

kept in a box together. The older chicken soon assumed the care of the little one, brooding it after its fashion, and pecking any disturbing hand. But the strangest feature is, that when a dainty morsel, such as a fly, is brought, it will call the little one like a mother-hen, and give it the fly to eat. This has been done repeatedly within the past week, the sound made being unmistakably the food-call, though, of course, pitched on a higher key. Yet it cannot have heard that sound for at least two weeks, and, in the ordinary course of events, should not make it for eight months.

REDDUCS.

Cambridge, June 6.

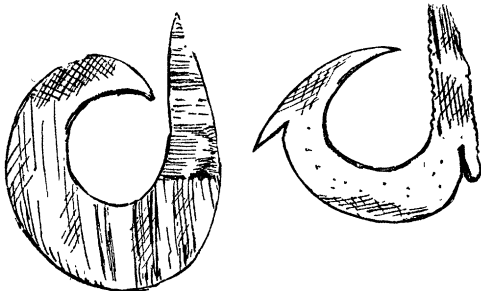
Lake Superior geology.

On reading Professor Chamberlain's paper in *SCIENCE*, No. 16, and afterwards referring to his statement in the third volume *Wisc. geol. reports* (p. 423), I see that I was mistaken regarding the Taylor's Falls locality being fifteen miles away from other traps (*SCIENCE*, No. 9). I now see that his language was not intended to be taken as it was understood by me.

M. E. WADSWORTH.

Fish-hooks from southern California.

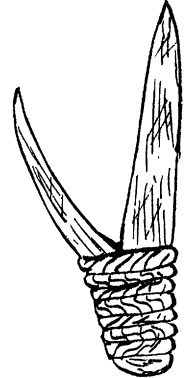
In plates xi. and xii. of Lieut. Wheeler's Report on archeology there are several drawings of ornaments found near Santa Barbara, Cal., and on the adjacent islands, by Mr. Paul Schumaker and myself, which the editors are pleased to call fish-hooks. A writer in the *Century magazine* for April presents drawings of other specimens of like character, found by myself in the same locality, and now deposited in the Smithsonian institution. I also have in my possession a series of these ornaments, but it would require a broad stretch of the imagination to believe that they were intended for fish-hooks.



SHELL ORNAMENT. BONE ORNAMENT, SIZE OF ORIGINAL.

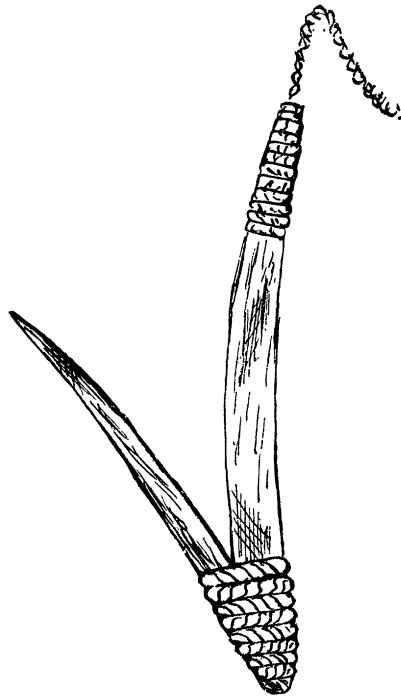
The point, which in many instances curves downward, comes so near the stem that it would be next to impossible for them to become hooked in a fish's mouth. The point of one of my best specimens, manufactured from the shell of the *Haliotis*, comes within the sixteenth of an inch of the stem or shank; and were a line to be looped on the stem, and cemented with asphaltum, as was practised by the California Indians, the space would be completely filled (see the annexed drawing). My specimens range in size from one-half inch to two and a half inches in diameter, and were manufactured from *Haliotis* shells and from bone. The first of these ornaments of which I have any knowledge, I found in a rancheria at Rincon, on the line between Santa Barbara and Ventura counties; and during five years' subsequent residence at Santa Barbara, and

the exploration of the mainland and islands, I had an opportunity to study them in every stage of development. I am convinced, that, with few exceptions, they were designed for ornaments, as their shape precludes the idea of their use as fish-hooks. They were probably suspended from the ears, and possibly worn on other portions of the body. The true fish-hook of what may be termed the Santa Barbara Indians has never, to my knowledge, been figured; yet they are more commonly met with in the rancherias and 'cementerias' in Santa Barbara and Ventura counties than the curved specimens we have been considering. I send you drawings of two specimens belonging to my cabinet. These hooks were made of two slightly curved pieces of bone pointed at each end, and firmly tied together at the lower end and cemented with asphaltum.



FISH-HOOK, SIZE OF ORIGINAL.

They are somewhat similar to those still in use by the South Sea Islanders. The larger specimen I found with a skeleton at Point Dume, Ventura county. There were several others similar to the



FISH-HOOK, SIZE OF ORIGINAL.

one figured still retaining the thong and cement that bound the parts together. The smaller specimen I found on the surface in a rancheria one mile west of the town of Ventura.

STEPHEN BOWERS.

Falls City, Neb., June 4, 1883.