

find the speed of the ship at any time, it is only necessary to count the number of ticks to the half-minute, as measured by the sand-glass, and read off from a converting table the number of knots and fractions corresponding to that number.

SAM HUBBARD.

#### Science for a livelihood.

I am interested in the communication from C. B., Brooklyn, N. Y., under the above caption in the issue of *Science* for Sept. 10. Like C. B., I graduated with a good scientific education, had done some practical work, and possessed a greater desire to labor in scientific fields than to do any thing else.

Instead of making application to only four schools, however, I applied to over sixty, and received a negative answer from all of them, and at the end of it was told by an eminent professor in Harvard university that there were at least fifteen applicants for every vacant place of the kind in the United States.

That was nine years ago, and my experience since confirms me in the belief, that if the student is without wealth, and has no friends who will forward him in his chosen field, he will do wisest, and be most independent, if he turns his attention to agricultural, mechanical, or any other honest occupation by which he can make some money; and then, after his money is his own, he can put as much of it as he sees fit into his scientific work. Such a course may be galling to pride, and a disappointment to friends, but, in all probability, there are few positions in this country where a student of small means can find sufficient work in the natural or experimental sciences to earn bread enough to keep the wolf from the door.

W. F. FLINT.

Winchester, N. H., Sept. 13.

#### Sea-water in the ears.

*Science* for Sept. 10 has a paragraph on this subject, but omits to mention that the momentum of tidal waves as they break upon the beach in this locality is sufficient to drive the water through the bather's nostrils, and up along the eustachian tube to the ears. In no other way is greater damage done to the ear in sea-bathing than this, since one cannot voluntarily close both mouth and nose, like marine animals, while bathing. I once saw a person go into the water with his nose embraced by a clothes-pin, and the greater number of bathers now protect the ears with wool. As I very well know from personal experience, it is not always easy to keep water out of the ears in surf-bathing, but I believe accidents from this cause are less frequent than formerly.

SAMUEL SEXTON.

New York, Sept. 11.

#### An easy method of measuring the time of mental processes.

Mr. Jastrow's method of measuring 'simple reaction time' by means of a circle of people, as described in *Science* of Sept. 10, was first used, as far as I know, by Dr. Holmes, who, as he said, "experimented with an apparatus more expensive than had ever before been used, and yet within the reach and means of everybody." The result obtained from this experiment depends largely on the experience of the operators, and it can easily be reduced to  $\frac{1}{10}$  of a second.

If Mr. Jastrow will consult the *American journal of science* for September, 1871, he will find an account of some experiments on reaction and distinction time made by the writer, in which, in addition to color and form, the exercise of distinguishing tones of different pitch was introduced. The 'distinction times' given in that article are considerably greater than those obtained by Mr. Jastrow. The time of a single reaction only was measured, and I strongly suspect that in all cases the time obtained from measuring the duration of a series of reactions rapidly succeeding each other will be found to be shorter than that deduced from single measurements. The reason for this is obvious.

T. C. MENDENHALL.

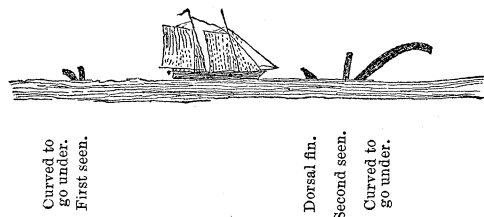
Washington, D. C., Sept. 13.

#### The sea-serpent.

With this please find an extract from an official report by Capt. Robert Platt, assistant coast and geodetic survey, with accompanying sketch of a 'sea-monster' seen by him near Cape Cod in October, 1878. Captain Platt is a trained observer, whose daily occupation at that time was to record just what he saw, and nothing more or less. I know Captain Platt so well that I have never doubted the existence of such a monster from the time his report was made known to me; and, if others have been sceptical, I hope that recent events have proven the matter beyond question.

[Extract from a report by Capt. Robert Platt, U. S. coast and geodetic survey, to the superintendent; written on board the U. S. coast-survey schooner *Drift*, Oct. 25, 1878.]

"I would also beg leave to state that Aug. 29, while becalmed off Race Point, Cape Cod, about four hundred yards from the vessel, we saw a sea-monster, or what I suppose has been called a sea-serpent. Its first appearance was that of a very large round spar two or three feet in diameter, from twelve to fifteen feet high, standing upright in the sea, but in a few minutes it made a curve and went down. It was visible about three minutes; the second appearance,



Curved to go under. First seen.

Dorsal fin. Second seen. Curved to go under.

about half an hour after the first, the monster came out of the water about twenty-five feet, then extended to about thirty-five or forty feet, and about three feet in diameter; when out about forty feet, it curved and went down, and as it did so a sharp dorsal fin of about fifteen feet in length came up. This fin was connected to this monster, for the whole animal moved off with the same velocity. I looked at it with a good pair of glasses. I could not tell whether it had a mouth or eyes; it was of a brownish color. I enclose to you a rough sketch made by me, and submitted to all on board who saw the animal, and they all agree that it is a fair representation of the animal as it appeared."

B. A. COLONNA.

U. S. coast survey, Sept. 4.