

## AGRICULTURAL HINTS

### INTERESTING FACTS.

#### Maintaining Good Roads Costs Less Than Keeping Up Poor Ones.

In one of his famous speeches on good roads and the improvement of city streets, Col. Albert A. Pope, president of the Pope Manufacturing company, of Hartford, Conn., stated the following interesting facts:

"As a result of elaborate experiment, made to ascertain the relative resistance or friction of different pavements, it has been established that while 200 pounds' force is required to draw one ton over an ordinary dirt road, 100 pounds will do the same work on macadam, 33 pounds on best granite blocks and 15 pounds on asphalt. As a particular instance of this, it is estimated that in the city of New York there



A ROAD LIKE THIS IS A COSTLY LUXURY.

are 12,000 trucks, carrying an average load of 1 1/2 tons, for 12 miles on each of 300 days in the year at an average daily cost of \$4 for each truck. The result is about 65,000,000 tons transported one mile in every year at a total cost of \$14,000,000, or at the rate of over 23 cents per ton-mile. The excessive nature of this charge is seen when it is remembered that the same goods are now carried by rail at six-tenths of one cent per mile. On asphalt road pavements the same horses could transport a load three times as heavy as on the present rough stone pavements. If a saving in transportation is proportional to the load carried, it would amount to nearly \$10,000,000 per annum. It is safe to say that at least one-half this amount could be saved by substituting smooth pavements for those now in use in New York; and in any city where the pavements are on an average poorer and rougher than those in New York, it is clear that the proportionate saving by the introduction of the best street surfaces will be even greater. Good roads are comparatively cheaper to maintain and to use than poor ones."

### WORK FOR CONVICTS.

#### Road Building Would Prevent Competition with Free Labor.

In a good many of the states the inmates of penitentiaries are already employed, to a greater or less extent, in improving the highways, and everywhere the verdict is that good roads have been secured where they would not have been built for a century to come if the taxpayers had been obliged to initiate the work and bear the whole cost of it. Curiously enough, this most excellent scheme has made most progress in the communities where it is connected with a prison system that is strongly and justly reprehended. In those states of the south where they have what is known as the "chain gang system," the idea of putting the prisoners at work on the highways suggested itself naturally. The convicts were kept in open-air camps with guards furnished by the state, and nothing was more natural than to engage them in road repair in the vicinity.

Where convicts are housed in great buildings of stone and iron, and where they have been put to labor at mechanical employment, the transition is not so simple and natural. Still it can be made to a certain extent, and that without destroying or impeding the work of prison reform. In South Carolina there are now said to be about 600 convicts at work on the highways, and the value of what they have done has produced such an effect upon the people of the rural sections of that particularly progressive state that county commissioners everywhere are stirring up the subject of systematic road construction. Tennessee has a law that permits it, and New York has authorized a similar experiment. It seems to us that the New York law might very profitably be adopted in Minnesota at the next session of the legislature. This contemplates the employment of only a portion of the state's convicts, to be selected by the prison warden, probably with the assistance and approval of the state board of charities and corrections, who should be put to work on road improvement under the direction of experts in road construction engaged by the state.

It is unquestionably true that the work of reforming the criminal, of which we must never lose sight by exalting the commercial motive, is entirely consistent with utilizing convict labor on the highways. There is a very large percentage of prison population for whom this would be the most desirable form of labor. By judicious selection of men, and by engaging them in small gangs upon the highways, it is probable that more wholesome influence might be brought to bear upon them even than in a well-conducted

prison itself. At any rate, here is an occupation which does not compete with honest labor, which is available for a great number of convicts to whom mechanical pursuits are not naturally adapted, and whose results would be in the highest degree beneficial to the state. We believe that further experiment along this line should be made at once, and that our own community should attempt it.—St. Paul (Minn.) Globe.

### HE LIKES THE WORK.

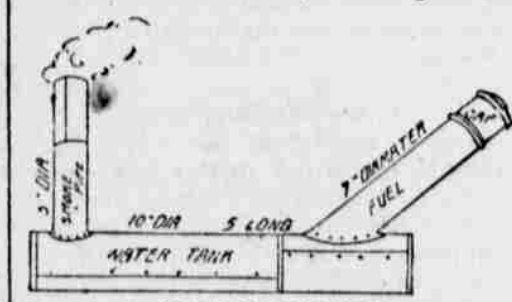
#### A Michigan Man Explains Why He Is a Horticulturist.

As I have not land enough to depend wholly upon the sale of farm products, then some of my land is adapted to nothing better than the culture of certain kinds of fruit; also, the prices of farm products have been so exceedingly low and the yield accordingly, that I have turned my attention to fruit culture. In this vocation I have found excellent opportunities for the development of mind and body, as well as purse. There is less labor, physically, though success at fruit culture requires industry and punctuality. There is a greater diversity of labor than is found in most any other occupation which will tend to prevent excessive fatigue and build up a vigorous and healthy body. Being a great lover of fruit, which we should all know is healthy, I find it a great enjoyment to work among the trees and plants, training their growth, watching the buds develop into blossoms, the blossoms into fruit, and greater yet is the pleasure of gathering it for market and home use. I never enjoy better health than through the fruiting season, and I try to plan it so as to have fruit the whole year around, either fresh or preserved. I think there are great opportunities for the development of the mind in this vocation; in fact, it is an utter impossibility to attain any marked degree of success without the knowledge of some of the sciences, such as chemistry, botany, geology and entomology. From chemistry we learn how the simple elements of the soil are used in plant formation, and when and what we must apply to the soil to supply any deficiencies; also, to fight the destructive insects of fruit we must seek its aid. Botany teaches us the parts and functions, together with the generic and specific characters of each plant and how best we can further plant development. A knowledge of geology will aid us in selecting the proper soil for the different kinds of fruit. But from entomology we learn the most, which is essential to horticulture and is increasing in importance each year. To distinguish between a friend and foe of the insect world, and how best to successfully assist or destroy them, and to know their life habits, require extended information upon this subject. Fruit culture is a vocation which requires constant study, as there are new varieties, methods and difficulties arising each year.—B. A. Wood, in Farmers' Review.

### ECONOMICAL HEATER.

#### A Copy of It Can Be Made at a Cost Not Exceeding Four Dollars.

The heater is made of galvanized sheet iron, is 5 feet long and 10 feet in diameter. The pipe at the left for carrying off the smoke is 5 inches in diameter—ordinary stove pipe; its height will be governed by the depth of the tank. The pipe at the right is slanting, 7 inches in diameter, and is provided



CHEAP HEATER.

with a cap for covering the opening. Through this the fuel is put. The cap must contain two holes which will permit of a proper draft. At night, fill the water tank, and the last thing before going to bed put the fire and the fuel in the heater. In spring remove it from the tank and store in some dry place. If properly taken care of, so that it will not rust, it will last for several years. Any kind of fuel can be used, and it is surprising how little it takes. For removing the ashes, an old dipper is just the thing. The original, from which a drawing was made and is produced above, cost \$3.75.—Farm and Home.

### How to Tell Oleomargarine.

A simple means of distinguishing butter from oleomargarine is given in the Milch Zeitung. It depends upon the fact that the milk fat particles retain their property of forming an emulsion with weakly alkaline fluids, while the other animal fats either never had this property or have lost it because they have been melted. It is probable that this is the reason why butter is more readily digested than any other fat. If a sample of butter is shaken up thoroughly with water made distinctly alkaline by sal soda (washing soda), the fat will be a long time in separating from the milky fluid, while artificial butter will show an upper layer of fatty particles very soon.

Potato blight seems to be on the increase. Bordeaux mixture is the remedy.

## FARM AND GARDEN.

### VALUABLE TESTIMONY.

#### Long Island Farmers Don't Regret Money Spent for Good Roads.

The total issue of bonds in Queens county within the past three years, and before the present improvements were provided for, for roads and bridges on account of the county and towns, amounted to over \$1,500,000. Of this sum, about one-half are county bonds and the balance are bonds issued by the various towns.

The interest on these bonds is in the neighborhood of \$10,000,000 a year. The question is, has it been a good investment for the taxpayers? A large real estate owner at Lynbrook says: "I voted for the macadamized roads in our town and they have proved a fine investment. It was done most opportunely, just as the bicycle came into general use, and the Merrick road has become a famous route in consequence. In the first place, it has led to the investment of perhaps \$100,000 in the county for road houses, improvements to old hotels, etc., and the best of it is all these investments have proven profitable, and there is every prospect of the investment of as much more next year, in club and road houses to accommodate wheelmen. Then wheelmen spend an immense amount of money in the town—some say as much as \$10,000 in one day, during the height of the season. The macadamized roads have also encouraged carriage riding, and made the town and country vastly more attractive in all respects."

Capt. Abrams, an oyster dealer at East Rockaway, says "that one of the results of the macadamized roads is the carting of large quantities of oysters direct to the city. When we have packed our oysters in sacks or barrels, taken them to the depot and paid the freight or expressage upon them, there is very little profit; but when we put them into our wagons and cart them direct to our customers we can make a little money at the business."

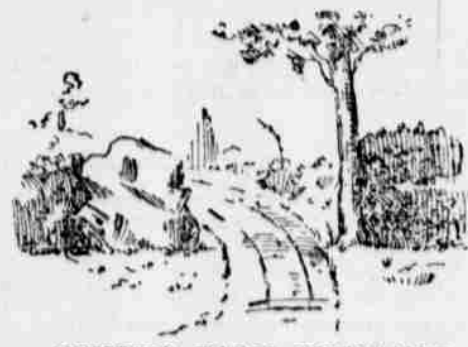
The farmers at Valley Stream and Springfield say the macadamized roads have extended the market garden region several miles further from the city, and have vastly helped the business. "We can," said one, "increase the size of our load nearly one-third, and at the same time save considerable time in the round trip to and from the city." It is officially reported that nearly 60,000 market-wagon loads of vegetables were brought to Wallabout market alone last year. This will give some idea of the saving in time and horseflesh to the farmers of Queens county.

Along the north side of the island one of the indirect results of the good roads has been the abandonment of the market-wagon train, which formerly ran between Oyster Bay and way stations to the city. The wagons and horses were taken on the train, the charge for the round trip being four dollars. An average train carried from 25 to 30 wagons, holding about three tons each. Now the teams are driven direct to the city, returning with a load of manure. At a recent meeting of the Farmers' club, the matter was informally discussed in connection with the freight rates of the Long Island railroad. It was the opinion of the farmers present that, until market produce could be carried by trolley cars and manure returned in the same way, the best way to market produce and get fertilizers was by hauling with horses, and this necessitates good macadamized or loamed roads.—Brooklyn Eagle.

### ARTISTIC ENTRANCE.

#### A Suggestion for a Driveway Which Is Pleasing to the Eye.

The accompanying illustration shows an unusual, but artistic, form of entrance driveway. The highway is separated from the adjoining grounds



ARTISTIC FARM ENTRANCE.

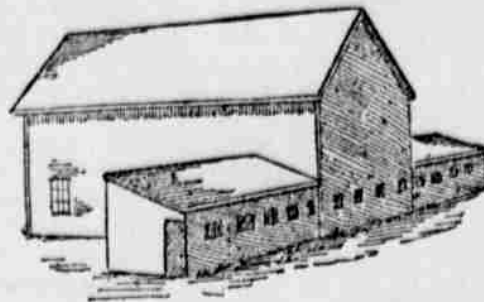
by a hedge, the opening through which is flanked at one side by a tree, and on the other by a huge bowlder, both objects which are entirely harmonious with the landscape and with nature generally—something that cannot be said of all the bounds to driveway entrances that one sees. If one has a name for his place, it can very appropriately be cut upon the outer face of the bowlder. The same arrangement could be used very effectively for a footpath entrance. In this case, the bowlder may not occupy so much ground space, but have an equal height with the bowlder suited for a carriage entrance.—American Agriculturist.

The laws enacted during the past two years with reference to oleomargarine, seem to be slowly but surely reducing the output of the stuff, and they are certainly of great benefit to the legitimate dairy interests.

### ENLARGING A BARN.

#### Hints for Farmers Who Wish to Go in the Dairy Business.

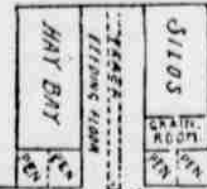
A common barn can be easily and cheaply changed into a dairy barn of large capacity, by employing such a plan as that shown in the perspective view—Fig. 1. Two wings, with "shed"



PERSPECTIVE VIEW OF ENLARGED BARN.

roofs, are extended out at right angles from each side of the old barn at one end. The interior arrangement is shown in the floor plan—Fig. 2. A feed car, with a track, is arranged for the feed floor and the feeding alley in front of the cows.

A double silo, grain room and calf pens, with lofts over them, occupy one side of the barn proper, while calf pens and a hay bay occupy the other side.



GROUND PLAN OF BARN.

Thus the main barn is used mainly for the storing of feed, while the addition is given up to the stalls. The expense of such a plan will be very much less than would be entailed by the building of a new barn, or even a lengthening of the old one, while the plan shown herewith gives a much more convenient arrangement than could otherwise be had.—Orange Judd Farmer.

### WATERING THE COWS.

#### An Important Task That Is Too Often Neglected by Dairymen.

I do not mean to advocate the practice of bringing the milk can into contact with the pump spout, but I do wish to present for serious consideration a point too often ignored in caring for the cows. Ordinary milk has about 87 per cent. water in its makeup, and in spite of all that may be said as to the value of proper feeding it is a self evident fact that without a proper supply of water it is impossible for the cow to give the usual amount of milk. Nevertheless it is not sufficiently understood that the cow should have water of the right kind, and at the right times.

We have often seen cows come up from the pasture where there was a running stream that they had to pass on their way up and the first thing they did after getting into the yard was to make straight for the pump trough. The reason of this was because the water in the trough was more palatable to the cows than the branch water. Whether we want to or not, if we are successful in the dairy business, we must consult so small a thing as the taste of the cows, and if they prefer pump water to branch water must give it to them. It is absolutely essential to the highest production of milk that the cow have all the water she wants, and this she will not have if the water does not suit her taste.

It is also important that the cow have access to water frequently. A camel may drink once in a week and thrive, but a cow is not a camel by any means. She is using water all the time in making milk, and her reservoir is not constructed to hold enough water for any length of time.

If a cow is turned out of a winter's morning to drink water from which the ice has been broken first she will not drink all she wants unless she has been parched by thirst, and then she will stand drawn up with the cold chills running up and down her spine and at the same time taking the feed she would otherwise have turned into butter, and using it to warm the water she has just filled herself with.—National Stockman.

### DAIRY SUGGESTIONS.

It is well to remember that culls will come with the best of breeding.

If a cow has a sore teat, milk very carefully and apply extract of witch hazel.

If a cow's teats are muddy or covered with other filth, they should be washed with water and then wiped dry before beginning to milk.

With temperature under control and churning direct at the right time, the butter will come solid so as to be easily handled and free from buttermilk.

When the butter is marbled it is either caused by leaving too much buttermilk in the butter at the last working or the salt has not been distributed evenly.

Bitter butter may be caused by the cows drinking of pond water, eating weeds that give a bitter taste to the milk, and sometimes by allowing the cows to be too long in milk or it may be caused by want of cleanliness with the milk vessels.—Rural World.

### HUMOROUS.

Teacher—"Who is that whistling in school?" New Boy—"Me. Didn't you know I could whistle?"—London Figaro.

Dukane—"Spiffins has refused to honor that sight draft." Gaswell—"Perhaps he regarded it as an oversight draft."—Pittsburgh Chronicle.

Hicks—"By the way, they have trip-lets up at Quiver's." Wicks—"Isn't that rather poor management for a family living in a flat?"—Boston Transcript.

Broker (to his valet)—"John, I have lost a lot of money, and have had to get an inferior brand of cigars. Do you intend to remain with me?"—Fliegende Blaetter.

Bingo—"How is the new cook doing?" Mrs. Bingo—"Splendidly. Why, she has only been here three days, and she can already ride my wheel quite nicely."—N. Y. Herald.

Smith—"I wish I had studied boxing when I was a boy. You see, I need it so much in my profession." Jones (surprised)—"What! as a lawyer?" Smith—"No. As a father."—Harper's Bazar.

"So you feel ill, my little lad?" asked the kind minister. "You should go and tell your mother. She will give you sage advice." "That's jest it," said the boy. "I'm doggone sick o' sage."—N. Y. Press.

"The age of chivalry is entirely past," she said. "I don't know about that," the young man answered. "Men can't engage in duels to settle affairs of the heart." "No. But they can join rival football teams."—Washington Star.

### VOICES TO SUIT.

#### A French Scientist Claims They May Be Easily Acquired.

Are you a soprano, and have you a difficulty in reaching and emitting the high "c"? Are you a tenor, and, if not, do you want to be? Are you a dissatisfied baritone, and wish to become a basso profundo?

If so there is no reason why you should not. These questions and the answer one Dr. Sandras, a medical luminary of Paris, makes the burden of a song that is just now interesting Parisians, and especially embryo Patissiers, De Reszkes and Plancons.

These latter naturally reply that they do, and the disciple of Esculapius forthwith buttonholes them and proceeds to explain the means by which they are to accomplish the feat. He is quite sure about his discovery being one of the wonders of the age. He claims that in order to modify the sounds of the human voice one has only to inhale the vapors of certain liquids and essences. Thus, inhalations of curacao, according to Dr. Sandras, will raise the voice two notes, the aspiration of absinthe will add one high and two low notes, and essence extracted from pines will give two low notes. A dissolution of coffee beans in rum, he claims, will strengthen the medium notes.

There are other odors that are said to be even more efficacious, though they have the disadvantage of not tickling the olfactory nerves so agreeably. But no singer would stick at such a trifle as this, if he or she desired to reach a much coveted and hitherto unattainable note.

For instance, there are kerosene and turpentine, and—yes—even strychnine. The effect of the latter, according to the doctor, is positively marvelous. He claims that it raises the voice no fewer than five notes, and will enable almost anybody to deliver with ease Tamberlick's famous chest C, that never failed to bring down the house.

But, declare jealous rivals of Dr. Sandras, there are other vapors that have a contrary effect—that of aniseed, for instance, which occasions hoarseness, and herein lies a danger to singers. Imagine the consequences to the great Signora Uppersee if, when about to "go on" for the mad scene in "Lucia di Lammermoor," she inhaled aniseed, surreptitiously substituted for strychnine by her jealous rival, Mme. Semibreve di Minim.

But just as there is no rose without a thorn, so there is no great discovery that has not its drawbacks, and as the contretemps referred to can be generally guarded against, Dr. Sandras' theory may soon be put into widespread practice. Then, when the lovesick Juliette is seen ecstatically burying her nose in a bouquet thoughtfully flung to her balcony by Romeo, the unpoetical Philistine in the audience will surmise that she is only inhaling kerosene fumes from a bottle artfully concealed among the flowers.—Chicago Tribune.

### More Cash Than Culture.

Mr. Gotrich (at his own dinner table)—I am passionately fond of music.

Mr. Simfony (one of his musical guests)—Of course, then, you like Rossini?

"Yes, indeed—he is great!" "Do you admire his Barber?" "Don't know, sir—never tried him; I have shaved myself for the last 39 years."—Twinkles.

### Like Other Benedicts.

He—After ye are married life will be one grand, sweet song.

She—And the first time you are out you will forget the key.—Chicago Tribune.

### Maybe.

He—O, I am the flower of the family beyond doubt.

She—I wonder if that was what papa meant when he spoke of you as that blooming idiot.—Indianapolis Journal.