learned that the part of anvil will not and cannot be spared him, and that every blow that he gives smites also his own cheek; that the serf corrupts the master as well as the master the serf, and that in politics the guardian and the ward are rendered equally stupid."

Correspondence.

The Editors are not responsible for the Opinions expressed by their Correspondents.

The Pine-Apple.

MESSRS. EDITORS:—There is, perhaps, no production of the tropics which is so generally and deservedly esteemed by the people of the North as the pine-apple, yet of none have they such vague ideas as to its manner of growth. Not unfrequently have we heard it expressed as being the fruit of a tree; associating it with the cone-bearing trees of our own country. The pine-apple plant (*Ananassa sativa*) is a native of tropical America, growing wild in the forests, but is also largely cultivated in those regions, as well as to some considerable extent in the West Indies, and on the eastern continent.

It has fifteen or more long, serrated, ridged, sharp-pointed leaves springing from the root, resembling in its general aspect the century plant, but much smaller in size. In the center of this cluster of thick, succulent leaves, springs up a short stalk bearing a spike of beautiful flowers, which in time produces a single pine-apple. On the summit of the fruit is a tuft of small leaves, capable of becoming a new plant, which, together with suckers, are the means by which it is propagated, as the cultivated plant seldom produces seeds. It flourishes best in a moist and warm climate, but is able to survive a long drought and extreme heat.

There are several varieties of the pine-apple, differing in their leaves being more or less spiny on their edges, and in the shape and color of the fruit. Great care is requisite in its cultivation, otherwise it will be coarse and fibrous, with but little sweetness. Nothing can surpass the rich and delicate flavor of a pine-apple which has been properly grown, or of the wild fruit of the forest, which we always found equal, if not superior to the cultivated ones.

A word as to the manner of preparing a pine-apple for eating may not be out of place here. Let the rough exterior first be removed to a sufficient depth, and then slice the fruit longitudinally with the core, and not across the hard center, as is generally done with us. As soon should an ear of green corn be divided in sections when the kernels must be pulled from the cob, as a pine-apple across the core, instead of nicely slicing the fruit from its adherents. The deliciousness of a pine-apple when freshly picked from the plant and prepared in the above manner cannot be surpassed.

H. M. MYERS.

Orbital Motion.

MESSRS. EDITORS:—I have devised a simple addition to the gyroscope, to serve as a popular proof and illustration of the demonstrable truth, that axial motion produces orbital motion. Dr. G. M. Ramsay says (Cosmos p. 78) "the Gyroscope demonstrates that axial, tangental force becomes an orbital propelling power, but it carries the gyroscope in a reverse orbital direction;" and hence he draws the conclusion, that "if the planets had an independent, direct axial force, they would move in a retrogade orbit."

I maintain that the gyroscope itself will show his conclusion incorrect. Set it to spinning with a direct motion, and observe it when the axis deviates a little from a perpendicular. The hub describes an orbit with a direct motion, the same as the wheel moves. The inclination of the axis represents the inclination of a planet's axis to the plane of its orbit; and also the nutation of the earth's axis. And even when the axis becomes horizontal, the under side of the wheel is, in fact, the outer side of the orbit, and its orbital motion is direct, the same as before.

Thus planetary, axial, and orbital motions are well represented by the gyroscope; but more truly and plainly by my addition, which any person can readily make or get made. It consists of a metallic bar (1 foot long and $\frac{1}{10}$ inch in diameter for the small gyroscope), bent about 30° in the center, a cavity on the concave side, so as to balance on a pivot like a compass needle; a socket on one end, a weight on the other, to balance the gyroscope. Set it to spinning in this socket, and it at once produces an orbital motion around the pivot, direct or retrograde, just as you spin the gyroscope.

That this must be so appears as certain and plain as Archimedes' "Eureka." The radius vector of a planet may be regarded as a lever. The direct axial tangental force at the outer end of the planet's diameter, which coincides with the radius vector, is just equal to the tangental force at the inner end of the same, where the motion is retrograde to the orbit; but the outer tangental force having the longest leverage, the motion must be direct.

S. N. MANNING.

Kankakee, Ill.

How to Make a Perfect Boiler.

MESSRS. EDITORS:—To make a perfect boiler the following rules should be observed: First, the iron in each cylinder should be of uniform thickness and of good quality, and a templet made corresponding with the thickness of iron and size of boiler. Each plate should be marked off with a marking punch from this templet. (I do not approve of using a pencil or white lead for marking). There should be a center on the press punch to enter the mark indicated by the marking punch. This will make every hole in the boiler so perfect that a reamer will not be required. Secondly, the rings should be so laid out that by driving a pin in each of the lap holes both rings will be closely hugged together. To make good holes the punches should be largest at the end, and tapering back, with the face a little concave, so that the edges touch the plate first. When the punch becomes dull throw it in the scrap heap; it will not pay to repair or reharden it. Thirdly, all flat surfaces of boilers should be braced to sustain a pressure equal to the bursting pressure of the cylinder; the braces being in all cases straight, so as to take a direct and positive strain, fitted of the exact bevels of the plates and riveted when possible, never using pins, as they are liable to work loose; for in my opinion, this evil has caused the destruction of many boilers. Use the *best American iron*; thanks to protection, we can now produce an article equal to the best in the world. The edges of plates should be planed, not chipped, and the riveting and caulking done by experienced workmen. For working pressure Haswell's rule should be the guide, as it is more accurate than any I have ever seen. The boiler should be in charge of a *sober*, intelligent, industrious man; then there will be no fear of explosion.

As bituminous coal is now much used; would it not be economy, to say nothing of the abatement of a great nuisance, to consume the smoke? I think also that if the water was sufficiently heated to disengage impurities, and injected into a receiver, beneath the fire box, it would be attended with benefit; there would be little or no commotion, and the water would then flow into the proper channel, and leave impurities where a blow pipe would carry them off. I think both these results can be effected; let me have your opinion upon the subject.

PATRICK QUINN.

South Newmarket, N. H.

Mental Science.

MESSRS. EDITORS:—There are periods of crime, as illustrated by the homicidal epidemic prevailing throughout the country. There are also tendencies to mental and moral insanity in various degrees, from ungovernable temper to mania, and the question arises, "Should these particular tendencies absolve from responsibility either at the bar of conscience, or in the verdict of the jury?"

If such tendency be the result of indulged selfishness or intemperance of any kind, the acquittal places a premium on criminality, and the next step may be as in the East, to consider the insane not only deserving of sympathy, but under the special protection of the Almighty.

While we predict the eclipse and the revolutions of Saturn, we unfortunately know little of the wondrous system within us, and our educators would vindicate their noble profession by teaching the pupil the science of self-knowledge, to ascertain the recurring laws of emotion, controllable to a certain point, and regular (to the thoughtful) as the cycle of the seasons. Said a recent victim, "My paroxysm is coming; be careful at such an hour." Would it be impracticable to extend this idea to self-application; to watch the recurrence of internal tendencies carefully as external occasions; to realize that injury to ourselves or others from uncontrollable passion (alias insanity) comes in most cases from long continued criminal negligence, and cannot, therefore, escape the penalties of responsibility?

G. A. LEAKIN.

Baltimore, Md.

A Question for Watchmakers.

MESSRS. EDITORS:—I would be very glad to see through your excellent journal what argument pocket chronometer makers use when it is stated to them that the balance in the chronometer escapement has an unlimited motion, and in the pocket, winding, or careless handling, a valuable hair-spring may be subject to more tension than it ought to have.

I never could account for this oversight, and always wondered how it is looked at from a watchmaker's standpoint, who not unfrequently has much trouble before he can get the spring to work to his notion; and, there are springs in use in high priced pocket chronometers that could not be bought at half the price a whole movement costs, while a mere accident may destroy them.

In this matter the lever principle has the advantage over the chronometer escapement, as every one can see. Now, I do not want to find fault with the chronometer, I only want to point out the cause of hair-spring breaking, and a necessity for its prevention in expensive watches.

J. MUMA.

Hanover, Pa.

Information Wanted About Brick Making.

MESSRS. EDITORS:—I desire to learn all the improvements in brick manufacture. I manufacture bricks in this city. I use the Vervalen & Wiley machines. The main difficulty is that in this part of the South we have so much rain, during the summer months, that it prevents the bricks from drying. I understand there exists some artificial invention to dry them as it would to dry vegetables and fruits. I have an idea that it is similar to a bakers' oven. I would like to know at once, without experimenting, as I have no time to lose; and also to learn how to make the concave bricks for roofs, and fire-bricks. I wish to obtain the pamphlets of all brick manufacturers that exist at the present day. I will pay for the pamphlets, and also for the tunnel or anything else that can answer for that purpose.

JOSEPH BORRO.

Savannah, Ga.

DR. STÖLZEL gives what he considers an excellent, cheap, and durable substitute for the copper cylinder in Daniell's battery. A piece of well-polished sheet tin is immersed in a very dilute solution of a copper salt and put in connection with a weak galvanic current. After the lapse of from fifteen to eighteen hours a layer of firmly-adhering copper is deposited upon the plate, which may now be bent into the required form.

The White Man's Feet.

Edward E. Cheever, in the May number of *The Naturalist*, gives a most interesting paper on the "Indians of California," in which we find the following passage: "In tracking white men, they (the Indians) cannot make mistakes. The white man's foot is deformed, made so by the shape of his boots and shoes, and even when barefooted, his toes are turned inward. The Indian's foot, never having been compressed, has the toes naturally formed and straight as our fingers are, and he can even use them to hold arrows when he is making them. When he walks, therefore, each toe leaves its imprint in the dust or sand, the imprint of the little toe being as straight, perfect, and distinct as the largest."

This paragraph might be made the text for an article, and perhaps Mr. Brigham will make it one before he concludes his present series of valuable papers. We wish we knew of some plausible reason, why Indians deserve better formed feet than white people, but we do not. No doubt it is a matter of accident, rather than of choice, but so it is. And surely, the white race, with all their glorious achievements in the sciences and the arts, might easily construct boots and shoes on such models as would allow nature full play; and we believe they would if they had a proper understanding of the subject, and a higher ideal of what a glorious state physical perfection is, and the degradation of deformity. The foot is not so degraded a member of the body that we should neglect it, and it cannot grow into perfect form if pinched and cramped by bad shoes, and the sooner people know it the better. It is no excuse that it is kept so much out of sight,

for the true artist recognizes deformity, even though covered by finery and leather.

Will not our mothers who have the care of children look into this subject, and if they have been in error before, a once apply the true remedy?

ADULTERATION OF PAINTS.

BY PROFESSOR HENRY E. COLTON.

It has been said that this is an age of adulteration. This may or may not be true. When prices are high those articles whose nature permits the frauds, will be adulterated, but there is a point in the decrease of prices where adulteration cannot be done with profit, taking into view, first, the cost of the article of adulteration; second, the deterioration in the article adulterated; third, the at least constructive damage to the adulterator if detected.

Almost the only adulteration of paints is sulphate of baryta, commonly called barytes. The oxide of zinc is frequently put into white lead, but it is questionable whether it is not an improvement rather than an injury. The commercial article, "barytes," is a sulphate of the alkali baryta, which has as a base the metal barium. It is insoluble in water and the weak acids, and but sparingly soluble in the most concentrated acids. Its specific gravity is about 4·84, being the heaviest known mineral, hence its common name among miners is heavy spar.

It is chiefly produced in the State that gave us the wooden nutmegs, and goes by the cant name of "Connecticut Lead." It is abundant in Virginia, North Carolina, Missouri, Georgia, and New Jersey. The best article now produced comes from Missouri. It usually accompanies lead ore; varies in color from a milky to a clear white, and can easily be told by its great weight and crystalline structure. Its value depends upon its freedom from specks of iron, copper, or leadore.

To prepare it for market the ore is cracked into pieces, about the size of buck shot. These are then agitated in dilute sulphuric acid to dissolve the copper and iron, then washed with water, again treated with acid, then washed repeatedly with water, dried, and ground perfectly fine. After which it passes through a number of bolting cloths, and is ready for market. Lead specks are more difficult of extraction. If not very numerous no effort is made to take them out, but if desirable to do so, the cracked ore is treated with strong hydrochloric acid, and sometimes with lime. Some manufacturers do what is called "floating," that is, after grinding the rock to flour dust it is run through a series of vats, water passing through them and constant agitation being carried on. The lighter impurities pass off, and nearly perfectly pure sulphate of baryta precipitates. The impurities of the ore other than above mentioned, are silica, carbonate of lime, and sometimes a little sulphate of strontia. The article differs very much in color and fineness as put on the market; that from St. Louis has, just now, the highest reputation, it is in fact less crystalline in structure than any other—partaking somewhat of the fibrous nature of strontia.

The present product is about 20,000 tuns per annum, but it is estimated that in 1865-6 fully 40,000 tuns were imported into and produced in the United States. At that time the price per tun ran as high as $90, now it is $35 and $40. The imported article comes from Nova Scotia, Germany, and England. The profits of its production and manufacture have been very large; but it is doubtful if it can be produced with profit for much less than $30 per tun.

We have been thus explicit with this article because of its whole product fully four-fifths enter into the adulteration of paints. Its other uses are for the adulteration of other articles, even medicines. We believe its only good use is as a substitute for white lead in enameling paper collars. As an adulteration of paints it adds to the weight and injures the quality. The paints containing it are better than whitewash just in the proportion that they have a larger percentage of lead or zinc in them. Some are the merest shams, others have 75 and 80 per cent of lead and zinc, and are proportionably valuable. Some of the latter have attained great reputation, especially when ground in a peculiarly refined oil, which contains some of the acids used in its refining. No person need be fooled by an adulterated paint. If he buys it, it is simply his own fault. If he desires cheapness more than durability and purity, he gets it. Every one knows when he buys a coat below the cost of the wool in it, and the labor on it, that he is getting shoddy. Metal lead, for instance, is 8 cents per pound (gold); white lead then would likely be about 12 cents per pound (currency) ground in oil. Hence, if a man buys a paint at 8 cents, he should have sense enough to know he does not get a pure white lead. It is further the custom of manufacturers never to put their names with the words "Warranted Pure," on adulterated brands. The latter or the former may be on, but never both together. Besides, no respectable firm ever sells a customer an adulterated paint if he asks for the pure and is willing to pay its price.

HOW CAN THE ADULTERATION BE DETECTED.

In a late statement of how to analyze white lead in oil, published in the SCIENTIFIC AMERICAN, it was recommended to dissolve out the oil with spirits of turpentine. This is next to an impossibility, as that article is not sufficiently volatile, has itself somewhat of an oily nature, and some of the particles of the pigment will remain coated with oil and not dissolve in the after process, hence creating an idea of impurity when the paint may be actually pure. Our experience has been large, and we prefer bisulphide of carbon to all other solvents of oil. It evaporates freely, takes less of it to do the work, and leaves the pigment cleaner; nearly as good is high gravity gasoline, say 80°. It is our custom to agitate the paint in the liquid, allow it to settle and draw off. Place the pigment on a funnel, filter, and triturate again and again with the solvent. Then dry the pigment on a sand bath, wash with water and re-dry. Any one can easily tell from its looks and feel if he has extracted all the oil. Perfect dryness and perfect freedom from oil is absolutely necessary. Dissolve the dry pigment thus obtained in dilute nitric acid. Strong nitric acid will not dissolve white lead, it must be diluted with four or five times its volume in water, perhaps more. The operation is accompanied with the evolution of carbonic acid gas. If all is dissolved it is pure lead or zinc—either oxides or carbonates. If there is residuum after repeated trials, with more or less dilute acid, it shows presence of an adulteration—most likely barytes, perhaps sulphate of lead. Take this and boil in hydrochloric acid, if it dissolves it is not barytes. If dissolved, pour into the solution a little hydro-sulphuret of ammonium, a black precipitate shows that you have sulphate of lead. If there is no precipitate, put in a little dissolved oxalic acid; a white precipitate shows lime. The sulphate of lead is seldom or never used as an adulterant in this country, the sulphate of lime never in paint. For zinc, pour into the nitric acid solution sulphuric acid, the lead will precipitate as sulphate; then into the liquid pour a little hydro-sulphuret of ammonium, a white precipitate will show zinc. There is, however, in the market a pigment containing a sulphate of lead, not crystalline in structure, and perfectly soluble in dilute acids. It is made by sublimation.

Whiting and terra alba are seldom or never used as an adulterant for any white paint. They are two light and turn dark in oil. Some colors, however, have terra alba as a base. The process indicated, if conducted with care, will give a perfect result. The main point is to get the oil out entirely; and with all due respect we assure our friends of the SCIENTIFIC AMERICAN that it cannot be done with spirits of turpentine.

There is just now coming into practice another species of adulteration which for worthlessness bids fair to eclipse the baryta paints. This is the use of water instead of the full quantity of oil or spirits of turpentine. A paint is valuable and durable just as it has the proper quantity of pure oil in it. This new adulteration is thus accomplished: The soluble salts of the metals and alkalies disolved in water and mixed with oil form a sort of soap, add to this a pigment and it will mix and be held in solution. Small quantities of spirits of turpentine or benzine are added. To such an extent can this be carried that in some of the paint sold "Mixed ready for use," fully one-half is water. Their worthlessness for work exposed to the weather is evident. There are paints thus sold, however, which are properly mixed.

[Notwithstanding our correspondent's criticism, we insist that very good results may be obtained by proceeding as we directed in the article to which he refers. He seems to have overlooked the subsequent washing with alcohol, after the spirits of turpentine have been used to remove the bulk of the oil. Alcohol dissolves both linseed oil and turpentine, and by its use the solid substances contained in the mixture may be rendered sufficiently clear for subsequent treatment, if the oil is pure linseed, as we can vouch from experience. If the linseed oil used is adulterated with fish oil, rape-seed or cotton-seed oil, other solvents must of course be used. In that case ether or the solvents he names are better. The bisulphide of carbon, or ether, is not, however, available to painters generally. Benzine and gasoline are, however, good solvents, and may be advantageously substituted for the turpentine. Turpentine and alcohol are, however, to be found in all painters' shops. If the alcohol be heated to boiling, it will be more effective than when used cold, and less will be required. —EDS.

SIRUPS FOR SODA WATER.

SIMPLE SIRUP.—Take of white sugar, 14 lbs. (com.); water, 1 gal. Dissolve with the aid of a gentle heat, strain, and when cold add the whites of two eggs, previously rubbed with a portion of the sirup, and mix thoroughly by agitation. (The egg albumen is added to produce froth).

LEMON SIRUP.—Take of oil of lemon, 25 drops; citric acid, 10 drachms; simple sirup, 1 gal. Rub the oil of lemon with the acid, add a small portion of sirup, and mix.

ORANGE SIRUP.—Take of oil of orange, 30 drops; tartaric acid, 4 drachms; simple sirup, 1 gal. Mix as above.

VANILLA SIRUP.—Take of fld. ext. vanilla, 1 ounce; citric acid ½ ounce; simple sirup, 1 gal. Rub the acid with a portion of sirup, add ext. vanilla, and mix.

GINGER SIRUP.—Take of tinc. ginger, 4 ounces; white sugar, 7 pounds (com.); water, ½ gal. Heat the sugar and water until the sugar is dissolved, raise to the boiling point, then gradually add the tinct. ginger, stirring briskly after each addition.

SIRUP SARSAPARILLA.—Take of simple sirup, 1 gal.; comp. syr. sarsap. *ad lib.*; powd. ext. licorice, 1 ounce; oil sassafras, oil wintergreen, aa, 15 drops; oil anise, 10 drops. Rub the oils with powdered licorice, add a portion of sirup, rub smoothly, and mix the whole together by agitation.

ORGEAT SIRUP.—Take of cream sirup, ½ pint; vanilla sirup, 1 pint; simple sirup, ½ pint; oil bitter almonds, 5 drops. Mix.

COFFEE SIRUP.—Take of ground, roasted coffee, 4 ounces; boiling water, 2 pints; sugar, 4 pounds (com.). Infuse the coffee in the water until cold, strain, add the sugar, and make a sirup.

STRAWBERRY SIRUP.—Take of fresh, ripe strawberries, 10 quarts; white sugar, 24 lbs.; water, ½ gal. Spread a portion of the sugar over the fruit, in layers, let it stand four or five hours, express the juice, strain, washing out the marc with water; add remainder of sugar and water, raise to the boiling point, and strain.

SIRUP OF RASPBERRY.—Proceed as for strawberry sirup.

PINE-APPLE SIRUP.—Take of ripe pine-apples, No. 2 or 3; white sugar 16 lbs. water, q. s. Cut the fruit in thin slices, spread sugar over them, let stand 12 hours. Pour off juice and sugar, and set aside. Express the fruit, adding a little water. Then take water, q. s., to make, with the above liquid (juice and sugar), 1 gal. Form a sirup with the sugar and water, and boil the pieces of the fruit already expressed. When the sirup is nearly completed add the fluid and boil a few minutes, to clarify. Remove scum, and strain. These three fruit sirups should be bottled when warm, corked tightly, and when wanted for use add equal parts of the fruit sirup and simple sirup. They will keep a year without change.

NECTAR SIRUP.—Take of vanilla sirup, 5 pints; pine-apple sirup, 1 pint; strawberry or raspberry, 2 pints. Mix.

CREAM SIRUP.—Take of fresh cream, ½ pint; fresh milk, ½ pint; powdered sugar, 1 lb. Mix by shaking. Keep in a cool place. The addition of one half drachm bicarb. soda to this sirup will prevent rapid change.

Editorial Summary.

MIGRATION OF FABLES.—Professor Max Müller, LL.D., recently lectured at the Royal Institution on "The Migration of Fables." He narrated how the proverb, "Do not count your chickens before they are hatched" is founded on a fable, and he traced this fable back through many of the literatures of Europe and Asia, and through some of the ancient books of Persia, to the "Panka Tantra," an ancient Sanscrit book, rich in fables. In the course of this lecture, he told how "St. John of Damascus" was in reality an individual who held high office at the court of the Khalif Almansur. He also told how Buddha in the course of time became transformed into St. Josephat, and under that name was made a saint in the Romish Church. This announcement was recived with much laughter by the listeners, but Professor Müller added that, if Buddha actually lived the kind of life he is narrated to have done, no man ever better deserved to be made a saint by his fellow creatures.

ICICLES IN THE CELLS OF PLANTS.—At a meeting of the Academy of Sciences of Paris, on 21st February, M. Prillieux sent in an interesting paper on the congelation of plants. He has established the existence normally of large icicles in the interior of all frozen plants. These icicles form small columns, perpendicular to the surface, and often penetrating the epidermis. The ice is formed from liquids derived from the cells. The cells themselves remain intact, so that there is no destruction, but simply a separation of organs, and therefore what has been said concerning the death of plants by freezing goes for nothing.

So enormous are the losses of the Austrian Government from the frauds of the stamp washers, who collect old stamps and clean and sell them for new, that the Government finds it economy to furnish stamped envelopes free to the public except the usual postage duty.

In this country the envelope makers, who are anxious to raise the prices of envelopes, are whining for protection, and they want the Government to stop the sale of stamped envelopes. But if any change is to be made the people will prefer the Austrian plan.

A NEW PHOTOMETER.—A photometer, invented by M. Nagant, is based upon the formation of a column of liquid, partially opaque, which may be drawn out until the length is such that the light from an illuminating body ceases to be visible through the liquid. The length of the column, which completely obscures the light, starting from the point where the column is thinnest, gives a measure of the intensity of the light under examination.

THE following results from an extended series of experiments by W. Casselman, in order to determine the effect of boiling saline and other solutions upon glass and porcelain vessels, may be found useful: Water and acids hardly, if at all, act upon good porcelain vessels; the fixed alkalies attack porcelain, but less than they do glass, which is far more readily acted upon by the substances alluded to as well as by saline solutions.

CHINA appears to be overcoming the peculiar superstition which for ages has prevented the development of her vast mineral wealth. Permission has been given to open up the coal miles at Nanking and Kinthaing where coal of a superior quality is obtainable. Good specimens of coal have also been found at San-ti, some two hundred miles above Hankow.

PERFUMED CARBOLIC ACID.—It is said an article of this kind has been recently introduced in England, used for the handkerchief and as a dentifrice, for which latter purpose it is said to be excellent, as it prevents decay from its antiseptic qualities. This is a hint from which American perfumers may perhaps profit.

GEORGIA STATE FAIR.—The premium list of the State Agricultural Society of Georgia has been sent us. The Society will hold its Fair at Atlanta, beginning on Wednesday, October 19th, and closing on the 26th. The Assistant Secretary is Mr. Thomas C. Howard, of Atlanta, who may be addressed by parties interested.

EXIT MACFIE.—The *Mechanics' Magazine* says that Mr. Macfie's book on the "Abolition of Patents" can be had at 1s. each, that gentleman having so many on hand he is desirous of disposing of them at a nominal price. They were originally published at 5s.

THE DARIEN EXPEDITION.—It is announced that the exploration of the routes for the proposed Darien Canal, known as the Caledonia and San Blas, have been found impracticable for such a work, and that the survey has been abandoned, at least for the present season