BREAD-MAKING.

Here is the important point, for the bread may be perfect thus far and then be spoiled in baking. No definite rules can be given that apply equally well to every stove and range; but one general rule must be observed, which is to have a steady, moderate heat, such as is more minutely described in the directions for baking large cakes. The oven must be just ho aough; if too hot, a firm crust is formed before the bread has expanded enough, and it will be heavy. Many test the oven by sprinkling a little flour on the bottom; if it browns very quickly, it is too hot, but if it browns gradually, it is just right. longer than to count twenty moderately, is hot enough. When the bread is done (to test which, break apart and press gently with the finger; if elastic it is done, but it clammy, not done, and must be returned to the oven), wrap in a coarse towel or but the bread cloth and place each loaf on its edge until cool. If by accident or neglect the bread is baked too hard. rub the loaver over with butter, wet the towel in which they are wrapped, and cover with another dry towl. In winter, bread dough may be lake | kept sweet several days by placing it where soon it will be cold without freezing, or by put-taying it so deep into the flour barrel as to wen-exclude it entirely from the air. When which wanted for use, make into bread, or, by roken adding the proper ingredients, into cake,

GRAHAM AND CORN BREAD. It is very desirable that every family should have a constant supply made of unbolted flour, or rye and Indian corn. Most persons find it palatable, and it promotes health. For these coarse breads, always add a little brown sugar or molassess, and the amount given in the row at recipes may be increased according to taste. They rise quicker and in a less warm atmosphere than without sweetening. A little lard or butter improves bread or cakes made of Graham or Indian meal, rendering them light and tender. Graham rises rather more quickly than fine flour, and should not be allowed to rise quite as light. The fire should be steady and suf cient to complete the baking, and the oven hot when the bread is put fresh blaze will burn the crust, while a steady fire will sweeten it. Graham bread bakes more slowly than fine-flour bread, and corn bread requires more time and a hotter oven than either. Use either yellow or white corn, ground coarse, for mush, and white, ground fine, for bread, etc. In latter while warm, hold the knife perpendicularly. Rye is said to Father absorb more moisture from the air than f doors. any other grain; hence, all bread from this meal needs a longer application of heat, and keeps moister after being baked than shot a | that made from other grain. SPONGE FOR WINTER USE

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Peel and boil four or five medium-sized otatoes in two quarts of water, which will boil down to one quart when done, take out and press through a colander, or mash very fine in the crock in which the sponge is made; form a well in the center, into it the boiling water from the potatoes : stir thoroughly and when cool add a pint of tepid water, flour enough to make a thin batter, and a cup of yeast. This sponge makes very moist bread.

BREAD SPONGE. hot, two tablespoons of white sugar, two of butter, one quart of tepid water; into this batter, add six tablespoons of yeast, set over night, and, in the morning, knead in sufficient flour to make a stiff, spongy minutes, set away to rise, and, when light, moderate-sized loaves, and let rise until BREAD SPONGE AND BREAD.

Five pints of warm water, five quarts of and the a two-gallon stone jar, cover closely, and a two-gallon stone jar, cover used, set in a large tin pan, so that if the sponge rises over the top of the jar, the drippings may fall into the pan. Set to rise the evening before baking. In winter be careful to set in a warm place. In the morning sift six quarts of flour into a pail, pour the sponge into the bread-pan or bowl, add two tablespoons of salt, then the flour gradually; mix and knead well, using up early all the flour. This first kneading the most important, and should occupy at east twenty minutes. Make the bread in ne large loaf, set away in a warm place, and cover with a cloth. It ought to rise in half an hour, when it should be kneaded thoroughly again for ten minutes. Then take enough dough for three good-sized loaves (a quart bowl of dough to each), give ive minutes kneading to each loaf, place to rise in a dripping-pan well greased with lard. The loaves will be light in five or ten minutes, and will bake in a properly heated oven in half an hour. Make a well in the center of the remaining dough and into it put one-half teacup of white sugar one teacup of lard, and two eggs, which mix thoroughly with the dough, knead into one large loaf, set in a warm place about fifteen minutes to rise, and, when light, knead five minutes and let rise again for about ten minutes, when it should be light Take out of pan, knead on bread-board with a biscuit-cutter, and place in drippingpan; let rise five minutes and bake twent ninutes. In winter more time must be allowed for rising. This makes three

loaves and ninety biscuit. BREAD WITH BUTTERMILK: The evening before baking, bring to the iling point two quarts of buttermilk, and our into a crock in which a scant teacur f sifted flour has been placed. Let stan till sufficiently cool, then add half a cup of yeast, and flour to make a thick batter; the better and longer the sponge is stirred the whiter will be the bread. In the norning sift the flour into the bread-pan pour the sponge in the center, stir in some of the flour, and let stand until after breakfast; theu mix, kneading for abou half an hour, the longer the better; when light, mold into loaves, this time kneading s little as possible. The secret of goo bread is having good yeast, and baking too

hard. This makes four loaves and fort BREAD WITH POTATO SPONGE. Pare and boil four or five potatoes, mash ine, and add one pint of flour; pour on the mixture first boiling water enough to moisten well, then about one quart of cold water, after which add flour enough to make a stiff batter. When cooled to "scarcely milk warm," put in one-half pint (or more will do no harm) of yeast, and let it stand in a warm place over night; and let it stand in a warm place over night; in the morning add to this sponge one cup of lard, stir in flour, and knead well. The more kneading the finer and whiter the bread will be; pounding also with a potato-masher improves the bread greatly, and is rather easier than so much kneading. When quite stiff and well worked and pounded, let it rise again, and when light, make into loaves or biscuit, adding no more flour except to flour the hands and o more flour except to flour the ha board — merely enough to prevent the bread from sticking. Let it rise again, then bake; and immediately after taking from the oven, wrap in a wet towel until partly cold, in order to soften the crust. If yeast and flour are good (essentials in all cases), the above process will make good

(To be Continued.)

A whip with ten lashes, and a buckshot in the end of each, is used on refractory convicts in the Indiana State prison.

MEANS OF PRESERVING HEALTH. AMOUNT OF FOOD REQUIRED.

Persons using little exercise require com-paratively little animal food. As the gas-tric juice is secreted in quantity commenwith the wants of the system, and not in proportion to the amount of food taken, excess in eating not only leaves the stomach burdened with a lead of undigested food, but prevents the proper digestion of what is actually demanded by the system. There can be no doubt that excess in eating is the source of most of the painful affections which cut short or embitter existence in man; for he is the cold, the the system. There can be no doubt that excess in eating is the source of most of the painful affections which cut short or embitter existence in man; for he is the only animal who has not sense enough to discontinue eating after hunger is satisfied. We eat too much, too often, and too quickly. Different occupations require different amounts of food—the labouring-man must eat more than the student. Those who do not live by manual labour suffer most from over-eating; most of such persons consume three or four pounds a day, which is almost three or four pounds a day, which is almost twice too much. The Rev. Sydney Smith, who has said and eaten so many good things, according to his own calculation, consumed, in sixty years, forty-four horse-waggon loads of meats; or, in other words, by eating more than was necessary for health, had, during that time, actually starved one hundred men to death. ANECDOTES.

To show what gluttons people may un-consciously make of themselves, producing derangements in the system which they cannot account for, the following conversation between Abernethy and a gentleman farmer may be introduced. "Do you make a good breakfast?" inquired Mr. Abernethy. "Pretty good," answered the patient.
'You lunch?" "Yes, I take luncheon."
"Do you eat a hearty dinner?" Pretty hearty." "You take tea, I suppose?"
"Yes, I do." "And, to wind up all, you sup, I suppose?" "Yes, I always sup."
"Why then you heart" said the suppose. sup, I suppose?" "Yes, I always sup."
"Why then, you beast," said the surgeon,
"go home and 'eat less, and there will be

othing the matter with you." eminent but eccentric physician was remarkable for the stress he laid upon ver-eating as a cause of disease; and was fond of addressing his patients in such words as these: "Your stomach being out how to put it to rights again; and in my whimsical way I shall give you an illustration of my position, for I like to tell people something that they will remember. The kitchen, that is your stomach, being out of order, the garret, (pointing to the head) cannot be right, and every room in the house becomes affected. Repair the injury in the kitchen, remedy the evilthere, and all will be right in parlour and chamber; this you must do by diet. If you put improper food into your stomach, you play the deuce with it, and with the whole

The Duke of York once consulted Abernethy, who treated him with the greatest indifference. The Duke, astonished at his conduct, said, "I suppose you know who I am?" "Suppose I do," said the surgeon: "what of that? If his Highness of York wishes to be well, let me tell him he must do as the illustrious Duke of Wellington

other physicians at the present time, he was often asked why he did not practise what he preached. To such taunts he would reply by reminding the inquirer of the sign-post: it points the way, but does not follow its course; it is none the less

not follow its course; it is none the useful for that.

The exact opposites of the gluttons are the hypochondriac men and nervous women, who almost starve themselves to death for fear of injuring themselves by eating improper food. To such persons, the advice of Sir Richard Jebb may be "My directions" recommended; he says: will be few and simple. You must not eat the poker, shovel, or tongs, for they are hard of digestion; nor the bellows, because they are windy; but anything else you The above advice, both to the too great and

the too little eaters, is applicable to other countries than England, to other cities than London, and is just as true in this, as

in the last century.

THE USE OF WATER.

The celebrated French physician,
while sur-Dumoulin, in his last moments, while surrounded by several of his colleagues, who were deploring his approaching death, addressed them thus: "Gentlemen, I leave behind me three excellent physicians. Each of the doctors present conceived him-self to be one of the three; but they were soon undeceived, when he informed them that the three he meant were water, exer-

cise, and diet.

As the last two have been sufficiently treated of in these articles, the first may now demand attention, as it is of great impor-tance. The application of cold water to the body is beneficial as a purifier and as a tonic. It is a true saying, that "cleanliness is next to godliness;" the ancient law-givers recognized the intimate connection between the former and health, and secured a great sanitary blessing by making abluon a religious ceremony.

The skin is the natural outlet for the

discharge of carbonaceous and effete mat-ters, the retention of which is liable to produce disease; if the pores of the skin be obstructed, the lungs have double duty most powerful and the most natural, promoting the circulation in the skin, relieving internal organs, and, by its consequent reaction, increasing the vigour of the whole body. The most convenient mode of application is by means of a sponge, thus avoiding the sudden shock of the shower bath, and the greater cold of a general immersion. The use of cold water almost of necessity implies that of friction; this, however, is valuable in itself, by increasing however, is valuable in itself, by increasing the flew of blood to the skin, and relieving the internal congestions—the primary cause of many diseases. The digestive skin; at this time of life, a languid state of the cutaneous circulation is a frequent cause of indigestion and ill-health.

The Duke of Wellington, well called the little one perishes?

The difference of the child, when from ignorance of the law, which ought to have been known, the little one perishes? The Duke of Wellington, well called the

"Iron Duke," owed, in great part, the remarkable preservation of his physical faculties to habits of exercise, and to his property and to his property and the preservation of the preserv vigorous and persevering use of friction over the whole body. He heartily ap-proved of that excellent invention, horsehair friction-gloves, which, by their roughness, supply the place of strength during friction; to this he added other practices

has neither vessels nor nerves, but is simply a collection of flattened cells, arranged in layers, continually wearing away, and as collection of nationed cells, arranged in ayers, continually wearing away, and as constantly supplied from below. These cales must be removed from time to time, y friction and ablution, in order that the rue skin may perform its important function through its vessels, sweat-glands, and ebaceous or oil follicles. The skin has remarkable newers of secretics or continuation. markable powers of secretion or excretion. It has been estimated that there are about 2,800 perspiratory tubes on every square inch of the human body; so that the total number of pores in a person of average stature is about seven millions; and as each tube; unrolled, measures a quarter of an inch, the length of perspiratory tubing would be nearly twenty-eight miles.

What is the use of this extensive system

n the skin? The secretion of the per-spiration is usually carried off in an insensible vapour; but, under certain wellknown conditions, it accumulates on the skin in the form of drops of sweat. This fluid, sensible and insensible, in the course disease in the mucous membranes, which are only the skin turned inward and lining the passages and outlets of the body. We have, then, in these glands, a vast system of sewerage for the purification of our bodies, and this is secured by no other external agent so well as by the use of water. Heat and cold are appreciated by the common sensibility of the skin. These are of a relative character, as that which seems cold to one person does not to another; the natives of the polar regions would feel warm in the temperate zone,

produced by extreme heat and extreme cold resemble each other almost exactly; solidified carbonic acid, one of the most intense artificial colds, feels just like fire, and produces about the same disorganizing effect upon the skin; almost every one has heard the story of the South Sea who, on touching a piece of ice for the first time, dropped it because it was so hot. Water, then, removes the epidermic scales from our bodies, and softens, dis-selves, and carries off the dried salts of the perspiration; to remove the oily secretions of the skin, soap must be used. The various cosmetic powders used to blanch and beautify the skin, even should they be of order, it is my duty to explain to you how to put it to rights again; and in my whimsical way I shall give you an illusa most unseemly paste, sealing the invisi-ble tubes. The cold bath cleanses and invigorates; the warm bath is more cleansing. but less tonic; the sponge bath is good, i reaction follow; the shower bath shocks too much for any but the most vigorous constitutions, possesses no advantage over the sponge bath, and has the danger of originating or aggravating congest upon it of sending out the excess coming to it from the vessels of the skin,

the internal organs, and especially of producing hypertrophy, or other diseases of the heart, from the additional labour thrown or prevented from entering them under the action of the sudden cold. None of these baths should be taken just before, and certainly not just after a meal, as the digestive process is certain to be thus interfered with, with disagreeable and someoften did in his campaigns—cut off the sup-lies, and the enemy will quickly leave the citadel." times dangerous consequences. The vapour bath, in which the body is simply heated, without much disturbance of the circula-Strict as Abernethy was in regard to the tion, may be followed by the cold bath, diet of others, he was not very particular with proper reaction; while the cold bath, as to his own; hence, in common with taken when the body is heated by active

exercise, is positively dangerous.

It is very certain that fifteen square feet of excretory surface in our skin have been given us for some wise and important purpose; and every day's experience proves that there is a most intimate connection between the skin and the internal organs. If the vessels of the skin be closed, their blood vessels of the skin be closed, their blood must flow in the inner vessels, and vice versa; in either case, disease is averted by restoring the equilibrium of the circulation. Exposure to cold contracts the vessels of the internal organs must do the w concert, and bear each other's burdens; as checking the skin's action overburdens the lungs, so bringing back the blood to the surface relieves these organs; hence the good results of the domestic remedies of nothing to sell."

"It is the old story," said the Doctor.

The amount of clothing required will depend very much on our habits of exposure of the skin to cold water and pure air. The effect of habit is well shown by the different dress of the two sexes; most men cover their necks and arms, and would take cold if these parts were purposely or accidentally exposed, while women by no means vigorous uncover them with impunity. The Sootchman who has worn the kilk from his youth, suffers not from the cold of themselves, should allow their feeble boys in this climate to go with bare legs, under the fatal flistake that they are thus hardening of their constitutions; the child, at best is a poor maker of caloric, and many a one dies trom this cause; while the clergyman calls the death a "mysterious dispensation of Providence," the physiologist knows that it is the new table to go with bare dispensation of Providence," the physiologist knows that it is the new table consequence of disregarded and according and many a one disterior. "And so," said the Doctor, "you are the first is the new table consequence of disregarded and according to the law excuses no one;" is not, the then, the parent guilty of causing the death of the child, when from ignorance of the The amount of clothing required will de-pend very much on our habits of exposure of the skin to cold water and pure air. The effect of habit is well shown by the differ-

OUR SCHOOLS. conducive to health. He lived so simply that his cook, a master of his art, was forced to leave for want of opportunity of displaying his skill; he never used tobacco nor wine; he alept on his narrow, iron cot-bedstead, thinking that when he wanted to turn over it was time to get up; he was often early in the streets, on foot or on horseback, when other persons were in bed. The late Emperor Nicholas of Russia lived in the most simple manner, using active exercise, sleeping, and even dying, on his leather camp-bedstead. The simple habits of the Emperor William of Prussia during the Franco-Prussian war, are well known.

THE SKIN. conducive to health. He lived so simply that his cook, a master of his art, was and the caspacities of the body—get out of forced to leave for wash of opportunity of displaying his skill; he severe used tobaccom or wine; he slept on his marrow, two nor obsoleteed, thating flast when he wash on he washed health hand; he have been tweelenging for the last teventy—five years, deteriorating the mind and body of the cockus, and the capacities of the body—gets and expensive—pay less attention, far less, to the suggestions of Boards of Education, far less, to the suggestions of Boards of Education, body the last Emperor Nicholass of Russin lived in the most simply enables campbed factor. The simple of the last Emperor Nicholass of Russin lived in the most simple manner, using and more, far more, to the advice of Boards of Education, and more, far more, to the advice of Boards of Health, and to sanitary common his leafer semple-deteated. The simple cample and the sanitary common his leafer semple-deteated. The simple care that the state of the Emperor William of Frausia delegation of Boards of the Caretary and the sanitary common his leafer semple-deteated. The simple care that the state of the Emperor William of Frausia delegation of Boards of the Caretary and the sanitary common his leafer semple-deteated. The simple care that the fall that the sanitary common his leafer semple-deteated. The simple care that the sanitary common his leafer semple-deteated. The simple care that the sanitary common his leafer semple-deteated. The simple care that the sanitary common his leafer semple deteated. The simple care the sanitary common his leafer semple deteated. The simple care that the sanitary common his leafer semple deteated. The simple care that the sanitary common his leafer semple deteated in the sanitary common his leafer semple care that the sanitary common his leafer semple care that the sanitary common his leafer semple care that the sanitary common his leafer that the sanitary common his leafer semple care that th



COLD APPLICATIONS.

The application of cold to a diseased part is intended to effect totally opposite results—those of depressing the circulation, limiting the flow of blood in the part, and it may be also to brose the control of the part, and limiting the flow of blood in the part, and it may be also to brace up or strengthen the tissues. While hot water is most suitable for the soft parts, cold is commonly taken advantage of for the legs, &c., and those parts where sinews or ligaments are present, to the exclusion almost of muscle. Some practitioners prefer cold water to the feet under inflammation, likewise to the legs when tendons are sprained and lacer-ated, while others always use hot, and, we ated, while others always use hot, and, we think, with greater show of reason.

There is an opinion largely abroad that cold water bandages are necessary to hunters and carriage horses, &c., in order to keep down inflammation, and prevent the consequences of work, such as thickening, puffiness, knuckling over, &c. Some prefer lines, others wooller material and fer linen, others woollen material and these soaked in cold water are put on and these soaked in cold water are put on and allowed, generally, to become dry, the rule, as it is expressed, stating that these should be frequently wetted; yet notwithstanding this departure from the plain directions, puffy legs diminish, and tender spots become less sore; and how is this? Simply because the benefit has not arisen from the cold, but from the reaction. As soon as the cold is applied, the first effect is to constringe the vessels, but the second is to promote warmth and increase the circulation—which is the very essential old and

tion—which is the very essential old and battered legs require. They have lost their tone by hard work, the circulation is while the natives of the tropics would feel cold. It is remarkable that the sensations enfeebled, and the stimulus of cold-succeeded by reflex action on the blood-vessels -is the indirect means of restoring the balance of function which has been lost Such is the true principle of hyrdopathy, and in this form it has existed, been known and practised by every stableman down from his majesty the stud-groom, or coachman, to the least among the strappers. From sweating the legs of horses in the stable, the principle has been taken to higher quarters; and, as applied to the human subject, it is now dignified with the

name of a science.

When the application of cold is really required, no good can come of using it by fits and starts. To be of essential service, we must avoid the reaction which we have already alluded to. It is a common plan to immerse a limb in cold water, frequently renewed for some time before an operation is to be performed with the knife, the object being to produce a depression of temper-ature throughout the very substance of bone and tendon, &c., and thus materially limit the flow of blood, In such a case, the cold must be persistently kept up, or we fail in our purpose. The plan simply consists of causing the animal to stand with the limb in a leg-tub, an assistant being required to add from time to time pail of fresh-drawn cold water. In order to intensify the action of cold

water, particularly in warm weather, various saline substances are called into requisition—the most common being nitre, saltpetre, so called sal-ammoniac, &c. saltpetre, so called sal-ammoniac, &c. These produce a low state of temperature by their solution in water; therefore, they should only be used at the moment they are mixed. For, after they are dissolved, the temperature of the fluid rapidly rises to that of the surrounding atmosphere, and no other good than that of simple cold water can be obtained. water can be obtained.

TALK ON FARM CROPS. (From the American Agriculturist.) The truth is, Deacon, we must farm better. I have no heart to talk about farm crops. We must talk more about the pre-paration of the land,—about draining, culvation, and manure. There is no money

in poor farming."
"There is precious little money in any "There is precious little money in any kind of farming, now a days," replied the Deacon, "we had a good wheat crop this year, but we can get but little for it. Barley brings a high price, and so will potatoes, but what of it? Many farmer did not get 10 bushels of good barley per acre,

surface relieves these organs; hence the good results of the domestic remedies of hot teas, and external applications for inducing perspiration in colds and congestions of the lungs. Disturbance of the skin's functions may also affect the organs of digestion and locomotion; the same remedies will produce the same good results. If twenty persons be exposed to cold, the weak part in each individual will suffer from this interference with the skin's action; one will have bronchitis, another rheumatism, another diarrhea, another neuralgia, according as the lungs, the muscles, the digestive apparatus, or the nervous system, are out of order; while some in vigorous health will not suffer at all. Hence if we would avoid most of the diseases arising from exposure in this yariable climate, let us invigorate our muscles by exercise, eat of nutritious and digestible food, making pure blood, circulated by active habits, purified by fresh air, with our fluids unpoisoned by tobacco and unstimulated by alcohol and our sking the land dry sking the land dry sking the land dry skenn making the land dry skenn making the land dry skenn mediatory. lated by active habits, purified by fresh air, with our fluids unpoisoned by tobacco and unstimulated by alcohol, and our skins cleansed and strengthened by frequent low, and rich. What you want is more

faith in your business,"
"That is the point Doctor," continued I, "you have hit the nail right on the head.

on the preparation of the land. This may be true, but still it is well to think about Soon may the time come when people shall see the necessity of dispensing with some of the trifles which we fondly term education, and pay such great prices for, some of the trifles which we longly bear above all, of the exportation of cases, and substitute what will be of some practical sheep, and hogs. Think of the great quantities of artificial manures that are being the farmer who uses one ton use, and especially give the young a knowledge of their own bodies. This, I fancy,
will be laying the axe at the root of the
evil—teach the teachers the laws of life,
and the capacities of the body—get out of
the old ruts, in which our school system
that here travalling for the last twenty five
has been travalling for the young a knowtities of artificial manures that are being
used; and the farmer who uses one ton
this year, will be likely to use two tons
next year, and five tons the great quantities of artificial manures that are being
used; and the farmer who uses one ton
this year, will be likely to use two tons
next year, and five tons the great quanthis year.

our fruit, we regret that but little of the profit of the shipment reaches the hands of our farmers. In this case the shippers make the money.

MEAT EXPORTS TO GREAT BRITAIN.—As cooler weather comes on, with somewhat greater danger from storms at sea, there is some falling off in the number of live animals exported to England, but there is also an equally marked increase in the As cooler weather comes on, with some-what greater danger from storms at sea, there is some falling off in the number of live animals exported to England, but there is also an equally marked increase in the quantity of carcase meat sent forward Thus in one week at the last of October Thus in one week at the last of October, there arrived at Livarpool, from America, 1,417 steers, 3,257 sheep, and 173 pigs; also, 4,094 quarters of beef, 1,100 carcases of mutton, and 1,104 packages of butter. As a rule the vessels carrying live stock have safely landed nearly their entire cargoes, even when the weather was unfavourable. Sometimes, however, serious losses occur. Thus, in the week above referred to one vessel lost about 130 steers and to, one vessel lost about 130 steers and some pigs; a second vessel being compelled to throw overboard over 100 steers. Insurance is effected for these cargoes, and the rates for this are advanced during

HOME-RAISED TREES - AMATEUR NURSERIES. (From the Annual Register.)

(Continued.) Grafting is done in spring before the buds open. The two most common modes are cleft-grafting and whip-grafting; the former where the stock is much larger than the graft, and the latter where both are nearly of the same size. To succeed well the knife must be sharp, so as to out smooth even feace, the measure should smooth, even faces: the pressure should



Fig. 14.—OPENING THE CLEFT. tact, and all the cut parts must be covered outside with grafting wax or grafting

plasters.

Fig. 14 shows the mode of opening the cleft in cleft-grafting, the elbow in the wedged tool allowing it to be driven with a hammer if necessary; fig. 15, the mode of inserting the graft. which is shown in fig. 16; while fig. 17 shows the mode of whip-grafting.

grafting.

Grafting wax is made by melting together rosin, beeswax and tallow. The exact proportions are not essential, provided it is soft enough to adhere with a little applied warmth, and hard enough not to melt in the sun. A good mixture consists of four parts of rosin, three of beeswax and two of tallow: if found too hard, add a

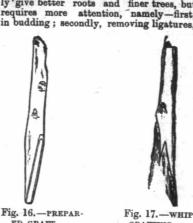


Fig. 15.—CLEFT-GRAFTING. little more tallow. It may be spread of thin paper muslin, and applied

plasters, or applied alone.

The operations of budding and grafting are preformed essentially in the same manner, whether applied to young trees in the nursery row or to older trees at standard

Root-Grafting is adopted by nurserymen. and has the advantage of being performed during the spare time of winter, and the grafts, being set out afterwards into the nursery rows early in spring, grow at onc without further care, except training an cultivation. Budding nursery trees usual give better roots and



ED GRAFT. and thirdly, cutting back the stock the

following spring.

SELECTION OF VARIETIES.—Everything depends on a good selection of sorts, whether the planter raises and buds and grafts his own trees, or purchases them of others. There are some important requisites in selecting varieties, among which quisites in selecting varieties, among which are healthiness of growth, productiveness, sufficient hardiness, agreeable flavour in the fruit, earliness, succession and long-keeping qualities, and a due proportion of each sort to give a constant supply throughout the year. With a poor selection, the inexperienced planter may get crooked, feeble trees; they may be cut down by winter in northern localities; they may give him poor or knotty fruit, or furnish too many at one time of year, and too few, or none, at

that food in animals, as well as in plants, is largely derived from the air, and that good pure air only can supply what nature demands from the atmosphere. Muddy and filthy barns turn out lean cattle. Occasional feeding of salt is very impor

tant to the health and vigour of animals. One half of the ash of animal blood consists of salt without which the vital fluid car not be in a natural or healthy state. An English farmer, very successful during ten years in fattening cattle and sheep, supplied a ration made as follows: Eight bushels corn soaked in ten pails water two days, then simmer for an hour, afterwards mix with fourteen pounds coarse, cheap sugar, and commingle with cut straw, hay

The St. Paul Press says that there are 28,000 acres of amber sugar cane planted in Minnesota this year. Last year there were 21,000 acres and the yield of syrup were about 1:0,000 gallons. It is expected the yield this year will be proportionately increased. The yield of syrup is from 140 to 280 gallons per acre. The Press also thinks that the time is not distant when Minnesota will not call the preduce all the Minnesota will not only produce all the sugar, syrup and vinegar that is needed for home consumption, but will have immense quantities for export.

Raising Cars in Holland.—The commen cat is largely fed on fish and bred for its fur, in Holland, where the finest skins are obtained. Large quantities are also collected in Holstein, Bavaria and Switzerland. In France about 30,000 cat skins are furnished annually to commerce. This fur is greatly valued, while the supply of good skins is far short of the demand. The black, spotted and striped varieties are all much in request for making into wrappers for open carriages, sleigh robes and for railway travelling.

COLOUR IN CROSS BREEDING .- A somewhat curious result of coupling two parents of different colours is mentioned by a correspondent of the London Agricultural Gazette. A sow of the small black Suffolk breed, having had two litters to a pure boar of her own race and colour, was put to a large white hog of the form and strein boar of her own race and colour, was put to a large white hog of the form and strain exhibited in large-breed classes. When in farrow, divers speculations as to the colour-her produce would be were ventured by her owner and his herdsman. A neighbour was strong on the certainty of particoloured pigs. The actual result is a litter of twelve of which six are entirely block. of twelve of which six are entirely black, and six entirely white; not a spot mars the uniformity of either hue. It is not often that the opposing claims of father's and mother's family to determine the character

of the children are so equitably adjusted. FISH AS FOOD FOR ANIMALS .- "The FISH AS FOOD FOR ANIMALS.—" The cattle at Provincetown feed upon fish with apparently as good relish as upon the best kinds of fodder... We have seen the cows at that place boldly enter the surf in pursuit of the offal thrown from the fish-boats on the shore, and ... masticate and swallow every part but the hardest bones. A Provincetown cow will dissect the head of a cod with wonderful celerity. She places one foot upon a part of it, and with her teeth tears off the skin and gristly parts, and in a few moments nothing is left but the bones....It is said that some cows there....will, when grain and fish are

there...will, when grain and fish are placed before them,...eat the whole of the fish before they will touch the grain."
....Barnstable (Mass.) Journal, Feb. 7,

....Barnstable (Mass.) Journal, Feb. 7, 1833. We have accounts of the feeding of fish to stock in the East, centuries ago. It is a regular practice in northern Norway, where dried codfish are used to piece out the stock of hay that does not suffice for the long winter. In 1856 Prof. Stoeckhardt, of Saxony, received a sample of Norwegian fish-guano, which he fed to a half-year-old pig, "which did exceptionally well on this northern food." BURNING GREEN WOOD GREATLY WASTE-

FUL.—Water, in passing into vapour, absorbs and hides nearly 1,000 degrees of heat. A cord of green wood produces just as much heat as a cord of the same wood dry. In burning the dry wood we get nearly all the heat, but in burning the same wood green, from one-half to three-fourths of the heat produced goes off latent and useless in the evaporating sap or water. Chemistry shows this, and why, very plainly. Therefore get the winter's wood for fuel or kindlings, and let it be under cover in time to be dry when used. It will of course season or dry much faster when split fine. A solid foot of green elm wood weighs 60 to 65 lbs., of which 30 to 35 lbs. is sap or water. As ordinarily piled up, if we allow half of a cord to be lost in the spaces between the sticks, we still have a weight of about two tons to the cord, of a weight of about two tons to the cord, or which fully one ton is water or sap. Such wood affords very little useful heat; it goes off in the ton of sap. The great sav-ing of hauling it home dry is evident—as we get the same amount of real fuel for half the team work. Beech wood loses oneeighth to one-fifth its weight in drying; oak, one-quarter to two-fifths.

WEIGHTS IN ENGLAND. -An Act to con

solidate the laws relating to weights and measures goes into operation in England in January. That such an Act was needed appears from the fact that in the County Shropshire there are six different bushels for the measurement of wheat, nine differfor eats, three for peas and two for beans. The growers of grain on one side of the county do not actually know the prices Shrewsbury is 75 pounds, while in Wolver-hampton it is 72; Monmouth, 80; Man-chester, 60; and Bridgend, 168. A pound of butter in some places is 16 ounces, in others 18, 19 and 24, while in other locali-Potatoes are sold by the "rol" and the "dish."
Potatoes are sold by the "sack" of 160
pounds, or two bushels of 80 pounds each
—sometimes the sack contains three, four, or five bushels—and sometimes by the bag of 140 pounds, and by the measure of 84 pounds, unless long measure is given, when it is 90.

"Remember, now, we have separated and been re-married four times, and about once more will convince me that we can never live happily together," said at the altar an Indiana woman to her husband when she married him for the fifth time.

An original document relating to the American War of Independence has been discovered in an antiquarian bookstore in Baireuth, Germany. It is the manuscript diary of one of the officers of the Hessian troops who served in the British army, and embraces the period from January, 1778, to March, 1779. The author kept a daily record, not only of events, but also of the news and rumours of the day.

ON BRADDS—The Cleveland physician On BEARDS.—The Cleveland physician

who maintains that shaving is a crime against health and good looks has been ransacking his Bible for texts. He finds in Leviticus the injunction: "Neither shalt thou mar the corners of thy beard." He infers that the children of Israel, while in headage to the Equations injunction that the children of Israel, while in bondage to the Egyptians, imitated many of their heathenish customs, and the shaving of the beard was one of them. Hence, the of the beard was one of them. Hence, the great Lawgiver condemned it most emphatically, and a careful study of history shows that the Hebrews generally discarded the use of the razor, and the primitive Christians generally, imitating their example, wore their beards long. Tertullian, an eminent Christian writer and father in the Church, says: "The practice of shaving the beard is a lie against our face, and an impious attempt to improve the works AMERICAN NOTES.

It has cost a youth in Charleston, Ill. \$3,000 to slander a young lady. The electric light is to illuminate the Columbus, Ohio, railway station. Two negroes have been admitted to full

The subscription price of the Casey (Iowa) Vindicator is ten bushels of corn per

An Oswego school teacher stuck a re-fractory little girl with pins until the blood Two of the crew on board a vessel in Newport Harbour last week had shipped for \$1 a menth each.

Three hundred persons of both sexes in Indianapolis have formed themselves into a Cremation society. Alexander Clifford Grant, aged thirteen years and weighing fifteen pounds, has just died at Frankfort, Ky. A Philadelphian and his wife have been

directed to their servant girl.

A man at Leominister, Mass., has been killed by inhaling the sulphur from friction matches to cure an attack of diphtheria.

A man at Leominister, Mass., has been killed by inhaling the sulphur from friction matches to cure an attack of diphtheria.

when she wanted news she manufactured

Miss Celeste Winans, of Baltimere, is the richest heiress in the United States. She has just inherited \$20,000,000 from her father

The Rev. Dr. McLeod, of Philadelphia, is preaching against the wearing of mourning, which, he says, is productive of need-They have splendid marksmen in Geor-

gia. At a match with glass balls, the man who took the prize hit one ball, thus ex-celling all his rivals. American fruit to the value of over \$3,-

000,000 was exported last year. In 1862 the entire proceeds of such exportations amounted to but \$269,000. Three sisters living in Dyer County,
Tenn., have given birth to sixty children.
Three other sisters at Somerset, Ky., have each brought forth twins thrice.

ously injured.

The Metropolitan Elevated Railroad Company in New York has made full arrangements to heat the cars of the line with steam from the engines this winter.

newspapers scattered over the floor are a terror to men of his craft, as they dare not handle them or walk over them.

as years has been proved successful, the cars being warmed equally and thoroughly. The cost of the apparatus for all the cars of the line was \$20,000. The Fourth Annual meeting of the

A brick fell from a scaffold on the head of a passing negro. "Fling dem peanut shells anoder way up dere, won't yer?" was the darkey's advice, as he scratched Bill Pearce kept a bar-room in Bedie, his wool.

weddings,

A little boy was shown the picture of the martyrs thrown to the lions. He startled his friends by shouting: "Ma! O Ma! Just look at that poor little lion way behind there. He won't get any."

Ed. F. Chase against her father's wishes. The latter at his death left all his property to Mary, to be given to her when she renounced Chase. A divorce was recently granted to Mary from her husband and her estate handed over to her. She has now there. He won't get any." "Och, thin, but it's yerself knows how

tion of tramps to the fact that one of the fraternity has struck a mine in Nevada which yields him an income of \$2,000 a day. Tramps, Nevada is your home.

The Bob-Tailed Bull of Ballard is a member of Congress, and The Bull of the Woods and the Red Fox of the Roaring Lily are two manufacturers of illicit whiskey, who have just been captured in Kentucky.

A Boston physician tore up the prescrip-tion that he had written for a boy with diphtheria because the mother had no money to pay for it, and within a few The cotton crop this year, with an average increase of two per cent., is a hundred and ninety-one pounds per acre. The crop of 1878 reaches 5,197,000 bales, allow-

Computation from all sources in the United States, shows the aggregate wheat crop of the past season was 425 million bushels. The yield of some territories was considerably more than double that of the previous crop.

A Birmingham (Conn.) farmer paid for his wife's coffin in kind, the truck including half a bushel of walnuts. While the lower rooms of the house, on the day of the funeral, were crowded with mourners, he walnuts to delive his melastrate.

Gen. J. E. Johnston has just laid the corner-stone of the Lee Memorial, at Lexington, Va. Twenty-two thousand dollars have been received for the Memorial, and only \$5,000 more are required to complete it.

Remarks the Chicago Inter-Ocean:—
"But the biggest thing," said Mr. Mulberry Sellers, "is hogs." It's altogether too big a thing just now, at the stock yards. One hundred thousand hogs, and It is estimated that during the last eight

years there has been an addition of at least 400,000 to the population of Texas, and that the assessed valuation of the property in the State has been increased during the same period \$250,000,000. same period \$250,000,000.

The New York Sun says Capt. Wetmore sues Admiral Porter for \$10,000 damages for alleged alienation of the former's wife, and bases his allegations upon original letters in Porter's handwriting that he (Wetmore) captured from his wife.

Eccles Robinson, an assistant of Murphy in his temperance revival in New York

Eccles Robinson, an assistant of Murphy in his temperance revival in New York, having been accused of breaking an engagement to hold forth in Adams, Mass., writes, "Whether I am aliar or not the wife managed him and his liquor business, writes, "Whether I am aliar or not the solution of the control of the

sort of thing, has gone out of fashion. The New York Herald says the New York and Philadelphia envelope manufac-turers request the Postmaster-General to adopt higher rates for stamped envelopes,

Samuel Claywell, aged 76, dropped dead in his house in Dansville on Monday last, of heart disease. His son, 54 years of age, who was chopping in the woods a mile or two away, was notified, and started for home but had go home, but had gone scarce a quarter of the way when he, too, fell dead.

Two negroes have been admitted to full a Salt Lake telegram says that Libby J. Young, the third wife of John W. Young, presented herself in a \$1,800 dress at a bail given by the Knights Templar in that city on Thanksgiving eve, but was refused admission on the ground that polygamous

women are improper persons.
Small Boy—"Say Mister, I'll give yer about three minutes; I want to commit suicide, Father and mother are quarrelin' and fighting about half their time on my account, and if I was out of the way guess ther'd be peace in our family."

The surgeon of the penitentiary at Richmond, Va., in his annual report states that of 350 convicts hired to the James River and Kanawaha Canal Co. last year, 32 died from bad treatment, exposure, and filthy accommodations. A committee has been appointed to investigate the matter. John ane Henry Barlow, of Monroe, fined \$25 each for tampering with letters Ind., were 81 years old, and twins. John was a widower and Henry Barlow, of Monroe, directed to their servant girl.

A Michigan man tried to commit suicide by holding his head in a hot oven. After getting properly baked he saw his foolish The father is a sword-swallower, the mother An old lady being asked to subscribe to is a fat woman, a daughter is a Circassian girl, one son is a contortionist, another—hideously deformed—is a wild man from hideously deformed—is a wild man from the curi-Borneo, and a third lectures on the curi

At Buffalo, last week, the Canadian counterfeiters John O'Neill and Wm. Gifford were taken before a United States Commissioner for examination. The case was committed to the Grand Jury of the next District Court, and bail fixed at \$1,000 each, in default of which they were committed to gaol.

Mrs. Graves fell down stairs into a cellar, in Killingsly, Conn., and was badly scalded by hot water that she was carrying in a pail. Her cries brought a neighbour, who iell through the cellar opening and broke three ribs. Then Mrs. Graves' little boy tumbled after the others and was seri ously injured.

rangements to heat the cars of the line with steam from the engines this winter. A Chicago burglar says that half a dozen The system has been proved successful, the

A little girl recently saw an old drunken A little girl recently saw an old grunken man lying on the door-step, the perspiration pouring off his face, and a crowd of children preparing to make fun of him. She took her little apron and wiped his

Bill Pearce kept a bar-room in Bedie, Nev., and was greatly annoyed by men who Miss Griswold, of Coleraine, Mass., and Mrs. Noyes, of Stonington, Conn., twin sisters, who were married on the same day in 1828, have just celebrated their golden placard, drank a full tumbler of whiskey. and coolly said, "Put it on the slate," Pearce drew a revolver and killed Halsey

"The poor ought to be satisfied with potato soup," preached a Chicago clergyman, whose pulpit, the Washington Post thinks, "would be better employed in stabling a mule."

Hearce drew a revolver and killed Halsey on the spot.

Miss Mary Maples, the daughter of a wealthy gentleman of New York, married Ed. F. Chase against her father's wishes.

"Och, thin, but it's yerself knows how to spake the words of God—shure we niver knew what sin was till ye came amongst us," said an enthusiastic Irishwoman to an eloquent revivalist in Chicago.

The New York Herald's Nashville special says the city is unable to meet its municipal indebtedness, which has reached six millions. There is some talk of putting the city in the hands of a receiver.

During a dense fog a Mississippi steamboat took landing. A traveller, anxious to a dead, came to the unperturbed manage of the wheel, and asked why they stopped "Two much fog; can't see the river. "But you can see the stars overhead yes," replied the urbane pilot, "but if the biler busts we aint going the way." The passenger went to bed. re-married Chase.

the city in the hands of a receiver.

The New York Graphic directs the attention of tramps to the fact that one of the fraternity has struck a mine in Nevada which yields him an income of \$2,000 a day. Tramps, Nevada is your home.

The Bob-Tailed Bull of Ballard is a member of the principal of Wooster street public school, New York. A fire broke out in the buildings, but 12,000 children were dismissed without knowledge of the fact under the plant that the companiors were coming the plea that the carpenters were coming to work. After all were in safety an alarm was given. The fire was extinguished.

The total imports at New York during November are a million less than for the corresponding month last year, and the total exports about a million less. The balance of trade for the whole country will be two hundred and fifty-seven million dollars in its favour for the eleven months

"Our Queen Rose has been plucked and county do not actually know the prices their fellow agriculturists are receiving on the other; and when the quotations for imperial quarters are given in the reports of Birmingham or Gloucester markets, they are read in Shropshire as if written in an unknown tongue. A bushel of wheat in Ludlow and heart which has endeared her to whom she has come in contact.'

> undertook to deliver his walnuts to the undertaker upstairs, but the bottom drop-ped out of the measure and some thousands of nuts rolled resoundingly down the stairs. Joseph Hodtham, before quitting his home in Hillside, near Pittsburg, for the evening, warned his three sisters, whom he left alone, to beware of tramps. On his return he pulled his hat over his face and turned up his coat collar, in order to frighten the girls. They took him for a tramp. One of them ordered him to go away, but he persisted on entering where away, but he persisted on entering, where-upon she fired on him with a gun, killing him instantly.

> The New York Board of Trade has adopted resolutions in favour of free canals, requesting the Assembly to elect a a Speaker who will appoint a commissioner on railroads, fully representing the public as well as railroad interests, myiting commercial bodies to co-operate to secure State Board of railway commissioners, asking the Attorney-General to use power of his office to prevent the railrought

writes, "Whether I am a liar or not, the cause remains as Christlike as ever." and he ordinarily amounted to very little in the household. A few days ago he go One of the papers notes as a sign of the times that an Atlanta tailor advertises to patch children's clothing when required.

The "sign" possibly is that the old-fashioned mother, who used to attend to that

his own house, and threatened to subdue with a gun any rebelliousness in Mrs. Foye. She fled with a woman friend. Foye followed, and killed the friend with a shot intended for his wife.

New discoveries of rich silver deposits continue in the vicinity of Leadville, Col. Among the latest and most remarkable is one made by Lieut. Governor Tabor, on Saturday of a sand carbonate vain from adopt higher rates for stamped envelopes, as the present prices give the Government a monopoly against which private persons cannot compete.

Mr. Birdsall went to Lake County, Dakota, to buy land, just as a political canvass was opened. He concluded that he would like to be Sheriff, and without hesitation, although an entire stranger to the people, announced himself as a candidate. He was elected, too,

A Louisiana pages separat that the concludence of the conclude