WILLAMETTE FARMER.

USEFUL INFORMATION.

Water-Color Decorations on Wood.

Our fathers appear to have had a horror of all plain woods, and quickly covered them up with cloth and woolen velvet and tapestry, or disguised them with painting, while our mothers were not less industrious in hiding such woods from sight by coverings of chintz, lace, and muslin. Nowadays we are beginning to perceive that these sober, quiet woods have a beauty of their own, and that they lend themselves with ready adaptability to the purposes of the furniture-maker, decorator, and design-er. On the Continent even the plainest and least attractive of woods are used for furniture and decoration. Where, from a want of color or grain, the surfaces are not sufficiently varied or pleasing, they call in the aid of water-colors, and plant thereon pigments of considerable variety, beauty, and elegance, before these surfaces are submitted to the hands of the po-lisher.

The application of this mode of decorating is almost universal. It may be applied to pen-holders and work-boxes, to tables and cabinets, and it is our intention to advocate its more ex tended adoption by giving, from time to time designs specially prepared for this kind of cheap artistic decoration. The wood on which the design is to be made

should be of as hard a quality, and with as little grain as possible. On the Continent the woods most used for this purpose are the plain white maple, linden, and box; but there are many suitable woods, some of which are of the cheapest kind. The chief point is to select a surface sufficiently close to prevent the colors from spreading, as they will do when the wood from spreading, as they will do when the wood is too absorbent, or the colors used are too wet, and one which has no dark markings or grain to interfere with the design. Having chosen your wood, and had it duly prepared in the form of a panel or table-top, or any other part of whatever article you have to decorate, the design is first drawn in outline with a pencil in but, in order that the surface may not be design is first drawn in outline with a pencil lightly, in order that the surfaces may not be impressed. The white parts are painted on with Chinese white, the dark parts with Indian ink, and the shaded lines with sepis. The re-maining portions are left untouched, unless the color of the wood is objectionable, in which case a warm grey would be a suitable tint for them. If the black portions are not uniformly and deeply black, go over them again. When the pigments are dry and hard, the pencil-lines of the design are retraced with Indian luk, and a fine mathematical pen. a fine mathematical pen. The design being thus completed, and again

hard and dry, it is ready for the polisher, who should do his work so thoroughly that the pol-ish will resist effectually the action of moisture; which penetrating to the water-color design, would soon damage, and eventually destroy it. The polished surface should be cleaned with a damp cloth, and well dried, to avoid this risk. don Furniture Gazette.

Inos in Plants .- So far as investigations have shown, iron forms no essential part of the plant or animal, yet without it all growth and assimilation cease. If seeds are placed on a little cotton-wool in a solution containing all a little cotton-wool in a solution containing all that is essential to plant growth, with the ex-ception of iron, they will sprout and grow until the iron contained in the seed. itself is exhausted, the plant then quickly bleaches and ceases to grow. If a little phosphate of iron, which is almost totally insoluble, is added to the solution, and occasionally stirred up so that it may be kept in suspension and thus come in contact with the root, the plant quickly revives and continues its growth. Iron is an come in contact with the root, the plant quickly revives and continues its growth. Iron is an essential constituent of chlorophyl, the green coloring matter of leaves. Although found in all plants, and constituting an essential part of their food, it has never been thought necessary to supply it to them artificially, all soils being supposed to contain sufficient for their wants. But no one can have failed to observe the greater luxuriance of vegetation on the strong iron soils derived from the old red sandstone than on those granice soils which are comparathan on those granite soils which are comparatively free from it .- Journal of Chemistry

ALL housekeepers have some time realized the difficulty of lighting a fire in a still, damp morning, when the chimney will not draw, and vigorous blowing proves ineffectual. Science explains the trouble as "caused by the diffi-culty encountered in overcoming the inertia of the long column of air in the pipe or chimney, by the small column of air that can be forced

Little Engines.

There is no difficulty in making a small steam engine. Such a device has commonly been the first chef d'œuvre of the ambitious

machinist's apprentice, and a California mechanic at a recent fair in San Francisco, mounted upon the top of a post a motor with a three-quarter inch cylinder, made from the first silver smelted in Nevada. We speak now of bona fide engines, those with slide valves and other essentials, not of the small toys that of late have been sold for \$1, and proved how in-teresting for amusement a scientific and useful fact may be. But there is no soud reason why fact may be. But there is no good reason why a little engine of some kind should not be found a paying article in every household. In cities it should drive sewing-machines, and in rural regions operate the churn and the wood-

There is, indeed, much more attention now There is, indeed, much more attention now given to this matter than was the case a few years since. Not long ago the French techni-cal journals described a petroleum furnace with a self-adjusting wick, giving a uniform heat to a small tubular boiler which fed steam to a small steam-engine. One of the exhibi-tors at the American Institute Fair has introtors at the American Institute Fair has intro-duced a machine on a somewhat similar plan for sewing-machines. In this, petroleum burners heat a vertical boiler, and an oscillat-ing cylinder connects its piston-rod direct to a crank on the shaft of a machine. Doubtless many modifications of the principle may be made and the present low price of netroleum many modifications of the principle may be made, and the present low price of petroleum would seem to encourage the use of this fuel for small motive power. But the objections to steam are manifest, and although not insuper-able, are of sufficient weight to render it well worth while to consider whether some other means cannot be used in its stead for giving the moderate power now a decided desideratum for many purposes.

the moderate power now a decided desideratum for many purposes. In this the employment of illuminating gas, mingled with atmospheric air, has attracted at-tention for the third of a century past. For several reasons, perhaps among others the ac-cumulation of sooty deposits from imperfect combustion, this has not met with much favor. Possibly the cheapners with which, it is alleged, bydrogen gas may be manufactured by novel processes, may supply a superior substitute for carburretted hydrogen, and Brown's gas engine of forty years ago (dependent for its operation upon the explosion of mixed hydrogen and air, and proved a fallure on a grand scale in pump-ing and boat propulsion) be revived again with more of practical utility, but less of sanguine notoriety than of old. actoriety than of old. It has been claimed by manufacturers of hot-

air engines that a caloric motor of small size would "fill the bill" in the matter under conwould "fill the bill" in the matter under con-sideration. But if we may judge of the inordi-nate size in proportion to the work done, of those used in coffee and spice warehouses for grinding in sight of the public, the assertion referred to may well be doubted. The safety of this motor is a strong recommendation for it, and it is to be regretted that no one has yet seen fit to test the capabilities of a hot-air en-rine occurring a space of say one cubic fort. gine occupying a space of, say one cubic foot, and heated by a petroleum flame. There remains, in addition to the methods

mentioned above, the use of electricity as a motive power; a matter debated with much ridicule on the part of those adverse to its use and with much earnestness on that of those who believe in its final success. On the one hand the cost of running an electric motor and the failure of many an apparently promising project are urged as unanswerable arguments against the feasibility of electricity for any such function; on the other, it may be pointed out that long ago, Prof. Page ran a heavy locoout that long ago, Frof, Page ran a heavy loco-motive at nine miles an hour with mechanism imperfectly put together, and that there is no limit to the possibilities of applied science and practical mechanics. Between the two the im-partial observer may be justified in saying, "wait and see;" but none can deny that a light motor is one of the needs of the times, and that, consequently, it is the duty of some one to produce it.—Newark Manufacturer.

How to Sharpen a Screwdriver.

The screwdriver is found not only in the tooi-chest of every mechanic, but in most houses, and in not a few offices. It ranks or two, and before this reaches the readwith the hammer, the saw and the axe, in gen- ers of the Pazzs there is every evidence eral utility, and yet very few persons know and reason to believe that we will lead the anything about how it should be sharpened so as to do its work most efficiently; that is, with the least expenditure of power, and the least

Can Electricity be Profitably Employed as a Source of Power?

The Technologist thinks not, and offers an entirely new line of argument to support its belief. If our esteemed cotemporary will satisfy us that frictional electricity is more cheaply produced than that resulting from chemical de-

composition, we will accept the inference. But we think that is, to say the least, not proved. The *Technologist* says: There was recently on exhibition in one of our industrial expositions a series of pumps, worked by exhaust steam, over which was placed the startling announcement, that, by means of them water might he relied to be means of them, water might be raised to a given hight in quantity sufficient to drive a water-wheel which would give out more power than the steam-engine itself! The placard was we icalculated to attract attention, but then nobody believed the statement printed on it for the simple reason that no engine, far less the exhaust steam from one, could ever pump up water enough to drive a wheel which would up water choigh to drive a wheel which would give ont half the amount of power of the ori-ginal metor. The waste in pumping and the loss caused by want of efficiency in the water-wheel would be sure to consume the other half. wheel would be sure to consume the that there Now it happens curiously enough that there are in common use two methods for producing dynamic electricity—one being the voltaic battery and the other any form of mechanical battery and the other any form of mechanical power. In regard to the latter, it is evident that the same principle holds true in regard to it that is at the same time true in regard to the water-wheel and steam-engine above men-tioned. If electricity, which has been pro-duced by the agency of mechanical power, be applied to the driving of an electro-motor, the latter can never be made to give out as much power as has been exerted by the engine em-ployed to produce that electricity. In other words, no one could be found so foolish as to employ a steam-engine to produce electricity words, no one could be found so foolish as to employ a steam-engine to produce electricity for the purpose of operating an electro-motor intended to drive machinery. It would evi-dently be vastly more economical to drive the machinery by means of the engine itself, without the intervention of any complicated apparatus

This proposition is so self-evident that it requires no elaborate demonstration; but from it follows the very obvious conclusion—that, if by means of the steam engine we can produce by means of the steam engine we can produce electricity more cleaply than we can by the voltaic battery, then it is evident that the battery can not compete with the engine, as a source of power, no matter how perfect may be the electro motor through which the energy derived from the battery is applied. Hitherto, it has been claimed that the only difficulty in the way of applying electricity as a motive power, consists in the absence of a properly constructed electro-motor; but if it can be proved that electricity can be produced more cheaply by means of steam than by the con-sumption of zine, then it is clear that even a *perfect* motor—that is to say, one that utilizes

sumption of zinc, then it is clear that even a perfect motor—that is to say, one that utilizes all the electrical energy, and converts it into mechanical power—can not enable the battery to compete with steam. Here, then, is a crucial tost which is easily applied. And we believe that the results already attained do not leave the question in any doubt. In the case of the electro-deposi-tion of metals, as well as the production of the electric light—two instances in which the comparison between the engine and the battery may be made with great accuracy— it has been found that the engine is the most economical. A forfiori, it should be far more economical as a source of mechanical power.

THE DAIRY.

The Grange Dairy Agency.

The Dairy Produce Department of the California Granges is now a fixed fact, and a permanent institution. Every day the list of consignors is increasing. We now have more butter shipped to us than any house in this city, excepting perhaps one butter market. For this reason we will discontinue to solicit any produce other than dairy produce of all kinds, eggs,

When persons, void of both judgment and interest in animals they are to feed, are permitted to supply salt in the feed (of cows particularly), they are liable to force the animals to eat it with their food in such excessive quantities that undue thirst is produced, the over-drinking occasioning severe chills, purging, and numerous concomitant effects, that often result in great injury to the animal.

SALT FOR BUTTER. -- Never use any but the very best salt in your butter, and be careful that you leave no lumps or foreign matter in it. Sift it carefully through a fine sieve. You will be surprised at the amount of dirt and foreign substance you will find in salt that will appear on opening the bag, perfectly pure and clean. In the country, when weather is cold, use a trifle less than one onnce of salt to the pound of butter; in the spring, when but-ter is harder, if it is to be sold and used immediately this proportion will do, but if your butter is not to be used at once, put in one ounce of salt to one pound of butter, this being the proper proportion for a general average. If your butter is to keep longer than the usual time; that is, if it should require to be packed solid or to be pickled in rolls, it wants about one pound of salt to fourteen pounds of butter.

Common Sense.

There is a chilly, disagreeable article, called common sense, which is, of all things most repulsive and antipathetical to all petted creatures whose life has consisted in flattery. It is the kind of talk which sisters are very apt to hear from brothers, and daughters from fathers and mothers, and daughters from fathers and mothers who do their duty, which sets the world before them as it is, and not as it is painted by flatterers. Those women who prefer the society of gentlemen, and who have the faculty of bewitching their paragraphic marks of hearing senses, never are in the way of hearing from this cold matter-of-fact region; for them it really does not exist. Every phrase that meets their ears is polished and softened, guarded and delicately turned, till there is not a particle of homely trath left in it. They pass their time in a world of illusions; they demand their illusions of all who approach them, as the condition of peace and favor, All persons, as by a sort of instinct. recognize the woman who lives by flattery, and give her the portion of meat to which she is entitled in due season; and thus some poor women are hopelessly buried, as suicides used to be in Scotland, under a mountain of rubbish, to which each passer by adds a stone. It is only by extraordinary power of circumstances that a man can be found to invade the sovereignty of a pretty woman with any disagreeable tiddings, or as Junius says, "to instruct the throne in the language of truth."-Mrs. H. B. Stowe.

ILL-TEMPER. - A single person of sour, sullen temper - what a dreadful thing it is to have such a one in a house! There is not myrrh and aloes and chloride of lime enough in the world to disinfect a single home of such a nuisance as that; no riches, no elegance of mein, no beauty of face, can ever screen such persons from utter vulgarity. There is one thing which rising persons hate the reputation of more than all other, and that is vulgarity; but trust me, ill-temper is the vulgarest thing that the lowest born and most ill bred can ever bring to his home. It is one of the worst forms of impiety. Peevishness in a home is not only a sin against the Holy Ghost and a sin against the Holy Ghost in the temple of Love.-Theodore Purker.

FIRM AS A ROCK.-Let the winds and waves of adversity blow and dash around you, if they will; but keep on the path of rectitude, and you will be as firm as a rock. Plant yourself upon principle, and bid defiance to misfortune. with her poisoned tongue, moddles with your good name, her not. Carry yourself erect; let your course be straightforward and by the screnity of your countenance

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and Assignments; every legitimate branch of Patent Agency Business promptly and thoroughly conducted. Our infimate knowledge of the various in-ventions of this coast, and long practice in patent business, enable us to abundantly satisfy our patrons; and our success and business are constantly increasing. The shrewdest and most experienced Inventors are found among our most steadfast friends and patrons, who fully appreciate our advan-tages in bringing valuable inventions to the notice of the public through the columns of our widely circulated, first-class journals— thereby facilitating their introduction, sale and popularity. and popularity.

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when with interere with their obtaining a patent. We invite the acquaintance of all parties con-nected with inventions and patent right busi-ness, believing that the mutual conference of legitimate business and professional men is mutual gain. Parties in doubt in regard to their rights as assignees of patents, or pur-chasers of patented articles, can often receive advice of importance to them from a short advice of importance to them from a short call at our office.

call at our office. temittances of money, made by individual in-ventors to the Government, sometimes mis-carry, and it has repeatedly happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves re-sponsible for all fees entrusted to our agency. This coust has been done, and is still being this coast has been done, and is still being done, through our agency. We are familiar with, and have full records, of all former with, and have full records, of all former cases, and can more directly judge of the value and patentalshifty of inventions discov-ered here than any other agents. Situated so remote from the seat of government,

delays are even more dangerous to the invent-ors of the Pacific Coast than to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed in transmitting specifications from Eastern agencies back to this coast for the signature of the inventor.

by the only the interstices of wood and coal, at the bottom of which the fire is kindled." This may be remedied by first lighting a few bits of shavings or paper placed upon the top: thus, by the heated air forcing itself into the chimney and establishing there an upward current, the room is kept free from the gas or smoke which is so apt to fill the room; and the fire can then be lighted from below, with good suc-

BRONZING ARTICLES MADE OF IBON WIRE. The following process is commended as the best and cheapest process : Clean the wire best and cheapest process : Clean the wire perfectly, and then immerse it in a solution of sulphate of copper (blue vitriol) until covered with a coating of metallic copper. Then wash and immerse the articles in the following soluand immerse the articles in the following solu-tion: Verdigris, 2 ounces; sal ammoniac, 1 ounce; vinegar, 1 pint, dinted with water until it tastes only slightly metallic, then boiled for a few minutes and filtered. The articles are few minutes and hitered. The articles are steeped in this liquor at the boiling point, until the desired effect is produced; but do not keep them in too long. When taken out, wash care-fally in hot water and dry.

FARTENING IBON IN STONE. - A writer strongly recommends the use of zinc instead of lead for fastening iron railings into stone. It is well known that iron cemented with lead is consumed by rust very rapidly and destroyed. The zine, however, established a galvanic circuit with the iron, and being positive to the iron, sustains all the chemical action and be-comes oxidized, while no rust forms upon the comes ordered, while no rust forms upon the iron. While with lead the opposite takes place, it makes also with iron a galvanic com-bination; but the iron being positive compared with the lead, it undergoes the chemical ac-tion, is oxidized, and protects the lead at its own ordered. own expense.

Youwo engineers will find the following recipe a good one for polishing the brass-work of their engines: Bub the surface of the meta with rottensions and sweet-oil, then rub off with a piece of cotton flannel and polish with with a piece of cotton flannel and polish with noff leather. A solution of oxalic acid rubbed over tarnished brass soon removes the tarnish, rendering the metal bright. The acid must be washed off with water, and the brass rubbed with whiting and soft leather. A mixture of muriatic acid and alum dissolved in water im-parts a golden color to brass articles that are atcepted in it for a few seconds.

The cultivation of science spreads steadily. A scientific society has recently been estab-lished at Buenos Ayres, Mr. A. Luis Huergo for its first president. According to their programme, the members have arranged for carry-ing out several branches of original research.

the least expenditure of power, and the least injury to the heads of the screws. In driving a screw into wood, the force used to press the screwdriver against the head of the screw tends to aid the latter in penetrating the wood, but when we attempt to extract a screw, every pound of pressure that we apply tends to render it more difficult to get the screw out. It therefore becomes very important that the screwdriver should be so formed that it may be kept in the nick of the screw by the exertion of the very least degree of force; for if it has any tendency to slip out, we can keep it in place only by applying pressure, in which case we run great risk of it juring the nick and render-ing it impossible to draw the screw. If we examine a screwdriver in the condi-tion in which it is ordinarily found, we shall find that it presents a section in which the sides of the wedge, in which all screwdrivers terminate, are curves with the convex sides outward. Now the screw of the screw in the screw the

terminate, are curves with the convex sides outwards. Now, the effect of thus curving the terminate, are curves with the convex sides outwards. Now, the effect of thus curving the sides of this wedge, is to render it greatly more obtase. Moreover, when we turn the screwdriver, the tendency to slip out of the nick is just in proportion to the obtaseness or blantness of the wedge, and therefore this form is the very worst that can be chosen. In the hands of most good workmen, therefore, we find that the screwdriver ends in a wedge of which the sides are perfectly straight. This is a very good form, but is not equal to a form in which the sides of the wedge are curves, but with the concare sides turned outwards. In this way we lessen the obtuseness of the wedge at the extreme point, and produce a turnscrew which may be kept in the nick by the least possible pressure endwise. To grind a screwdriver into this form, it is necessary to use a very small grindstone, and many of the

a screwarver into this form, it is becausely to use a very small grindstone, and many of the artificial stones found in market answer ad-mirably. Many mechanics would find it to their advantage to keep one of these small grindstones for the purpose, as it could be run in the lathe with very little trouble.—Tech-nologic tologist.

A MINING engineer, P. De Peyster Ricketts, A MINING engineer, P. De Peyater Ricketta, of New York, has introduced improved pro-cesses and apparatus for effecting the separa-tion of tin from tinners' waste. The scrap tin or tinners' clippings are first to be treated in hydrochloric acid of the strength of 20 deg. Beaumé, until the bath becomes exhausted; and then the gradual addition is made, to the bath of nirrie acid of the strength of 40 deg and then the gradual addition is made, to the bath, of nitrie acid, of the strength of 40 deg. Besumé, in conjunction with chlorate of pot-ash, either pulverised or in the condition of a concentrated solution. Or the tinners' waste is to be treated with hydrochlorie acid until about two-thirds of the tin is dissolved there-from, when they are to be introduced into a bath of mingled hydrochloric and nitric acids and chlorate of potash, until the remainder of the tin is eliminated in solution.

poultry, dried fruits, lard, hams, and potatoes.

and potatoes. It is highly gratifying to us to know that we are enabled to go into the market and compete successfully with those long in the business. Many who were weak-kneed doubted our ability and capacity to do this. Having driven away all doubt in our own minds we only point to our ranidly increasing business and our sales.

rapidly increasing business and our sales-book to convince the public on this matter. That we labor under disadvantages is true; but that we have a decided and important advantage over our competitors is as well true. We are daily receiving letters

well true. We are daily receiving letter-from those for whom we do business; and it is a source of great gratification to us to know that in every instance our work is lauded and all are pleased with our mode of doing business. We have re

tained every one of our consignors thus far; and, though we sink in the attempt, we will strive to satisfy those who are ration al beings, who will give us their business

Care of Cows.

A correspondent of the Journal of the Farm writes: Over-exertion from too rapid driving, frightening and beating, has often resulted in cases of abortion, independent of the effects of impure inhalations. Over-feeding and foundering. or surfeiting the animal, is another fertile cause; and still another equally common occurs from neglecting to water the cow regularly and at proper intervals. then allowing her to drink excessively of ice-cold water, producing a chill of the entire system, which, of course, is followed by a febrile condition and a weakness that would predispose to the attacks of a variety of maladies, but more especially to attacks resulting in premature parturition, which, in an abnormal condi-tion of the dam, are often so easily provoked.

In this connection I desire to express an opinion and conviction which, if dairymen will heed, they will find it safe. I am satisfied that no pregnant brute animals should have their food salted, but should be allowed access to salt at all times, that they may obey their instincts.

purity of your life, give the lie to all who would underrate and belittle you.

TUITION FOR DAUGHTERS .-- The Jour and of Health asserts that no thoughtful mother should rest until she has taught her daughters to do well the following To make a cup of coffee; to draw things: a dish of tea; to bake a loaf of bread; to cook a potato; to broil a steak or chicken; to cut, fit and make a dress, and to set a tidy table. From which we conclude there is no immediate rest for a large number of mothers.

WE were standing a day or two since at the Providence depot, when a very rosy-cheeked lady, fresh from the Emerald Isle, came up to the conductor, and said: "Mister, how long before the railroad will be here?" When he quaintly replied, 'Madam, there is one end of it here now.

Upon the "outer wall" of a neighboring female college the other morning, was discovered, conspicuously displayed, the sign "Domestic Sewing Machines." Some of those specimens of total deprayity known as college students did it.

COURAGE, when genuine, is never cruel. It is not fierce. It forsees evil. Its trep-idations come either before or after danger. In the midst of peril it is calm and cool. It is generous, especially to the fallen. It is seldom attained.

The great blessings of mankind are within us, and within our reach, but we shut our eyes, and like people in the dark, we fall foul upon the very thing we search for, without finding it.-Seneca.

LIVE STOCE TRANSPORTATION. -Severance & LIVE STOCE TRANSFORTATION. -Severance & Peet, dealers and importers of full blooded sheep at Niles Station, Alameda Co., have invented and patented a railroad car for the transportation of sheep which is said to be a good thing. Each sheep is stalled by itself in tiers one above another, with heads pointing to the center, where there is a narrow aisle run-ning the length of the car. Feed is easily ar-ranged in this aisle and every sheep can eat at once.

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