

Correspondence.

An Agricultural Invention Needed.

To the Editor of the SCIENTIFIC AMERICAN:

Very many post-hole augers have considerable merit and are quite generally conceded, where nothing interferes, to do the work with greater ease and rapidity than can be done with a spade.

One important objection to these hand-augers is the difficulty in easily and successfully operating where holes are to be dug directly in line with a fence already up. Still another objection is that the holes dug are very often too small for posts as ordinarily made and sold, many of which are not straight. This very frequently happens and always will happen when oak posts are used.

Considerable experimental work would be necessary, no doubt, to perfect an auger of real practical worth.

I would suggest that the bit, possibly an extensible one, be set in a framework similar in construction to the framework supporting the carpenter's mortising auger. The entire frame should be supported on wide iron rollers and arranged so as to be quickly adjusted to unevenness of the soil.

The hole, say two to two and a half feet in depth, should be bored before removing the auger. A convenient device attached to the framework for the purpose of removing the sticky dirt from the auger while it is in motion is necessary. The auger could be forced in the ground in several ways, the real advantages of each to be determined by repeated trials.

I believe that the cost of manufacture of such a machine would be so moderate as to enable the patentee to secure reasonable profit.

J. N. MUNCEY.

Jesup, Iowa.

Cable Laying in the Philippines.

To the Editor of the SCIENTIFIC AMERICAN:

My attention has been called to the interesting article in the SCIENTIFIC AMERICAN of November 23 by Mr. Frederick Moore on cable laying in the Philippines, which contains the following incorrect statement:

"The first work was done by the army, but subsequently contracts for the entire work were let for laying the cable as well as furnishing it. The government furnishes the cable ship, the necessary military protection, and an officer and inspector."

The entire work of constructing, maintaining and operating the very extensive system of cables and land lines in the Philippines has been exclusively done by the Signal Corps of the army, and not by contract. No corporation would undertake to lay these cables, as was set forth in my annual report for this year, as shown by the following extract:

"In cable matters, as in all other technical construction, the Chief Signal Officer follows the wise rule of relying on the skill, judgment and experience of the experts of the great manufacturing establishments, thus securing successful installation by experts whose lives are given to technical work. In Cuban and Philippine waters during war conditions it was necessary for Signal Corps officers to do the entire work. They have been most fortunate in their operations, as not a single mile of cable has been lost, either in laying or recovering, nor has there been any serious interruption in the working of these cables."

The error into which Mr. Moore has doubtless unintentionally fallen would be unimportant if it did not appear in a journal of scientific standing.

A. W. GREELY,

Brigadier-General, Chief Signal Officer, U. S. A.
November 22, 1901.

Latin the Universal Language.

To the Editor of the SCIENTIFIC AMERICAN:

I started a movement eight years ago to restore Latin as an international tongue of cultured people, Latin being an international tongue by the fact of its being taught in all secondary schools of the world. That graduates of colleges do not speak it is the fault of the methods and teachers. That the schools do not lead in practical things generally but flit about among fads, etc., I need not explain to you. It is the outsiders, practical people of thought and knowledge, who invent or lead great movements. There have been numerous attempts at devising a "universal language," but they all failed, because the products were no "languages." France, Germany, Austria-Hungary, and Russia are still at work agitating the same question. The English, unfortunately, cherish the idea that their language will conquer the field. This conceit, which only delights the ignorant (for he would need no learning and still win the prize, is one of the causes why England is so detested by all races. In the United States we have just closed a Pan-American Exposition with a sore failure. A Pan-American Congress is in session in Mexico city, which will also fail in the end, wrecked on the antipathies of the Latin nations against the Pan-Anglican aggressiveness. This country will never have a flourish-

ing trade with the Latin races owing to the hatred against the obtrusive English. We therefore take the ground that all college-bred people ought to learn Latin to write and to speak, so that they could take places in the business houses as international correspondents and interpreters in Latin, instead of Spanish, Portuguese, French, German, Italian, Russian, Danish, Swedish, Hungarian, Dutch, Roumanian, Turkish, Japanese, Bohemian, Polish, Bulgarian, Greek, etc. All the hatred, misunderstanding, lack of respect for each other is due to this one fact. Let us in America take the field, let us curb our conceit, convince the Latin races of our unselfish good-will by formally adopting the principle of Latin as a neutral language for international communications, to be developed in our schools in the next ten years. The United States will be the idol of all races and nations, and her example will be promptly followed by all.

ARCADIUS AVELLANUS.

Philadelphia, Pa., November 15, 1901.

Ice Manufacture in India.

To the Editor of the SCIENTIFIC AMERICAN:

In your issue of August 3 last I see a most extraordinarily inaccurate statement by your correspondent, Mr. Giffard Knox, that ice made by the native Indian method (by evaporation in shallow porous earthenware pans or saucers during clear nights in the cold weather) was only invented by them after the advent of the freezing machines in the sixties of the past century. The method is, however, exceedingly ancient, older than known to any historian—in fact, the oldest known process of artificial ice-making in the world.

Moreover, his explanation of how the ice is formed is very incomplete. This is described in the "Encyclopædia Britannica," as follows:

"In the upper provinces of India water is made to freeze during cold clear nights by leaving it over night in porous vessels, or in bottles which are enveloped in moistened cloth. The water then freezes in virtue of the cold produced by its own evaporation or by the drying of the moistened wrapper. In Bengal the natives resort to a still more elaborate forcing of the conditions. Shallow pits are dug about two feet deep and filled three-quarters full with dry straw, on which are set flat porous pans containing the water to be frozen. Exposed over night to a cool, dry gentle wind from the northwest, the water evaporates at the expense of its own heat, and the consequent cooling takes place with sufficient rapidity to over-balance the slow influx of heat from above through the cooled dense air or from below through the badly conducting straw."

This action depends solely on the rapid radiation of the heat from the ground during the night (analogous to and an extension of the formation of hoar frost from dew). Like the formation of dew and hoar frost, it is completely stopped by clouds overhead. Hence his unexplained allusion to the east wind, which in upper India (Bengal to the Punjab) is a muggy, cloud-bringing wind, being really the southerly winds from the Bay of Bengal deflected westward by the Himalaya range of mountains. The northwest wind is the cold dry wind, which blows steadily in the winter months except during atmospheric disturbances.

Mr. Knox talks about salts being sifted into the water to be frozen. This is not so; it would spoil the freezing altogether.

He also attributes an explanation of the process to the Indian icemakers, which they certainly would not give, being quite too ignorant of natural science to be capable of saying what is put into their mouths by him, but which he has clearly clumsily copied from the explanation I have given.

CORNELIUS E. CARDEW.

Insein, Burma.

Telephoning the Hospice of St. Bernard.

Mr. John W. Gates, of the U. S. Steel Corporation, tells a story about a friend of his who went into the Alps last summer, says The Electrical World. "My friend began the ascent to the hospice of St. Bernard," said Mr. Gates. "When about an hour's climb from the pass he was stopped by a dense fog. He waited gleefully, expecting to be rescued by the dogs, and so he was able to come back to us with a thrilling story. The dogs did not come, however, and the fog partly lifted, so he resumed his climb, and finally arrived at the hospice, where he was welcomed warmly by the brothers. His first question was:

"Why did you not send the dogs out in so dangerous a fog?"

"He nearly dropped from his chair when one of the brothers said:

"You did not telephone us."

"Telephone you?" he ejaculated.

"Yes," was the answer. "You see, shelters have been built all along the climb, and each shelter has been provided with a telephone. If a fog comes up all one has to do is to go to the nearest shelter and telephone.

We immediately send a man and dog to that shelter. The dog carries bread, cheese and wine. As we know at just what shelter the climber is, no time is lost in looking for him."

Mr. Gates says his friend was so disgusted with having his romantic notions knocked in the head that he left Switzerland at once.

The Leonids.

BY EDGAR L. LARKIN.

The Leonid meteors were in magnificent flight as seen from this observatory on the morning of November 15. The first meteor was seen at 11:55 P. M. November 14, and the last at 5:40 A. M. November 15, 1901, in Pacific or 120 deg. time. Here is a table of times and rates:

From	Times.	To	Number of Meteors Observed.
11 h. 55 m.	P. M.	0 h.	November 14 to 15..... 4
	A. M.		
0 h.	1 h.	November 15.....	32
1 h.	1 h. 54 m.	"	27
2 h. 43 m.	3 h.	"	19
3 h.	4 h.	"	173
4 h.	5 h.	"	297
5 h.	5 h. 40 m.	"	109
345 Minutes.		Total.....	661
		Rate 1.9 meteors per minute.	

From 1:54 to 2:43 a cloud that suddenly condensed over the peaks of the Sierra Madre chain obscured the entire area of Leo. It remained 59 minutes, when it as suddenly vanished. A few meteors were seen straggling out of the edges. These were not counted. From 2:43 to dawn the sky was exceeding clear. The altitude of the observatory is 3,420 feet. East is Robio Cañon, 670 feet in depth, and rising from a distance 2,000 feet east of the observatory are three peaks in altitude 3,750, 3,900 and 4,216 feet. So that Gamma Leonis rose above these summits at 42 minutes, Regulus 49 minutes, and Denebola at 1:39. The meteors seen before the rising radiant appeared came over the cliffs on a tangent line. At first the rate was one meteor in about two minutes, then one per minute for some time. From 4 to 4:20 the rate was five per minute. General trend was from Leo to west and southwest. Few went north. About twenty met were bright as Venus. Estimate: Fifty bright as Jupiter, twelve say five times Venus; three, ten times; two, twenty times the brilliancy of Venus, and forty brighter than Jupiter. From fifteen to twenty equal Sirius, a dozen perhaps equal Rigel and Aldebaran, while two were extraordinary. They were numbered, the numbers being written at instant of apparition. Slightly less than half by estimate had trails. Color of the vast majority was white. Few greenish-blue, thirteen tinged with red, two full red, and a few yellow. The small meteors had slow motion compared to the large. All the large and brilliant had high speed, and seemed to be at greater altitudes than the small.

Some appeared to be aimed at peaks west of the dome, and others dashed madly to the sea beyond. These effects were due to perspective, the meteors really being at great altitude, when they were disintegrated into cosmical dust, requiring days to reach the earth. The greatest number seen at once was at 4:05, when six were observed, all southeast. The meteor from Spica to Mercury was large and had a trail, which must have been bright to show in the advancing solar glow. The most rapid fall was from 4 to 4:20. Many observers saw the shower from Pasadena and Los Angeles.

Mount Lowe Observatory, California, November 18, 1901.

Russia's Canal Plans.

According to the Odessa correspondent of The Times, the Russian government is considering the construction of a gigantic waterway from Riga, in the north, to Kherson, near the mouth of the Dnieper on the Black Sea. It is believed that large sums have already been spent at Kherson, which is eventually to be the terminus of a grand canal system joining the Baltic and the Black Sea. The correspondent says that, apart from the strategic importance of such a canal, it would be of enormous value to the agricultural and industrial interests of the vast empire.

For some time past attention has been directed to the exposed condition of the harbor at Monaco, in the south of France, to the southeasterly winds, and the consequent insecurity of the anchorage therein during these gales. To surmount this grave disadvantage a new mole has been begun. It starts from the Pointé St. Antoine, the eastern extremity of the fortress rock, and will stretch eastward across the harbor for 200 yards, terminating opposite the Hotel Hermitage. The undertaking, which is being entirely defrayed by the Prince of Monaco, will cost \$750,000, and is to be completed within three years. When completed the harbor will afford perfectly safe anchorage in all weathers.