

records are as follows: In January, 1902, an 18-foot specimen came ashore at Ormond, Fla. It was described by Mr. B. A. Bean in *SCIENCE*, February 28, 1902. Its skin is now in the U. S. National Museum. A second specimen was taken at Knight's Key, Fla., in May, 1912. It was put on record by me in *SCIENCE* of August 22, 1913, and the fish and its capture were fully described by me in "Zoologica," *Scientific Contributions N. Y. Zool. Soc.*, March, 1915. Its mounted skin is in the possession of Captain Charles Thompson of Miami, Fla. The third, and, except the Abrolhos Light specimen, the only other definite record, is of a fish taken near Cape Sable, Fla., in June, 1919. This I have also put on record in *SCIENCE* for August 27, 1920. The indefinite record in the Atlantic, to which reference has been made, is found in George Bennett's "Wanderings in New South Wales, Batavia, Pêdir Coast, Singapore and China," London, 1834. In Vol. II, p. 267, is a notice of a giant shark seen near the Azores in 1831. It was of great size, but too far off for spots and stripes to be seen, and while it was probably a *Rhineodon* it cannot be so stated definitely. Hence the specimen, referred to in the body of this article, constitutes our fourth definite record for the Atlantic Ocean.

E. W. GUDGER

AMERICAN MUSEUM OF NATURAL HISTORY

DISCHARGE OF STATIC ELECTRICITY

A SPLENDID example of the discharge of static electricity between two persons was witnessed at one of the games in the gymnasium of Iowa Wesleyan College at Mount Pleasant during the recent southeastern Iowa high school basketball tournament, and is reported by Ben H. Wilson, a member of the Iowa Academy of Science.

While the game was in progress between the Wayland and Ft. Madison teams, Saturday evening, March 11, 1922, two players in pursuit of the ball came together in the southeast corner of the court, after a fast run of almost half way down the length of the floor. A deep yellow spark was discharged between their bodies, the flash of which was plainly visible to spectators in the top row of the balcony in

the northwest corner of the gymnasium, over one hundred feet distant. This could be no illusion as it was witnessed by over a dozen persons who made exclamation of the fact almost simultaneously. The spark appeared to be emitted at about knee height. Both players had on rubber-soled athletic shoes which would be non-conductors, and wore woolen shirts and cotton flappers. That this was visible in a well lighted room makes the phenomenon all the more remarkable.

Shocking the cat by rubbing the fur on its back; lighting the gas from a spark emitted from one's knuckle; witnessing sparks while combing one's hair in the dark; and children's shocking each other while playing on woolen carpets, are all quite common experiences, but this is the first time that the writer has heard of a similar occurrence being reported during an athletic contest.

H. E. JAKUES

IOWA WESLEYAN COLLEGE

PARAFFINE PAPER SCREEN FOR SHOWING THE POSITION OF RETINAL IMAGE

UNDER the title, "The Inversion of the Retinal Image," Hartridge¹ refers to a statement by Senet² that the retinal image is not inverted. The former author then states that the evidence for that inversion is absolutely reliable and proceeds, in five paragraphs, to summarize the evidence on which the inversion of the retinal image is based. I quote his first two paragraphs:

"(1) If the eye ball of an albino animal be removed intact, and be mounted in a tube, so that while the rays from external objects enter the pupil, the posterior surface of the eye ball can be examined by an observer, then owing to the absence of pigment in the choroid the image formed on the retina is clearly visible. This image is seen to be inverted, top being at bottom and right being at left.

(2) In the case of an ordinary animal the choroid and sclera can with care be removed from the eye ball, leaving the retina *in situ*; observa-

¹ Hartridge, H.: *Proc. of the Physiol. Soc.*, May 15, 1920, published in the *J. of Physiol.*, Vol. LIV, August 1920, p. 6.

² Senet: *Revista de la Universidad de Buenos Aires*, 41, p. 398, 1919.

tion of the retinal image shows that it is inverted and transposed."

The experiments suggested here by Hartridge are well enough known, but his summary calls definitely to mind the fact that it is by the use of one or the other of these experiments that demonstration of the actual position and of the inversion of the image in the eye of a mammal must usually be presented to classes of students in physiology, whenever direct evidence is given at all. Difficulties often arise in carrying out either experiment. The eye of an albino as large as a rabbit is very often not easily obtainable. Since the eye of such an "ordinary animal" as the pig may almost always be had from the butcher or the meat market so soon after the animal has been killed that the dioptrical parts are still transparent, the ordinary eye would seem to be the obvious one to use for such demonstrations. As a matter of fact, however, the preparation of the demonstration with a pigment-bearing eye is rendered always somewhat uncertain, on account of the difficulty of removing the choroid and the retinal pigment without puncturing the retina and thus destroying its value as a screen on which to see the image. I have found it easy to complete the demonstration of the inverted image in such cases by carefully cutting out a little window of about 5 mm. diameter in the retina and then pressing over this window until it sticks fast against the vitreous humor a small piece of thin paraffine paper. Standing in the place of the retina, this paper forms a very good screen upon which to receive the image.

An incandescent electric light forms an excellent *object* for use in the demonstration, which is always an interesting one to students and certainly quite conclusive, as Hartridge says.

GEO. D. SHAFER

LELAND STANFORD, JR., UNIVERSITY.

QUOTATIONS

SPIRIT PHOTOGRAPHS

THERE is a society or club known as the Magic Circle which consists of professional conjurers, but admits a few approved amateurs, to the kindness of one of whom, a dis-

tinguished member of the medical profession, we are indebted for a copy of a report, dated May 31, issued by the Occult Committee of the Circle. This committee, which consists of expert conjurers, has been appointed to investigate what are called "spiritualistic phenomena," and at the suggestion of Sir Arthur Conan Doyle appears to have turned its attention first to spirit photographs. The report deals with the inquiries made by the committee into the claims of two people—a man and a woman—who it was alleged were producing spirit photographs of a remarkable nature in unopened packets of photographic plates. Neither of the mediums came out of the ordeal unscathed. When a fraud-proof packet was sent to the male operator he obtained no results. He stated that the packet had twice been "held," but that the "usual sensation" had not been felt. As soon, however, as a packet that could be tampered with was submitted, a "psychic extra," as it appears to be called, was obtained on one of the plates. Unfortunately for the performer the conjurers had tampered with the packet first. In addition to other tests, a straight line of red varnish (invisible in the red light of the dark room) had been painted across the top left side of the edge of the stack of six plates. On the return of the packet by the medium three of the red marks were found at the bottom, showing that these plates had been reversed. When the operator was asked for an assurance that the packet had really been returned unopened, he replied in the affirmative. He said that it was quite usual to get adverse remarks from persons who did not understand, and that such remarks were not worthy of notice. Shall we admire the power of spirits, or deplore the frailty of human nature? The lady medium was vouched for by Mr. and Mrs. Hewat McKenzie, who conduct an institution known as the British College of Psychic Science. Three sittings were held with this medium. First, two members of the committee secured a private sitting. It was required that the plates, enclosed in a sealed packet, should be sent for "magnetization" some days in advance, and at the sitting these plates were exposed, and on development "extras" were on