THE BOA CONSTRICTOR.

The boa constrictor is one of the western representatives of the Boidæ family, inhabiting Honduras, Mexico, Santa Lucia, Guiana, Brazil and Peru. Cuvier decided that there was no boa in the old world. It was the object of snake worship among the Aztecs, and the skin of a boa used in this cult is now preserved in the British Museum. The boas are constricting serpents, killing their prey by coiling around it and compressing it until life is extinct. Their jaws are armed with strong, sharp teeth curved backward, the upper set interlocking into the lower. This gives their bite great holding power, and anything once seized they are almost unable to release. They are without venom. The jaws are peculiar in their articulation. Their members are merely connected by ligaments, so that they can be greatly distended, and besides this, they can actuate one-half of the jaws at a time, so as to hold their prey while swallowing it.

Their system receives nourishment in a peculiar manner. After killing an animal they swallow it whole, the animal swallowed often being enormous compared to the boa. The jaws open and distend and work along over the body being swallowed, it sometimes seeming as if the skin of the boa must burst under the strain. After the swallowing is effected, which may take several hours, the snake becomes torpid and spends sometimes as much as three weeks in this condition, gradually and almost completely absorbing the animal swallowed. It has been a subject of dispute whether breathing is suspended during the swallowing operation. The boa constrictor rarely exceeds twenty feet in length, and is said not to be feared by the Indians of its habitat, who kill it with a stick. One very curious feature in its anatomy is the presence of two small hook-like claws on its under surface, which represent the termination of rudimentary limbs.

Our illustration shows a boa incubating, with its eggs distributed among its own plications. The eggs contain each a living reptile, the boa being ovoviviparous. The eggs are about as large as those of the hen. Some twenty years ago a boa in the Central Park menagerie in this city laid twenty-one eggs and each third egg was sterile. One snake came out of the egg at once, but soon died. The others never left the egg.

Lovers of Rudyard Kipling will remember how picturesquely he has written of the constricting serpent, python, a near relative of the boa, in his Jungle Books, and how graphically he has described his method of striking a blow by projecting himself head on directly at the object to be struck.

Cold Air for Consumptives.

There are now six sanitariums in Germany at which consumptives are treated by constant exposure to air at a low temperature. Currents of cold air are allowed to pass through the bedroom at night, and during the day as much of the time is spent in the open air as possible. The pure cold air quiets cough, lessens temperature, arrests night sweats, improves appetite, and modifies or arrests the course of the disease.

THE MANHATTAN INCANDESCENT ARC LAMP.

The arc lamp illustrated herewith has several points of novelty, chief among which is the inclosing of the adjacent ends of the carbons in an approximately air-tight glass globe, which confines the gases driven off by the carbons as they are slowly consumed, thus surrounding the arc with an atmosphere practically without oxygen. By excluding oxygen in this manner the life of the carbons is greatly prolonged, so that one pair of half-inch carbons will burn for more than 150 hours, or about twenty times as long as the carbons in an ordinary arc lamp.

THE MANHATTAN ARC LAMP.

The construction of the lamp is such as to permit of using it singly between the mains of any direct incandescent circuit with little waste. The arc is of such length as to give a light more nearly of the quality of sunlight than any other artificial light, while the double globe surrounding the carbons causes a diffusion of the light, which obviates the painfully sharp shadows peculiar to the ordinary arc light. The mechanism of the lamp is arranged symmetrically around the axial line of the carbons, thereby insuring great compactness and simplicity, at the same time securing the uniform feeding of the carbons and producing a light without flicker or irregularity.

The slow consumption of the carbons necessitates correspondingly slow feeding, and results in a great saving of carbons as well as of time required in trimming.

In design the lamp is plain and simple, but it is capable of artistic treatment, and can be made truly ornamental.

Andree's Polar Expedition.

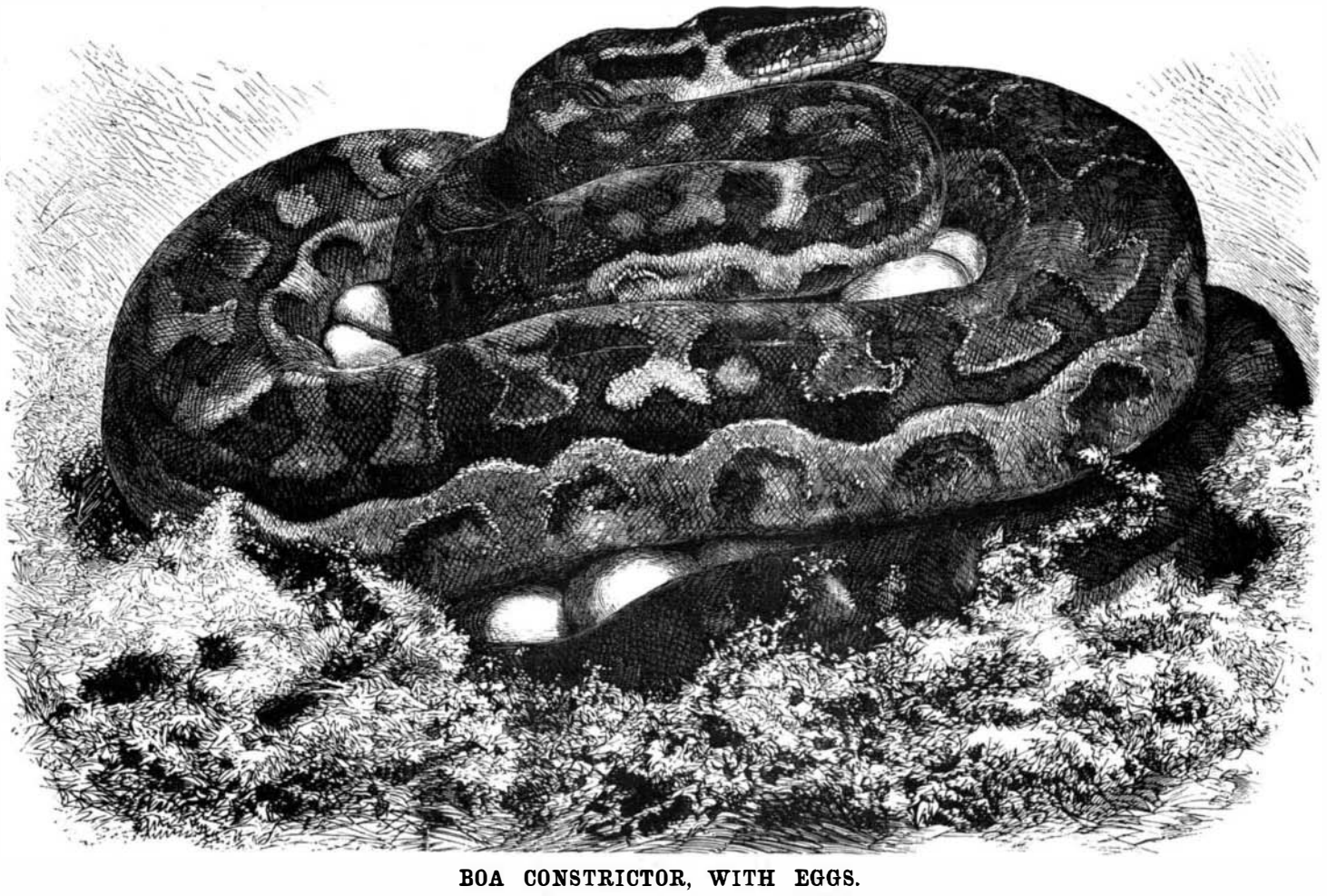
The Ministry of Foreign Affairs at Stockholm has sent notice to the governments of Russia, Denmark, Great Britain, and the United States of Herr Andrée's projected balloon voyage to the North Pole, and the co-operation of these nations is asked. The authorities in the countries immediately surrounding the polar circle will be asked to distribute thousands of leaflets containing illustrations of the balloon and asking for information as to the time at which it is seen and the direction of the wind at the moment.

The Wood in Violins.

The front of a violin is usually made of deal, the back of maple. Now, a piece of wood can be set in vibration just like a string in tension, and a certain musical note will be the result, the pitch depending upon the length, thickness, and density of the wood. The curious fact has been established by experiment that in all the best Stradivarius violins the "note" produced by the front of the instrument is the same; and again, that in no case is the note of the front the same as the note of the back. It is known that there are acoustic reasons for this, and these reasons determine the kind and quality of the wood. The front of the instrument must be light, soft and porous, and deal answers best to these demands. When the wood is dry, the microscope will reveal a multitude of little hollow cells, once filled with sap. The more of these cells there are, the more quickly will the wood vibrate to the sound, and here fine skill in selecting the wood comes in. The maker might cut up a dozen pieces of deal, and perhaps only one piece would be absolutely perfect for its purpose. Similarly with the maple, of which the back of the instrument is made. This is a harder wood, containing less sap, and consequently fewer cells when dry. It is used because it vibrates more slowly than deal, and the effect on the violin is to detain the waves of sound radiating from the deal and to mix them with slower vibrations of the back in the hollow of the instrument. The ribs and sides of the violin are of maple, and these serve to connect the quickly vibrating front with the slowly vibrating back and hold them until both throb together with full pulsation and body of sound.—American Woodworker.

A Great Light at Barnegat Lighthouse.

A light of exceeding great power, probably exceeding in brilliancy any to be found on any seacoast in the world, is soon to be placed in the lighthouse at Barnegat on the New Jersey shore. It is one of the great German search lights exhibited by Schuckert & Company, of Nuremberg, at the Columbian Exposition, and illustrated in the SCIENTIFIC AMERICAN of September 2, 1893. It was purchased by the government to be placed on Fire Island, but Barnegat has been chosen instead as its location. The present light at Barnegat is 165 feet above the level of the sea, and it is said that it can be seen under ordinary circumstances at a distance of nineteen nautical miles. Important additions have been made to Barnegat lighthouse to prepare it for the new light, which is of such brilliancy that it will penetrate haze and fogs that have often made the present light invisible. The lamp used in the projector at Chicago required a current of 150 amperes at 50 volts, and consumed about 10 electrical horse power. By its light a person standing eight miles away could read a newspaper. The light was placed, at the exposition, at a height of 240 feet from the ground, and one standing at the side of a projector could with a good field glass distinguish vessels twenty miles away upon the lake. The new light should be a great convenience to navigators approaching the Jersey shore in a fog.



BOA CONSTRICTOR, WITH EGGS.