the American flag.

The International Navigation Company, of New Jersey, owners of the above vessels, has entered into a contract with the Postmaster-General for the transportation of the mails, under the terms of which additional new steamers are to be built in this country, equal or superior to the two above mentioned; also new steamers to be run between New York, France, and Belgium. The cost of these vessels will be about nine millions of dollars. They are to be so constructed as to be capable of use as vessels of war in case of necessity. The new ships are to be finished in 1895.

PROFESSOR CHARLES A. SEELEY.

Professor Charles A. Seeley died at Mount Vernon, N. Y., November 4, 1892. He was born at Ballston, N. Y., on November 28, 1825, and was graduated with honors from Union College, in 1847. He received the degree of Ph.D. in 1878. He was appointed professor of chemistry and toxicology in the New York Medical College in 1859 and resigned in 1862. When the New York College of Dentistry was incorporated in 1867 he filled the chair of chemistry. He was for several years a member of the editorial staff of the SCIENTIFIC AMERICAN, and after his resignation continued long to write for the paper as a contributor. He was among the first to foresee the advent of electric lighting. In 1861 he formed the American Electric Light Company, and he interested Horace Greeley in it, who served as one of the trustees. In the early days of dynamo designing Dr. Seeley devoted considerable attention to obviating loss of energy in the iron core of the armature. His theory was that it proceeded from two causes: 1, the so-called Foucault currents; 2, a phenomenon then unrecognized, but since named by Professor Ewing hysteresis; and Dr. Seeley's theories, not then generally received, are now adopted by all educated electricians. Dr. Seeley's ideas of the best method of obviating these losses resulted in an electric lighting machine with a coreless armature of a disk form. Under the name of the Arago disk dynamo this generator was exhibited at the Paris Exposition, where it received careful study and high praise from M. Th. Du Moncel, and was awarded the bronze medal, White House Mills, Hoosac, New York, being the exhibitors. In 1882, at the Crystal Palace, London, the same exhibitors were afforded better opportunities for showing its advantages in competitive trial with other generators, the lamps used being the Swan incandescent and the Lane-Fox lamps, and it was awarded the gold medal. In London Sir William Thomson might have been seen almost daily studying this dynamo, and afterward adopted its principal features in a generator of his own. His knowledge of the sciences was very extensive. He was a member of the Lyceum of Natural History and one of the first to advocate that the society adopt the more distinctive name Academy of Sciences. He was a member of the Association for the Advancement of Science and Art, and a life member of the American Institute. Dr. Seeley discovered a process for making carbolic soap, a process for preserving wood, a process for making grape sugar, and a process for making hop extract, and invented the machinery used in the process. He was employed as chemical expert in patent litigations from 1865 to 1886. He possessed the rare faculty of explaining in a very clear, concise and interesting manner the material facts of a case. In some cases the judges adopted his language in their decisions. He was a most excellent counselor, able and efficient in whatever he undertook. He was extremely kind hearted, faithful and devoted as a friend, and unassuming in character.

In 1872 District Attorney Benjamin Reynolds, of Sullivan County, engaged him to make the analysis in the case of Mrs. Charlotte Litts. His analysis proved the presence of arsenic in sufficient quantities to cause death, and his exhibits and explanations produced a profound sensation in the court room. Dr. Seeley married, in 1863, Miss Caroline A. Boltwood, of Amherst, Mass. Two sons and a daughter survive him.