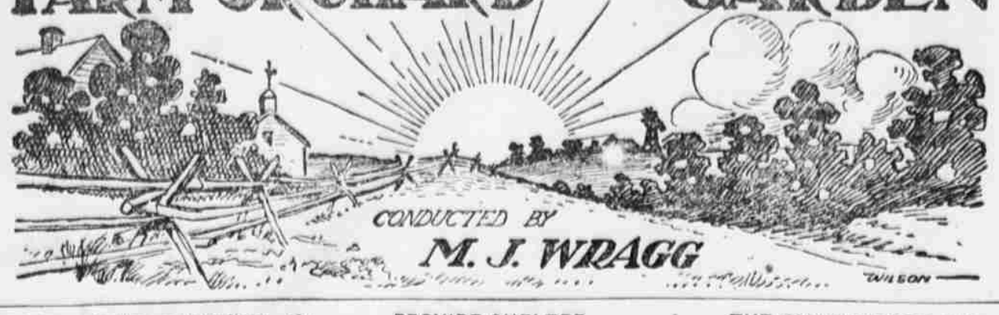
# FARM ORCHARD AND GARDEN




[Mr. Wragg invites contributions of any new ideas that readers of this department may wish to present, and would be pleased to answer correspondents desiring information on subjects discussed. Address M. J. Wragg, Waukee, Iowa.]

## QUICK WALKING HORSES.

The amount of work that shall be done in a day by farm horses is a matter of a good deal of consequence to the farmer. Altogether too little attention is given to the gait at which horses will walk when doing their work. The gait of large horses is naturally slow, but in the hands of some slower than it would be in the hands of others. This is a matter of so much concern to the farmer that it is a question of considerable importance to him as to whether his horses shall walk fast or slow while doing their work.

Take the case of a farm hand in charge of a team. He works on the hour system; that is, he begins at 7 in the morning and quits at 6 at night. Now, suppose he is working some distance from the barn; he allows his horses to walk out at a snail's pace. Suppose he allows them to keep up that pace. What is the outcome? Why, he accomplishes just about three-fourths of what would be accomplished if the horses were kept walking at a reasonably smart gait.

Of course the character of the pace should depend somewhat on the nature of the work. In drawing the plow, for instance, through hard land, horses should not be expected to walk at as quick a pace as if drawing the same in soil that is easily worked. On the other hand, suppose the team is drawing an empty wagon to the field to get a load of grain or hay. If they are allowed to walk all the way at a snail's pace, considerable valuable time is lost at a season of the year when it is very precious. There is no necessity for allowing any kind of a team to go at such a pace with an empty wagon.

Work hands engaged in handling horses on the farm should keep this matter in mind. If they are going to do the best they can for their employers, and every farm hand should aim at nothing less, they will see to it that their horses walk along at a reasonably smart pace. Of course there is something in the natural training of horses when they are being broken and during the first months that they are required to work. If at this time they are made to walk up smartly at all times, the lesson will not be easily forgotten. It will come to be in a sense their natural gait, and because it is so they will be worth much more to the man who owns them than a team creeping along at a wretchedly slow pace.

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To be successful one must love the work, do the right thing at the right time, look after all the little details and neglect nothing. Careless or shiftless people will not succeed in the poultry business.

## SELECTING SEED CORN.

Any selection of corn for seed should take into account not merely the ears, but the stalk upon which it grew. After all, the stalk is the factory that makes the ear, and the capacity of the stalk must determine the size and quality of the ear. The object of growing corn is to get the largest amount of shelled corn per acre of the particular type or form which the farmer requires.

There is a great divergence of opinion as to the size of the ear, although corn experts are pretty well agreed on the shape. The long, slim ear is wisely discriminated, because it usually has a larger per cent of cob in proportion to the corn, but if the long ear is otherwise well proportioned and shows as large a per cent of corn to cob, as does the medium or smaller ear, there is no reason to throw it out.

Buying seed corn in the ear is often disappointing, because the ears do not come up to the highest standard commonly set. This is because there are so few perfect ears. The production of fancy seed corn is like the production of show cattle. There are a great many blanks. Even in improved strains of corn, not over one-fourth of the crop should be and can be honestly sold for seed purposes.

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Some expert grape growers contend that for the first two years the grape vines should be closely pruned down in order to secure a good root growth.

## HOW THE POULTRY INDUSTRY RANKS.

The total value of the poultry and eggs this country produced in the last census year was $281,178,247. The industry was worth more than all the cattle and hogs we slaughtered. It was worth more than the wheat crop of 28 states and territories; and the value of our eggs alone was higher that that of the combined gold and silver product of the United States in any year since 1850 except in 1890, when the precious metals exceeded the eggs by $9,418,125.

## PROVIDE SHELTER.

There is no stock on the farm that will suffer more when exposed to the elements than the pigs. Pigs will make themselves comfortable during the day moving about even in cold wet weather, but they are not comfortable sleeping out of doors in the mud and slush. Every night they are compelled to do this their systems are weakened, and they are thereby made a poorer machine for turning corn and waste products of the farm into cash, and are much more liable to take hog cholera or any swine disease than pigs that have good treatment. Again as cold weather is approaching let me urge the farmers of the great west to provide as good shelter for the pigs on the farm as they do for their horses. This is a time worn topic, but its continual repetition appears to be an increasing necessity. It is poor economy to allow stock of any kind to run down at this season. It is much easier to retain fat and flesh than to regain either after a period of starvation. During the running down process, there is a weakening of vitality, especially of the digestive organs. Animals past their prime and whose vitality is naturally small suffer most. A little care in feeding at this time will keep animals in a good condition and prove economical in the end.

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A good way to get profit from every square foot of a farm, regardless of its size, is to have all the stock one can produce stuff to feed.

Don't keep anything but good stock, and save every pound of the manure.

Don't throw away time tilling land that is too poor to produce well.

Sow it in some suitable grass or legume and use it for pasture until it can be made rich with manure.

It costs just as much to till an acre that produces twenty bushels of corn as it does to till one that produces sixty bushels.

It is often said that owners of small farms are making more clear money than owners of large ones. In many cases it is true, but there is no good reason why it should be. It should be with the farmer as it is with the manufacturer—the greater the output the cheaper he can produce it and the more the net profit.

## PROPAGATING BY CUTTINGS.

One of the easiest and best ways of propagating the grape, quince, currant, gooseberry and rose, as well as a number of other trees and plants, is by cuttings. The best time to make them is in the fall as soon as possible after the leaves fall. Cuttings are made of yearling wood, the growth of the previous season. They should be from eight to twelve inches long, and should contain at least two buds—if three or four all the better. The upper cut is made two or three inches above the upper bud, and the lower cut close below the lower bud. It is considered an advantage, also, if an inch or so of the previous year's growth (wood of two seasons' growth) can be left on the lower end of the cutting. The cuttings as made should be tied in bundles of three or four inches in diameter, and be properly labeled, to avoid mistakes, before storing away. The best place is to bury in a damp place, but where water will not stand, sufficiently deep to protect from freezing.

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Of two hens, one rich in standard points, but a poor layer, and the other off in standard points, but a vigorous hustler and a good layer, always choose the latter for a breeder. The exception to this is when you breed for show purposes, in which case it matters not whether the hen lays well or not, for the standard has no clause for utility.

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The farmer turned in his tilted chair;
"I paid my taxes to-day," said he.
"An' mebbe you think it's right an' fair,
But durned if it looks that way to me—
Sence I fixed up the place
Ain't they had the face
To tax me as much agin, by gee!"

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Thrifty young trees are more apt to live than the larger ones. Their roots are smaller, and more apt to be all taken up in transplanting.

## DON'T INDORSE.

Not a week passes without news from some one who is in serious trouble through endorsing a note for a relative or friend. Through misfortune, sickness, laziness or rascality the maker of the note has failed to meet it, and the burden falls upon the endorser. There is a fine quality of bravery in the way some of these men face the situation and work out the last dollar in order to save their honor, but the wife and children may suffer long before the debt is satisfied. It is hard for some men to refuse this endorsement for a friend, yet it is always a risky thing to do. We wish that a sudden attack of pen palsy might strike most of our friends when they are called to endorse notes or sign contracts with strangers.

## THE GIANT WATER BUG.

This insect is so often inquired about as to what is its name, that a little description is given here. It is often found about electric lights, so much so that it has of late years received the name of "Electric Light Bug," under the superstition which many believe, that the species did not exist until after the electric lights were introduced. This, of course, is erroneous, as the insect, in its larval state, lives in ponds, and can often be captured by means of a dip-net. The adult seems peculiarly attracted to the electric lights, and they are specially common around such lights near a river or pools. The insect is a beneficial one, as its larva feeds upon small species which inhabit the water.

It is a conceded fact that the country that contains the largest number of farms is the most prosperous. While it is true that the average farmer takes as many chances of success or failure as the stock and grain gambler in the cities, yet he constantly nurtures hope, and with all his toil and care is, after all, the most independent man on earth. If the farmer is in love with his profession, as he should be, he can do much to elevate it and enhance its prestige. Let dignity be added to labor and the most honorable as well as the most useful of all occupations will be accorded its full share of respectful consideration.

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Often meadows a year or two old fail to show good seeding, owing to light growth after first laying down. Splendid returns will come from sowing a little seed each fall on such pieces. I have tried it and had the satisfaction of seeing meadows thus treated grow better and better for a number of years.

## STERILITY OF FRUIT BLOSSOMS.

A reader from LuVerne, Iowa, writes that his plum trees are large, strong trees, but bear no fruit. Also, a reader from Algona writes that his crab trees blossom very full each spring but bear no fruit. They both ask the cause of this, and the remedy.

The cultivation and improvement of many of our orchard fruits has caused them to become sterile. Either the pollen they produce has become so weakened in vitality that it will not fertilize their own blossoms, or else it is a provision of nature to prevent in breeding. Our native plums are especially subject to this sterility. It is not common in apples, but it is so frequent that it is a safe rule never to plant a large number of a single variety together but to intermix varieties in planting. It is probable that in both of these cases the unfruitfulness of the trees is due to their sterility and that if other varieties were planted near them so they could be pollenized by these they would produce fruit. One of the quickest ways to remedy it is to top work one or two trees with other varieties that blossom at the same time as they will come into bearing sooner than young trees would. I would advise in both cases that you top work one or more of the trees the coming spring with other varieties of fruit. Probably it would be safer if two or three varieties were top grafted into them.

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Switches are calculated to turn things off the main track. They have turned many a boy so far aside that he has never come back. It is a shame, too. There is a better way.

## SELECTING SEED CORN.

"We urged our readers only a week or two ago to keep close watch on the fields from which they expect to select their seed corn next year and mark for use as seed the best ears that ripen earliest. Our reason for calling attention to it again at this time is that many of our readers have at least small plats of corn of seed brought from a distance, generally south, which they are trying to acclimate and thus secure the quality of good breeding, or corn of good type, with as great a quantity of corn as can be grown in the latitude in which they live. It is quite probable that much of this corn will be killed by an early frost, but some of it will ripen, and it is these ripe ears that should be chosen for seed the next year. In about three years these purer types of corn can be acclimated in different parts of the country and add from five to ten bushels of corn per acre to the ordinary yield.

Certainly this is worth looking after, and we are quite sure it will work, but the farmer must keep an eye on these early maturing ears and mark them so that he can secure earliness with quality and quantity. The ears that get in this year out of the way of probable frost will be worth a great deal of money."—Exchange.

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The school of experience is in session every day. He is a dull farmer who is not learning lessons from what he is doing that will help him to do it better next time.

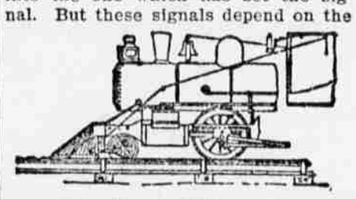
# SCIENCE and INVENTION

### New Oil Engine.

A new oil engine is the recent and fruitful development of the internal combustion motor and its adaptation to the use of crude oils or oils of a specific gravity that precludes their use in motors of the ordinary type. Like all engines suitable for crude oil the latest innovation has provision for the injection of water into the cylinder before compression. This has the effect of allowing a much higher compression without preignition than is ordinarily possible, and it has other important effects. The builders say that the water vapor prevents the decomposition of the petroleum to an extent, enabling the engine to run long periods with crude oils without leaving an excess of deposit on the vaporizer's walls. It is not easy to understand why water should prevent decomposition of the petroleum. The engine works on the four stroke cycle and uses the heavy black petroleum oils and the semi-refined or intermediates, as well as the ordinary refined lamp oil. There is a cylinder fourteen inches in diameter, giving forty-seven brake horse power with horse power with crude oils. On the suction stroke of the piston air is drawn into the cylinder through the main air valve, and oil is pumped through the oil sprayer into the vaporizer, which receives a further supply of air through a shifting valve. At the same time water is pumped through the water sprayer and enters the vaporizer. This charge is then compressed, and, as the crank of the engine passes the inner dead center, is ignited by the hot igniting tube, giving the working stroke. The exhaust valve then opens to allow the burnt charge to escape, completing the cycle of operations. The ignitions are continuous on all loads, and the ignition tube is therefore retained at the required temperature without the aid of a lamp except when starting the engine. The speed of the machine is governed by varying the amount of water and oil injected, so that on heavy loads full charges of oil and water are delivered, while on light loads small charges are given.

### Automatic Railway Signal.

Misreading of signals and failure to execute them are the most potent causes of accidents on railways and it has been the work of many inventors to lessen these dangers by introducing automatic signals, which shall relieve the human mind of the responsibility as far as possible. Thus the block systems now show signals which are supposed to prevent the train next following from running into the one which has set the signal. But these signals depend on the



Stops Engine Without Aid.

vigilance and action of the engineer, and so it may be wise to go a step further and make the block system not only set a signal against a train following on the same track, but also operate a mechanism to bring the second train to a standstill should the signal be unheeded.

How this may be done is shown in the illustration. There is a lever depending from the engine on the small forward truck, with a cord connecting with the throttle and also with the bell and whistle. Beside the track is a long, light rail, which is elevated or depressed after the manner of the signal arms. A reverse lever is provided for use when the engine is backing and, seemingly, there is little chance now for a train to run past the block set against it.

The inventor of this system is Orr C. Fisher of Delphos, Iowa.

### Electric Launches in Venice.

The Italian ministry of posts and telegraphs has received authority in parliament to establish telephone connections between Brescia and Bergamo, Lecco and Bergamo, Cremona and Piaenza, Genoa, Pisa and Leghorn, Naples, Foggia, and Barletta, Naples, Reggio, Calabria, and Messina. The authorities of the province of Rome propose to build an electric railway between the city of Rome and Civite Castellana. The city council of Venice has decided to purchase a number of electric launches for use on the canals of that city. The general inspector of the Adriatic railroad, whose office is in Rome, has received permission to purchase 150 electric accumulators. The Adriatic Railroad company is planning to build an electric road from Chisso to Como and Chiavenna.

### A Pocket Umbrella.

An umbrella small enough to go inside a pocket is a recent invention. It is designed on the principle of the telescope, and consist of a series of telescopic slides, a carrying case and a piece of silk covering. On opening the case in which it is contained the contents resemble a bundle of steel rods in a wrapping of silk. These are, with a little manipulation, converted into an umbrella of the orthodox shape, the short handle of which draws out into a stick of the requisite length. The cover is described as being quite as stout, tight and rain-resisting as a first-class umbrella of the old style.

### Royal Wit.

Wolsey was saying: "Farewell, a long farewell to all my greatness."
"[illegible] farewell."

## FOR CHICKENS IN WINTER.

### Well-Built Concrete House That Will Defy the Cold.

F. V. G.—I would like to learn how to proceed to build a concrete house for little chickens in winter. I usually keep about 200 chicks on hand, selling them at about three months old. I have no place to keep them in winter. Please show how to build a suitable house of concrete and give an estimate of the probable cost.

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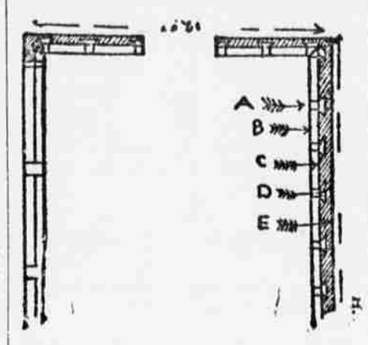
The chicken house represented in the accompanying cut is 12x24 feet; it is 5 feet high on the south side and 8 feet high on the north side. It is built of concrete, the walls being six inches thick, with 2-inch strapping and is lathed and plastered. Port

Front View of Concrete Poultry House.

land cement being used instead of lime in the plaster. By using Portland cement in the plaster the chickens will not pick the plaster off. The floor is of concrete and a wooden floor is laid on top of it. This will keep the rats from getting under the floor or troubling the chickens in any way.

The cost of the concrete work would be 10 barrels of Portland cement, making the concrete one of cement to nine of gravel, 9 days' labor for one man and 12 yards gravel. The other material and labor would amount to about $14 for lath and plastering and $27 for windows, door, roof and labor The inside can be sheathed up with matched stuff if desired instead of being lathed and plastered, but the walls can be more easily kept free from vermin if plastered. In order to get the sunlight into the chicken house, the windows should not be more than one foot from the floor, if higher than that the rays of the sun will not strike the floor as it should

The walls are built between planks This is done by standing 2x4 inch uprights every three or four feet, both




Section of Ground Plan Showing Construction of Wall.

A, 2 by 2 in. strapping; B, lath and plaster; C, 2 in. hollow space; D, wood, brick; E, concrete wall.

on the out and inside of wall, and opposite each other, leaving twelve inches between the outside and inside uprights. A 2x12 inch plank is now placed on edge both on inside and outside of wall with an inch wedge between the planks and uprights. By using a small spread stick six inches long between the planks it will keep them in their place. In raising the planks loosen the wedges and raise the planks allowing them to lap down on the concrete 1 1-2 or 2 inches, drive in the wedges and proceed as before.

### Poplar Shoots.

S. W. M.—How may the roots of poplar trees in a neighboring garden be prevented from throwing up shoots in my garden?

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The poplar shoots which come up in the yard may be prevented by sinking a strip of galvanized iron along the edge of the garden. The roots from which the shoots spring are usually within a few inches of the surface and a strip of galvanized iron one foot wide should suffice. If this is not found practicable, the roots should be prevented from entering the garden by means of a ditch, or in some other way. Once the roots are prevented from entering the garden the shoots may be gradually eradicated by digging them out.

### Jaundice.

S. B.—What is the cause of a hen turning yellow in the head? We lost one from this cause this summer and another is going the same way.

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This is undoubtedly a case of jaundice, which is a form of liver derangement brought on by improper feeding of unsuitable food in too great quantity. It would much simplify matters if you had stated the age of and kind of fowls you have, on what was fed and in what quantities. Very often such complaints are the result of the feeding of too much soft food in the shape of mash. As a result the gizzard is not exercised enough, and disease follows. The mash should be varied from time to time and not fed too frequently or in too great quantity. A healthy gizzard means a healthy bird, and no bird can be in proper health without its gizzard getting work to do. How. By feeding a well-balanced ration.

### Rust on Iron of Machinery.

X. Y. Z.—What is a good preparation to put on iron work of machinery to keep it from rusting?

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As good a preparation as any which can be used is ordinary cart grease. This is smeared thinly over the exposed parts.



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### Husband Had Presence of Mind.

She was telling the experiences of herself and her husband in a railway accident. "We were suddenly pitched clear out of the car. John said to me, 'Are you hurt?' 'Not a bit,' said I. Then he up with his fist and gave me a black eye and we claimed $500 damages. Now I call that real presence of mind."

### Pennies Bother Car Companies.

What to do with the copper pennies taken in by street raiway companies is getting to be more and more of a probem in English cities. In London many of these coins are disposed of in five-shilling packages to hotels and other places where change is needed, but much remains to be disposed of otherwise.

### Monkey of Brilliant Hues.

One of the most brilliant colored of all monkeys is to be found in Tibet. It is known as the orange snub-nosed monkey. It lives in troops among the taller trees. After its color the next conspicuous feature about this animal is its tip-tilted nose.



### Trick of Photography.

If you are an amateur photographer and have a negative of some friend whom you would like to see locked up for a long term, put your printing frame just inside a wire mosquito netting when you print the next picture from the negative. The result will be a print showing your friend behind the bars. The effect will be almost startling.



### Perhaps He Couldn't.

"While lunching a few days ago with a friend," said Paul A. Bonwit, "I mentioned that I understood a mutual friend was not drinking any more, to which he replied: 'No; maybe Jack isn't drinking any more; but I guess he is drinking about as much as he ever did."—New York Times.

### Too Much for Duck's Digestion.

Recently one of the St. James' park (London, Eng.) lake keepers found a duck lying on the bank dead. It was discovered that the bird had swallowed a penny toy clock and a small rubber ball, evidently thrown into the water by children.



### Manchurian Pagodas.

Of the ancient pagodas of Manchuria those of the first class have seven, nine or thirteen stories, while second-class ones have from three to five. They are still erected occasionally.

### Tribute to Tobacco.

What a quiet world this would be if every one would smoke! I suspect the reason why the fairer sex decry thee is that thou art the cause of silence.—Captain Marryat.