star (*Solaster papposus*), of 8 to 9 cm. across their extended arms, were placed in an aquarium at the Horniman Museum at Forest Hill. The aquarium already contained a whelk shell on which was an average-sized "parasitic" sea-anemone (*Sagartia parasitica*). It should here be remarked that the sun-stars were well fed daily (on pieces of fish, beef, mussel, or starfish), and they could not therefore have been driven by hunger to eat unaccustomed food. At 9.30 a.m. on December 31 it was discovered that one of the sun-stars was on the pebbles, humped in the characteristic feeding posture over the sea-anemone, which had apparently been dragged from the shell. Some of the arms of the sun-star were raised and attached by their tube-feet to the glass of the aquarium, and the stomach of the asteroid could clearly be seen enveloping about one-half of the coelenterate. Numerous white acontia were attached to the under-parts of the sun-star. At 10.30 a.m. on the following day the sun-star was still upon the sea-anemone. The sea-anemone was now removed from the aquarium, and it was found on examination that the dead coelenterate was closed, and that the integument of its upper parts, together with most of the tentacles, had disappeared, having apparently been digested away.

On January 13 another "parasitic" sea-anemone, the diameter of whose circle of extended tentacles was about 4 cm., was placed in the aquarium, and at 9.30 a.m. on January 15 it was found that it also had been dragged from its shell and was enveloped by a sun-star, which may or may not have been the same individual. On this occasion the sun-star was not disturbed in its meal. On January 17 it was still upon the sea-anemone, but it had dragged its prey up a vertical rock. When the sun-star was gently lifted, it was found that the sea-anemone was inside the partially everted stomach, only the central part of the base of the coelenterate being exposed. On the morning of January 18 (that is, at least seventy-two hours after the attack) the sun-star was still humped a little, and on its being turned over it was found that there were no signs of the sea-anemone, except a small dark-brown slimy mass, which the sun-star hastily discharged from its mouth.

The apparent indifference of the sun-star, with its everted, and one would think vulnerable, stomach, to the acontia is to be remarked. It would be of interest to know whether any reader of NATURE who may be working at the asteroids has witnessed or heard of an incident similar to those described above. I may add that another average-sized "parasitic" sea-anemone has been in the tank since the introduction of the sun-stars, but it has not yet been eaten, although a sun-star will occasionally place itself over the coelenterate and then creep away again.

H. N. MILLIGAN.

Devonshire Road, Forest Hill, London, S.E.,
January 29.

William Smith's Maps.

I AM preparing a monograph on Smith's maps, etc., for the Yorkshire Geological Society, and am anxious to see a "Reduction of Smith's large Geological Map of England and Wales intended as an elementary map for those commencing the study of Geology, 1819," referred to in Phillips's "Memoirs of Smith."

I find that Smith's large maps of 1815 often bear a signature and a number such as "No. 66," or "a 33." If any readers of NATURE possess copies of this large map perhaps they would kindly inform me what number the map bears. It occurs under the "Section of Strata," which appears on the map to the east of the Humber estuary.

T. SHEPPARD.

The Museums, Hull, January 25.

OPTICAL SIGHTS FOR RIFLES.

OF all instruments needing accurate pointing, the rifle has been longest deprived of the aid of optical appliances. Probably this is due to a variety of reasons, among them being: (1) the rough usage to which a rifle may be subjected; (2) its use in warfare is essentially youth's prerogative, with ample visual accommodation, so that the disadvantage of open sights is not acutely felt; (3) the little incentive received from the use of the shot gun with its spreading discharge, and short range not demanding optical aid, as practice and judgment enter largely into the act of aiming in much the same way as they do in throwing a stone. Nevertheless, it is apparent that the rifle is progressing through various phases as other pointing instruments have done.

The drawbacks of open sights are obvious—a near back-sight, a foresight, and a distant object all require to be focused at the same time, or rapid visual accommodation made (see NATURE, June 24, p. 462).

Optical sights for rifles may be divided into three classes: (1) The use of lenses without any tube, as in the early aerial telescopes, the

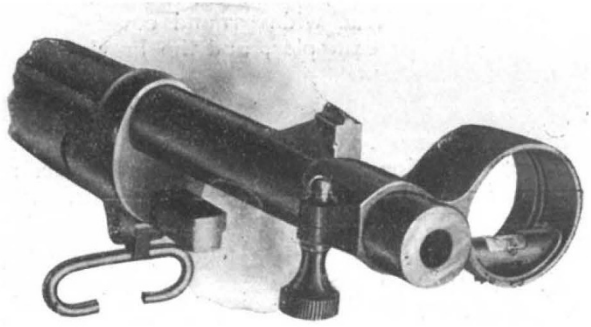

FIG. 1.—Common's optical sight, showing lens at muzzle end, as made by Ottway and Co., Ealing.

rifle itself being used as a base on which the lenses or lens and sighting hole are independently mounted. (2) Use of lenses to give a reference line, with or without other optical aid; these are termed collimating sights. (3) Telescopes, prismatic or otherwise, complete in themselves with optical or mechanical appliances for elevation or deflection, and means for ready attachment to the rifle.

One of the earliest of class 1 is to be found in a patent by Chase in 1893, in which the foresight consisted of a lens mounted near the muzzle of the rifle, the focal length of the lens being such that objects sighted at a distance had their images in the same plane as the rear sight. This image could be viewed either by the naked eye or by optical means, and, of course, it appeared inverted. Such an instrument has obvious disadvantages, but is capable of bringing all the demands on the eye to a vision of one plane.

Another single lens sight which is entirely practical, and has achieved considerable success, was patented by the late Dr. Common in 1901 and called by him "the optical rifle sight." It consists of a lens mounted near the muzzle of