

## Correspondence.

## A Letter from the Garden of Eden.

To the Editor of the Scientific American:

Referring to the paragraph on the Seychelles Islands, printed in your monthly edition for May, I beg to correct the statement that there is a grove of palms here which grow in pairs, and which, if one is cut down, the other dies also. This is an error. A quintuple headed coconut tree, which has been sketched by that indefatigable *peintre et voyageuse* Miss Marianne North, is the nearest approach to the Siamese twin palms which the Seychelles can boast.

As regards the other assertion, viz., that General Charles G. Gordon had discovered here the site of the original Garden of Eden, I can affirm that I have heard from that brave and devoted soldier's own lips his theory and argument that the Garden was located at or near Seychelles, that the bread fruit represented the tree of life, and the coco-de-mer, which grows in no other part of the known world, was the undoubted tree of good and evil.

EVELYN P. MUSSEY.

United States Consulate, Port Victoria, Mahe,  
Seychelles Islands, September 6, 1884.

[The Seychelles Islands, from which our correspondent writes, consist of a group of small islands in the Indian Ocean, situated 300 miles south of the equator and about 1,200 miles easterly from Zanzibar, east coast of Africa. Mahe, the principal of the islands, is from 3 to 5 miles wide and 16 miles long, very luxuriant in vegetation, tropical but delightful climate. Port Victoria, from which our correspondent writes, has a population of about eight thousand. It is a calling place for whaling vessels.—Eds.]

## Underground Telephone Wires.—A Correction.

To the Editor of the Scientific American:

In the fifth paper upon "The International Electrical Exposition," published in your issue of October 11, 1884, certain statements are made which are at variance with the facts of the case. I am so accustomed to expect correctness in the columns of the SCIENTIFIC AMERICAN, that I am constrained to believe that your correspondent is for once not writing from his own knowledge, but has received a garbled report from interested parties, and I have therefore no hesitation in requesting the publication of this letter. The statements referred to are on page 332, and relate to a paper read by myself which was criticised by Mr. W. H. Preece.

The statement is made by your correspondent that Prof. Preece believes that wires may be efficiently and economically buried.

That at a recent meeting of the telephone managers a paper was read by an employe of the American Bell Telephone Co., whose duty it is to keep the lines in running order.

That the object of the paper was to show that telephone lines could not be efficiently operated underground.

That at the conclusion of the reading Prof. Preece took the writer severely to task for the incorrectness of his conclusions, remarking that "if that was the result of his investigations, he must sadly have neglected his business."

And that results with underground telephone wires are more than encouraging, etc.

In the first place, Mr. Preece lays no claim to a professorship—he is chief engineer of the British telegraphs, and a Fellow of the Royal Society.

Second. The paper was not read at any meeting of the telephone managers, but at the afternoon session of the fourth day of the National Conference of Electricians.

Third. The duty of the employe of the American Bell Telephone Co. who read the paper (myself) is not to keep the lines in order.

Fourth. Not being actively engaged in the business of telephonic communication, the A. B. T. Co. has no lines.

Fifth. The object of the paper was not "to show that telephone lines at least could not be efficiently operated underground." The subject then under consideration by the conference was:

"Induction in telephone lines, long line telephony, and underground wires," and the paper related to the subject as a whole, was prepared by request of the U. S. Electrical Commission, and only incidentally touched on underground telephony.

Sixth. Prof. (?) Preece did not take the writer severely to task for the incorrectness of his conclusions, although he freely criticised his premises.

Seventh. Although Mr. Preece did make the remark cited, it was by no means with reference to underground wires, but merely referred to the omission from the paper of several methods for preventing induction which had gone into use in England.

Eighth. The inference that Mr. Preece held the opinion that telephones could be worked for considerable distances underground is not warranted by the facts. The paper stated that telephone wires could not be successfully and commercially operated underground for a greater distance than twelve miles, and Mr. Preece fully concurred in that statement both at the Montreal meeting and at the Philadelphia conference; while the remark that "even telegraph wires are constructed underground at four times the expense of overhead wires, while they are but one-fourth as efficient," was made by himself not over a year since in a lecture before the Society of Arts in England.

Ninth. It is not true that the results so far obtained with

underground telephone wires have so far been encouraging. On the contrary, they have been discouraging.

The articulation invariably becomes sluggish when the underground conductor exceeds two miles in length, and this effect is greatly accentuated when an overhead line of several miles in length is connected with the underground line. Increasing the sectional area of the conductor aids materially in overcoming the sluggishness.

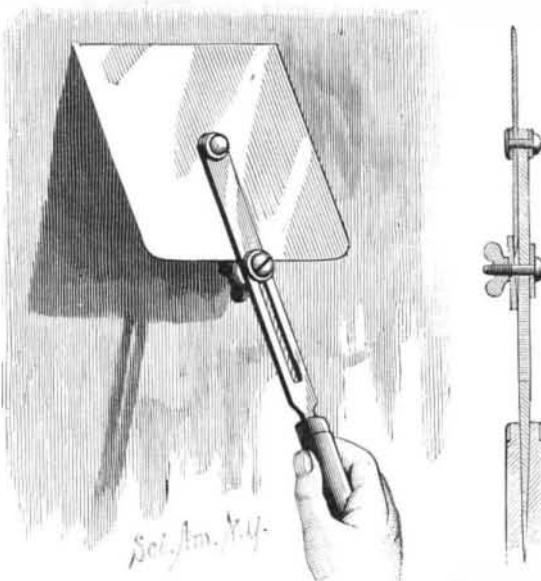
It is not necessary here, however, to enter into the question of the relative efficiency and economy of underground and overhead lines, as my only object in forwarding this communication is to give a correct statement of facts, which can readily, if necessary, be attested from the records of the conference.

THOS. D. LOCKWOOD.

Boston, October 11, 1884.

## REVERSIBLE WALL SCRAPER

The end of the shank is pivoted to the center of the steel blade of the scraper. One edge of the blade may be firmly



COLEMAN'S REVERSIBLE WALL SCRAPER.

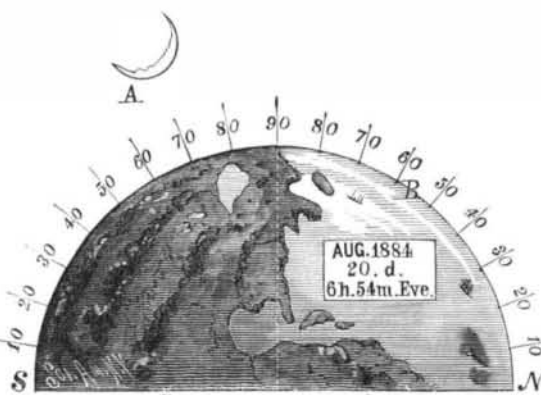
clamped to the shank by means of a thumbscrew that passes through a slot in the shank, as indicated in the sectional view, the nut bearing directly against the blade or against a plate interposed between the blade and nut. The blade is made about square in shape, with two corners rounded, with two opposite edges sharpened, and with the other edges finished square across the thickness of the blade. The sharp edges are specially intended to be used in removing accumulations of paper or calcimine from sound walls in preparing the surfaces to receive new work, and the square edges for like work upon unsound walls which might be further injured by the sharp edges of the blade. By loosening the nut the bolt may be moved along the slot to permit the blade to swing around. The handle may be of any suitable length, and may be made in extensible sections, as required by the work to be done.

This invention has been patented by Mr. J. E. W. Coleman, of 924 Folsom Street, San Francisco, Cal.

## LUNAR CHART.

The engraving represents a device for which a copyright was recently obtained by F. W. Coleman, M.D., of Rodney, Miss. It consists of a picture representing the appearance of the new moon each month of the year; in other words, it shows whether the moon lies with its "horns" in a perpendicular, horizontal, or oblique manner, also whether it appears due west, or varies to the north or south. At the same time is shown the date of the year, month, day, hour, and minute, and time of day that the new moon appears. Of course, there is a separate picture for each month of the year and for each year.

A represents the new moon, B the arc of a great circle



COLEMAN'S LUNAR CHART.

with points upon which the degrees are marked, C is a base line whose ends are marked with the points of the compass—north and south. Within the arc is the date of the year, month, day, and time at which the new moon appears.

Such a series of pictures will be appreciated by that large class of people who firmly believe that the position of the horns of the moon indicates whether the weather during the ensuing month will be wet or dry.

## Dr. Raymond on the Divining Rod.

An interesting feature of the Philadelphia Electrical Exhibition was a lecture given by Professor Rossiter W. Raymond, before a large audience of attentive hearers. The following extracts are from the *Progressive Age*: After an introductory allusion to the prevalence, even at the present day and in this country, of a belief in the divining rod as a means of discovering springs, mineral veins, hidden treasures, and oil deposits, the lecturer described its various forms, the commonest of which resembles a letter Y, and consists of a forked branch of witch-hazel having this form. The ordinary forked rod is held in the two hands, each grasping the extremity of a prong, with the fingers closed, and the palms upward, the shank or stem being horizontal, or vertical, or variously inclined, according to the preference of the operator. Carried in this manner over the surface, the rod is said to turn or dip over or near treasure, veins, springs, etc., and even to give more complicated information by means of its movements, which have been at different times elaborately codified.

The lecturer proceeded to trace the mythical origin of the divining rod and its use in ancient times—principally, if not wholly, for moral purposes, that is, for the discovery of guilty or the decision of important questions or the indication of future events. Its physical application for the discovery of hidden springs, metals, etc., seems to have been a later origin, and to have become general throughout Europe in the sixteenth century. During this period its action was either attributed to a mysterious natural affinity between the material of the rod and the material affecting it, or else to the agency of evil spirits, or to a divine gift bestowed on the operator.

In the seventeenth century numerous treatises were written, both as to the facts and as to the theory of the rod—the latter being referred, in accordance with the dominant Cartesian philosophy, to "corpuseular effluvia." According to the school, there were "corpuscles" of springs, minerals, thieves, assassins, lost landmarks, etc.—each kind exerting a different influence upon the sensitive expert, and possessed of extraordinary levity and permanence, so that they could be traced, suspended in the air, after the lapse of days or years. Many years later an electrical theory was popular. It, however, was thoroughly refuted in 1782, in the case of Bleton, by the simple expedient of making and destroying the insulation of the operator without his knowledge, and thus proving that such knowledge was an essential part of the so-called electrical action.

The lecturer adopted, with some modification, the theory of Chevreul, suggesting that, in the case of springs (and of mineral veins which are the conduits of springs), there are differences of temperature, heat conductivity, etc., which might affect sensitive persons so that the unconscious volition and minute muscular movements of Chevreul might be thus occasioned. In the main, however, he regarded the present theory and practice of divining with the rod as the small, lingering remnant of a once powerful superstition, and entitled to the same respect as "planchette"—the object of curiosity, or of study from the standpoint of psychology, but not worthy of the attention of geologists or prospectors.

## A Destroyer in the Spruce Forests of Maine.

According to accounts of observations published in the third *Bulletin* of the Entomological Division of the Department of Agriculture, the ravages of the spruce bud worm (*Tortrix fumiferana*) have been extensive and destructive in the coast forests of Maine west of the Penobscot River. The damage appears to have reached only a few miles inland from the coast, but the belt in which it has prevailed is marked by extensive masses of dead woods. The trees are attacked in the terminal buds, which are eaten away, and when that is done, the case is hopeless. The fatal character of the attack is owing to the fact that the spruce puts forth but few buds, and those mostly at the end of the twigs, and, when these are destroyed, it has nothing on which to sustain the season's life. The attack is made in June, when the growth is most lively, and just at the time when the check upon it can produce the most serious results. The larches are also attacked by a saw fly, but with results that are not as necessarily fatal as in the case of the spruce. They are more liberally provided with buds, some of which may escape and afford a living provision of foliage. The larch, moreover, sheds its leaves in the fall, and is in full foliage before its enemies attack it. Hence, while the spruce and fir succumb to the first season's assaults, the larch can endure two years of them.—*Science Monthly*.

## Artificial Sea Air.

Many, indeed, are the luxuries that the magician's wand of invention now brings into the midst of our homes. As an instance, to produce a sea atmosphere for the sick room, a foreign contemporary suggests the use of a solution of peroxide of hydrogen (10 volumes strength) containing 1 per cent of ozonic ether, iodine to saturation, and 2.50 per cent of sea salt. The solution placed in a steam or hand spray diffuser can be distributed in the finest spray in the sick room at the rate of 2 fluid ounces in a quarter of an hour. It communicates a pleasant sea odor, and is probably the best purifier of the air of the sick room ever used. It is a powerful disinfectant, the same author writes, as well as deodorizer, acting briskly on ozonized test solutions and papers. It might be well to test the subject in some ward of one of our hospitals.