

Poisoned by Revenue Stamps.

Ex-Mayor Butler, Binghamton, N. Y., has been seriously poisoned about his face and hands by handling government revenue stamps used on cigar boxes. While the weather was very hot and he was perspiring freely, he stamped and canceled the stamps on a large number of cigar boxes. Green dust flew from the stamps and covered his hands and wrists, and a handkerchief used by him for wiping his face and neck also became filled with the dust. The result was a severe and deep poisoning wherever the dust touched. There was evidence of poison breaking out on one ankle, showing that it was spreading through his system. Ex-Alderman Jackson, of the revenue office in Binghamton, has been troubled for about a year with a skin disease resembling closely the poisoned surface of Mr. Butler.

THE GREENLAND WHALE AND THE GRAMPUS.

The annexed engraving represents a combat between the Greenland whale (*Balaena mysticus*) and the grampus (*Delphinus grampus*), the most voracious of the inhabitants of the ocean. It does not devour one third of the animals it kills. It is the greatest enemy of the whale, and dead bodies of whales have frequently been found having large pieces of flesh torn from the body, and the lips mutilated or destroyed. As soon as the whale opens its mouth to defend itself the grampus darts at its large soft tongue, tears it off, and causes the death of the animal.

It is said that the grampuses are fond of amusing themselves by mobbing the Greenland whale, and that they persecute it by leaping out of the water and striking it sharply with their tails as they descend. In consequence of this it has been called the thrasher or killer. The swordfish is reported to join the thrasher in this amusement, and to attack the whale from below to prevent it from diving. Whatever may be said of the latter part of the story, the former is certainly true, and is corroborated by Capt. Scott, who has often seen this strange sight.

The grampus is from twenty to thirty feet in length and from ten to twelve feet in girth. It has forty-four conical, strongly made, and slightly curved teeth. Its color is black on the upper part of the body, suddenly changing to white on the abdomen and part of the sides, and there is generally a white patch of considerable size behind the eyelid.

Although it sometimes wanders to more southern regions, its favored home is in the northern seas that wash the coast of Greenland and Spitzbergen, where it congregates in small herds.

The Greenland whale, northern whale, or right whale, as it is indifferently termed, is an inhabitant of the northern seas. It is, when full grown, about sixty or seventy feet in length, and its girth about thirty or forty feet. Its color is velvety black upon the upper part of the body, the fins, and the tail; gray upon the junction of the tail with the body and at the base of the fins, and white upon the abdomen and fore part of the lower jaw. The velvety aspect of the body is caused by the oil which exudes from the epidermis, and aids in destroying the friction of the water. The jaw opens very far back, and in a large whale is about sixteen feet in length, seven feet wide, and ten or twelve feet in height. The most curious part of the jaw and its structure is the remarkable substance that is popularly known as whalebone, which is found in a series of plates, thick and solid at the insertion into the jaw, and splitting at the extremity into a multitude of hair-like fringes. On each side of the jaw there are more than three hundred of these plates, which, in a fine specimen, are about ten or twelve feet long and eleven inches wide at the base. A large whale furnishes about one ton of whalebone. These masses of whalebone are placed along the sides of the mouth for the purpose of aiding the whale in procuring food and separating it from the water.

The Human Voice a Corner Stone Memento.

A great many novel articles have been placed under corner stones of public buildings and other structures about being erected. But the most novel article we have known to be thus deposited was in laying the corner stone of an academy in Massachusetts the other day. It was nothing less than a strip of the human voice imprinted on tin foil by the phonographic process. There is no comprehending the curiosity this bit of tin foil will be to the people of a couple of hundred years hence, when the corner stone shall be opened and the voice taken out, and found to articulate the words and sentiments of one long since dead and forgotten.



ARMCHAIR DESIGNED BY SCHMIDT & SUGG, VIENNA.

Artificial Formation of Felspars—Nepheline and Leucite.

F. Fouqué and A. Michel Levy have recently prepared the minerals above mentioned. Nepheline is formed when a mixture of silicic acid, alumina, and sodium carbonate, in such proportions that the oxygen of protoxide, sesquioxide, and acid are as 1 : 3 : 4, are heated together; white silk-like crystals are obtained which, under the microscope, are seen to be small hexagonal prisms (they are 0.13 min. long and 0.06 min. broad), which accord in every respect with natural crystals of nepheline. If somewhat more silicic acid be

different minerals was obtained: nepheline, pale green spinel, garnet in brown-yellow octahedra, and microlite. Leucite was also found in the fused product, and resembled both in form and optical characters the natural mineral.—*Comptes Rendus.*

Volcanic Oil Well.

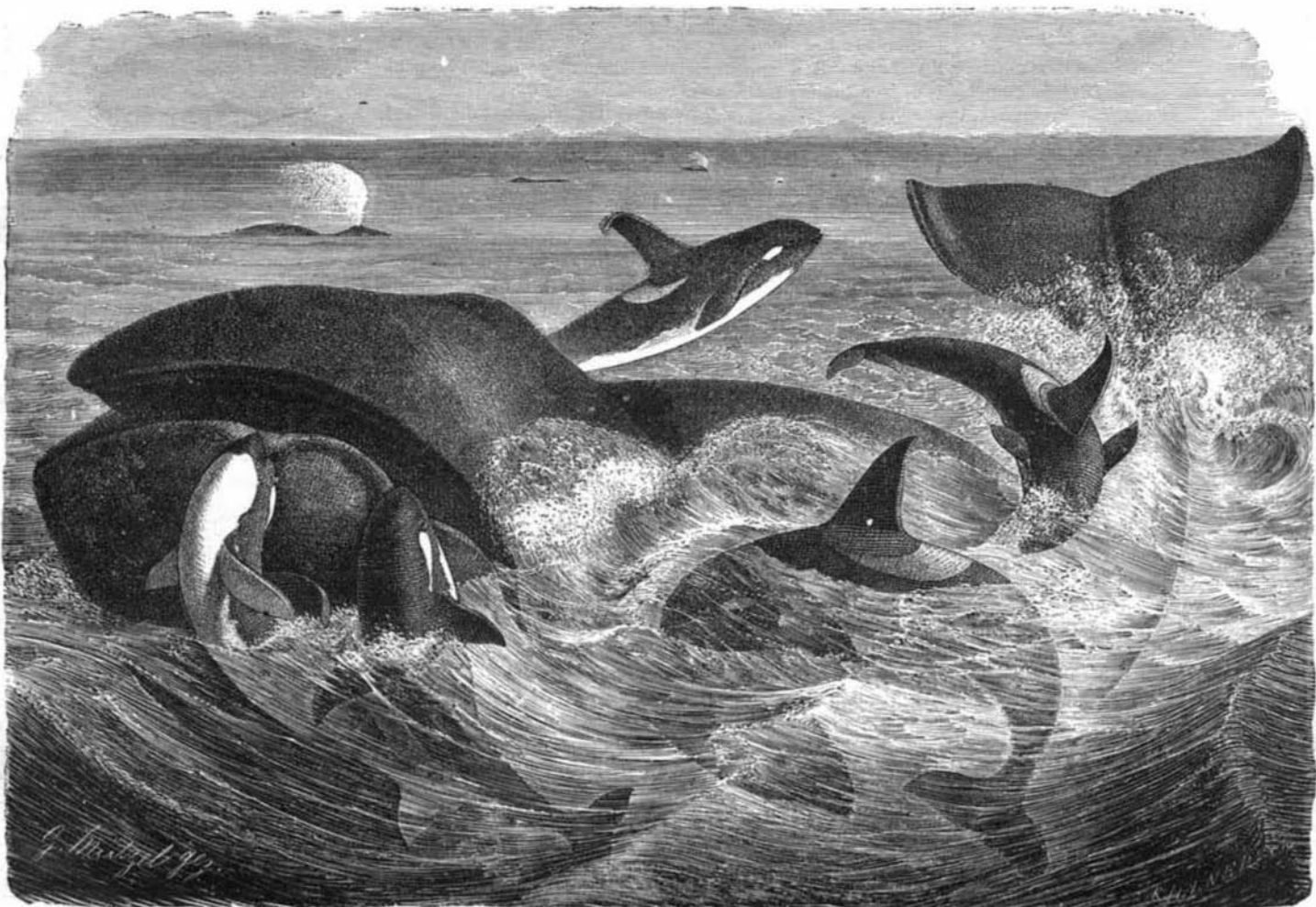
An oil well on Kendall Creek, near Tarpport, Cattaraugus county, N. Y., having ceased to yield oil, the operators recently pulled up the tubing, and as no obstruction was found in that, it was decided to torpedo the well. Before arrangements were completed for the operation, a sound like that of steam escaping from a locomotive valve, and then a rumbling noise, were heard in the well, and a trembling of the earth was felt. Presently a shower of stones, ashes, and dry dust, accompanied by a dense cloud of gray smoke, was thrown in the air. The eruption lasted only a few seconds, and then oil began to flow copiously. The well has since been yielding nearly double its former quantity. The stones thrown up from the well were rough and light, like pumice stone. The ashes were red and gray.

The Grape Rot.

We recently visited the vineyards of Vineland, N. J., to ascertain with what success those were meeting who have been experimenting in protecting their vines as a remedy against the "grape rot," which has been so destructive in Southern New Jersey the past two or three years. In company with E. G. Blaisdell, the courteous and enterprising editor of the *Vineland Weekly*, we made a tour of inspection of several of the vineyards.

In the March 1st issue of the *Farmer* our correspondent from Red Plains, N. C., recommended the use of a board covering over the trellis as a remedy against rot and mildew. The idea was taken up by our Vineland grape growers, and experiments are this year being made in many of the vineyards. The experiments so far are entirely successful.

Some have experimented by using manila paper bags just large enough to hold within it a cluster of grapes. The bag is slipped over the bunch and securely pinned at the opening, and is left on until the grapes are ready for the market. We first visited the vineyard of George Scarborough, Esq., who put on five hundred bags as an experiment. In all cases where we removed the bag we found the cluster perfect, unless where the bag was not put on soon enough. Experiments thus far have shown that they should be put on about ten days after the blossoms appear, for all that were covered at that stage were found perfect. Mr. Scarborough has largely experimented this year with the board covering, and is so well satisfied with the results that next year he will cover all his grapevines with them. In every case where the board protection was used the grapes were found perfect—not a sign of rot could be found, while the next vine, left uncovered, would not be worth picking. Last year, in both his finely cultivated and extensive vineyards but one crate of grapes were picked, when the work was abandoned and given up as not paying for the labor. Last year he found that the "Concord" rotted worse than the "Ives Seedling," and the "Champion" worse than the "Concord." We next visited the large vineyard of D. Rood, Esq. This gentleman has 30,000 paper bags in use, with results the same as in Mr. Scarborough's vineyard. One man will put on one thousand bags in a day. The extensive vineyards of Colonel Alex. W. Pearson were examined. Here the board covering only has been used, and with gratifying results, as in the other cases. The colonel is pretty well satisfied



COMBAT BETWEEN THE GREENLAND WHALE AND GRAMPUSES.

taken, like that corresponding to the proportion 1 : 3 : 4½, a completely crystalline mass is obtained, which bears in its optical characters the same resemblance to hexagonal nepheline as chalcedony does to quartz. By melting together one tenth pyroxene and nine tenths nepheline a mixture of four

that the board covering is the remedy against "grape rot," and next year will make a wholesale matter of the covering. From our observations we would pronounce in favor of the board covering. It not only affords protection from the disease, but protects from the early frosts. The first cost is

greater than the paper bag covering, but this is counterbalanced by the length of time it will last.

The fruit prospect about Vineland is certainly of the most encouraging nature. Large orchards of choice pear trees are laden with excellent fruit; we observed many pear trees broken down with the weight of the fruit. An unusually large crop of berries were shipped to the Philadelphia and New York markets from this place, and such a thing as "hard times" seems to be unknown among the thrifty fruit growers of Vineland.—*Ohio Farmer.*

The Entomological Club.

The Club on Entomology, connected with the American Association, held its sessions on the day preceding the general meeting. Prof. J. A. Lintner, of Albany, president, delivered an address, telling of the great advances made in the study of insects and the increasing interest manifested in the subject. At the last session of the club the names of 280 entomologists were reported. Investigation since has increased the list to 835 persons engaged in the study of entomology in the United States.

At the afternoon session many specimens of insects were exhibited, among others some from California of the *Pseudohazis eglanteriana*. Prof. Samuel H. Scudder, of Cambridge, presented specimens and a description of the operations of the *Retina brustiana*, an insect now ravaging the pine trees of Nantucket and other evergreen trees in different places. Prof. Comstock, United States Entomologist, exhibited specimens of the larger species of the same genus.

Prof. August R. Grote, Director of the Museum of the Buffalo Society of Natural Science, stated that he believed the damage done by Paris green was greater than that done by the potato bug. His opinion was based on a careful study of its effects on horses, cattle, sheep, chickens, and even men and women. He referred to the laws in Germany restricting the open and promiscuous sale of such poisons, and thought it the duty of the members of the club to do all in their power toward educating the people up to the bad effect of this and kindred poisons, aniline dyes, etc., with a view to effecting legislation. Prof. Comstock presented specimens of an insect which preys on the eggs of the bark louse, taken from the maple. Prof. C. V. Riley, of the United States Entomological Commission, gave an account of two species of moths affecting the yucca. Professor Samuel H. Scudder told of a fossil insect of a very singular shape, obtained from tertiary rocks. Prof. W. S. Barnard, of Cornell University, showed specimens of a small bug which kills bees and butterflies much larger than itself. He also gave an account of the pear bug louse, which causes a certain blight to the pear tree. Prof. William Saunders, editor of the *Canadian Entomologist*, gave an account of insects he had seen caught by the bidens, not heretofore supposed to be a carnivorous plant.

New Theory of Sea Level Changes.

In an interesting article by Warren Upham, in the *American Naturalist*, on the "Formation of Cape Cod," in which he shows that it is due to glacial action, the author presents the following theory of the causes of the changes in sea levels:

The plains of Cape Cod are further like those of Long Island, Martha's Vineyard, and Nantucket, in being indented by narrow arms of the sea, which reach one to two miles inland, filling the lower end of long depressions that continue across the plains to the north, being either dry or occupied by small streams. The plains and valleys which thus generally border the terminal moraines on their south side appear to have been formed by the same floods which deposited the large amounts of modified drift along the edge of the ice sheet. Much of their finer gravel and sand was carried forward by the descending currents, and spread in these gently sloping plains, while the valleys of drainage seem to have been made by the same waters at their lower stages.

The continuation of these valleys below our present sea level calls up one of the most complex but at the same time most important and interesting questions connected with glacial geology. This feature shows plainly that when these valleys were formed the sea did not reach so high upon the land as now; and if we extend our inquiries we find that everywhere around the world the glacial period was marked by most extraordinary changes in the relative heights of land and sea. These remarkable oscillations, which had one extreme at the equator and the other at the poles, appear to have been changes in the level of the ocean. It seems not unlikely that an eighth part of the earth's surface had become covered with ice, and if we consider a slope of one half a degree to be needed to give it motion, an estimate of four miles for its average depth does not seem to be too great. The removal of the water thus taken from the sea and stored up in accumulations of ice would lower the surface of the ocean more than half a mile. At the same time this vast accumulation of ice in high latitudes must draw the sea by gravitation away from the equator toward the poles. This cause appears to have retained the sea level at about its present height near the lower limit of the ice sheet, while in arctic regions it rose much higher than now. Marine shells in the modified drift show that the sea thus stood fifty to two hundred feet above its present height on the coast of New Hampshire and Maine; five hundred feet in the valley of the St. Lawrence, and one thousand to two thousand feet higher than now along the west coast of Greenland. Everywhere in high latitudes, both in the northern and southern

hemispheres, we have proof of such a submergence of the land when the drift was accumulated, increasing in amount the nearer we go to the poles. On the other hand, the coral islands of the tropics are witnesses of the depression of the sea in this period, amounting to three thousand feet, or perhaps more, at the equator, while different evidence shows that at the mouths of the Mississippi, Ganges, and Po rivers, it was at least four hundred feet lower than now. If we reflect upon these widespread changes of sea level that marked the glacial period, occurring only where they would be produced by taking water from the sea to form ice sheets and by gravitation through their influence, and if we compare these recent simultaneous changes with the general stability of the continents, we seem compelled to attribute them to movements of the sea rather than of the land.

Because of the attraction of accumulations of ice that still remain about the poles, where probably little or none existed in tertiary times and at the epoch immediately preceding the glacial period, the sea along the eastern coast of the United States appears to be lower now than during those periods, uncovering the tertiary border of the Southern States and leaving pre-glacial deposits with marine shells, apparently Post-pliocene, fifty to two hundred feet above our present sea level, under the terminal moraine and modified drift of Long Island. The entirely unstratified character which marks many portions of the terminal deposits of the ice sheet, reaching quite to the sea shore, and the still lower extension of the channels which appear to have been cut by the floods formed at its melting, indicate that at the south coast of New England the sea was depressed in the glacial period below its present height. The submarine channel of Hudson river shows that after this time it sank five or six hundred feet lower than now, apparently because the south part of the glacial sheet had been melted, greatly diminishing its attractive force at this latitude. With the more complete departure of the ice the sea level has been restored to approximately the same condition as before the glacial period, being still rising on the eastern coast of the United States at the rate of about a foot, or less, in a hundred years.

MISCELLANEOUS INVENTIONS.

Mr. Dabney C. T. Davis, of Greenwood, Va., has invented a light, cheap, and easily adjustable shade, that may be fitted to any style of hat, and removed at pleasure. It is designed for keeping off the rays of the sun and inducing a current of air to pass around outside of the hat and in contact with it in order to keep it cool.

Mr. William C. Egan, of New York City, has invented an improved fastening for ladies' and children's shoes, whereby the trouble and annoyance resulting from the use of buttons, laces, or other devices may be avoided and the appearance of the shoe improved. The invention consists in providing a shoe with elastic insertion and alternating scalloped edges, provided with studs on the points for receiving a lacing.

A simple, easily adjusted, and efficient device for securing watch stems in the pendant, has been patented by Mr. George F. Dobecki, of Brooklyn, N. Y. It consists of a pin passed through a hole made in the pendant, through the ears, and through the bushing, and engaging an annular groove or notch in the stem. Freedom of movement is allowed the stem; but it is held in the pendant unless released by withdrawing the pin.

An improvement in the construction of toe weights (or side weights), such as are used attached to horses' feet for inducing an increased tendency of the horse to throw his feet forward and increase his speed in trotting, or otherwise regulating the gait of horses, has been patented by Mr. Hope Redmon, Jr., of Cynthiana, Ky. The invention consists in a grooved weight, wedge shaped in the cross section, and provided with a spring catch, combined with a toothed clamping hook, having a shoulder and toe on its lower end, by which it is secured in a suitable rabbeted slot in the horse-shoe.

Mr. Isaac A. Powell, of Elk Falls, Kan., has patented improvements in the construction of apparatus for heating water for steaming feed, scalding hogs, and for laundry purposes. The water chamber is made of wood, and from the bottom over a central opening rises the fire chamber, the sides of which are corrugated to increase the heating surface without increasing its height beyond a safe point, and its top is covered by a concave or inverted conical crown, from which rises the flue pipe, which is carried through the top of the water chamber. The apparatus has a grated fire basket, adapted to fit up into the fire chamber, and it has an opening on one side for supplying fuel to the fire without removing the basket entirely from the fire chamber.

Mr. Lafayette Smith, of Millersburg, Ind., has invented an improved eaves trough hanger, which consists of a flat sheet metal bar, from which depends a perpendicular bar or rod whose lower end embraces a round or flat cross bar set horizontally across the trough and firmly secured thereto with solder.

Mr. Edmund R. Banks, of Cynthiana, Ky., has patented an improvement in coffee and tea pots, in which the construction is such that the coffee and tea can be steeped and the pots placed upon the table without its being necessary to strain the coffee and tea. The invention consists in the wire gauze cup suspended detachably from a hook attached to the cover of the pot.

An improvement in wisp brooms has been patented by Mr. James H. Flynn, of Schenectady, N. Y. This invention consists in fastening the under edge of the cap to the wisp by wrapping it with wire, and then drawing the cap up over

the wire and fastening its upper edge by wrapped wire, which is concealed within the lower end of the handle. The handle is made of a paper tube wrapped or covered with velvet or other fabricated material adapted to fit over the wooden stock, to which it is secured by glue or tacks, etc., and a cap piece nailed to the upper end of the stock. It has a loop, the lower end of which is fastened under the lower edge of the handle, and its upper end under the cap piece.

An improved table for playing ball games has been patented by Messrs. Edwin M. Macy and Rufus Russell, of Longview, Texas. It consists of a bed, upon which the balls are rolled, having at the end spaces for the balls to pass through, and behind these a pit communicating with a return ball alley, also an elastic cushion, against which the balls strike.

An improved double-acting lift pump has been patented by Mr. William Loudon, of Superior, Neb. It consists in providing the upper end of the cylinder, on the outside, with a flange, to which the upper head is screwed or otherwise attached. Through this flange are made water ways, through which the water passes upward to enter the cylinder.

The Juice of the Tomato Plant as an Insecticide.

A writer in the *Deutsche Zeitung* states that he last year had an opportunity of trying a remedy for destroying green fly and other insects which infest plants. It was not his own discovery, but he found it among other recipes in some provincial paper. The stems and leaves of the tomato are well boiled in water, and when the liquor is cold it is syringed over plants attacked by insects. It at once destroys black or green fly, caterpillars, etc.; and it leaves behind a peculiar odor which prevents insects from coming again for a long time. The author states that he found this remedy more effectual than fumigating, washing, etc. Through neglect a house of camellias had become almost hopelessly infested with black lice, but two syringings with tomato plant decoction thoroughly cleansed them.—*Gardener's Chronicle.*

The Sand Box Tree.

On the far side of the island (St. Thomas), says Mr. Moseley, I saw several "sand box trees" (*Hura crepitans*). The tree is one of the Euphorbiaceæ, allied to our spurges, and has a poisonous, irritant juice; but its most remarkable peculiarity is its fruit. A number of seed capsules, shaped like the quarters of an orange, are arranged together side by side as in an orange, so as to form a globular fruit. When the fruit has become quite ripe and dry, suddenly all the capsules split up the back, opening with a strong spring, and the whole fruit flies asunder, scattering its seeds for a distance of several yards, and making a noise like the report of a pistol.

The Boomerang.

This curious weapon, peculiar to the native Australian, has often proved a puzzler to men of science. It is a piece of carved wood, nearly in the form of a crescent, from 30 to 40 inches long, pointed at both ends, and the corner quite sharp. The mode of using it is quite as singular as the weapon. Ask a black to throw it so as to fall at his feet, and away it goes full 40 yards before him, skimming along the surface at 3 or 4 feet from the ground, when it will suddenly rise in the air 40 or 60 feet, describing a curve, and finally drop at the feet of the thrower. During its course it revolves with great rapidity, as on a pivot, with a whizzing noise. It is wonderful so barbarous a people should have invented so singular a weapon, which sets laws of progression at defiance. It is very dangerous for a European to try to project it at any object, as it may return and strike himself. In a native's hand it is a formidable weapon, striking without the projector being seen; like the Irishman's gun, shooting round a corner equally as well as straightforward. An engraving of one of these curious implements was published in these columns some time ago.

The Objects of Study.

The duties of the teacher are tersely set forth in the *New York School Journal* as follows:

His business is to develop, discipline, and train the powers by which knowledge is gained; besides, in performing this work he will lodge in a secure and usable form all the useful knowledge possible. He will make as his great leading object the training of the mind; he will next direct the pupil's attention to his own mental processes, to show him when he thinks accurately; this is sometimes called *teaching to think*; he will teach the pupil to arrange and classify his knowledge; he will teach the pupil to give good expression to his knowledge. These being the objects the teacher aims at, he requires study in order that he may secure these objects; they may be set down as the objects of study. And if a person has no teacher, he still needs all of the above effects, and to produce them he uses study. It is plain, then, that study is the indispensable means to be employed to obtain education.

SCIENTIFIC EDUCATION.—It would certainly be a great boon to the world if the general level of scientific education could be raised, so that each young man or young woman, when he or she issues from school doors, should have enough definite knowledge of the great laws of the physical universe to instantly denounce blue glass theories and attempts at perpetual motion, not from the pride of knowledge, but from the feeling that error, credulity, and superstition should be combated with truth.—*Prof. John Troubridge.*