LETTERS TO THE EDITOR.

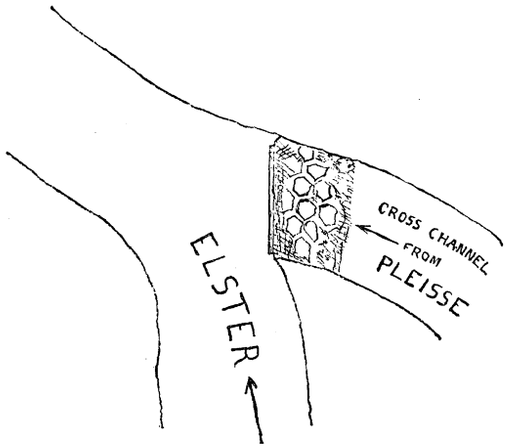
*** Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

Twenty copies of the number containing his communication will be furnished free to any correspondent on request.

The editor will be glad to publish any queries consonant with the character of the journal.

Effect of Pressure on Ice.

AN instance of hexagonal figures resulting from pressure seems to be furnished by the ice-masses which were observed in a cross-channel connecting the Pleisse and the Elster at Leipzig. The ice, which was partially dissolved by thawing weather, had been stopped by a beam held by chains across the outlet of the cross-channel.



This beam was in constant vibration, being influenced by the currents of both streams, that of the Elster being the more active. Hence the ice was constantly subject to gentle shocks as it was pushed up stream by the beam, and as it came back again against it. The ice next to the beam, along the walls, which were of cut stone, and farthest from the beam, was of a slushy consistency, but the central portion appeared as roughly shaped hexagons.

The Elster channel is about twenty feet wide, the other about twelve. C. H. L.

Leipzig, Feb. 18.

Vermin-Eaters.

In re the article on vermin-eaters (*Science*, March 2) see BANCROFT, *Native Races of the Pacific States*, ii. p. 234; i. pp. 431, 188; 'The voyage of Johannes de Plano Carpini unto the North-east parts of the world in the yere of our Lord, 1246,' in R. HAKLUYT, *The Principal Navigations*, etc. (London, 1599–1600), i. p. 59; E. BRYANT, *What I Saw in California* (New York, 1849), p. 154; JAMES COOK, *Voyage to the Pacific Ocean, etc., in the Years* 1776–80 (London, 1784), ii. p. 305; *Annual Report of the Smithsonian Institution for* 1866, p. 306; 'The Eastern Tinneh from a MS. by Bernard R. Ross, Esq.,' in GEORGE GIBBS, *Notes on the Tinneh or Chepewyan Indians of British and Russian America; The Travels of Girolamo Benzoni in America, in* 1542–56, translated and edited by Admiral W. H. Smyth, 1858 (*Publications of the Hakluyt Society*, xxi.), p. 9; J. J. LABILLARDIÈRE, *Relation du Voyage à la Recherche de La Pérouse fait par ordre de l'Assemblée Constituente, Pendant les Années* 1791, 1792, *et Pendant la* 1ère *et la* 2de *Année de la République Françoise* (Paris, 1799), ii. p. 50; W. KIRBY and W. SPENCE, *An Introduction to Entomology, or Elements of the Natural History of Insects* (Philadelphia, 1846), p. 136; A. D. RICHARDSON, *Beyond the Mississippi* (Hartford, 1867), p. 190; ANDERSSON, *Lake Ngami*, p. 17.

E. LEWIS STURTEVANT.

South Framingham, Mass., March 3.

Landing Eskimo Boats.

I HAVE just heard from Mr. Henry Elliot of a device invented by the Eskimo for the purpose of landing the skin boat called 'oomiak.' It is probably the most primitive form of 'gridiron' or 'way' known in the world. The Eskimo float is the skin of a seal taken off entire, and arranged so as to be inflated, and fastened to the end of a harpoon-line. This use of the float is well known.

Mr. Elliot informs me that a party of Eskimo travelling in the oomiak take along several of these floats, and when the boat is to be landed upon a rough beach, in order to avoid abrasion by the pebbles, two or three of the floats are inflated, or filled with water; and when the oomiak is about to land, one of these floats is placed under the bow of the boat on the beach. As the oomiak is drawn ashore, other floats are placed along in front of No. 1; so that a series of them acts like a set of rollers, or crib, on which the bottom of the oomiak rests. It is to be understood that these open boats carry frequently a great deal of freight in addition to the passengers: therefore, after the men and women have gotten out, the boat, with its freight, would have considerable weight. If there were no means of easing the bottom over the pebbly beach, considerable damage would be done by friction.

In the study of inventions, this is a very important link in the evolution of those processes which have resulted in the modern dry-dock. While speaking of the float and its functions, it may be of interest to state that one or two of them raised on the top of a pole or harpoon-shaft is a signal that the inmates of the boat are anxious to traffic. This I have also from Mr. Elliot. O. T. M.

Washington, D.C., March 7.

Dried Heads among the Jivaros.

IN the National Museum are two shrunken heads, with nearly perfect features, long, glossy hair, and having the mouth closed by means of a long fringe of cords. There is a doubled braided cord fastened to the vertex for suspension, and others hanging downward for the attachment of colored feathers.

There seems to be some confusion in literature about these heads, and I write this note partly to state what I have learned, and partly to ask for light.

Dried heads are preserved by many South American tribes. Fletcher and Kidder (*Brazil*, 473, illustr.) say,—

"The Tamoyos dwelt formerly in the provinces of Rio Janeiro and Minas Geraes, but, being harassed by colonists, were persuaded by the eloquence of Chief Jappy Assu to emigrate north. They migrated more than three thousand miles to the mouth of the Madeira. Their descendants are now between the Tapajoz and the Madeira, among the lakes and channels of the Tupinambas. They are now called the Mundrucus, the most warlike Indians in South America. They live in villages, in each of which is a fortress where the men sleep at night. This building is adorned within by the dried heads of their enemies decked with feathers."

But the Jivaros, who dwell on the Napo River in Ecuador, do more than dry the heads. They remove all the bones, and shrink the heads until they are no larger than a lady's fist, and are as hard and glossy as polished ebony.

There is an account which says that these people, when they had killed a brave enemy, cut off his head, pounded it with clubs until all the bones within were beaten to a jelly, then removed the bones, and smoked the head until it shrunk to its present proportions. This has always seemed unreasonable, because the pounding would also destroy the skin.

Mr. Charles H. Knight, an American citizen, went to the Napo country, one hundred and eighty miles east from Quito, in 1871, and spent five years there in business. He procured one of these dried heads, which is now in the United States National Museum, from the Achualas, a band of Jivaros, through an old Indian who had seen the preparation. The heads thus treated are always trophies taken from a slain enemy. An incision is made quite through the skin around the neck, well down toward the shoulders. The skin is then drawn off over the head, just as one would do in flaying an animal, cuttings being made whenever muscular adhesion made it necessary. The features are thus left intact. The skin is then soaked in an infusion of some kind of herb, which Mr. Knight did not procure. The second step consists in filling the skin with hot pebbles and sand, over and over, until it is quite shrunken and dry. The soaking in the decoction, and the shrinking and drying, are alternately practised until the trophy is reduced to the desired proportions. The mouth is then sewed up, a cord is passed through the top of the head, and the specimen is hung up in the smoke.

O. T. MASON.

Washington, D.C., March 9.