EDITORIALS.

AMBER CANE.

TESTIMONIES to the superiority of the Amber variety of sugar cane continue to be presented through the press and by private communication. All go to establish the fact that it is the best adapted of any kind for this mountain region. Mr. Joshua Terry, of Draper, in this county, sent, last season, to Minnesota for some of the seed, and he found it to answer admirably. He has a few pounds of it to dispose of

Practical agriculturists east condemn the sowing of sorghum seed too early in the season. Seed sown in April will not do as well, generally, as that planted a month later. And in Indiana last year, according to the *Prairie Farmer*, Early Amber sown June 20th was worked up early in September, and was ripe enough to produce the best quality of syrup. May is generally early enough to plant sugar cane seed in Utah even in the lower valleys. It is important that the best kind of seed should be obtained in good season, and then wisdom should be exercised in regard to the time of planting, the altitude and nature of the soil being taken into fair consideration.

There should not be a pound of syrup imported into Utah. We can make just as good syrup here as can be manufactured in any part of the country, and the time is not far distant when it will be demonstrated that sugar-making can be carried on with profit and success in this Territory. First, however, let the best kind of cane be grown.

DIPHTHERIA.

THERE have been almost as many theories advanced about the origin of that terribly fatal disease, diphtheria, as remedies offered for its "certain cure." The following, which was furnished to the Boston *Journal of Chemistry* by Dr. Emil Querner, an expert of Philadelphia, was the result of patient and critical researches, and as it serves to show the danger of eating fruit uncleansed from the "bloom" and spots and accumulations on the exterior, we clip it for the careful consideration of our readers:

"After a laborious and scrutinizing investigation into the cause of a large number of cases of diphtheria that have come under my care during several years past, I have almost arrived at the conclusion that the primary infection of an individual comes from the fungi which are found as spots of different colors on the exterior of fruits, particularly apples. As far as the power of my microscope has shown, these fungi seem identical with the fungi from a diphtheritic ulcer; and last autumn I traced a number of cases, at one time five together in one family, back to the eating of apples picked from the ground in orchards without previously cleaning the fruit by rubbing or washing."

The Doctor accounts for the prevalence of this disease during a recent period, by showing that the appearance and flourishing of lower animal and vegetable organisms is periodical, referring to the disease of the grape vine and the fungus which grows on the ears of rice in the East Indies, which is supposed to be the cause of what is known as Asiatic cholera.

The question may be asked, if diseases of this character are caused by funig on fruit and other products, why are not all persons who partake of them attacked by the disorder? The answer is, because certain conditions are necessary for the fructification and development of the germs. If there is no predisposition in the system, the spores are not matured and do not multiply. Just as the ground must be in the right condition for seeds to germinate therefn, so the blood must be susceptible to answer to the needs of these germs of disease.

The reason why diphtheria so frequently attacks the throat, is the preparation made by previous attacks upon the mucous membrane of the pharynx by the various affections to which that part of the body is subject, producing a spongy condition and rendering it liable to diphtheritic diseases.

Dr. Querner admits the infectious nature of diphtheria, and shows that a person affected primarily in the manner stated above may become the centre of infection for others. It has also been proven that by multiplication the germs of this disease increase in vigor. Thus, a patient suffering with but a mild attack, may communicate it to others in a malignant form.

The condition of the mind also has much to do with the reception or repulsion of infectious disease. And the comparative impunity with which physicians pass through periods of frequent exposure, is accounted for to some extent by their fearless and zealous spirit, their nervous energy stimulating their vital force to resist the attacks which prostrate the timid and frightened, who anticipate the evil and yield to it.

The origin of zymotic diseases is yet an open question, but the germ theory appears to be viewed with increasing favor among the faculty, and particularly among microscopists. If the causes of those fatal disorders which cause so much suffering and woe can be fully determined, the remedy may then be discovered, and the axe of science laid at the root of the plants of death.

UTAH'S ELECTION LAWS.

THE decision in the Tooele case has caused considerable discussion, particularly among those who are versed in legal lore, or have made a study of the rights, privileges and duties of citizenship and the power of Legislatures over the elective franchise. As it is not unlikely that this matter may again come before the courts in a new shape, and the public mind may again be agitated on important questions involved in it, we now renew its discussion that the main points may be generally understood.

We have two territorial statutes defining the qualifications of voters; one approved January 21, 1859 and amended Feb. 5, 1868, the other approved Feb. 12, 1870. The Registration law approved Feb. 22, 1878, the validity of a portion of which has been called in question, recognizes and provides the means for carrying into exercise the rights established by the laws previously referred to. It does not establish the qualifications of voters, (unless the residence of one month in the precinct, to which the voter is required to make affidavit shall be so regarded), but merely sets forth the manner in which the claims of persons qualified to vote under the former laws may be received and acknowledged, and the powers therein conferred may be exercised.

As we have shown in a previous article, the validity of those older laws rather than of the new new statute is in question, on the objections which were raised in the Tooele case, and treated upon in the opinion of the Supreme Court of this Territory. Let us look into them, and see whether they are sound in principle and within the limits of the powers conferred upon the legislative body that enacted them. The first confers the right to vote upon every male citizen of the United States, over twenty-one years of age, who has resided in the Territory six months next preceding the election, and is a tax-payer in the Territory. An exception is made in regard to officers and soldiers in the United States army, to which we will again refer. The second confers the elective franchise upon every woman over twenty-one years of age who has resided in the Territory six months next preceding the election, and who is either a native or naturalized citizen, or the wife, widow or daughter of a citizen.

These laws have been in force for several years, and under their provisions both male and female voters have cast their ballots at our elections. The question now raised is aimed at the abolition of woman suffrage. It is claimed that as there is one qualification for male voters which is not required of female voters, namely the taxation clause, the Act conferring upon women the elective franchise is void. If this cause of objection was of any real force and effect, it would seem rather to strike at the tax qualification imposed on male voters but not on female voters, and make that requirement void without affecting the validity of the later statute. But this is not what the objectors desire. The attempts to procure the repeal of the woman suffrage law having so far failed, it is now intended, if possible, to reach it through the courts, and kill by judicial rulings that which has not been reached by congressional legislation.

The argument against the validity of either law is founded on the assumption that "inequality" is established by the woman suffrage Act, which is said to have created "a new class of voters" and the provisions for the two classes not being uniform, the discrepancy is pronounced fatal, the doom falling on the later law.

But will it be contended that there can legally be only one class of citizens? The laws of the United States recognize several classes. There are: First, all persons born in the United States except Indians untaxed. Second, Indians born here and taxed. Third, those born in this country, but over twenty-one years of age; these may vote under such qualifications as the States or Territories where they reside may prescribe, those who are under this age being debarred from this privilege. Fourth, persons of foreign birth who have become naturalized by taking a certain oath and obtaining a certain paper certifying to a judicial act in their case. Fifth, their adult children, who have come to this country before the age of twenty-one years, who are citizens without taking the oath or obtaining the certificate. Sixth, those who have served in the United States army and been honorably discharged, who need not declare their intentions, nor prove more than one year's residence previous to application for citizenship. Seventh, those of foreign birth who arrived in the United States three years or more before reaching the age of twenty-one, and whose parents are not naturalized, who may be admitted to citizenship without declaration of intentions, after five years' residence and arriving at the age of twenty-one years. Eighth, foreign-born women, the wives of native-born or naturalized citizens, who, if they might lawfully be naturalized, become citizens by virtue of their marriage, without taking any oath or going into any court or receiving any papers. There are some other classes that we need not mention. Where is the exact "equality" and "uniformity" in the laws on citizenship, using these terms as presented by the objectors to our election laws?

But it may be argued that this does not touch the suffrage question, it only affects citizenship. This is very true, but the principle involved is the same in both cases. Now let us apply it to the suffrage. Must the qualification of voters be exactly the same in every instance? Can there not be different classes of voters as well as different classes of citizens, and does not the uniformity of laws demanded apply rather to all voters in each class than to all of every class? We think so. The Utah statute, specifying the qualifications of male voters is acknowledged by the objectors to be valid. Well, that establishes two classes of voters, with a special qualification for one class not required of the other. This we referred to above. It is in regard to officers and soldiers of the United States, who cannot vote, if they have all the qualifications required of the other class, unless their home and place of residence were in this Territory at the time of engaging in military service. On the "inequality" theory and the "separate class" objection, would not this be just as void as the woman suffrage act is claimed to be?

Now for the laws of various States. The New York election law provides that white male citizens may vote without a tax qualification, but requires colored voters to possess a freehold of $250, and to have actually paid a tax thereon. This color discrimination is veid, not because of "inequality" or non-"uniformity," but because of the Fifteenth Amendment to the Constitution. Rhode Island, Pennsylvania and Delaware have each one qualification for voters over twenty-two years of age, and another, for those between twenty-one and twenty-two years of age, the former being required to pay taxes and the latter being exempt. Here is the very same principle against which objections are now raised in the election laws of this Territory; that is, one class taxed, another class untaxed. There are, no doubt, reasons why voters in those States between the ages of twenty-one and twenty-two years should not necessarily be taxpayers. There are many reasons why women voters in this Territory should not necessarily be tax-payers, and one is, because they generally hold property only through or with their husbands, who pay the taxes thereon, which is sufficient, as no property ought to be subject to the same tax twice.

The Legislature of this Territory is empowered by the Organic Act and the laws of Congress to prescribe the qualifications of voters, subject only to certain specified restrictions. The election laws have been enacted within those powers and limits. The "uniformity" and "equality" contended for, are not alluded to in those powers or restrictions. They merely express certain principles of law recognized by jurists, and which are just and reasonable when properly applied, but are unjust and absurd when wrested from their true signification and misapplied, as in the opinions in the Tooele case, and in the arguments of those who are so anxious to deprive the women voters of Utah of the rights conferred upon them by enactments which, in our opinion, cannot be fairly invalidated.

AN "IMPOSSIBILITY" ACCOMPLISHED.

SCIENTIFIC men often complain of the dogmatism of theologians. Yet they are frequently as positive as those of whom they complain, and have as little reason for their assumptions. They make assertions about things that have not been accomplished, adding the assertion that they are impossible of attainment. Among these so-called impossibilities are, the transmutation of metals and perpetual motion. The alchemists of the middle ages, who spent much valuable time in vainly searching after the secret of transmutation, are looked upon by modern chemists as semi-lunatics. And any one now claiming to have discovered perpetual motion, or rather a perpetual motor, is generally classed by scientists in the same category. Yet the recent researches of Lockyer have disclosed secrets heretofore hidden from the world's wisdom, and, upsetting the established ideas concerning what have been recognized as "elements," also overturn the idea that transmutation is an impossibility.

Perpetual motion now comes out of the limbo to which it has been consigned by dogmatic "science," and, claiming the attention of the savants, is forcing some of them at least to change their position of positiveness and incredulity. Miss Hosmer's invention of "power" through a permanent magnet has been the subject of considerable ridicule, very likely because its principles are not clearly understood. But Mr. Wesley W. Gary comes before the world with a perpetual motive power, something after the plan of Miss Hosmer's, but which he has worked out independently, and explains his discovery, his apparatus and its application in simple form, and in doing so discloses facts involving principles in electro-magnetism which have hitherto escaped the attention of the greatest scientists. They uttered the fiat of impossible in consequence of their ignorance of a simple truth easily demonstrated.

Mr. Gary is the son of a clergyman in Cortland county, New York, and was born in 1837. His father not only preached theology, but gave lectures on scientific subjects. When his son was about nine years of age, and telegraphy was a wonder to the general public, he used an electro-magnetic machine to illustrate his lectures on this subject. This aroused young Gary to reflection as well as curiosity, and finally led him to prosecute investigations and undertake experiments which culminated in the invention that in all probability will make him famous throughout the world. A severe attack of inflammatory rheumatism after arriving at maturity also aided in producing this result. For he was compelled to cease his occupation of floating lumber from Western New York to Troy, and employ his mind rather than his body. He devoted his time principally to endeavors to lay hold upon and control the force which he knew was hidden in the magnet, and, while working out other inventions by which he made money to live on, kept this object constantly before him. Four years ago he succeeded so far as to grasp the secret for which he had so long been in search. In experimenting with a magnet and a soft piece of iron he discovered two things hitherto unknown to science. This is his claim in his own language.

"I have discovered that a straight piece of iron placed across the poles of a magnet and near to their end, changes its polarity while in the magnetic field and before it comes in contact with the magnet, the fact being, however, that actual contact is guarded against. The conditions are that the thickness of the iron must be proportioned to the power of the magnet, and that the neutral line, or line of change in the polarity of the iron, is nearer or more distant from the magnet according to the power of the latter and the thickness of the former. My whole discovery is based upon this change of polarity in the iron with or without a battery."

The neutral line and the change of polarity are the two "new things under the sun" which Mr. Gary has discovered. Of course the principles are as eternal as the elements, but they have hitherto been unknown to modern science. It is difficult without diagrams to fully explain the force of this new motor and its perpetual action. To demonstrate the neutral line and the change of polarity, Mr. Gary uses a horse-shoe compound magnet, a piece of soft iron and a shingle nail. The iron, which becomes magnetic when in the magnetic field of the permanent magnet, is fastened to a lever, by which it can be raised and lowered. Raising the induced magnet above the neutral line, the shingle nail when applied will cling to it. Lower the induced magnet, and when it reaches the neutral line the nail will drop, to be caught again by the induced magnet when the neutral line is passed. The change of polarity is shown by the point of the nail turning inward toward the permanent magnet before reaching the neutral line, and when clinging again after that line is passed, its point turning outwards.

The action of the force is shown by using a balanced magnet and a stationary magnet, placed with opposite poles facing each other, in such a way that a piece of soft iron attached to a lever is balanced between their respective poles on the line of neutrality. This cuts off the attraction of the stationary magnet. By touching the lever the iron is raised, when the balanced magnet is attracted by the stationary magnet and lifted towards it, but when the iron is again let down the balanced magnet drops. In the machine used by Mr. Gary, the balanced magnet is made of two magnets clamped together and hung so as to act as a beam. And when the iron is moved by the lever, and the beam magnet is made to act, by pins and other levers properly adjusted, the beam strikes so as to cause the iron to move so that its polarity is changed, and this, acting again upon the beam, the motion is kept up as long as the materials endure.

Magnetic force has been recognized for many years, but has always been regarded as static. It is now proven to be dynamic. And thus the motion is not merely a sort of balance which is kept up by equilibrium, imparting no motive power, but by increasing the size of the magnets enormous power can be obtained, sufficient to run the heaviest machinery, and it can be so controlled as to exercise the most delicate force desired. It will run a clock or watch that will need no winding, propel a locomotive or wield a mighty hammer, as it may be variously applied.

Harper's Magazine for March, which can be obtained at Dwyer's, contains a lucid article on this subject, illustrated with diagrams, to which we refer those who care to investigate the matter further. If all that is claimed for the new mo-