

CAREFUL ROTATION.

When Most Likely to be Neglected

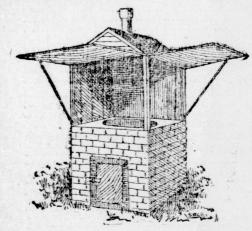
Sample System-Results. In many places where a farmer has accumulated more land than he can cultivate, or where he wishes to retire from active labor, it is necessary that he rent his land. Often the son does not follow the calling of the father, and although this is, in many ways, an undesirable state of affairs, it is here and must be met. A renter naturally wants to crop the land so as to get the most money from it without much regard to the effects on the soil. Especially is this true where changes of tenants occur every year or two. For example, in the wheat belt it usually pays a renter to raise wheat to the exclusion of most small grains, grasses and clovers. For this reason he will insist upon planting wheat again and again upon the same field, alternating occasionally with oats. The only possible way to prevent great damage being done in this way is for the landowner to plan out a rotation, divide his farm into fields and each year designate which shall be put in oats, corn, wheat, clover, meadows, pastures, etc. A neglect of this has caused many a farm on rich soil to become prematurely old -yielding smaller crops of poorer qualthan might be expected. specific understanding concerning the care and disposition of manure ought always to be considered. While every farmer must plan his rotation to suit his own conditions, the following may be suggestive to those living in the corn belt: Starting with corn land sow to oats, following with wheat. On wheat sow red clover or a mixture of grasses which can be left two years if desired. After one year or the same autumn if preferred, plowing under the crop which grew up in the wheat stubble will be very advantageous. Follow the clover with corn, never raising more than two crops in succession. Where meadows and pastures are wanted, provision must be made for them in the rotation. If roots, potatoes, etc., are a farm crop put them on the oats stubble. This crop puts the ground in excellent shape for wheat which should go on the land the third year. If wheat is not to be grown on the farm, simply drop it out of the list and let the remainder of the rotation stand. In the first case mentioned (without roots) the sucession will be as follows: Oats, 1 year; wheat, 1 year; clover or mixed grasses, 1 or 2-years; corn, 2 years, thus making a five or six year rotation. In the second case (where root crops are grown) treat as follows: Oats, 1 year; roots, 1 year; wheat, 1 year; clover or mixed grasses, 1 or 2 years; corn, 2 years, making a six or seven year rotation. Where the above or some similar plan, adapted to existing conditions with proper care and application of manure made on the land, are observed the native fertility of the soil will practically remain undiminished. The writer knows of a number of farms managed after this plan which, as far as can be determined, are, after 20 years of cultivation, almost as rich as when first tilled and this too without application of commercial fertilizer. As stated before, farms are most apt to deteriorate when rented, but many a land owner himself ought to look more carefully to a proper rotation. Draw a map of your farm as it now is and gradually arrange matters so that all the land can be regularly changed, putting into small grain and clover those fields which have been

Judd Farmer. THE FARM KETTLE.

cropped with corn the longest.-Orange

Some Words of Advice Concerning Location and Protection.

One of the necessities upon a farm is a set kettle for boiling food for hogs, hens and other stock. It is often impossible to locate this within one of the farm buildings, and so the necessity arises of building a brick foundation



FOUNDATION AND SHED FOR A FARM KETTLE.

for the kettle out of doors. Such a kettle should be protected from the weather, for, if it is not, the kettle is soon rusted, and the bricks become loosened by the entrance of water from the top. A good protection is shown in the illustration. The corner uprights are secured to the brickwork by iron straps, one side and the front of the wooden structure being kinged at the top, allowing free access to the kettle. This useful contrivance will be more convenient if the top of the structure in which the kettle is set be of one complete slab of stone, slate or soapstone, but this is not at all necessary .- American Agriculturist.

Rye as Green Manure.

Rve is not considered of any great valne as green manure for plowing under. It is worth but little more than straw would be, but it is better than nothing sometimes. The practice of green manuring is not so well adapted for poor soils as for those in better condition, as the effect on the land is in proportion to the value of the crop turned under. Thus, it is better for the preservation of fertility than for restoring it when the land has been exhausted. It gives nothing to the soil but what is taken from it, except whatever may be taken from the atmosphere.

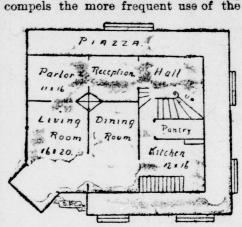
Why It Is Best.

Live stock is the best thing you can have upon the farm to keep it up. Do not keep the animals for this purpose only, but endeavor to make them valuable for themselves also. To do this, you must have the best stock possible. Then the land and the stock will work in harmony, each one selping to maintain the other.

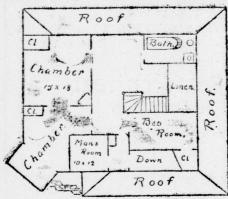
THE FARM HOUSE.

Plans of One Said to Be the Most Cosy and Comfortable in America, Do you wish to see the most cosy and comfortable farm house in America? asks Hollister Sage in Country Gentleman. Just come into the back door and let us go through it. We will enter the back side of the house, because it is a house not built for show, but for use. Plans of city houses are shown usually with the front door as the point

of entrance, but the business of farming



rear and side doors; hence we will start right. It will be easy to observe, however, as we go through this model residence that it is not devoid of modern comforts which are so frequenty wanting in country houses. The kitchen has a door to the south, which is entered from the piazza and extends nearly around the house. This shades the kitchen in summer and keeps it cool. The room is spacious, has sets of tubs, hot and cold water, pipes for conveying away waste water, and a large range connecting with the chimney in such a manner as to carry off both the smoke from the fire and steam from the cooking. The dining room is 12 by 18, and is entered from both kitchen and livingroom, which is 16 by 20, and corners on the southwest with a large and wellglazed bay-window, or addition for plants. The dining room may be entered from the piazza also. Back stairs extend from the kitchen to the hall in the second story. The pantry is conveniently near the kitchen, and is provided with closets for dishes, drawers for linen, spices, boxes for corn meal, graham flour, etc., as well as the customary place for hiding the barrel of wheat flour. Should the bell of the



front door ring, the summons is easily answered without going through the dining room, simply by passing from the kitchen, beneath the front stairs and through the reception room. This room is fitted with a settee and two or three chairs of substantial design, and contains a fire-place. The same chimney permits fire-places in the parlor adjoining and in the living-room and dining-hall.

A guest is shown upstairs from the parlor or reception room through the hall and front stairway. This stairway is broad and winding, and enters a roomy, well lighted hall on the second floor. From this hall the bath-room and three chambers are entered, as well as the man's room. Each of these rooms is supplied with an ample closet. The guest-chamber is placed at the northwest, not the pleasantest part of the house, which is reserved for the regular occupants who have the east and south for their enjoyment. This spare chamber has a fireplace in which a hospitable blaze may be started to cheer the chilled comer. If this house is not heated by a furnace it can be conveniently warmed by drums or registers from stoves on the lower floor. This little room over the front stairway and near the bath-room may be used for a clothes-press, receptacle for linen, or connected with the adjoining bath-room by means of a wide arch, and used for a dressing or sleeping-room, the bed-room proper being kept in neat order for an upstairs sitting-room if desired.

The house is nearly square, 32 by 44. The front is toward the north, and parlor, halls, reception-room, bath-room and guest-chamber are placed so that they protect the portion of the house most in use during cold weather. This leaves the rooms that are in daily use compactly connected, and makes them easier to warm. If desired, a door can be put in seperating the upper front hall from the back hall, when by leaving the back-stair door open the man's room can be heated from the kitchen. It is noticeable that the parlor is not as large as the living room. This is in accordance with good sense. A bright family must needs have sunny, well ventilated living quarters. A parlor is naturally shut up. In summer, when most guests are received, the hall, reception room, parlor and front doors may be thrown open, giving a roomy appearance to the entire front of the house. On occasions of social gatherings blazes may be started in all the fire-places, and the entire lower floor, except kitchen and pantry thrown open by means of boards, rolling or swinging doors, or the throwing back of portieres. It is a model farmer's home that is hard to excel.

A Bit of Dairy Help.

During the past summer we had a hard milker whose teats were so short that it was thumb and finger work. I thought one day of the answer of "Bobby Peel" to the manager of the cotton mills, when asked why his spindle was never stopped for repairs: "Chalk your bobbins." had no chalk, but I took a box of corn starch to the stables, and tried that. It proved a boon to me, as by rubbing a little on my hands I could grip without the teats slipping out of my hands. I also found it useful when milking any cow in the warm weather.—Mrs. J. H. Buckbee, in Farmers' Advocate.

To Prevent Hens Eating Eggs. To prevent hens eating their eggs, a trouble so general during the winter season, and so difficult to cure after the habit is once acquired, on the Experimental Farm at Brandon the use of dark nests has effectually put a stop to this bad habit. They are made about four feet long by one foot square, with a nest in each end and the opening, just large enough to admit a hen, in the centre—the box elevated two or three feet off the floor, ing the rest of my stay on earth this time."

SECRETS OF THE PALM

SOME OF THE INTERESTING REVE-LATIONS OF PALMISTRY.

A Couple of Curious Diagrams Giving an Insight into the Secrects of the Occult Art-Hands of Barnhardt and Ellen Terry-A Contrast.

The curious diagrams below are a faithful reproduction of the hands of Mme. Sarah Bernhardt and of Miss Ellen Terry, with their various lines accentuated for

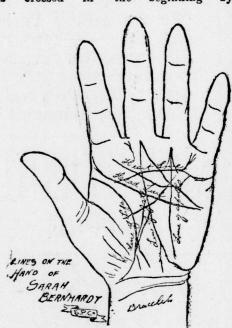


the purpose of giving the reader an insight into the secrets of palmistry. The cuts, as well as the interesting facts which follow, are furnished by an experienced palmistress of Turkish origin, who personally scrutinized the hands of the two great actresses, and read their separate characters and tastes in the mysterious writing of

their palms. In Ellen Terry's hand, the line of Life is perfect, going round the thumb without a break. From this the palmistress discovers that she has never known a day's illness, that she will live to a good old age, and die a peaceful death. The line of Fate runs down the center of the palm; the two small lines, one above the other, are the two husbands in the past. The third line, crossing the line of Fate at its upper extremity, is a third husband in the near present. (This being told to Miss Terry, she hastily ejaculated: "God forbid!" But it is inevitable, nevertheless.) The other lines, and the indications of character revealed by the shape of the fingers, are described in the diagram.

Sarah Barnhardt's hand is a startling contrast to that of the English actress. In it the thumb is supreme, and gives the key to the whole character. It indicates a powerful will, mastery over man and brute, a nature thoroughly impulsive, quick to like and dislike. A slight curve, or fork, at the Head line shows a love of all things dealing with occult science, a fondness for mystic symbols, a tendency to be ruled by presentiments, and great power of attracting or repelling people at

The Life line is long, full of capricious adventures, of early struggles for fame, seen round the base, where it is not quite so fully developed. It has a magnificent sweep at the top, where it towers over all difficulties, and points to the highest distinctions of a tragic end for the divine Sarah. The Fate line is crossed in the beginning by



every imaginable disappointment, both in art and the affections, but toward the middle and end is magnificent. The first finger, which is well developed, shows inspiration; in the second is discerned a taste for painting and sculpture; the third also reveals a thoroughly artistic temperament in the widest sense; the fourth finger shows her to be headstrong, powerful and ambitions.

It goes without saying that Once a Week. in publishing these so-called "revelations" of palmistry, does not commit itself to any indersement of the idea that revelations of character or future can be thus made. Nor does it commit itself to astrological predictions, such as those of our erudite correspondent, Edgar Apthorp, made in our issue of January 6.

The Jewish Sabbath.

There is a movement on foot in England. as elsewhere, to change the Jewish Sabbath from the seventh to the first day in the week. An article in the Pall Mall Gazette, written by a Jew, sets forth the fact that "no man can calmly rest and appreciate the sweetness of ease on a day when he and he alone is resting, and all around him is heard the busy hum of commerce, and when his mind is torn by the distracting fact that while his shutters are up his neighbors' are down."

The writer denounces the "insufferable hypocrisy" which says one thing and does another; which preaches but does not practice. Even though the Jewish Sabbath as now observed has come down from time immemorial, it is fast losing its hold upon the Jewish people. Even now there is a disintegrating force at work among them. If straws tell which way the wind blows this new movement promises to make its influence felt.

A Unique Bank. The Emperor Duc-Tu, of Cochin China, protects his treasures by placing them in hollowed trunks of trees, which float about in a huge tank situated in the center of

the royal palace. There are twenty croco-

diles in the tank as well. When he wishes

to draw upon his bank, all of the reptiles are killed; but this cannot take place without the joint consent of the emperor and his minister of finance. Mme. Blavatsky's Ring. Mrs. Annie Besant wears a bloodstone ring sent to her by Mme. Blavatsky. In speaking of it she said: "It is very magnetic. After it was given to Mme. Blavatsky she wore it during the remainder of her last incarnation. I shall wear it dur-

BELLEFONTAINE BRIDGE. The Great Structure That Was Opened

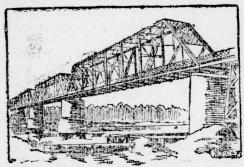
The Bellefontaine Bridge is completed and is ready for traffic. The false work has been removed and only the piling remains. Perhaps a few bolts and rivets are yet to be put in, but that does not affect the stability of the great engineering work. and the dike around the first of the river piers on the St. Charles county side is not yet complete. These are minor details,

February 1, 1894,

and so far as the bridge is concerned it is open for traffic. The bridge is a beauty and stands in its majesty, strong and grand, with its long viaduct, the still longer trestle and miles of high embankment on the Missouri Point, while on the south it strikes the Belletontaine Bluffs fairly in the face, yet only adds to the natural beauty of the scene. From its height, as from the bluffs which it touches, may be seen a far-reaching vista of beautiful scenery extending from the Bellefontaine to the Alton Bluffs,

spreading over the bottom lands of the

"Point" and giving a view of both the Mississippi and Missouri rivers for miles up and down the streams. The Bellefontaine Bridge is a high, double-track structure, consisting of four main spans over the river proper, each span being 440 feet long and is connected with a steel viaduct 850 feet in length, to which is added 2,900 feet of high wooden trestle connecting with the embankment. This latter will in time be filled in. The piers are of Bedford limestone resting upon pneumatic caissons sunk in bedrock, the greatest depth attained being 101.87 feet below low water mark. The viaduct rests on 27 pairs of brick piers made of vitrified paving brick and resting on stone foundations with a substrata of concrete. Twentyeight spans complete the viaduct, each being 30 feet and 4 inches long. This last work was done by the Pencoyd Iron Company of Pencoyd, Pa., while the material for the bridge proper was furnished by the New Jersey Iron and Steel Company of Trenton, N. J., and erected by William Baird of Pittsburg, Pa. The bridge is ex-



ceptionally strong and calculated for fast

BELLEFONTAINE BRIDGE. running. It was designed by George S. Morison of Chicago and built under his supervision, with R. L. Crosby as resident engineer; the latter also having charge of the entire work in St. Louis, the building of new depots and all the improvements now under way by the Burlington people

Lord Macaulay as a Little Boy.

Lord Macaulay, whose history of England you will some time read, if you have not already read portions of it, and whose essays are interesting to everybody, was a very bright child. When he was still very young, he showed that he had as fine a collection of words in his vocabulary as a grown man. One day when little Tom Macaulay, whose full name was Thomas Babbington Macaulay, had been specially prompt in his lessons, his father took him to an afternoon reception. Tom was only five years old, but he was delighted to go. and looked forward with joy to the good things he would have to eat. No sooner had he entered the door, however, than a waiter stumbled over him and upset a plate full of hot soup upon the poor little fellow's legs. Smarting with pain though he was, the little hero would not mar the pleasure of the occasion by crying. His kind-hearted hostess gave him some candies and sweet cakes, and held him on her

lap. "Are you better, Tom?" she asked, a few minutes later. "I thank you, madam; the agony is abated," replied the little five year old,

with a bow. And that was the way the great Macaulay talked when he was still in knicker-

bockers. The Decline of Molasses.

Old-fashioned molasses, the genuine, dark brown, saccharine, delicious adjunct of the corn pone and the slapjack, has become a scarce article of late years, and is likely to become scarcer still. In fact, the old-time molasses is scarcely produced nowadays, for, as sugar-making machinery is improved and the production of sugar increased, the quantity and quality of molasses decreases. Many planters can remember the day when, to separate the sugar from the molasses, the boiled cane juice was placed in barrels bored full of holes; the molasses drained out and the sugar remained in the barrel. The centrifugal machinery now in use separates the sugar so thoroughly that but little molasses, and that of poor quality, is left.

How a Plant Travels.

Less than 125 years ago the little plant known to the botanists as Lepach'y columnaris was only known to inhabit a small section of country in the very southern portion of Louisiana. Some time later it was reported as occurring sparingly along the Canadian river, and later still on the Arkansas. Since that time it has slowly spread north, west and east, even to the very source of the Missouri, over into the British possessions, and is now said to be creeping along the Saskatchewan towards Hudson bay. How a plant which originated in a warm climate could accustom itself to such changes is another of nature's mysteries.

Long Live the Women.

The well-known fact that women live longer than men is illustrated as follows by an English journal: The excess of females of all ages over males of all ages in England and Wales is only about 31 per cent (in round figures, 15,000,000 minus 50,000 to 14,000,000 plus 50,000). But when we begin to compare women over 60 with men over 60 the female majority becomes much greater, and when we pass 85 the old men are nowhere. The female nonogenarians nearly double the male: there are 854 women over 95 to only 354 men, and 104 gammers to 42 gaffers who own to a century.

Odd Theory of Petroleum.

The rather interesting theory is held by a Russian geologist that petroleum is produced by water which penetrates the earth's crust and comes in contact with glowing carbides of metals, especially of iron. The water is decomposed into its constituent gases, the oxygen uniting with the iron, while the hydrogen takes up the carbon and ascends to a higher region where part of it is condensed into mineral oil, and part remains as natural gas to escape wherever and whenever it can find an outlet .-Mechanical News.

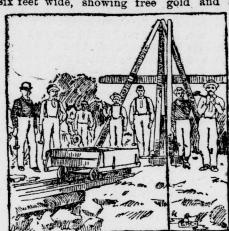
ONTARIO GOLD MINES.

SOME VERY INTERESTING STATISTICS REGARDING THEM.

Details of the Deposits-The Amount of Capital Now Invested in Working the Mines-The Machinery, Plant and Staffs Required to Get the Gold Out.

Within the last year remarkable developments have been made in some of the

gold-bearing ores of Ontario. The Ophir mine, situated about sixteen miles north of Bruce mines, in the district of Algoma, is being worked by the Ophir Mining Company of Chicago, with an authorized capital of three million dollars. The quartz vein is from thirty to fortysix feet wide, showing free gold and a



LEDYARD GOLD MINES-SHAFT NO. I. small percentage of sulphurets, copper, iron and galena. It is for the most part free milling, and can be mixed and milled

for \$2.50 per ton. The vein outcrops for a length of four hundred and fifty feet, and has been developed by several cuts showing a quarry of gold-bearing quartz. An incline shaft, eighty feet deep, sunk on the vein shows extremely rich quartz all the way down. The amount of quartz in sight is estimated at two hundred thousand tons. Mill tests made by the Houghton School of Mines, Michigan, produced over \$60 per ton, and samples from different parts of the vein have assayed from \$57 up to \$692 gold per ton.

property, with a capacity of crushing from forty to fifty tons per day, and the proceeds of this should pay a handsome dividend on the full capital of the company. But rich gold veins have recently been found much nearer home; in the township of Belmont, about 100 miles east of Toronto, several important discoveries of

A 20 stamp mill is now at work on the

gold-bearing quartz has been made. The Crawford mine, in which A. W. Carscallen, M.P., is interested, has been worked for some months, yielding \$10 per ton by the Crawford mill process. A shaft has been sunk to the depth of 120 feet on what is known as the main vein, running east and west. Prof. Chapman, of the School of Science and University College, Toronto. pronounces this, as well as two other veins, to be true fissure veins continuous across the property. These veins consist of a gauge of white quartz carrying a considerable amount of iron pyrites, some parts being much decomposed. These decomposed sulphurets are rich in gold, an essay by Prof. Chapman showing \$94 gold

per ton. A large deposit of magnetic iron, known as the Belmont iron mine, occurs to the south of the Crawford property, on Lot 19 in 1st Concession of Belmont. The ore here is of first-class Bessemer quality, suited to make the finest steel, being rich in iron and very free from impurities. The Belmont Bessemer Ore Company of New York, have leased this mine on royalty from T. D. Ledyard, of Toronio, and have built a railway to connect with the Central Ontario Railway, ten miles distant.

On the east half of this same Lot 19 several gold veins have lately been discovered, and are being developed under the name of the Ledyard gold mines. A shaft has been sunk to the depth of fortyfive feet on an east and west vein, which is from four to six feet wide and very clearly defined between walls of talcose schist. This vein is found outcropping in several places, and has been traced for six hundred feet west of the shaft. A good deal of honeycomb quartz occurs here, carrying free gold and iron pyrites. These sulphurets are very rich, having assayed at different depths \$117, \$193, \$195, \$198, \$318, \$338, and \$922 in gold to the ton.

About two hundred yards west of the shaft is a knoll intersected with quartz veins, also containing visible gold and rich sulphurets, samples of which have assayed \$210 gold per ton.

Besides these are several other goldbearing veins which have as yet been only

slightly develoyed, These mines are well situated and easily accessable, being within ten miles both of the Canadian Pacific Railway and the Central Ontario Railway, and are situated in a well-settled country where labor and supplies are cheap and where even lowgrade ores would pay handsomely.

Stopped a Leak with Sawdust.

To stop the leakage of a boat by the use of sawdust appears at the first suggestion ridiculous. It is a common method, however, employed by backwoodsmen of the Adirondack region.

On day last summer a party having considerable baggage discovered upon loading it into a scow at the end of one of the regular "carries" that the boat leaked badly. To delay for repairs would occasion considerable annoyance and without repairs to proceed seemed impossible.

At this juncture one of the guides said: -"I think I can fix it. Just unload the boat again." This was done, and then the guide brought from a sawmill near the spot a quantity of sawdust. This he sprinkled thickly upon the water on either side of the boat.

"Now," continued he, "load up again." This was done, and when the weight again sank the boat the influx of water through the sides and bottom sucked in the sawdust, which finally accumulated in the crevices, swelled under the action of the water, and actually stopped the leakage.

Preparing for the Pig-tail.

When one sees a lad fn China with his head shaved one may be sure that, however boylike he may look, he has put aside all the things of youth and become a man. In fact, this event is celebrated in the household with great solemnity, for entrance upon manhood is a grave matter for the boys of the flowery land. Invitations are sent to the friends and relatives to a family gathering, and each is expected to bring a present-in money for choice-for the hero of the hour. The boy himself is dressed in fine silk robes and perfumed with spices. When everyone has arrived, the father makes a speech in honor of the occasion, the presents are given and then a Chinese priest shaves the boy's head to prepare the way for the pig-tail, which marks the man of the Celestial empire.

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