

MONUMENTAL NESTS.

BY C. F. HOLDER.

Among the many fictions of zoology, that relating to the method of nesting of the flamingo seems to have been one of the most fortunate in surviving, as it is only within a year that the question has been fairly settled. In almost every popular book of the day, where the nest and bird are figured, the latter is shown sitting astride of the nest. In one of the late taxidermists' exhibitions, a group of these birds was displayed, superbly mounted, and correct in every detail except this—that the legs were astride the nest.

Sir John Richardson writes in his *Museum of Natural History*: "The nest of this bird is very curious, being a small hill of mud with a cavity in its summit. In this the female lays two or three eggs, which she hatches by sitting astride upon the hillock." Nuttall evidently took the same view of it, for he says: "They breed in societies in inundated marshes; during the progress of incubation raising the nest to the height of the body by collecting mud into a hillock with their feet, where they brood and hatch, often standing in the water."

It finally occurred to some one to examine a flamingo, and measure the top of the nest, when it became evident that the diameter of the nest was greater than the distance between the legs of the bird, and that such a position was impossible.

Mr. Maynard has settled the matter by visiting a rookery in the Bahamas, where he observed hundreds of these birds upon the nest; and in every case the legs were drawn up, the flamingoes nesting like other birds, as the stork, for example.

The nests in this rookery were from one to four feet in height, formed of mud, and standing partly in the water. It is interesting to note in this connection that, although the flamingo does not dangle its legs on either side of the nest, there is an American bird that does, and I am indebted to Mr. Richard Holder, of Freeport, Ill., for a sketch of the nest of a sandhill crane (*Grus canadensis*) that formed one of a number observed on his estate near Bloomington, Ill. For several years they were not disturbed, and he had many opportunities for studying their curious ways. The nests were formed in a marsh, some of them being built in the water, of mud and rushes in a pillar shape to a height of about two feet, and in some cases more, having a regular and somewhat ornamental appearance. They were surrounded by rushes, and so protected from view.

In nesting, Mr. Holder informed me that they sat upon the nest exactly as the flamingo was supposed to do, with a leg hanging down on either side, resting on the ground or in the water, so that they could easily rise and step away. For a number of successive years they were observed in the same locality always resting in this way. At this time they were extremely pugnacious, attacking all comers with great fury, striking with their powerful wings and beaks.

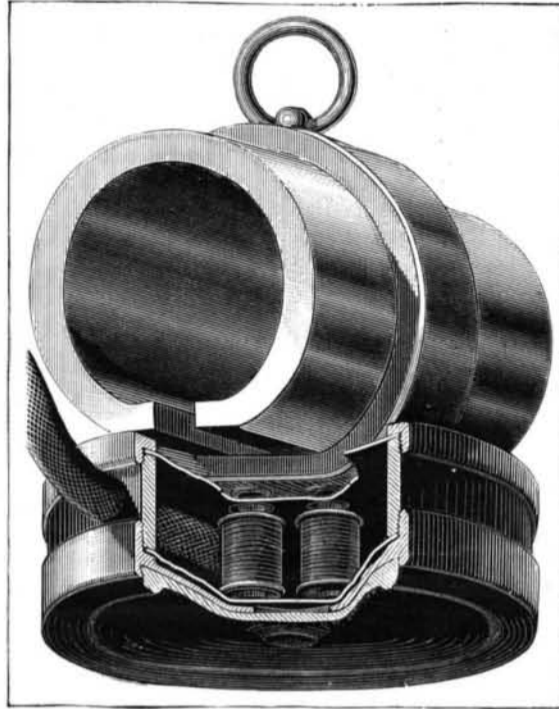
The courtship of the brown crane, as it is also called, is an amusing performance, and from a shelter near this rookery the actions of the birds were often watched. The love-making appeared to consist of feats of physical prowess enacted by the males for the benefit and amusement of the gentler sex. The performance includes the most absurd and grotesque movements. A bird would suddenly raise its wings and run about, capering this way and that, as if taking steps to the measure of some accompanying music. Now it would leap in the air, hopping entirely over the back of a comrade, as shown in the accompanying illustration, then strutting off with an inimitable dandified air.

Nearly all the cranes are noted for their curious and erratic actions at this period, but none equal those of this great bird. In appearance they are exceedingly majestic, standing nearly or quite four feet high, and presenting a curious spectacle when on the wing.

These birds range now from Florida to the Pacific, wintering as far south as Florida. They appear in the Washington Territory in April, arriving in large flocks, and building on the most exposed parts of the open plain—a plan that enables them to discern their enemies a long distance off. In the Colorado River valley they are very common in the summer time; flocks composed of many thousands often appearing in quick succession, the roar of their wings and the loud cry of the leaders being audible a great distance. The nests of the flamingo and sandhill crane are not unique, as quite a number of birds build in a similar way, the nest being elevated for various purposes. That of the whooping crane is at least two feet high, and, according to some authorities, the elevation is to allow the legs of the bird to rest on either side, as in the case of its ally, the sandhill crane. While the latter bird is confined more to the interior portions of the continent, the whooping crane is found in various localities on the coast, but in yearly decreasing

numbers. In former years they were seen in vast quantities. Of their noise, Captain Amidas said that when he landed on Wokokon Island, on the North Carolina coast, it sounded as if an army of men had shouted in concert.

Concerning their migrations in the early times, Nuttall writes: "In the month of December, 1811, while leisurely descending on the bosom of the Missis-

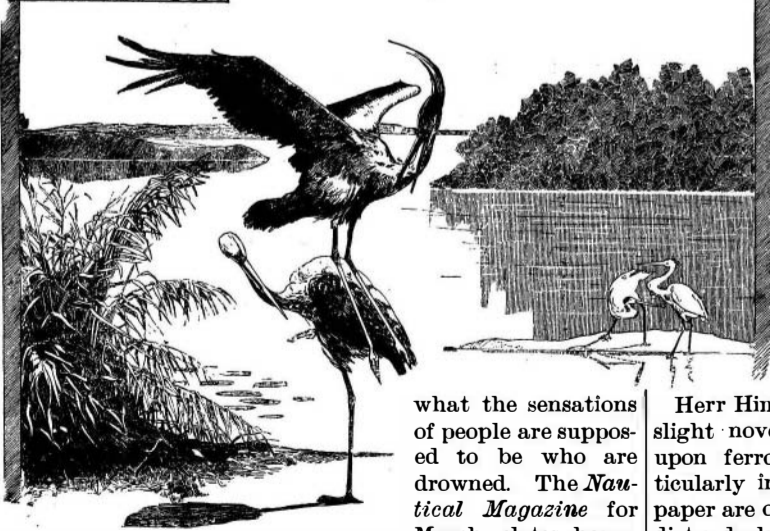


OCHOROWICZ'S LOUD-SPEAKING TELEPHONE RECEIVER.

issippi, in one of the trading boats of that period, I had an opportunity of witnessing one of these vast migrations of the whooping cranes, assembled by many thousands from all the marshes and unpassable swamps of the North and West. The whole continent seemed as if giving up its quota of the species to swell the mighty host. Their flight took place in the night, down the great aerial valley of the river, whose southern course conducted them every instant toward warmer and more hospitable climes. The clangor of these numerous legions, passing along high in the air, seemed almost deafening; the confused cry of the vast army continued with the lengthening procession; and as the vocal cry continued nearly throughout the whole night, without intermission, some idea may be formed of the immensity of the numbers now assembled on their annual journey to the regions of the South."

One of the albatrosses erects a nest two feet in height, rounding it off so that the top is much the largest, allowing a full rim to hang down on all sides, so that from a distance they look like inverted hats. Professor Mosely found a practical use for them on the Challenger voyage, utilizing them as seats when he became fatigued tramping over the desert spots in which they were found.

DROWNING NOT PAINFUL.—A good deal has been written as to



HABITS OF THE CRANE.

Thames, at Kew, by its nurse, explained the matter to a jury in her own simple way: "I sank till I felt my feet touch the bottom, and then I fell asleep till I found myself wrapped up in a blanket in the boat house." She added: "There was no pain beyond the first shock of the water." It may thus be gathered that death from drowning is by no means a painful one.

DR. OCHOROWICZ'S LOUD-SPEAKING TELEPHONE.

An endeavor has, for a long time, been made to devise a telephone system that should transmit speech to a distance with sufficient intensity to be heard within a certain radius around the apparatus, and without the necessity of applying the receiver to the ear.

The problem has already been partially solved by Mr. Gower, and by Mr. Edison in his electro-motograph. Dr. J. Ochorowicz has recently presented a still completer and more perfect solution to the International Society of Electricians and the French Society of Physics.

In the construction of his apparatus the inventor had especially in view the application of it to the auditorium of theaters, for which, in fact, it appears to be well adapted. The system, as a whole, includes a transmitter of variable resistance, the special arrangement of which Dr. Ochorowicz keeps secret; and of a magnetic telephone receiver, whose principal features are shown in the annexed cut. This receiver, which is identical with Bell's, since it contains the three essential parts of that instrument (magnet, bobbin, and vibrating disk), differs from it, however, by important modifications of form, to which it owes its remarkable power.

The magnet consists of a hollow steel cylinder, containing a longitudinal slit about a fifth of an inch in width. To the center of this are fixed two small soft iron cores, upon which are placed two bobbins that are traversed by the undulatory current modulated by the transmitter. These two bobbins are enclosed in a sort of elastic metallic box, formed of two thin sheet iron disks held parallel by their external edges upon a cylinder. The lower plate, which is firmly affixed to the magnet, contains two apertures, which allow the iron covers to pass freely.

The magnetization of these cores keeps the box thus formed in a state of tension, and the two ends of sheet iron slightly depressed and attracted toward each other. The effect of the variations in the undulatory current which is traversing the bobbins is to increase or diminish the magnetization of the cores, or, we might say, to cause the flow of force to vary. The box becomes compressed or dilated under the action of such variations, and vibrates in its entirety.

Thus is explained the power of a receiver which, connected with Dr. Ochorowicz's special transmitter, has permitted speech, song, and music to be heard throughout the entire hall of the Geographical Society—a room capable of holding as many as five hundred persons. The telephone receiver is capable of operating as a transmitter. Speech is, in this case, transmitted with less power, but it has still enough intensity to be easily and very distinctly heard at a yard or two from the receiving apparatus.

In the microphone transmitter employed by Dr. Ochorowicz, heat appears to play a certain role, if we are to judge by the fact that all the experiments repeated before the Society of Electricians, February 4, succeeded except the last. Dr. Ochorowicz attributes this result to the fact that it is necessary for the microphone to be warm in order to be regulated. As soon as it ceases to be so, the regulation is destroyed, and is not effected again until a new heating occurs. Since, in the experiments mentioned, Leclanche piles were used, these became polarized after a certain time, and allowed the receiver to get cool. Such an inconvenience is remedied by the use of Daniell and Lalande and Chaperon piles, or of accumulators. It must be also noted that, in Dr. Ochorowicz's system, transmitting is done directly, without the intermedium of an induction coil acting as a transformer.—*La Nature*.

Photo Notes.

The *Mittheilungen* says: Herr Himly (of the firm of Siemens and Halske) was lately commissioned to photograph a document with an aniline blue ink. Of course, the usual process was unsuitable, as the writing would have come out white. Herr Himly then tried a plate stained with azaline, and the reproduction succeeded to perfection. The editors were also successful in photographing, in the same way, drawings upon yellow paper.

Herr Himly also communicates to the same paper a slight novelty in the treatment of light-paus pictures upon ferro-prussiate paper. It often happens, particularly in summer, that pictures on ferro-prussiate paper are overprinted, and their blue color assumes a dirty, dark, greenish tint. Such prints may easily be saved. Herr Himly prepared a very weak solution of caustic potash, and places the overprinted picture in it until the lines become clear and the whole thing appears gray, the greater part of the coloring matter having been converted into iron oxide. He then prepares a weak solution of hydrochloric acid, and immerses the print, when it once more comes out a fresh blue color. The picture is then washed and dried in the usual way.