

**New Coral Theory.**

Prof. Alexander Agassiz arrived at San Francisco from Honolulu, February 12. He has spent several months in the South Sea, mainly devoting his time to the study of coral animals. Both Darwin and Dana held that coral is made, sinks and is replenished on the surface. This they taught continued indefinitely, and this process was called the theory of subsidence. Prof. Agassiz now believes that coral is a comparatively thin crust formed upon a mountain that has been submerged or upon a volcanic pile, and in nearly every case where the borings have been made the coral has been found to be shallow. In a few places where it seems to have a depth that might sustain the theories of Darwin, Prof. Agassiz proves that material into which the deep borings are made is lime of a former age of the earth. He shows that the admixture of sand with the coral establishes the surface or shallow reef. The foundation for coral in every instance has proved it to be of such material and of such shape as to warrant the conclusion that the coral is a cap to submerged mountains and volcanic upheavals.

**ELECTRIC TOWBOAT IN A SEWER.**

The city of Worcester has a large sewer 18 feet wide and 13 feet high. The sewage of the city is treated chemically to render it fit to flow back into the Blackstone River, so that it is desirable to separate the storm water from the sewage to lessen the expense of the chemical treatment. In order to accomplish this end a smaller sewer, 6 feet wide and 4,000 feet long, is being built inside the larger one, utilizing the bottom and one of the sides of the sewer. A cofferdam is constructed to enable the other wall of the sewer to be built, and in order to deliver materials to the workmen an electric scow was rigged up, which has been found very satisfactory. Electricity is also used to light the sewer, to operate ventilating fans and to work electric pumps. All of the lighting and power are generated on the premises in a small building outside the sewer. About midway between the ends of the sewer a small dock has been constructed and the materials are delivered to it by an incline through a hole made in the top of one wall.

The towboat is a catamaran 22 feet long and 5 feet wide. Each of the small boats is 18 inches wide. In the middle of the catamaran is a small paddle wheel box which is to prevent splashing. This is driven by means of sprocket wheels and chains which are connected with an electric motor of 2½ horse power. At the stern end is a rudder and controller, so that one man can operate both. Only one electric boat is used. It tows six scows, which have already handled 12,000 bricks, 50 barrels of cement and 100 barrels of sand daily. The double trolley system is used, the wires being hung from insulated brackets secured to the top of the arch in such a way that a trolley can be run on it. A scow is also fitted with a centrifugal pump which is used for pumping out the cofferdam, and it is driven by another motor of 14 horse power. The application of the electric towage to sewer construction is novel and the results obtained are most satisfactory.

The electric scow was designed by Mr. Harrison P. Eddy, Superintendent of Sewers, Worcester, Mass. Mr. Robert N. Kendall is the assistant in charge of the electrical work.

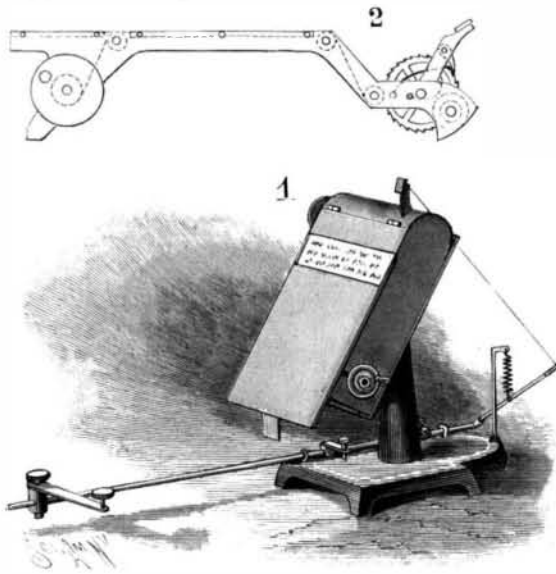
**The X Rays in the Silk Culture.**

The masculine silk cocoon yields more silk than that of the feminine; hence for raising purposes such varieties as give more masculine eggs are by far preferable. Up to the present it was not easy to distinguish the masculine from the feminine cocoons; the distinction was solely based on the greater weight peculiar to the feminine cocoon. The X rays have greatly facilitated

the distinction. On account of containing the unripe eggs rich in mineral salts, the hind part of the feminine cocoon is found to be by far less transparent than that of the masculine. The dark shade in the vicinity of the ovary admits of readily recognizing the feminine silk chrysalis.

**AN IMPROVED COPY-HOLDER.**

The accompanying illustration represents a copy-holder designed to facilitate the taking of notes, and afterward holding the paper on which the notes are written in convenient position for transcribing, the



**PAXTON'S COPY-HOLDER.**

paper used being in the form of a continuous web. The improvement forms the subject of a patent issued to Elmer E. Paxton, of Honolulu, Hawaii. Fig. 1 represents the device in use. Fig. 2 showing a view of one side of the paper-carrying frame, which is held in a sheet metal casing, with a cover plate that is movable to provide a large or small space for the writing, the paper being advanced by a lever or by thumb wheels as desired, and the plate affording a rest for the arm. For conveniently retracting the web when the notes are to be transcribed, means are employed in connection with a base on which is a column carrying a flanged supporting plate on which the casing of the paper-carrying frame rests. In bearings on the base is a rock shaft on whose forward end is an arm adapted to extend near the keyboard of the typewriter, while the opposite end of the shaft carries an arm to which is attached a retractile spring, and which is also connected by a cord with the free end of a lever projecting from the upper end of the casing, so that by rocking the

**Sensationalism, not Science.**  
Scientific discoveries . . . have often been so wonderful in character that it ought not to excite surprise to find intelligent people ready to accept without question announcements of inventions and discoveries of the most improbable and absurd character. Along this line the evil influence of a sensational press is enormous. It was bad enough ten years ago, but it has been greatly magnified by the recent, and, on the whole, unfortunate cheapening of processes of illustration, to the seductions of which nearly every newspaper in the land has yielded.

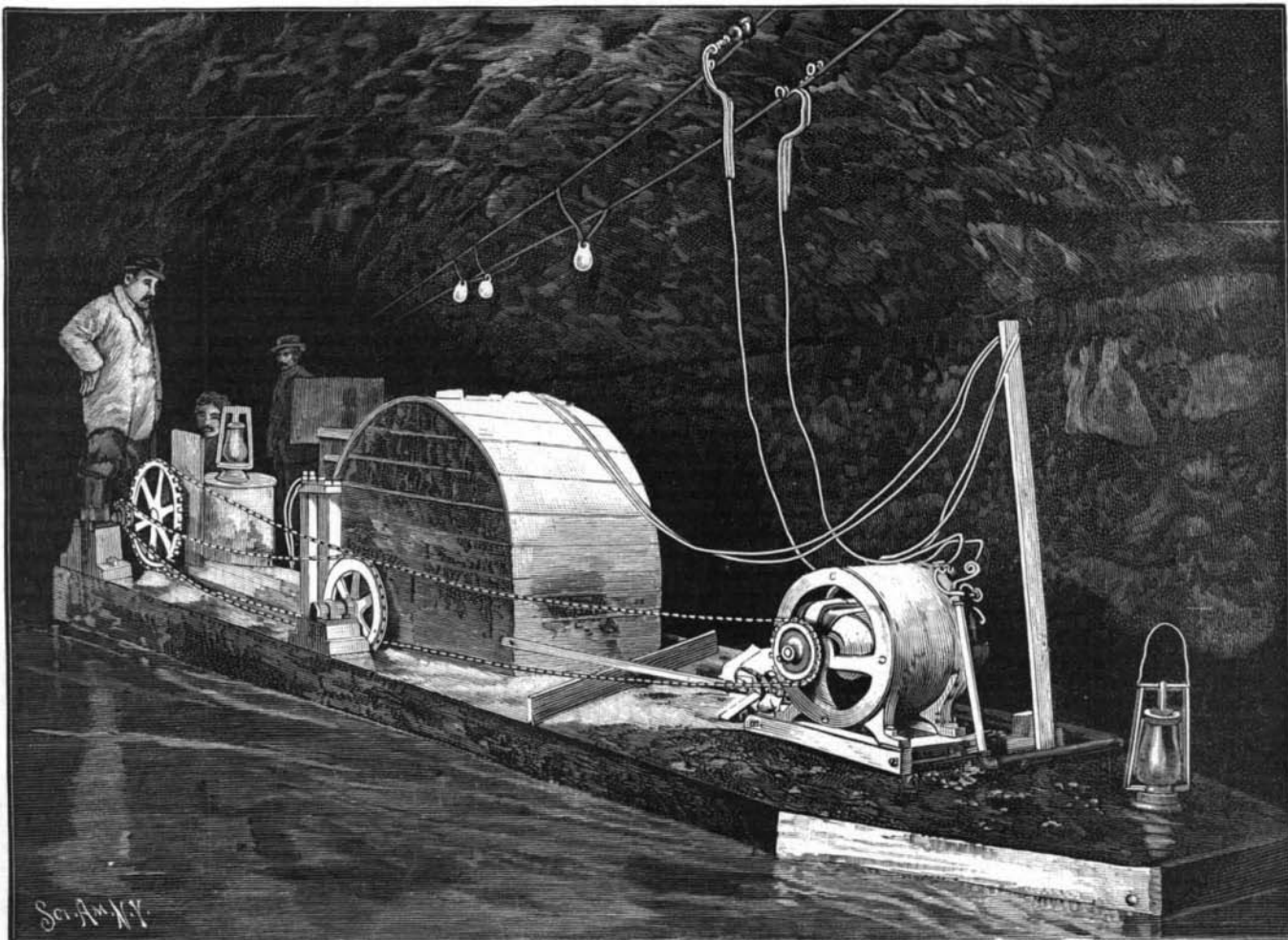
To this has been added the newspaper "syndicate," by which men who know really nothing of science are employed to furnish sensational articles on scientific discovery, illustrated by sensational pictures, all of which is the more injurious because often founded upon a slender, microscopic tissue of fact. Unfortunately, some men who may be said to inhabit the fringe of genuine scientific activity lend themselves to this sort of thing and are made much of accordingly.

Whole pages of this modern journalism are filled with accounts of discoveries that are going to be made, for writers of this class are shrewd in taking advantage of the fact that human interest and human memory are now practically restricted to about twenty-four hours in time. The publication of a broadside describing an alleged improvement of the telescope or microscope, in which there is absolutely nothing new that is true or true that is new, adorned with a series of cuts largely imaginary and many of which have no relation to the subject matter, has served the purpose intended when its author has received his pay from the "syndicate" and when the syndicate has scored a triumph in what in these days is called "enterprise."

Even the most conservative among men of science are made to appear as willing purveyors of sensationalism by what ought to be looked upon as an unwarranted and illegitimate use of the results of carefully conducted investigations, often before such results have received final construction and approval at their own hands.

If all impressions made by this false popularization of science were to disappear in twenty-four hours, the evil would be greatly lessened; but, unfortunately, there are many very intelligent and thoughtful people, who ought to constitute the best support of scientific work, upon whom they are more lasting. To such the line separating the genuine accomplishments of honest scholarship from the output of sensationalism, which ought to be clear and sharp, is becoming very nebulous, and there is imminent danger of a revolt against the whole thing.

The extent to which credulity has been carried was beautifully illustrated not long ago when a widely known scientific man amused himself and many friends by caricaturing, in the columns of one of our standard scientific journals, some of the phases of modern psychophysics. So perfectly did the burlesque reflect the form and substance of some recent contributions to that science that it was immediately accepted as serious by the large majority of readers.—Prof. T. C. Mendenhall, in Science.



**ELECTRIC TOWBOAT IN MAIN SEWER, WORCESTER MASS.**

shaft extending forward from the base the web is advanced to expose the copy to the typewriter. When the web of paper has been filled with writing, the web should be wound back to the first position before the copying or transcribing can be done.

forward to with great expectation. The same has turned out surprisingly favorable, for the two piers only show a lateral displacement of 3 millimeters, which furnishes the best testimonial for their construction. The arch has settled 35 millimeters in the upper edge.