

## AGRICULTURAL HINTS

### REFORM BADLY NEEDED.

Indiana's Governor Discusses the Enforcement of Road Laws.

Good roads are essential to our highest development socially, intellectually and financially. Many counties in our state, actuated by a commendable spirit of progress, are rapidly improving the highways. In the near future some of our counties will have a complete system of free gravel roads. The main thoroughfares in these counties, having been graveled and received by the county commissioners, are kept in repair at the county's expense. The supervisor, being thus relieved from care of the main thoroughfares, is enabled to concentrate the labor and tax at his disposal upon the lateral roads; hence all will soon be improved. The economy in road improvement will soon



GOV. MOUNT, OF INDIANA.

be demonstrated by the fact that the counties having the best roads will maintain them at less cost than the mud roads, with all their inconveniences, are maintained in their wretched condition. The work required by law of able-bodied men, together with the road tax, gives to the road supervisors of our state the expenditure, in money and labor, of a vast sum. Much of this is wasted by reason of incompetent management. The railroad tax for highway improvement, in some road districts of our state, is so manipulated by the road supervisor that the money inures more to his benefit than the improvement of the thoroughfares. In some instances in our state, a brokerage business is carried on, and money is made out of trafficking in this road tax.

While some of our road laws need reforming, the manner of their execution needs revolution. When competence is made the test in selecting supervisors, and tax-payers see that they discharge their duties, we will find some improvement in our highways without additional tax.—From the Inaugural Address of Gov. Mount, of Indiana.

### ORCHARD PRUNING.

Don't Go at It as Though You Were Cutting Cord Wood.

Don't get a crazy fit and go into your orchard with an ax and cut and slash the branches off and think you are pruning, says H. E. Van Deman. Every stroke with a tool on a tree is a stroke at its life, unless very wisely made. There need be no elaborate or stylish method of pruning adopted. Common sense is a good guide, but if a person judges his knowledge of pruning by the amount of brush he makes, he is sadly lacking in common sense, and should never be allowed to prune.

All dead or sick branches should come off, all that cross or chafe each other should be relieved by the removal of the one which can best be spared. Do not cut great open spaces in the tree tops and so let in too much hot sunshine and injure the limbs that have been used to being shaded. It is dangerous to prune cherry trees at all; they are rarely benefited by so doing, but are often injured. Train old orchard trees to have low, broad heads, which will shade the trunks, lessen the purchase of the winds, and make more convenient the gathering of the fruit.

### DAIRY SUGGESTIONS.

All reasonable care should be taken to prevent the cows from drinking stagnant water.

The traveling dairy schools of Canada have done splendid work in raising the grade of butter in that country.

Brine salting of butter is wasteful and inaccurate. The most satisfactory way is to salt on the butter worker, weighing both salt and butter.

The power to consume, digest and assimilate nutritious food is what is desired of the cow at maturity; and to receive this the calf must be well fed.

An old lesson, not yet well learned, is to have good ventilation in the milk room, clean floors and walls, and to harbor nothing which will produce bad odors.

The best product from dairying comes from the manufacture of gilt-edged butter for private customers. Make this your aim, and then do not be too indifferent to hunt for the customers.

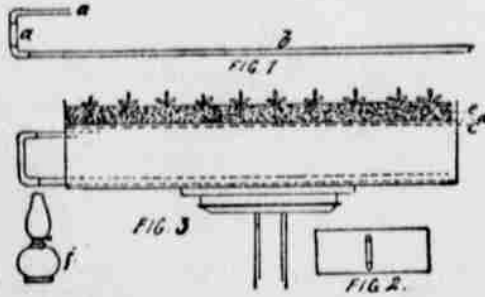
No other matter about the farm will so poorly stand being made a thing of secondary interest as the dairy. A very little neglect will go a long way toward destroying the profit. Neglect is sure to attend that which is not of a first consideration.—Rural World.

## PROPAGATING TANK.

One Can Be Made at Home at a Really Trifling Expense.

Most farmers, particularly those raising early vegetables, sometimes wish they had a good propagating tank for starting cuttings. Many an odd dollar can be picked up in the spring with a few hundred flowering plants or early tomato and lettuce plants. A little sand table, with a gentle heat, would be very handy in the house. A hotbed may be inconvenient or troublesome and a small greenhouse out of the question. Such a propagating tank suitable for a window can be easily made by any tin-smith or gas fitter. Have the gas man join up with "elbows" three pieces of common inch gas pipe; two pieces, a, b, three inches long and one piece, c, five feet long. Joined up, they would look like Fig. 1. Have a zinc box made five feet long, two feet wide and six inches deep and made water-tight. At one end, in the middle, cut two holes, so that the piece of gas pipe can be laid in the box, resting on the bottom and projecting two inches beyond the box. Fig. 2 shows how the pipe is placed on the box. The openings where the pipe enters the box are to be soldered up water-tight. The box is then placed on a table with the pipe end of the box projecting beyond the table as seen in Fig. 3. The box is then filled with water, covering the top of the pipe as shown by the dotted line, c. Place in the water pieces of brick and on the brick lay pieces of roofing slate to form a loose slate top two inches from the top of the box and half an inch above the top of the water, as shown at d. Leave a small hole in one corner of the slate to supply water to the tanks. Fill the whole top of the box over the slate with sand, e. In this sand cuttings can be raised, as the tank, when in operation, will be full of warm water, giving a gentle bottom heat for the cuttings.

For heat use a small kerosene lamp, placed directly under that part of the pipe which projects beyond the box. The engraving shows the position of the lamp on the table and the lamp. The heat of the lamp will warm the wa-



PROPAGATING TANK.

1. Heating Pipe; 2. End View; 3. Tank Complete.

ter in the pipe and set up a constant circulation through the whole box under the slate. All the water in the tank will in turn pass through the pipe and while the lamp burns the water circulation will keep in motion. Even after the lamp is put out the water will remain warm for several hours. On snowy days, in a warm room, the lamp can be put out during the day and started up at night, and on cloudy, cold days. Such a propagating tank would hold about 500 ordinary plant cuttings and should give their crop between January 1 and May 1. A few days' trial would soon show how much the lamp would have to be used to maintain a regular heat in the sand.—Charles Barnard, in Orange Judd Farmer.

### ABOUT BITTER MILK.

Cleanliness Will Remove Most of the Causes Which Produce It.

Bitter milk has three causes—something eaten by the cow, advanced period of gestation and pure cussedness. It is not a pleasant thing to contemplate, but there is a great deal of horse manure eaten by cows. The best way after regulating the ration is to fence off a part of the yard, and put the horse manure in it, or else fence off the cows. I have read that rag weed would cause bitter milk, but as my cows would never eat it I cannot say anything from my own experience on that score.

For the second cause there is no cure that I am aware of, and the third is almost as hard to prevent. Briefly stated in its natural state milk after a certain time gets sour because of the action of a certain kind of bacteria whose business it is to make milk sour. But if these bacteria are prevented from getting in their work owing to cold weather (they work only in warm weather or in a warm temperature) then nature, which abhors even a vacuum of bacteria, immediately sets another gang of bacteria to work whose job it is to make milk bitter. And if politicians attended to their job as well as bitter bacteria to theirs we would be much better off, for it takes much work to persuade them to quit work. The remedy is first to wash with boiling water every vessel with which the milk or cream comes in contact, or, better still, put the vessels in boiling water on the stove for 10 or 15 minutes. This kills off all the bitter bacteria. Then to get the sour bacteria to work for a few days keep all the milk at a temperature of 70 degrees and put a little sour buttermilk in the cream. This will give the sour bacteria a chance to get firmly established. Then do not let the milk get too cold or it will all have to be done over again. As two sets of bacteria cannot get along at the same time the bitter bacteria give up the job.—National Stockman.

Poultry manure mixed with dry earth is a good top dressing for the lawn.

## THE FARMING WORLD.

### DAIRY COW RATION.

Some Valuable Hints Furnished by Prof. W. A. Henry.

A correspondent of Breeder's Gazette asks some one to formulate a ration for his dairy cow. He says: For roughness I have enough shredded corn-fodder to give one feed a day and alfalfa and sorghum hay for the other feed. For grain, old-process oil meal at \$20 per ton, wheat bran at seven dollars and corn at 13 cents per bushel. I prefer to feed corn with the husks on, depending on hogs to clean up the waste, as I allow them to work over the manure before hauling to the field. I am making butter at 20 cents per pound and want the most economical production. To which Prof. W. A. Henry replies as follows:

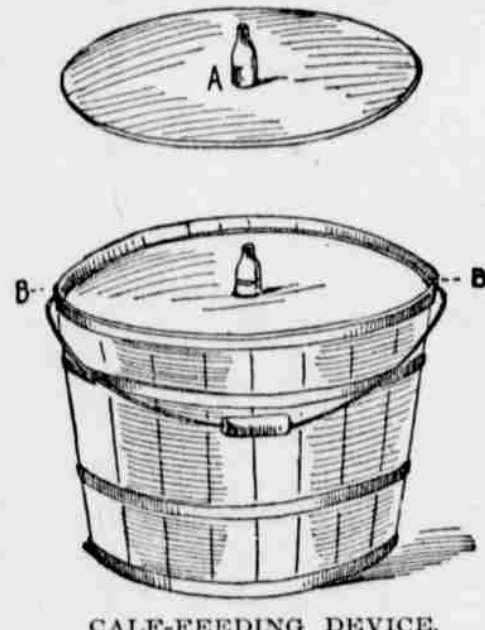
Our correspondent can present a most excellent bill of fare to his cows, and with the feeds at the prices named can still make a good living in selling butter at 20 cents per pound, provided everything is well managed and he has good cows. Do not think of using oil meal at the price named, for it is much the dearest food on the list. The alfalfa hay furnishes a good deal of protein, making the necessity for bran not quite so great as if no alfalfa were fed; on the other hand, bran is cheap at seven dollars per ton. The eastern farmer would consider it almost a gift at such figures, and when corn is 13 cents or less per bushel, or less than five dollars per ton, all comparisons are of little avail. Give the cows all they will eat of the roughage just as proposed; then feed the equal of ten pounds of shell corn per thousand pounds of animal, and give four pounds of wheat bran additional. On this ration you should get about a pound of butter per cow daily with part of the herd fresh in spring and fresh part in fall. Be very careful to make the best use of the skim milk, for no small part of the real profit comes from this. Aim to feed not over three pounds of skim-milk to one pound of corn to the pig. More milk than this means a waste of a most valuable by-product.

With corn at 13 cents per bushel and pork at three cents per pound, the skim-milk should be worth 25 cents per 100 pounds. In its effect on young pigs in building bone and muscle it is most valuable. It is a necessity in the west, where bone and muscle-building feeds are of the highest importance, because corn is apt to be overfed.

### FEEDING THE CALVES.

A Cheap and Handy Device Designed for This Purpose.

It is claimed that young calves when fed on skim-milk in the usual way, from a bucket or a trough, gulp it down too rapidly for best results. A cheap and handy device is made by using a piece of light wood board, cut round, so as to fit loosely inside of a common pail.



CALF-FEEDING DEVICE.

Insert in the center of this float a spile (A) of size and shape of the cow's teat. Cover this spile (or teat) with some suitable material—a piece of old gum boot top will answer. This may be tacked securely to the float. The hole in the spile should be small, so that the flow of milk through it when in use shall correspond with the natural flow from the cow's udder. As the milk in the pail is used, the float follows downward, enabling the calf to get all the milk in the pail. To prevent the calf from throwing the float out of the pail two cleats are tacked on inside of same, at B B. These cleats are so arranged that the float may be readily removed by the operator.—G. W. Waters, in Ohio Farmer.

### Exercise for Dairy Cows.

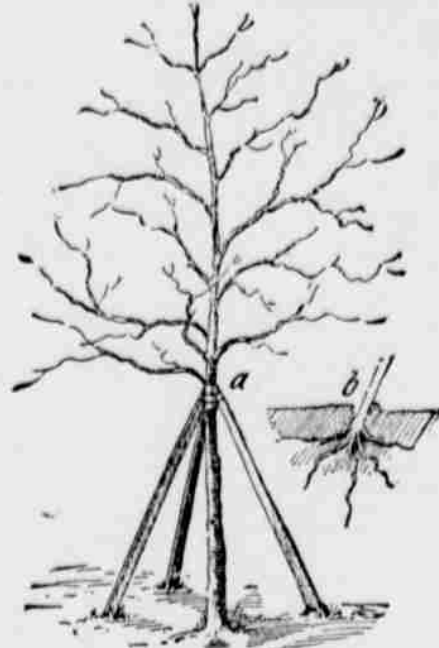
The moderate exercise of cows has a favorable influence on the quantity and quality of milk. Heavy and fatiguing exercise or work diminishes the quantity of milk, but the effect on its quality is not so clear or uniform. This is the conclusion arrived at by Henkel in Germany, after many experiments and an exhaustive study of the literature of the subject. It confirms the judgment of our best American dairymen. The health of the cow and best results in milk and butter require moderate exercise outdoors during winter, instead of being kept constantly tied up in close barns, as is the practice with many dairymen.—Orange Judd Farmer.

In the winter when the ground is frozen hard is the best time to transplant large trees.

## BRACING FRUIT TREES.

An Explanation of the Tripod Method and Its Advantages.

In the accompanying sketch, which represents a newly planted tree, ten feet in height, there is shown one of the most effective braces that can be provided for a subject of this size. It consists of three light oak or other stakes, about five feet in length, driven into the soil, tripod-like, each two feet away from the tree, and with the right slant to just meet the trunk with the end, as at a in the engraving. Here a piece of matting is wound around the



HOW TO STAKE A TREE.

trunk to protect it from the ends of the several stakes, which are then secured to the trunk, and to one another by means of tarred cord or by wire. Such a tree is held perfectly secure. Surely it is giving the subject the rational care which is its due in the crisis of transplanting.

To make this lesson of the tree's security the more impressive, I show a side sketch at b which indicates the bad predicament into which newly planted trees not rarely get. When I say that I have seen unstaked fall planted trees literally blown from the ground before spring, this present sketch need not be looked upon as fanciful. It represents, in fact, quite a common state. Not only does the injury come from a general loosening up of the roots and their displacement, but an opening is made around the trunk which will fill with water, which may cause damage in one of two ways; first, water that follows readily down the root hastens the softening process of the soil, and further aids the loosening of the roots; second, to have water stand next to the bark, which in case of a sudden freeze up is turned to ice, may work serious harm to the bark throughout.

The advantages of this tripod method of staking trees over the single stake plan are several; first, the tree is held more firmly in place than is possible to be done with the use of but one stake; secondly, these stakes are not driven into fresh earth, but into that just outside of the hole that was excavated and filled in during the planting process.

This method of staking is suited to trees in almost any situation. In the street, for instance, by having two of the stakes enter the soil at the curb, and these spread a little farther apart than the distance to the other stake, the tree may be brought within a foot and a half of the curb (and it should never be closer). It is at once apparent how easily the tripod may be made to serve as a tree-guard against horses and dogs by running wire, held in place by staples, horizontally from stake to stake around the tree. The first wire may be a foot above the ground to admit of the lawn mower passing underneath; above this they might be three or four inches apart.

The plan here illustrated is best suited to trees ranging from six to twelve feet in height. In the case of transplanting larger trees (except in the street) the same plan may be modified by substituting the use of wire for the stakes. In that event the stays may be attached higher up in the tree than when stakes are used; even among the branches, say at two-thirds the height of the tree, provision being of course made for attaching the wires both in the tree and at the ground. In the tree two iron half-bands fitted with L ends and short bolts should be made to tightly encircle the trunk at the proper height. To this completed band the wire stays are attached, extending to the ground. Here they are made fast to three stout stakes driven into the ground at equal distance apart and some feet away from the tree. Ordinary fence wire will answer very well for the purpose. If the trees are quite large the wire may be doubled.

Some one may say that the stakes, wires and the work involve expense. This is true, but the outlay is a mere trifle as compared to the cost and value of the tree.—Elias A. Long, in American Gardening.

### Use Only Fresh Mixtures.

The time for spraying fruit trees is rapidly approaching. The efficacy of spraying as a remedy for fungous diseases and insects, is now generally recognized. Prof. Lodeman, who has been experimenting with old and new Bordeaux mixtures, says that only fresh made is safe for use, because it is difficult to keep the old mixture agitated sufficiently to accomplish its work properly in the case of fungous diseases.

## THE MAKING OF CONSOMME.

Delicious and Nourishing Clear Soups of Various Kinds.

This is one of the most, if not the most, elegant of the clear soups. Purcell use one shin of beef and one knuckle of veal; wipe both with a damp cloth. Cut the meat from the bones. Put the kettle over a hot fire and sprinkle over the bottom one teaspoonful of sugar; brown, and allow it to smoke for a moment, then add quickly a quarter of a cupful of chopped onion and the same quantity of water. Cook five minutes, then place the bones first in the kettle, then the meat, cover with five quarts of cold water and bring to a boil. Skim carefully and place the kettle over a moderate fire to simmer for four hours. At the end of the third hour add the flavoring as in the directions given for stock, and finish in the same way.

By adding to or taking from the receipts given a skilled cook may make great varieties of soups. There is, however, a short list of exceptional soups, each with a distinctive, individual character, which should be alluded to in this article. There are the bisque soups, and the soups maigre, which frequently contain much more nourishment than those made from meat, in consequence of which they are especially adapted for the noonday luncheon or for fast days. There are also the fish broths, which may form the foundation for all bisques and fish sauces.

These fish soups are made very much as consomme; by browning a little sugar, then putting in the fish and vegetables. By careful cooking the most of the nourishment is drawn from the fish into the broth. Another group of soups is the soup made from vegetables alone, after the fashion of the Turks. Put into the soup kettle about two tablespoonfuls of olive oil. After preparing and cutting into fine pieces a great variety of vegetables they are carefully fried brown in the olive oil, then covered with cold water and cooked continually for several hours. The broth is then strained and seasoned. These soups are really delicious, and form admirable dinner soups, as they are perfectly clear. Rice or barley may be added, which would give them a greater food value. After these come the various cream soups, which may be made entirely without meats, and are still more nutritious than the first receipts given.—Ladies' Home Journal.

### HE DIDN'T "SKEER."

One Thing Could He Truthfully Said of Him.

When the bucolic gentleman with goatsque whiskers and a hat of the accordion pattern stepped briskly into the elevator and announced a desire just to make a couple of trips while he was taking a "noonin'"; the youthful conductor of the lift was tickled to the soles of his feet. The people of the building were out for lunch and he had a clear field for sport.

"Are you all ready?" shouted the boy, as though the slightest neglect in being ready meant serious disaster.

"Let 'er go, sonny," responded the man from the country, while he chewed slippery elm bark with the same industry that a rabbit chews cabbage.

That "sonny" touched Young America in a sensitive spot and they went to the roof with a whiff that sent dust and papers whirling through the corridors. The boy turned to see his passenger with one leg hanging loosely over the other, his jaws working without a change in time and his appearance as calm as though he were sitting on a stake-and-rider fence watching things grow.

Down they went with a bang and the old man only asked if there wasn't some way in which "th' mersheen could be made to hump along a leetle faster." Then the desperate lad pulled the throttle wide open and before he could check the terrific speed the upper end of the course was reached, the cables snapped, the car dropped like a bullet to the air cushions below, bounded half a story and finally settled, with the boy screaming from fright.

"Can't we make another trip or two?" asked the unmoved granger. "Thar's suthin' stirrin' in that kind er motion. And, sonny, you kin jest tell your people thar was one farmer in here that th' newspapers can't make no fun of. He don't skeer worth a durn."—Detroit Free Press.

### A Favorite Color.

Petunia continues to be a very popular color, the pinkish rather than the purple tones of the flower being favored. A cloth gown of this color has the skirt ornamented with rows of stitching in sadder's silk of the same shade, the front of the bodice formed of plaited corded silk, dotted with gold. There is a collar and pointed girdle of dark green velvet, and the slashed puffings on the close Queen Anne sleeves are of the velvet with glimpses of the dotted silk showing between. A stylish skating costume of petunia cloth has a chamois-lined bolero jacket of the cloth with high collar and edgings of black Persian lamb fur. The sleeves and skirt border are likewise of the fur.—St. Louis Republic.

### Custard Filling.

Here is a good custard filling used in cakes: Put a half pint of milk in a double boiler; stir into it two tablespoonfuls of moistened cornstarch. Stir constantly until thick and smooth; then add the yolks of two eggs and quarter cup of sugar. Take from the fire, add the flavoring. When cold it is ready to use.—Albany Journal.